

ALUMINUM POLE PRODUCTS



Advanced,
State-Of-The-Art
Manufacturing
Combined With
Exceptional
Engineering
and Design!

Proven Performance



The "Green" Choice



Breakaway Solutions

Reduced Cost of Ownership



Lifetime Warranty



Hapco is proud of its long history of producing the highest quality products for the Commercial and Industrial, Utility, Municipal, and DOT lighting markets.



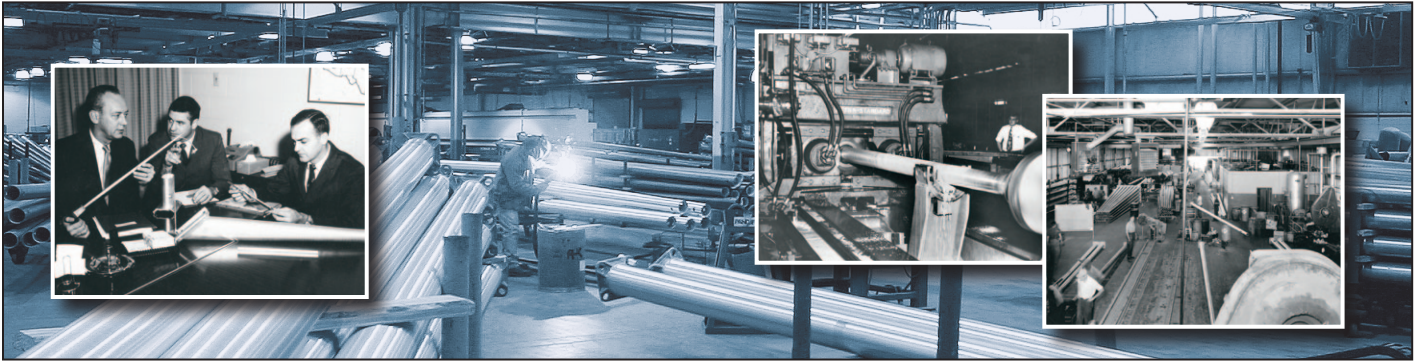
Superior Aesthetics

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www.hapco.com

Who We Are



History

Hapco has a long history dating to 1843 when its parent corporation, Hubbard and Company, originated as a national manufacturer of forgings and stampings to the utility industry. A major contributor to the emerging telephone and power industries of the late 19th century, their commitment to “offering products of the highest quality at ever-increasing service levels” established Hubbard as the leading company in these growing fields.

In 1951, Hubbard established a new division, the Hubbard Aluminum Products Company (HAPCO), and offered its first line of aluminum lighting poles and brackets in August of that same year. The superior properties of aluminum poles were immediately embraced by the market, with Hapco seeing significant growth during these early years.



Hapco was acquired by our current owner Dyson-Kissner-Moran (DKM) in 1958, and the original Pittsburg, Pennsylvania facility was moved to our present-day location in Abingdon, Virginia in 1962. Today, after over 50 years and multiple plant expansions, our skilled workforce continues to vigorously pursue our founder’s original commitment of “the highest quality” products in the pole products industry.

Engineering Excellence

“By adopting the latest methods of...fabrication combined with expert engineering knowledge of the many alloys of aluminum and their properties, Hapco Products are maintained at the highest level of quality.”

Hapco Product Catalog Number 60, 1955

As a manufacturer forging the way in aluminum pole production for over 60 years, Hapco is at its core a company with a passion for excellence in innovation and product quality. The formula for this success hasn’t changed since 1955, as the statement above is as true about Hapco today as it was then. “Engineering Knowledge” has been instrumental in carrying Hapco from an industry pioneer to today’s recognized leader in the aluminum pole industry.

Our advanced technical skill and in-depth aluminum metallurgical knowledge is unequalled, earning Hapco a respected reputation for both our design capabilities and product quality. Our hundreds of combined years of engineering experience are focused on Hapco’s “Better By Design” pledge, and the results of our commitment to excellence can be seen in our exclusive Lifetime Warranty.

See Pages 8-9 for additional information on Hapco’s Lifetime Pole Assembly Warranty.

Manufacturing Expertise

Hapco’s entry into aluminum pole products manufacturing was undertaken with a simple philosophy...to provide our customers superior street and area lighting products through the investment and implementation of the most advanced machinery and manufacturing processes of the day. This philosophy led to several firsts in the market, including one-piece aluminum poles in lengths to 40’ and the use of automatic ovens for accurate regulation of the heat treat cycle.



Today, this “Best-in-Class Manufacturing” mentality continues with the most advanced, state-of-the-art aluminum manufacturing technologies incorporated into our 275,000 square foot facility. Decades of experience are combined with automated on-site powder paint facilities, on-site fluting, dedicated custom lines and a full embracement of the principles of Lean Manufacturing.

After over six decades our manufacturing expertise continues to produce products of the highest quality, earning Hapco a respected reputation for excellence and making Hapco one of the most recognized...and specified... names in the light pole industry.

Why We Do It Well



Dedicated Research and Development

Hapco has a proud history of dedicated involvement in the research that shaped the industry, with decades of active participation in organizations such as The Aluminum Association, the National Electrical Manufacturers Association (*NEMA*), the National Cooperative Highway Research Program (*NCHRP*), and the American Association of State and Highway Transportation Officials (*AASHTO*). This background and experience provides the solid foundation for our leading Research and Development program.

Hapco's commitment to R&D can be observed in our fully-equipped, in-house R&D labs and testing facilities. In addition, Hapco has an on-site crash test pendulum that provides the means to test full-scale poles and brackets at our Abingdon, VA campus. Thousands of tests have been conducted through the years in the interest of product improvement and safety, playing a major role in earning Hapco the reputation of providing the highest quality aluminum pole products.

This dedication to in-house testing, combined with extensive research projects performed in collaboration with accredited university testing labs, have led to many industry-recognized contributions to aluminum pole development. Hapco initiated the first wind tunnel testing to insure more efficient product designs, and our early work on vibration control and breakaway safety led to the first industry patents awarded in these categories.

Quality Assurance

To assure the highest quality products, Hapco poles are structurally designed to stringent specifications that meet or exceed American Association of State Highway & Transportation Officials (*AASHTO*) standards. Not all manufacturers design to *AASHTO*, which is conservative by nature, assuring that Hapco designs are the safest, highest quality and longest lasting available in the industry.

Fully embracing our Quality Assurance System begins with strict raw material specifications. Round Aluminum shafts are constructed of seamless aluminum alloys conforming to American Society for Testing and Materials (*ASTM*). Shaft tolerances are 50-60% tighter than industry accepted standards, leading to greater efficiencies in the manufacturing process and unequalled finished product quality. Required welding is performed by American Welding Society (*AWS*) / Canadian Welding Bureau (*CWB*) certified welders to *AWS* Specification D1.2 or *CWB* Specification W 47.2 standards. All light pole shafts are heat treated after base weld to a full T6 temper in computer controlled ovens certified to meet the requirements of *ASTM* B597 and *Mil-H-6088* specifications.

In addition, all component parts meet applicable *ASTM* standards. Components follow a strict initial standard inspection process, followed by a first and fifth piece inspection at each step of the manufacturing process. A final inspection of finished products ensures a level of quality only available with Hapco.

Custom Capabilities

No one can duplicate Hapco's ability to deliver solutions to design professionals and project owners looking for that truly custom or unique design. Long recognized as the leader in providing innovative light poles and brackets, our team of engineers stand ready with the technical competence and experience to assist on even the most complex project.

Expert engineering design, world-class manufacturing capabilities, and an emphasis on quality control make Hapco the perfect choice for your next custom project.

Vertical Integration

In 2008, Hapco's parent company, Dyson-Kissner-Moran (*DKM*), purchased a leading extrusion company located only 20 miles from our Abingdon, VA facility. This vertical integration strengthens our ability to support industry leading service levels for today's tight project schedules. Material certification requirements are substantially tighter than industry standards, ensuring a continuous flow of quality extruded aluminum tubing to Hapco.

Hapco Delivers

- **Lower Overall Cost of Ownership** (Page 6)
- **Superior Aesthetics** (Page 8)
- **Lifetime Warranty** (Pages 8-9)
- **Breakaway Solutions** (Pages 10-11)
- **Design Efficiency** (Page 12)
- **Proven Performance** (Page 162)
- **Sustainable Design** (Page 163)



Advantages of Aluminum Poles

Why Aluminum?

The superior properties of aluminum make it both the perfect choice and best value for outdoor lighting poles and brackets.

Corrosion Resistant

On contact with air, aluminum forms a protective layer of aluminum oxide that guards against corrosion. This natural resistance to corrosion ensures that your aluminum lighting pole will resist the ravages of time, temperature and humidity while providing years of low maintenance care.

Lightweight

Aluminum provides the perfect combination of lightweight material with high strength-to-weight ratios. At one-third the weight of steel, aluminum poles are much easier to handle and install, providing substantial installation savings in both labor and equipment.

Proven Performance

Hapco has been manufacturing quality Aluminum Pole Products for more than 60 years, with many of the original installations still in service with no structural issues or noticeable differences in appearance. The longevity and durability of our products can be validated with our industry-leading **Lifetime Warranty** on aluminum pole assemblies (see Pages 8-9).

Lower Overall Cost of Ownership

The properties of aluminum make it a tremendous value when the overall cost of ownership is considered. Higher installation and maintenance costs for aluminum alternatives, combined with guaranteed replacement costs of shorter lifecycle materials, contribute to aluminum having the lowest cost of ownership of any lighting pole option.

The "Green" Choice

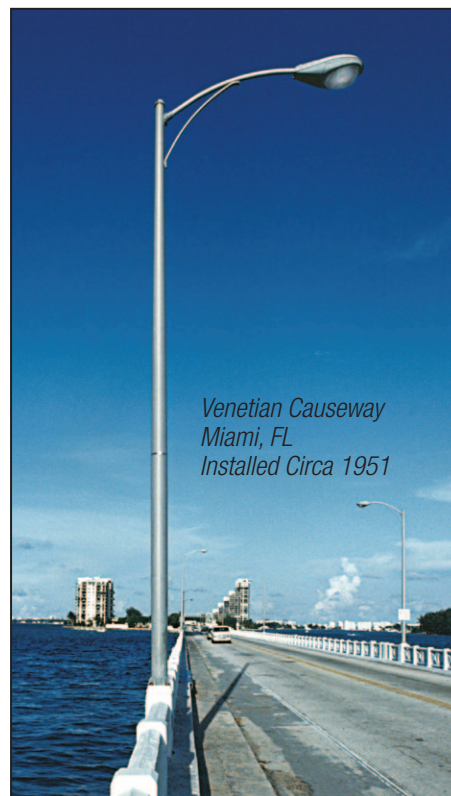
Aluminum provides an environmentally responsible choice of material and approach within the burgeoning green movement. Aluminum is the most abundant mineral in the earth's crust, reduces material replacement energy by its incredibly long life cycle, and is 100% recyclable.



Steel

Composite

Concrete



Advantages of Aluminum

When compared to alternative materials, the advantages of aluminum are substantial.

Steel

- Steel is not corrosion resistant and will begin to deteriorate as soon as it is installed, allowing visible rust and corrosion which lead to higher maintenance costs.
- Inherently shorter lifecycles contribute to an overall higher cost of ownership when compared to aluminum.
- Weighs three times as much as aluminum.
- Limited recycle value.
- Should not be Direct Buried.

Composite

- Composite poles are affected by ultraviolet fading and fiber blooming, quickly leading to poor aesthetics in many environments.
- Can be damaged by mowing or trimming. Round aluminum poles are heat treated after base weld to a full T6 temper, giving superior resistance to cuts and abrasions from trimmer and mowers.
- No recycle value, making them difficult and expensive to dispose of in case of pole knockdowns.
- Expensive maintenance costs associated with repainting and replacement.
- Excessive deflection of the top of poles with many arm/luminaire combinations.
- Limited breakaway designs.

Concrete

- Concrete is much heavier than Aluminum, resulting in significantly higher shipping and labor costs.
- Product Weight Comparison -
25' Mounting Height
Aluminum pole = 140 lbs.
Concrete Pole = 1100 lbs.
- Slower, less efficient installations translate into extended job completion times.
- Difficult to install, requiring expensive installation equipment and larger installation crews.
- No breakaway performance, making concrete more hazardous in regards to highway safety than other pole materials.
- Susceptible to spalling (crumbling), staining and fading.
- No recycle value.

Direct Buried Applications

The advantages of aluminum poles make them the perfect option for direct buried applications. With a 60 year record of successful installations throughout the country, **Hapco Aluminum Direct Buried Poles** provide industry professionals with significant overall job savings.



Direct Buried Advantages

- Provides faster, more cost efficient installations.
- Eliminates foundations, removing the associated costs and the possibility of improper pouring/setting.
- Eliminates the need for bolt circle templates and anchor bolts.
- Eliminates the use of shims or double nuts for leveling.
- Eliminates improper bolt projections that result in uneven base covers and grouting.
- Eliminates the possibility of foundation and anchor bolt replacement in the event of a knockdown.
- Reduces the risk of wind induced vibration due to the ground acting as a natural damper.
- Provides more strength, lending greater EPA values than anchor base designs due to the elimination of the weld joint.
- Improves Aesthetics.
- Exclusive Hapco Lifetime Warranty which includes corrosion (see *Lifetime Warranty – Pages 8-9*).



Hapco Aluminum Direct Buried Pedestal Poles are the perfect solution to the high maintenance alternative of composite poles. Utilities, Developers and Contractors can benefit from the savings associated with the highest quality, longest-lasting and lowest maintenance direct buried alternative for residential applications.

Hapco Aluminum and LED Lighting



Hapco Aluminum + LED Lighting The "Total Sustainable Assembly"

- Longevity
- Near-Zero Maintenance
- Lower Overall Cost of Ownership

Why erode the benefits of **LED Lighting** with high-maintenance lighting poles that have shorter life-cycles and are inherently less aesthetic than aluminum?

A completed assembly containing **LED Fixtures** and **Hapco Aluminum Poles** guarantee project owners the proven performance, longevity and superior aesthetics of aluminum with the **Specification Advantages** and **Lifetime Warranty** that can only be delivered by Hapco.

Aluminum is the "LED" of Lighting Poles!

Lifetime Pole Assembly Warranty

Lifetime Quality...Guaranteed

At Hapco, it is our mission to create lasting customer relationships by providing the very best quality products. We do this by combining the most advanced, industry-leading manufacturing technologies with exceptional engineering and design.

Because we stand behind our products and truly believe in their longevity and durability, our aluminum pole assemblies are covered by a Lifetime Warranty.



"As a leader in the manufacture of aluminum lighting poles for more than 60 years, we are proud to be the first in the metal pole industry to offer this guarantee. We have the facilities, the products, the people, the experience and the desire to become and stay your FIRST choice for aluminum pole solutions."

Lifetime Warranty

Hapco warrants its aluminum pole assemblies for their lifetime to be free of defects in material and workmanship and to be free from corrosion, except those items normally consumed in service. This warranty does not cover failures or corrosion due to:

- Improper installation.
- Misapplication – product used outside of specified use.
- Damage from handling, transportation, installation, vehicular impact, abuse, or vandalism.
- Site specific wind induced or other vibration.
- Installation in soils with a pH under 5 or over 9.
- Improper grounding.

Hapco will, at its sole option, repair, replace, or credit Buyer's account for any product that does not conform to this warranty.

HAPCO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HAPCO SHALL NOT BE LIABLE FOR ANY OTHER LOSS OR DAMAGE, INCLUDING BUT NOT LIMITED TO CONSEQUENTIAL DAMAGES, LIQUIDATED DAMAGES AND BACK CHARGES.

This warranty does not include reimbursement for the expense of installation or removal of equipment, transportation, or any other expenses which may be incurred. This warranty applies to the pole assembly only and does not include anchor bolts, connecting hardware, or foundation. Authorization must be obtained from Hapco before any material is returned. This warranty excludes finishes such as powder coating, anodizing, and satin. "Lifetime" is defined as the lifetime of the products intended use. The foregoing states the Buyer's sole remedy for any breach of warranty by Hapco.

This warranty applies only to Hapco aluminum pole assemblies shipped on or after January 1st, 2011.

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Breakaway Solutions

HAPCO Leads the Industry in Federal Highway Administration (FHWA) Accepted Breakaway Options.

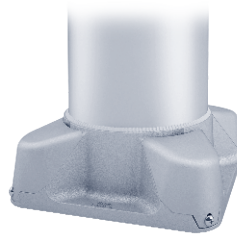
The Federal Highway Administration (FHWA) definition of "Breakaway" refers to crash-tested devices that break or yield upon impact. FHWA guidelines require the specification of Breakaway poles and bases meeting rigorous impact testing to mitigate the potential severity of crashes, providing a safer outcome in the event of a collision.

The FHWA accepts certain poles and bases for use on breakaway applications under provisions adopted from the American Association of State and Highway Transportation Officials' (AASHTO) *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*. Testing parameters used in determining acceptable breakaway performance are found in the National Cooperative Highway Research Program (NCHRP) *Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features*.



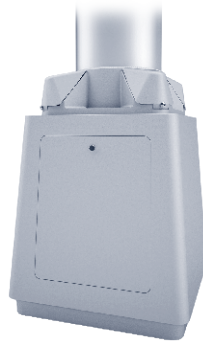
Lifetime Warranty

Aluminum pole assemblies incorporating FHWA Accepted Breakaway Devices are covered under Hapco's exclusive Lifetime Warranty. See Pages 8-9 *Lifetime Pole Assembly Warranty* for more information.



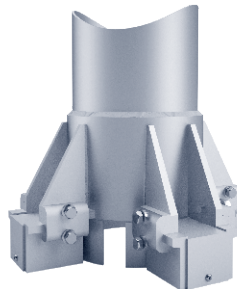
4-Bolt Breakaway Anchor Base

Hapco's Anchor Base was the first pole anchoring shoe base allowing standard installation techniques to meet FHWA Breakaway provisions. Its simplicity of design eases the installation process, combining the most cost efficient Breakaway device in the industry with the aesthetic appeal of a standard shoe base.



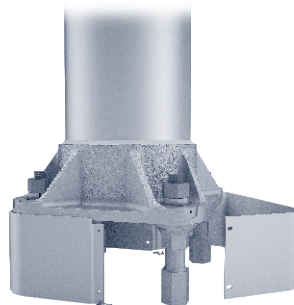
Breakaway T-Base

Hapco offers Transformer Base (T-Base) designs to accommodate a wide range of pole sizes and bolt circle requirements (see Page 157). The historic appearance of the T-Base design offers a higher probability of re-use of the pole in the event of a knockdown.



X-Base

The X-Base, a Hapco exclusive, is welded to the bottom of the base as part of the pole assembly. It is supplied assembled and serves as the base flange, bolting directly to the anchor bolts. The X-Base extends the range of sizes for FHWA accepted Breakaway poles to a 10" Butt Diameter and 55' Mounting Heights.



Breakaway Couplings

Breakaway couplings are available for use in a wide range of pole sizes.

BREAKAWAY DEVICE	BUTT DIA.	MOUNTING HEIGHT (MAX.)	WALL THICKNESS (MAX.)	ANCHOR BOLT CIRCLE
Anchor Base	6"	30'	0.188	9" - 10"
	7"	35'	0.188	10" - 11"
	8"	35'	0.156	11" - 12"
T-Base	TB1-17 (70501)	55'	0.250	15"
	TB2-17 (70511)	45'	0.250	12"
	TB3-17 (70521)	55'	0.312	17.25"
X-Base	8"	45'	0.250	11" - 12"
	9"	50'	0.250	13" - 15"
	10"	55'	0.250	14" - 15"
Breakaway Couplings	7" - 10"	55'	0.250	Varies

Direct Buried Breakaway

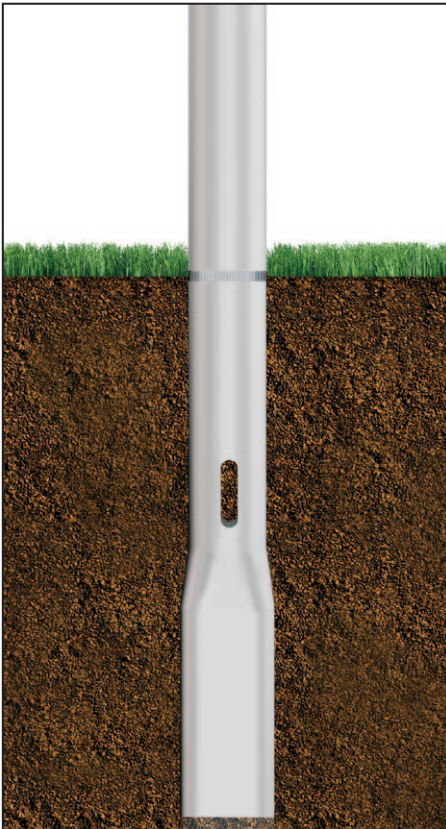


Screen captures of high speed video of Hapco's Direct Buried FHWA accepted Breakaway Aluminum Pole.

Hapco is proud to offer the industry's first FHWA Accepted Direct Buried Breakaway Aluminum Pole.

Aluminum poles used in direct buried applications throughout the country have a 60 year record of successful installations and can provide significant overall job savings.

Through an extensive process of expert design, modeling, and testing, Hapco engineers have created a breakaway design that brings the cost efficient properties of direct buried poles to our FHWA accepted Breakaway product line.



The butt end of Hapco Direct Buried Breakaway poles are partially flattened into an anti-rotational, oval cross section.

Direct Buried Advantages

- Provides faster, more cost efficient installations.
- Eliminates foundations, removing the associated costs and the possibility of improper pouring/setting.
- Eliminates the need for bolt circle templates and anchor bolts.
- Eliminates the use of shims or double nuts for leveling.
- Eliminates improper bolt projections that result in uneven base covers and grouting.
- Eliminates the possibility of foundation and anchor bolt replacement in the event of a knockdown.
- Reduces the risk of wind induced vibration due to the ground acting as a natural damper.
- Provides more strength, lending greater EPA values than anchor base designs due to the elimination of the weld joint.
- Improves Aesthetics.

Extensively Tested

FHWA Accepted

*Lifetime Warranty
Includes Corrosion*



	BUTT DIA.	MOUNTING HEIGHT (MAX.)	WALL THICKNESS
Direct Buried	8"	40'	0.156
Direct Buried	9"	45'	0.156
Direct Buried	10"	45'	0.156

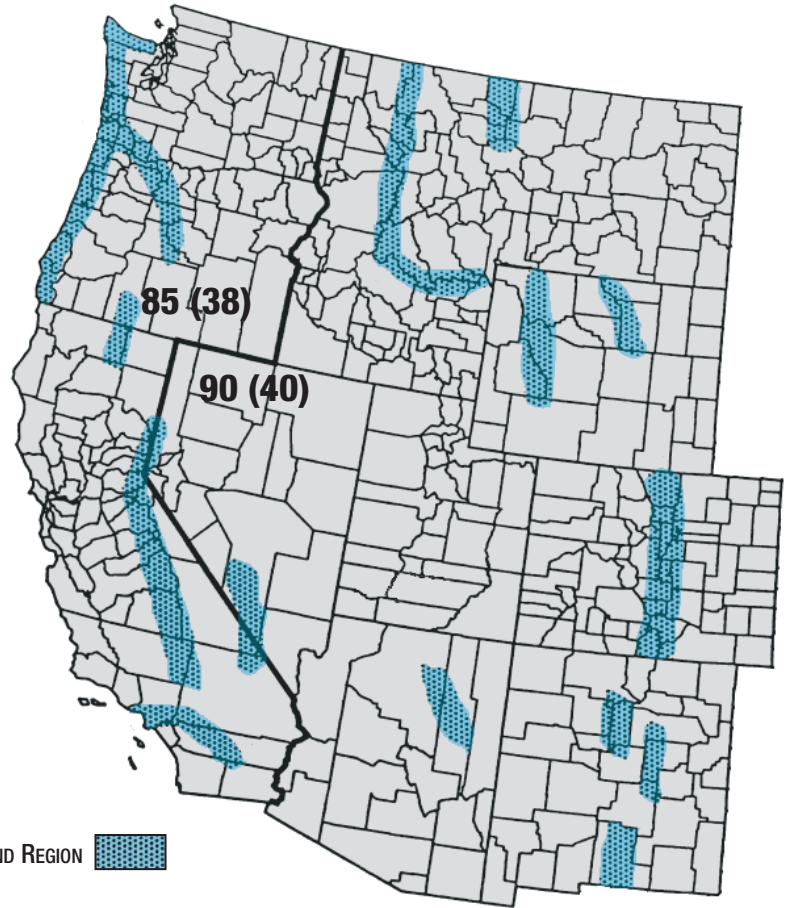
Design Considerations & Applications

Hapco has been the nation's leading aluminum pole producer for more than 60 years.

Hapco achieved and maintained this position with expert engineering, manufacturing innovation, and pole product testing. We have a proud history of dedicated involvement in the research that has shaped our industry, leading to many industry patents which include the first patent on a successful pole vibration damper.

Hapco has an in-house testing facility that provides a means to test full-scale poles and brackets under static and cyclic load conditions. Thousands of tests have been conducted in the interest of product improvement. These tests, extensive research projects in collaboration with major universities, and current design specifications provide the basis for Hapco's design criteria.

Hapco can provide designs based on the American Association of State Highway and Transportation Officials Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (*otherwise known as the AASHTO-LTS*) and local building code requirements. Poles in this catalog are designed to meet the strength requirements of 2009 AASHTO LTS-5. Please advise Hapco of any additional requirements you may have.



Design Efficiency

Efficiency of design can lead to significant overall cost savings. In order to manage project funds efficiently, it is important to utilize materials accurately, and Hapco has the knowledge and experience to provide the most efficient offering for each pole project. There are four main factors to consider when selecting the proper pole.

1. **Mounting Height:** Illumination levels determine the luminaire and mounting height selection process.
2. **Total Weight:** The combined weight of any object that will be mounted on the pole (luminaires, arms, brackets, accessories, etc.).
3. **Total EPA:** Effective Projected Area (EPA) is the product of the actual area seen by the wind multiplied by the appropriate drag coefficient and is dependent upon the angle of the wind with respect to the item being considered.
4. **Wind Velocity:** Location-specific, 3-second gust basic wind speed as presented in this section.

Methods of Analysis and Loading Due to Wind and Other Forces

The stresses caused by all pole attachments exist continuously throughout the life of the installation. These stresses are subject to fluctuation caused by the aerodynamics of the luminaire or other characteristics of the assembly, due to wind loads. Therefore, these stresses must be limited to a conservative value to reduce the possibility of fatigue. Other loads that should be considered are those produced by ice, overhead wiring (*must be treated as a special loading challenge*), and future changes to the original design. The forces anticipated in a particular installation must be known in order to select the correct pole.

Pole designs typically constitute an analysis of the combined stresses caused by the various types of loads. Our engineers evaluate each pole configuration and determine the stress that is permissible according to the design code, and the recommended loads are limited to stay within that allowable stress value.

Stiffness considerations are included in the analysis of a Hapco pole. The dead load deflection of the shaft is limited to provide an attractive appearance. The allowable deflection is based on the angular deflection, or rotation, of the shaft top, which is the characteristic that is the best measure of appearance for this type of loading.

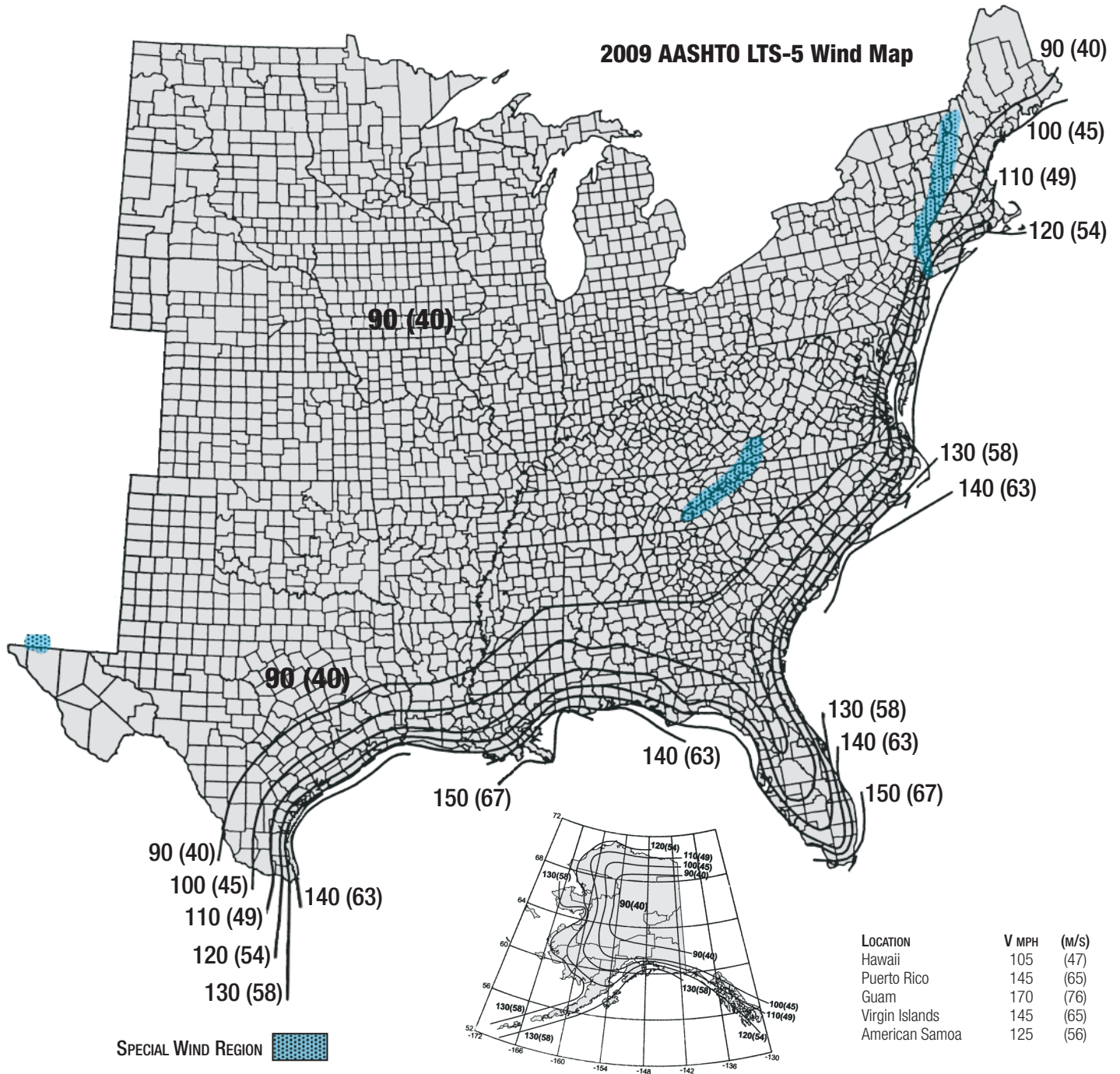
Shielding Factor

The table shown at right will assist you in calculating the total EPA for many of the popular luminaire configurations. Using the shielding factor to calculate total EPA prevents an over-designed pole being used, resulting in cost savings.

LUMINAIRE CONFIGURATION	EPA	SHIELDING FACTOR	TOTAL EPA
2 @ 180°	1.5	X 2.0	= 3.0
3 @ 180°	1.5	X 3.0	= 4.5
4 @ 180°	1.5	X 4.0	= 6.0
3 @ 120°	1.5	X 2.3	= 3.45 (Shielded)
4 @ 90°	1.5	X 3.2	= 4.8 (Shielded)

Example assumes a single luminaire EPA of 1.5.

Wind Velocity Selection



Wind Velocity Selection

2009 AASHTO LTS-5 specification 3-second gust basic wind speeds (*mph*) with gust effect factor (*G*) of 1.14 and 25 year design life wind map (*ASCE 7-05*) is shown above. This wind map should be used to determine wind velocity for your specific location. If you are located between two different velocity isotach lines, the higher velocity should be used.

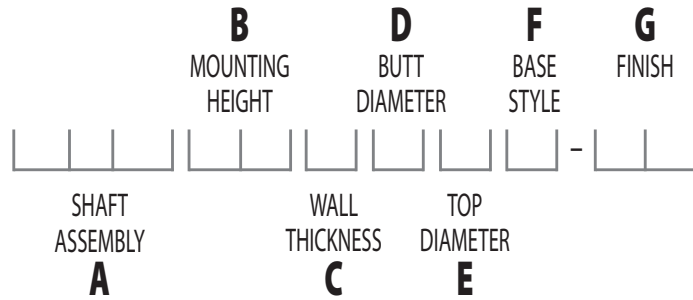
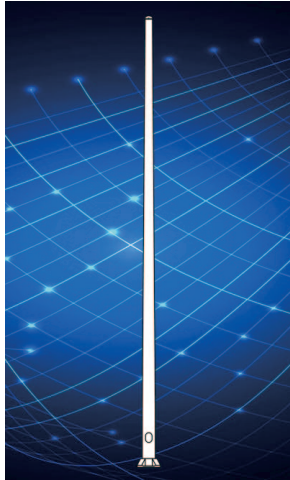
Hapco has learned from years of experience that there are local isolated high wind conditions that can be devastating to poles and luminaires not designed for such conditions.

Additionally, constant winds in the 10-25 mph range can severely damage certain poles and luminaires by vibration. Vibration is a local, site specific condition that should not be overlooked when selecting a pole. Destructive vibration is NOT an indication of substandard material, workmanship, or pole design. Please advise Hapco of any unusual wind conditions prior to purchase of poles. More robust poles and/or vibration dampers may be necessary to avoid wind damage.

Pole failures as a result of wind induced vibration are NOT covered under manufacturer's warranty. Please reference "LIFETIME WARRANTY" (*pages 8-9*) and "WIND-INDUCED VIBRATION" (*pages 150-151*) for Hapco's policy regarding vibration.

Catalog Part Number Description

Catalog Part Number - No Arms



Example:
RTA30D8B4-01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Satin Aluminum Finish

A General Shaft Assembly	
RSA = Round Straight Aluminum	
RTA = Round Tapered Aluminum	
SSA = Square Straight Aluminum	

B Mounting Heights	
08 = 8'	16 = 16'
10 = 10'	18 = 18'
12 = 12'	20 = 20'
14 = 14'	25 = 25'
	30 = 30'
	35 = 35'
	40 = 40'
	45 = 45'
	50 = 50'

C Wall Thickness	
B = 0.125"	F = 0.250"
C = 0.156"	G = 0.312"
D = 0.188"	H = 0.375"
E = 0.219"	

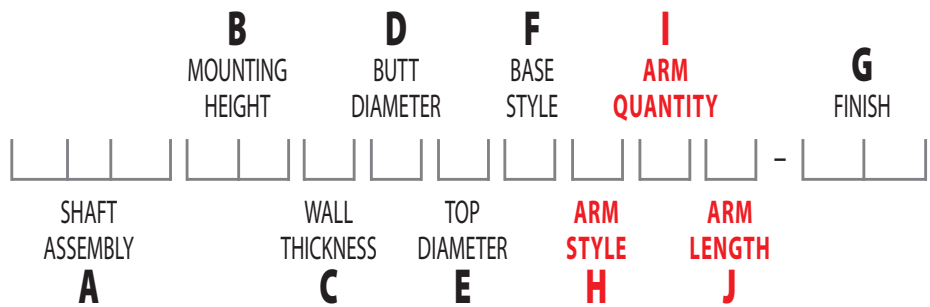
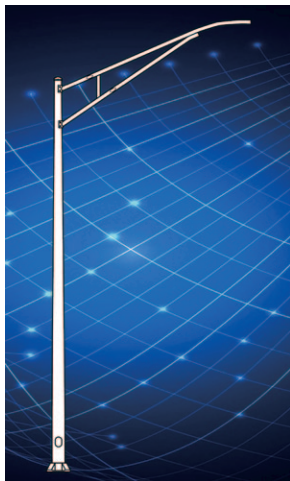
D Butt Diameter	
1 = 10"	5 = 5"
2 = 12"	6 = 6"
4 = 4"	J = 6.625"
	7 = 7"
	8 = 8"
	9 = 9"

E Top Diameter	
A = 3"	
B = 4.5"	
C = 6"	

F Base Style	
3 = 3-Bolt Anchor Base	
4 = 4-Bolt Anchor Base	
V = Bee Hive Base	
H = Hinged Anchor Base	
E = Direct Buried (<i>Embed</i>)	
F = Breakaway Transformer Base	

G Finish	
01 = Satin Aluminum (<i>RTA and RSA</i>)	
02 = Satin Aluminum (<i>SSA</i>)	
BA = Black Powder Coat	
BH = White Powder Coat	
BM = Dark Bronze Powder Coat	
BV = Dark Green Powder Coat	
GC = Gray Powder Coat	
** = Specify Finish	

Catalog Part Number - With Arms



Example:
RTA40E1C4T1A-BM

*Round Tapered Aluminum, 40' Mounting Height, .219" Wall Thickness, 10" Butt Diameter, 6" Top Diameter, 4-Bolt Base, **Truss Arm, Single, 10' Arm Length**, Dark Bronze Powder Paint Finish.*

H Arm Style	
B = Bullhorn Arm	
F = Cross Arm (<i>Floodlight</i>)	
D = Davit Arm	
M = Mast Arm	
T = Truss Arm	

I Arm Quantity	
1 = Single	C = Triple - 120°
2 = Double	4 = Quad - 180°
3 = Triple - 180°	D = Quad - 90°

J Arm Length	
4 = 4'	C = 12'
6 = 6'	D = 14'
8 = 8'	E = 15'
A = 10'	F = 16'

Satin Aluminum Finish

Hapco's Satin Aluminum is a polished aluminum finish achieved in a multi-pass, mechanical rotary sanding operation. No alternative finish option offers a lower overall cost of ownership or longer aesthetic beauty, making it the industry's first choice for low-maintenance and enduring finishes.



01 – Satin Aluminum Finish – Round Poles
02 – Satin Aluminum Finish – Square Poles

Hapco's RTA and RSA round aluminum poles are constructed of Aluminum Alloy 6063. This marine grade alloy is composed primarily of Aluminum, Magnesium and Silicone and is chosen because of its superior attributes and extremely high resistance to corrosion. On contact with air, these aluminum alloys naturally oxidize, creating a layer of aluminum oxide on the surface of the pole that effectively and permanently guards against corrosion.

Thermoset Powder Coat Finishes

Hapco's on-site, state-of-the-art powder coating operations utilize weather resistant triglycidyl isocyanurate (TGIC) polyester thermoset powders that are electrostatically applied, oven cured and bonded to a minimum dry film thickness of 2.0 mils. The National Association of Architectural Metal Manufacturers, *Metal Finishes Manual*, rate the outdoor life of these powders at 15 plus years.

AAMA 2604

All polyester thermoset powders are not created equal. The American Architectural Manufacturers Association (AAMA) provides classifications for powder coatings which are industry recognized standards for testing and performance. AAMA 2604 coatings, known as Super Durable, are formulated with advanced polyester resin technology that utilizes higher performance pigments. Qualities include superior gloss, color retention and weathering capabilities, better exterior durability and UV resistance, and highly resistant scratching, chipping and peeling characteristics.

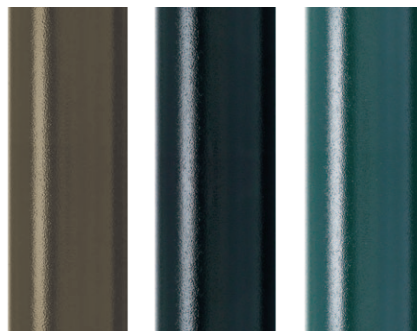
AAMA specifications for the testing and evaluation of coatings use a South Florida (27° Latitude) benchmark due to its extreme weather conditions. Testing categories for AAMA 2604 acceptance include a 5-year 45° Sun Exposure, 3000 Hour Humidity Resistance, and 3000 Hour Salt Spray. AAMA 2604 powders are rated to withstand outdoor exposure for five (5) years in this worst case environment. In comparison, some competitors use AAMA 2603 coatings. AAMA 2603 products are rated for only one (1) year.

Hapco only uses AAMA 2604 powders, assuring project owners the longest lasting, lowest maintenance powder painted products available in the market today.

Hapco's use of AAMA 2604 Powders Reduces Overall Ownership Cost By Providing Longer Lasting Aesthetics.

Standard Colors

Hapco standard powder coat colors are provided in a textured design for improved mar resistance.



Dark Bronze BM Black BA Dark Green BV



Gray GC White BH

RAL and Custom Colors

Along with our standard colors, Hapco can provide both RAL and custom colors. Options are unlimited. Simply provide any RAL Color Number or Color Chip Sample and Hapco will provide the perfect AAMA 2604 Powder Paint Color for your next project.



RAL Colors

Powder Coat 5-Year Finish Warranty

Hapco warrants its factory-applied powder coatings against cracking, peeling or excessive fading due to normal climatic exposure for a period of five (5) years from the date of shipment. Damage to the finish coating caused by mechanical abuse, such as rough handling during installation or by vandalism, is not covered by this warranty. This warranty is limited to, at the seller's option, the repair or replacement of the material involved and shall not include reimbursement of consequential expenses such as installation, removal of equipment, or transportation costs.

Anodized Finish

Anodized colors are limited to clear, black and various shades of bronze.

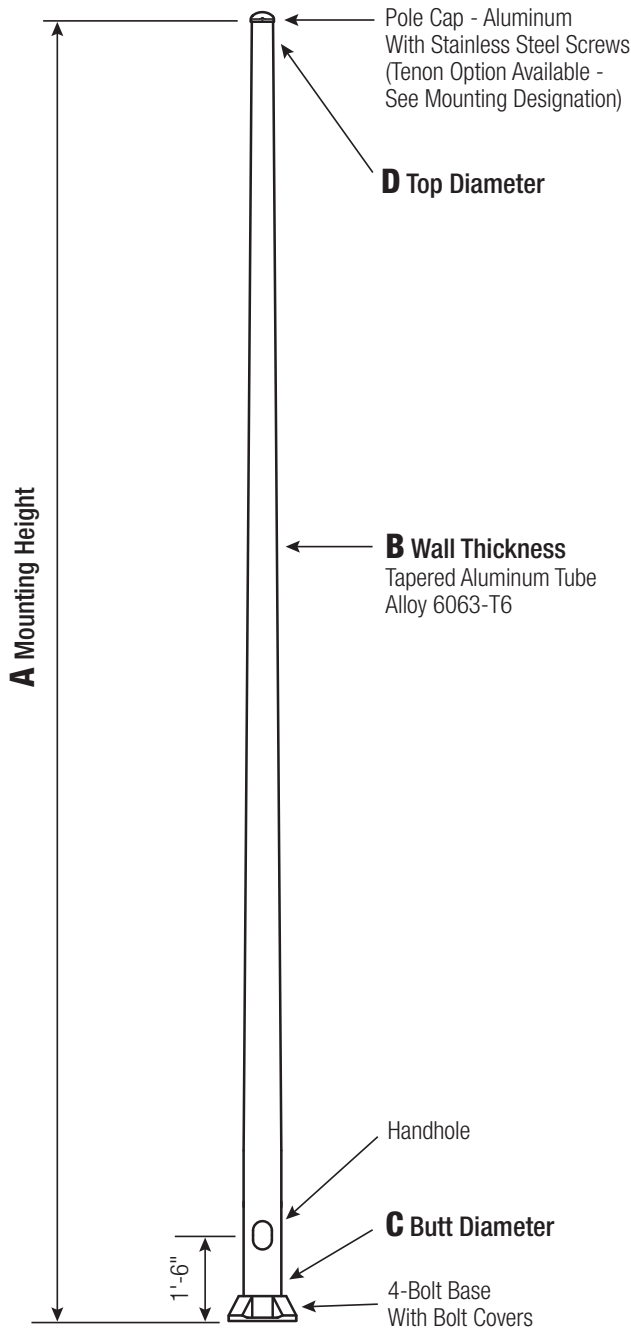
Color Uniformity

While a color finish on aluminum poles can be obtained by either anodizing or powder painting, anodizing of pole assemblies will inherently result in color variations and color uniformity is not guaranteed. Variations in the physical or chemical composition of the metals contained in the base flange, pole shaft, welds, and pole accessories create color variations in anodized finishes that are unavoidable. Color variations in anodized finishes are not covered under Hapco warranty.

Powder Coat finishes offer a more attractive price and lead time compared to anodized products and are recommended for guaranteed uniformity of color.

RTA

Round Tapered Aluminum Pole No Arm — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
4	3	6.5 - 8	7.5	2	.75 x 17 x 3
5	3	7.5 - 8	7.5	2	.75 x 17 x 3
6	4.5	9 - 10	9.75	2.75	.75 x 30 x 3*
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
9	4.5	12.5 - 14	12.75	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312"	6	14 - 15	14	3.25	1.25 x 48 x 6

*1" x 36" x 4" Anchor Bolts can be specified for 6" butt diameter poles.

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

4"-5" Butt Diameters - 2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC hole is provided.

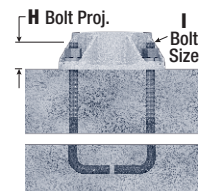
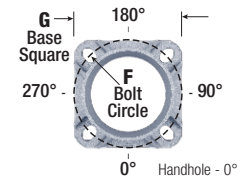
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.

Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



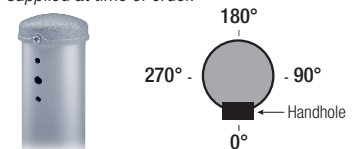
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



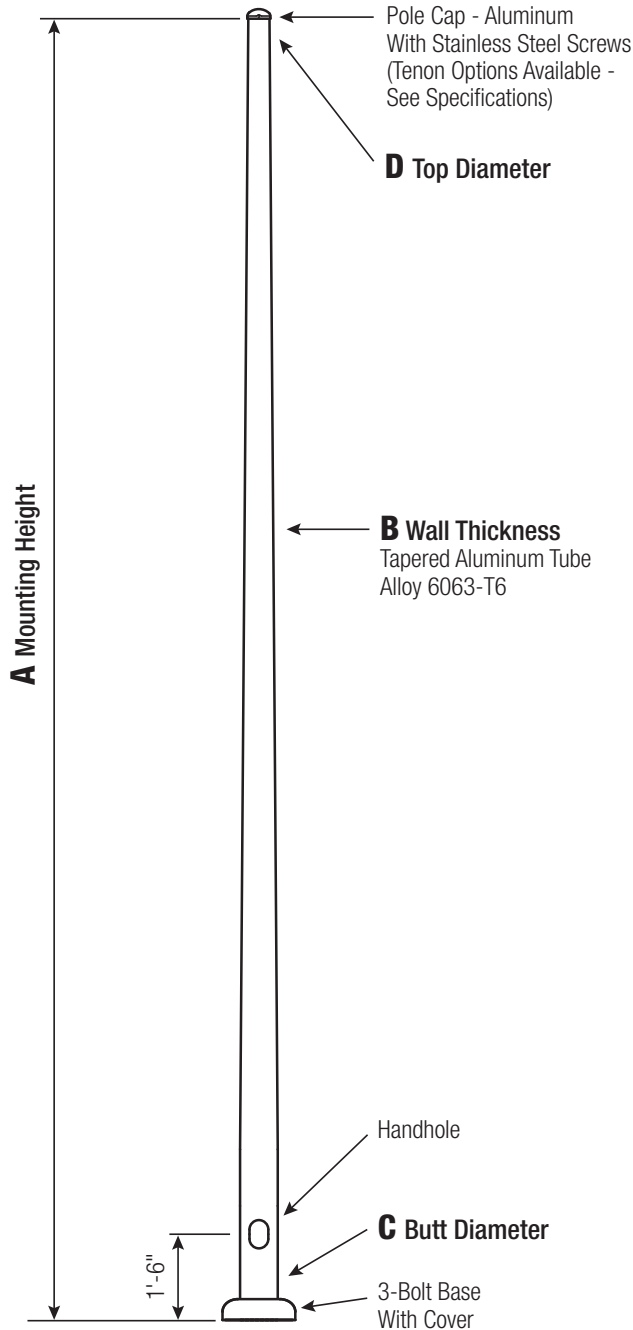
Tenon Mount - Welded or Spun

For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



RTA

Round Tapered Aluminum Pole No Arm — 3-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G COVER DIA.	H BOLT PROJ.	I BOLT SIZE
4	3	7	9.0625	2	.75 x 17 x 3
5	3	8	10.375	2	.75 x 17 x 3

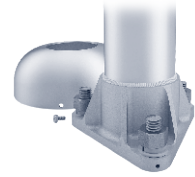
Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

3-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Spun Aluminum Base Cover and Stainless Steel Hex Head Attaching Screw.



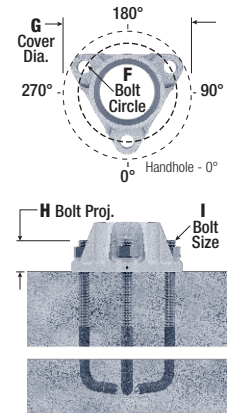
Handhole

4"-5" Butt Diameters - 2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC hole is provided opposite the Handhole.



Anchorage

Anchorage Kit will include three (3) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of Threaded End will be Galvanized per ASTM A153. Kits will contain three (3) Hex Nuts, three (3) Lock Washers, and three (3) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



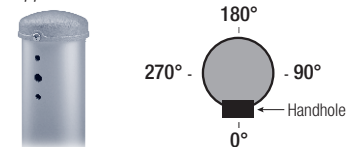
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

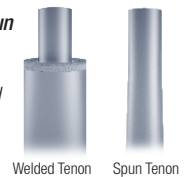
Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun

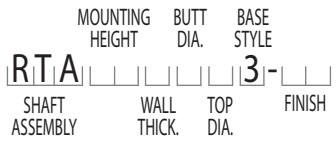
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
06	0.125"	4	100	16.0	12.8	12.0	10.0	8.4	76-001	RTA06B4A3-**-
08	0.125"	4	100	11.0	8.6	8.0	6.6	5.4	76-002	RTA08B4A3-**-
10	0.125"	4	70	8.0	6.2	5.6	4.6	3.6	76-003	RTA10B4A3-**-
10	0.125"	5	100	15.6	12.4	11.4	9.4	7.8	76-017	RTA10B5A3-**-
12	0.125"	4	45	6.0	4.6	4.2	3.2	2.4	76-004	RTA12B4A3-**-
12	0.125"	5	100	12.0	9.4	8.6	7.0	5.8	76-009	RTA12B5A3-**-
12	0.156"	5	100	15.2	12.0	11.0	9.0	7.4	76-009W3	RTA12C5A3-**-
12	0.188"	5	100	18.4	14.6	13.4	11.0	9.2	76-009W4	RTA12D5A3-**-
14	0.125"	4	35	4.4	3.2	3.0	2.2	1.6	76-005	RTA14B4A3-**-
14	0.125"	5	80	9.6	7.2	6.6	5.2	4.2	76-010	RTA14B5A3-**-
14	0.156"	5	100	12.2	9.4	8.6	7.0	5.6	76-021	RTA14C5A3-**-
14	0.188"	5	100	14.8	11.6	10.6	8.6	7.0	76-022	RTA14D5A3-**-
16	0.125"	4	25	3.4	2.2	2.0	1.2	-	76-006	RTA16B4A3-**-
16	0.125"	5	55	7.6	5.8	5.2	4.0	3.0	76-011	RTA16B5A3-**-
16	0.156"	5	80	9.8	7.6	6.8	5.4	4.2	76-029	RTA16C5A3-**-
16	0.188"	5	100	12.0	9.2	8.6	6.8	5.4	76-030	RTA16D5A3-**-
18	0.125"	5	35	6.0	4.4	3.8	2.8	2.0	76-007	RTA18B5A3-**-
18	0.156"	5	55	8.0	5.8	5.4	4.0	3.0	76-031	RTA18C5A3-**-
18	0.188"	5	80	9.8	7.4	6.8	5.2	4.0	76-032	RTA18D5A3-**-
20	0.125"	5	25	4.6	3.2	2.8	1.8	1.2	76-008	RTA20B5A3-**-
20	0.156"	5	35	6.4	4.6	4.0	3.0	2.2	76-033	RTA20C5A3-**-
20	0.188"	5	55	8.0	5.8	5.2	4.0	3.0	76-034	RTA20D5A3-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 20 C 5 A 3 - 01

Round Tapered Aluminum, 20' Mounting Height, .156" Wall Thickness, 5" Butt Diameter, 3" Top Diameter, 3-Bolt Base, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"

Butt Diameter

- 4 = 4"
- 5 = 5"

Top Diameter

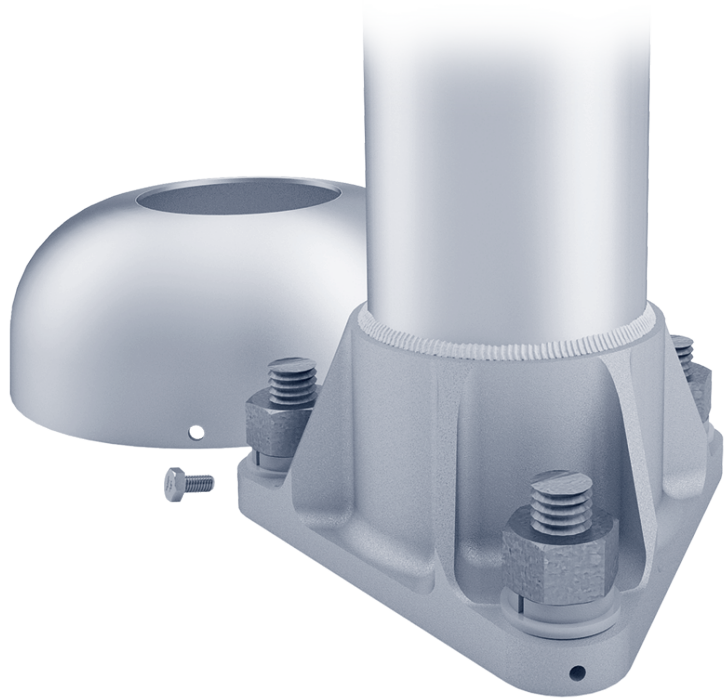
- A = 3"

Base Style

- 3 = 3-Bolt Base

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

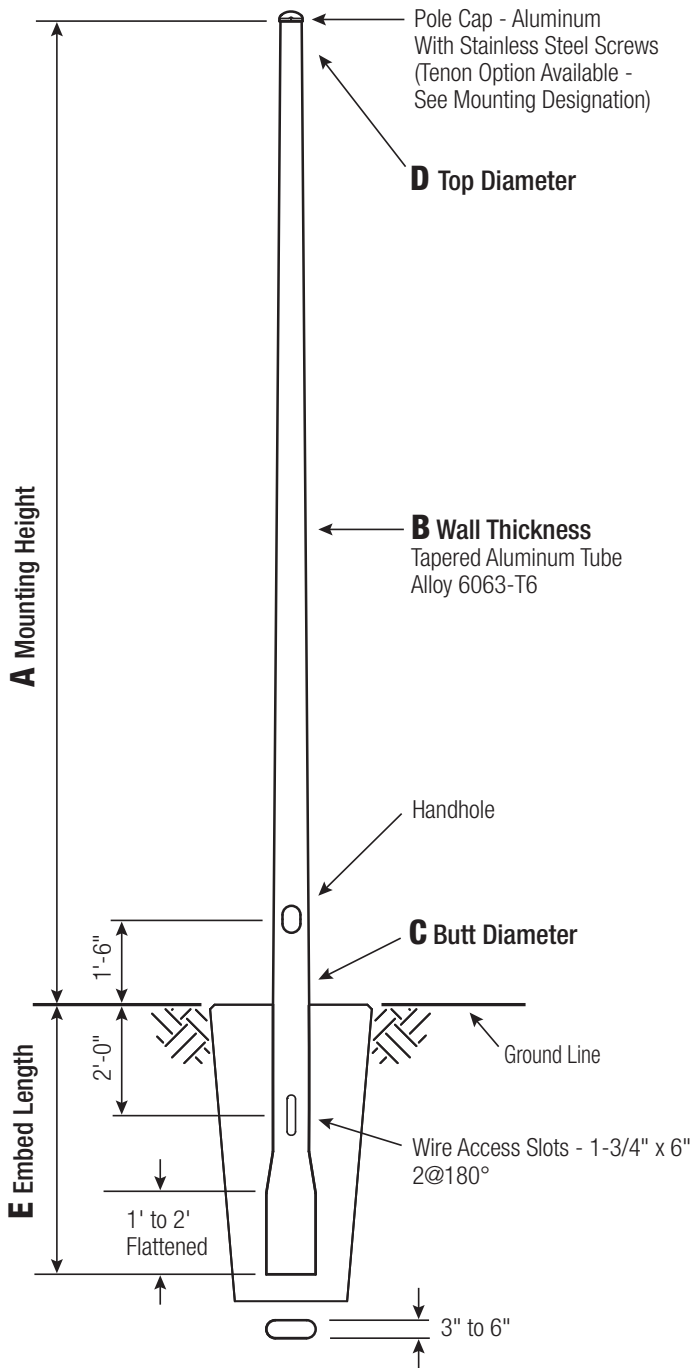


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole No Arm — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
5	3	3'
6	4.5	4'
7	4.5	5'
8	4.5	5'
9	4.5	6'
10	6	6'

C and D Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

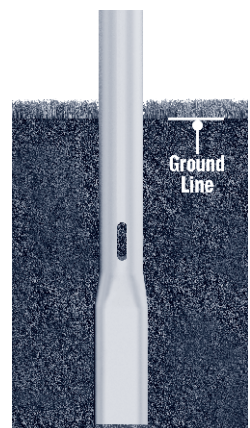
5" Butt Diameter - 2-1/2" x 5" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision is provided as part of the handhole.

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.

Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



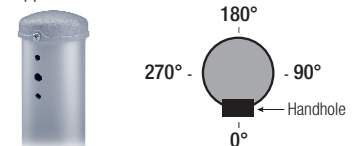
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun

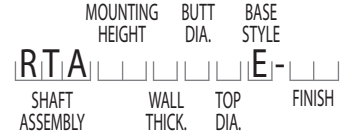
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
10	0.125"	5	100	16.6	13.0	12.2	10.0	8.2	87907-0310X	RTA10B5AE-**-
12	0.125"	5	100	12.6	10.0	9.2	7.4	6.0	87907-0312X	RTA12B5AE-**-
14	0.125"	5	90	10.0	7.6	7.0	5.6	4.4	87907-0314X	RTA14B5AE-**-
16	0.125"	5	60	8.0	6.0	5.4	4.2	3.2	87907-0316X	RTA16B5AE-**-
18	0.125"	5	35	6.4	4.6	4.2	3.0	2.2	87907-0318X	RTA18B5AE-**-
18	0.156"	5	60	8.2	6.2	5.6	4.2	3.2		RTA18C5AE-**-
20	0.125"	5	30	4.8	3.4	3.0	2.0	1.4		RTA20B5AE-**-
20	0.125"	6	100	12.0	9.2	8.4	6.8	5.6	50-001	RTA20B6BE-**-
20	0.156"	6	100	16.0	12.2	11.2	9.2	7.6	50-002	RTA20C6BE-**-
20	0.188"	6	100	20.0	15.4	14.2	11.6	9.8	50-003	RTA20D6BE-**-
20	0.156"	7	100	24.0	18.8	17.4	14.2	12.0	50-004	RTA20C7BE-**-
20	0.188"	7	100	29.4	23.2	21.4	17.8	15.0	50-005	RTA20D7BE-**-
20	0.156"	8	100	33.0	26.2	24.2	20.2	17.0	50-006	RTA20C8BE-**-
20	0.188"	8	100	40.4	32.0	29.8	24.8	21.0	50-007	RTA20D8BE-**-
22	0.125"	5	25	3.6	2.4	2.0	1.2	-		RTA22B5AE-**-
25	0.156"	6	80	10.0	7.2	6.6	5.2	4.2	50-062	RTA25C6BE-**-
25	0.188"	6	100	12.8	9.6	8.8	7.0	5.8	50-063	RTA25D6BE-**-
25	0.156"	7	100	16.0	12.2	11.2	9.0	7.4	50-064	RTA25C7BE-**-
25	0.188"	7	100	20.2	15.6	14.2	11.6	9.6	50-065	RTA25D7BE-**-
25	0.156"	8	100	22.8	17.8	16.4	13.4	11.2	50-066	RTA25C8BE-**-
25	0.188"	8	100	28.4	22.4	20.6	17.0	14.2	50-067	RTA25D8BE-**-
25	0.219"	8	100	33.6	26.6	24.6	20.4	17.2	50-068	RTA25E8BE-**-
25	0.250"	8	100	38.8	30.8	28.4	23.6	19.8	50-069	RTA25F8BE-**-
30	0.156"	7	85	10.6	7.6	6.8	5.2	4.2	50-124	RTA30C7BE-**-
30	0.188"	7	100	13.8	10.2	9.2	7.4	6.0	50-125	RTA30D7BE-**-
30	0.156"	8	100	16.0	12.0	11.0	8.8	7.2	50-126	RTA30C8BE-**-
30	0.188"	8	100	20.4	15.8	14.4	11.6	9.6	50-127	RTA30D8BE-**-
30	0.219"	8	100	24.6	19.0	17.6	14.4	12.0	50-128	RTA30E8BE-**-
30	0.250"	8	100	28.6	22.4	20.6	17.0	14.2	50-129	RTA30F8BE-**-
30	0.188"	9	100	28.0	21.8	20.4	16.6	14.0	50-131	RTA30D9BE-**-
30	0.250"	9	100	38.8	30.6	28.4	23.6	19.8	50-133	RTA30F9BE-**-
30	0.188"	10	100	36.6	29.2	27.2	22.6	19.0	50-139	RTA30D1CE-**-
35	0.156"	8	85	11.0	7.8	7.0	5.4	4.4	50-186	RTA35C8BE-**-
35	0.188"	8	100	14.6	10.8	9.8	7.8	6.2	50-187	RTA35D8BE-**-
35	0.219"	8	100	18.0	13.6	12.4	10.0	8.2	50-188	RTA35E8BE-**-
35	0.250"	8	100	21.4	16.4	15.0	12.0	10.0	50-189	RTA35F8BE-**-
35	0.188"	9	100	20.8	15.8	14.6	11.8	9.8	50-191	RTA35D9BE-**-
35	0.250"	9	100	29.6	23.2	21.4	17.6	14.6	50-193	RTA35F9BE-**-
35	0.188"	10	100	28.0	22.0	20.6	16.8	14.0	50-199	RTA35D1CE-**-
35	0.219"	10	100	33.6	26.6	24.8	20.4	17.0	50-200	RTA35E1CE-**-
35	0.250"	10	100	39.0	31.2	29.0	24.0	20.0	50-201	RTA35F1CE-**-
35	0.312"	10	100	49.2	39.8	37.0	30.8	25.8	50-202	RTA35G1CE-**-
40	0.188"	8	70	10.2	7.0	6.4	4.8	3.6	50-247	RTA40D8BE-**-
40	0.219"	8	100	12.8	9.2	8.4	6.4	5.2	50-248	RTA40E8BE-**-
40	0.250"	8	100	15.8	11.6	10.4	8.2	6.6	50-249	RTA40F8BE-**-
40	0.188"	9	100	15.0	11.2	10.2	8.2	6.6	50-251	RTA40D9BE-**-
40	0.250"	9	100	22.6	17.4	16.0	13.0	10.6	50-253	RTA40F9BE-**-
40	0.188"	10	100	21.2	16.6	15.4	12.6	10.2	50-259	RTA40D1CE-**-
40	0.219"	10	100	26.0	20.4	19.0	15.6	12.8	50-260	RTA40E1CE-**-
40	0.250"	10	100	30.6	24.2	22.4	18.6	15.4	50-261	RTA40F1CE-**-
40	0.312"	10	100	39.8	31.4	29.4	24.2	20.2	50-262	RTA40G1CE-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 5 = 5"
- 6 = 6"
- 7 = 7"
- 8 = 8"
- 9 = 9"
- 1 = 10"

Top Diameter

- A = 3"
- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Finish

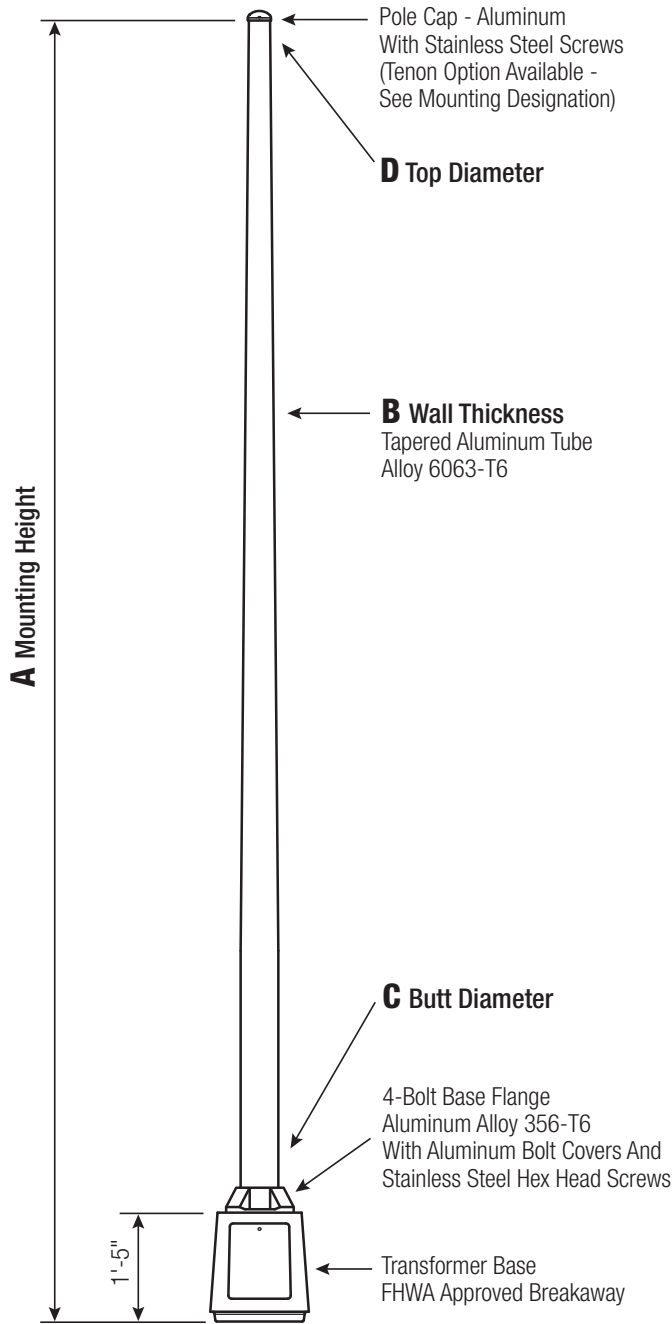
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole No Arm — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	12	13.0625	3.5	1 x 36 x 4
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
9	4.5	15	15.375	3.5	1 x 36 x 4
10 Up To .250"	6	15	15.375	3.5	1 x 48 x 4
10 .312"	6	17.25	17.4375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

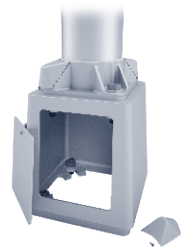
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



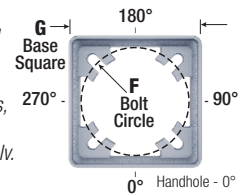
Handhole

6"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

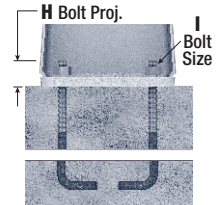


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



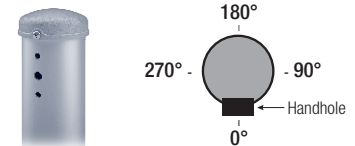
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun

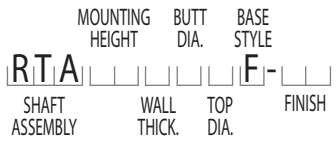
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					CATALOG NUMBER
				90	100	110	120	130	
20	0.125"	6	95	10.2	7.6	7.0	5.6	4.6	RTA20B6BF-**
20	0.156"	6	100	13.4	10.2	9.4	7.6	6.4	RTA20C6BF-**
20	0.188"	6	100	16.6	13.0	12.0	9.8	8.2	RTA20D6BF-**
20	0.156"	7	100	20.0	15.8	14.6	12.0	10.0	RTA20C7BF-**
20	0.188"	7	100	24.6	19.4	18.0	14.8	12.6	RTA20D7BF-**
20	0.156"	8	100	27.8	22.0	20.4	16.8	14.2	RTA20C8BF-**
20	0.188"	8	100	33.8	27.0	25.0	20.8	17.6	RTA20D8BF-**
25	0.156"	6	65	8.4	6.0	5.4	4.2	3.4	RTA25C6BF-**
25	0.188"	6	95	10.6	8.0	7.2	5.8	4.6	RTA25D6BF-**
25	0.156"	7	100	13.2	10.0	9.2	7.4	6.0	RTA25C7BF-**
25	0.188"	7	100	16.8	12.8	11.8	9.6	8.0	RTA25D7BF-**
25	0.156"	8	100	19.0	14.8	13.6	11.2	9.4	RTA25C8BF-**
25	0.188"	8	100	23.8	18.6	17.2	14.2	11.8	RTA25D8BF-**
25	0.219"	8	100	28.2	22.2	20.6	17.0	14.2	RTA25E8BF-**
25	0.250"	8	100	32.6	25.6	23.8	19.8	16.6	RTA25F8BF-**
30	0.156"	7	65	8.6	6.2	5.6	4.2	3.4	RTA30C7BF-**
30	0.188"	7	95	11.4	8.4	7.6	6.0	4.8	RTA30D7BF-**
30	0.156"	8	100	13.2	9.8	9.0	7.2	5.8	RTA30C8BF-**
30	0.188"	8	100	17.0	13.0	11.8	9.6	8.0	RTA30D8BF-**
30	0.219"	8	100	20.4	15.8	14.6	11.8	9.8	RTA30E8BF-**
30	0.250"	8	100	23.8	18.6	17.2	14.0	11.6	RTA30F8BF-**
30	0.188"	9	100	23.2	18.2	16.8	13.8	11.4	RTA30D9BF-**
30	0.250"	9	100	32.2	25.4	23.6	19.6	16.4	RTA30F9BF-**
30	0.188"	10	100	30.4	24.4	22.6	18.8	15.6	RTA30D1CF-**
35	0.156"	8	65	9.0	6.2	5.6	4.2	3.4	RTA35C8BF-**
35	0.188"	8	100	11.8	8.6	7.8	6.2	5.0	RTA35D8BF-**
35	0.219"	8	100	14.8	11.0	10.0	8.0	6.4	RTA35E8BF-**
35	0.250"	8	100	17.6	13.2	12.2	9.8	8.0	RTA35F8BF-**
35	0.188"	9	100	17.0	13.0	12.0	9.6	8.0	RTA35D9BF-**
35	0.250"	9	100	24.4	19.0	17.6	14.4	12.0	RTA35F9BF-**
35	0.188"	10	100	23.0	18.2	16.8	13.8	11.4	RTA35D1CF-**
35	0.219"	10	100	27.8	22.0	20.4	16.8	14.0	RTA35E1CF-**
35	0.250"	10	100	32.4	25.8	24.0	19.8	16.6	RTA35F1CF-**
35	0.312"	10	100	41.4	33.2	30.8	25.6	21.4	RTA35G1CF-**
40	0.188"	8	50	8.2	5.6	4.8	3.6	2.6	RTA40D8BF-**
40	0.219"	8	75	10.4	7.4	6.6	5.0	4.0	RTA40E8BF-**
40	0.250"	8	100	12.6	9.2	8.2	6.4	5.2	RTA40F8BF-**
40	0.188"	9	100	12.0	8.8	8.0	6.4	5.0	RTA40D9BF-**
40	0.250"	9	100	18.6	14.0	13.0	10.4	8.6	RTA40F9BF-**
40	0.188"	10	100	17.2	13.4	12.4	10.0	8.2	RTA40D1CF-**
40	0.219"	10	100	21.2	16.6	15.4	12.6	10.4	RTA40E1CF-**
40	0.250"	10	100	25.2	19.8	18.4	15.0	12.6	RTA40F1CF-**
40	0.312"	10	100	32.8	26.0	24.2	20.0	16.6	RTA40G1CF-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 9 = 9"
- 1 = 10"

Top Diameter

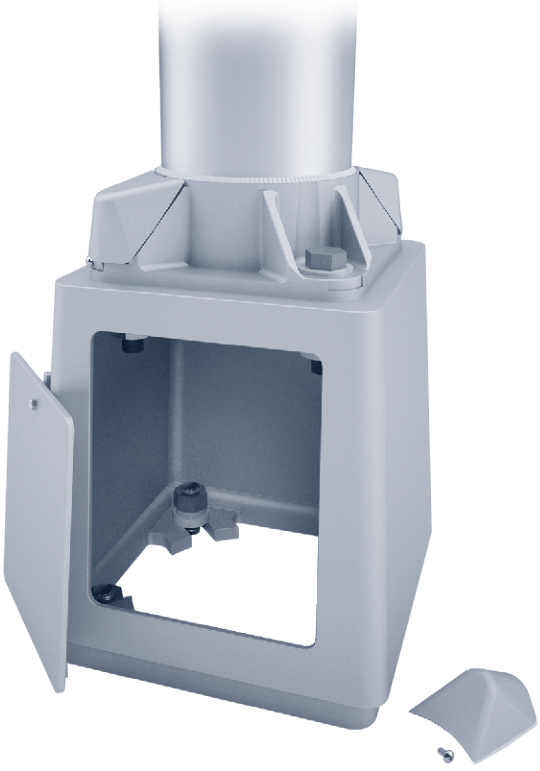
- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

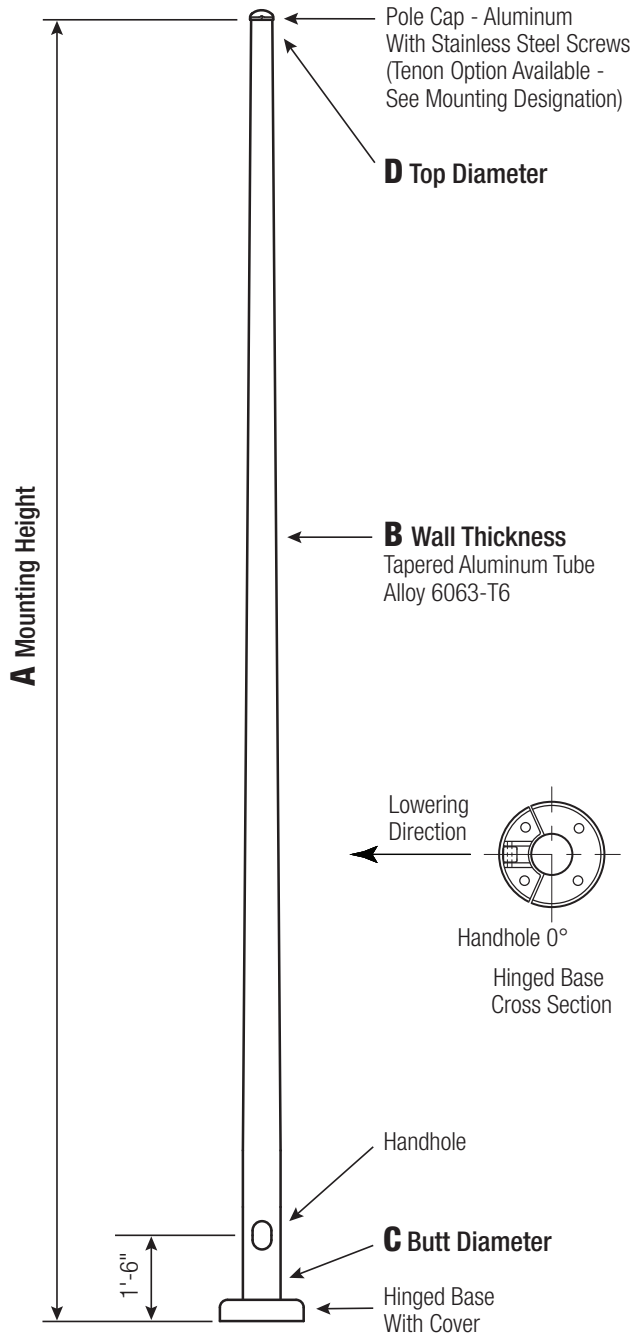


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole No Arm — Hinged Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G COVER DIA.	H BOLT PROJ.	I BOLT SIZE
4	3	7	9.75	2	.75 x 17 x 3
5	3	8.5	11.25	2	.75 x 17 x 3

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

Hinged Cast Aluminum Base Flange of Alloy 356-T6 with 2-Piece Cast Aluminum Base Cover and Stainless Steel Tamper-Resistant Attaching Screws.



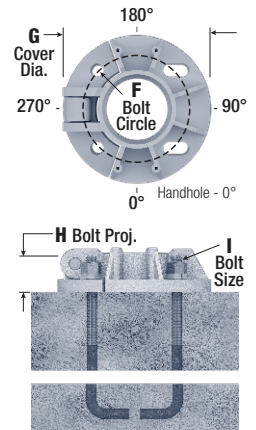
Handhole

4"-5" Butt Diameters -
2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC hole is provided.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of Threaded End will be Galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



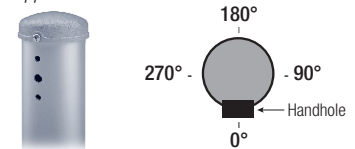
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

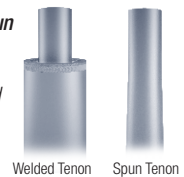
Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun

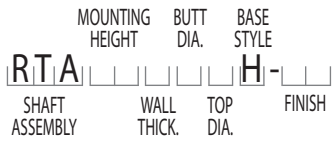
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
06	0.125"	4	100	16.0	12.8	12.0	10.0	8.4	73142-001	RTA06B4AH-**-
08	0.125"	4	100	11.0	8.6	8.0	6.6	5.4	73142-002	RTA08B4AH-**-
08	0.156"	4	100	13.6	10.8	10.0	8.2	6.8		RTA08C4AH-**-
08	0.188"	4	100	16.0	12.8	11.8	9.8	8.2		RTA08D4AH-**-
10	0.125"	4	70	8.0	6.2	5.6	4.6	3.6	73142-003	RTA10B4AH-**-
10	0.156"	4	95	10.0	7.8	7.2	5.8	4.8		RTA10C4AH-**-
10	0.188"	4	100	11.8	9.4	8.6	7.0	5.8		RTA10D4AH-**-
10	0.125"	5	100	15.6	12.4	11.4	9.4	7.8	73142-011	RTA10B5AH-**-
10	0.156"	5	100	19.6	15.4	14.4	11.8	9.8		RTA10C5AH-**-
12	0.125"	4	45	6.0	4.6	4.2	3.2	2.4	73142-004	RTA12B4AH-**-
12	0.156"	4	60	7.6	5.8	5.4	4.2	3.4		RTA12C4AH-**-
12	0.188"	4	80	9.2	7.0	6.4	5.2	4.2		RTA12D4AH-**-
12	0.125"	5	100	12.0	9.4	8.6	7.0	5.8	73142-008	RTA12B5AH-**-
12	0.156"	5	100	15.2	12.0	11.0	9.0	7.4		RTA12C5AH-**-
14	0.125"	4	35	4.4	3.2	3.0	2.2	1.6	73142-005	RTA14B4AH-**-
14	0.156"	4	40	5.8	4.4	4.0	3.0	2.2		RTA14C4AH-**-
14	0.188"	4	55	7.2	5.4	5.0	3.8	3.0		RTA14D4AH-**-
14	0.125"	5	80	9.6	7.2	6.6	5.2	4.2	73142-009	RTA14B5AH-**-
14	0.156"	5	100	12.2	9.4	8.6	7.0	5.6		RTA14C5AH-**-
16	0.156"	4	30	4.4	3.2	2.8	2.0	1.4		RTA16C4AH-**-
16	0.188"	4	30	5.6	4.2	3.8	2.8	2.0		RTA16D4AH-**-
16	0.125"	5	55	7.6	5.8	5.2	4.0	3.0	73142-010	RTA16B5AH-**-
16	0.156"	5	80	9.8	7.6	6.8	5.4	4.2		RTA16C5AH-**-
18	0.125"	5	35	6.0	4.4	3.8	2.8	2.0	73142-006	RTA18B5AH-**-
18	0.156"	5	55	8.0	5.8	5.4	4.0	3.0		RTA18C5AH-**-
20	0.125"	5	25	4.6	3.2	2.8	1.8	1.2	73142-007	RTA20B5AH-**-
20	0.156"	5	35	6.4	4.6	4.0	3.0	2.2		RTA20C5AH-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 20 C 5 A H - 01

Round Tapered Aluminum, 20' Mounting Height, .156" Wall Thickness, 5" Butt Diameter, 3" Top Diameter, Hinged Base, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"

Butt Diameter

- 4 = 4"
- 5 = 5"

Top Diameter

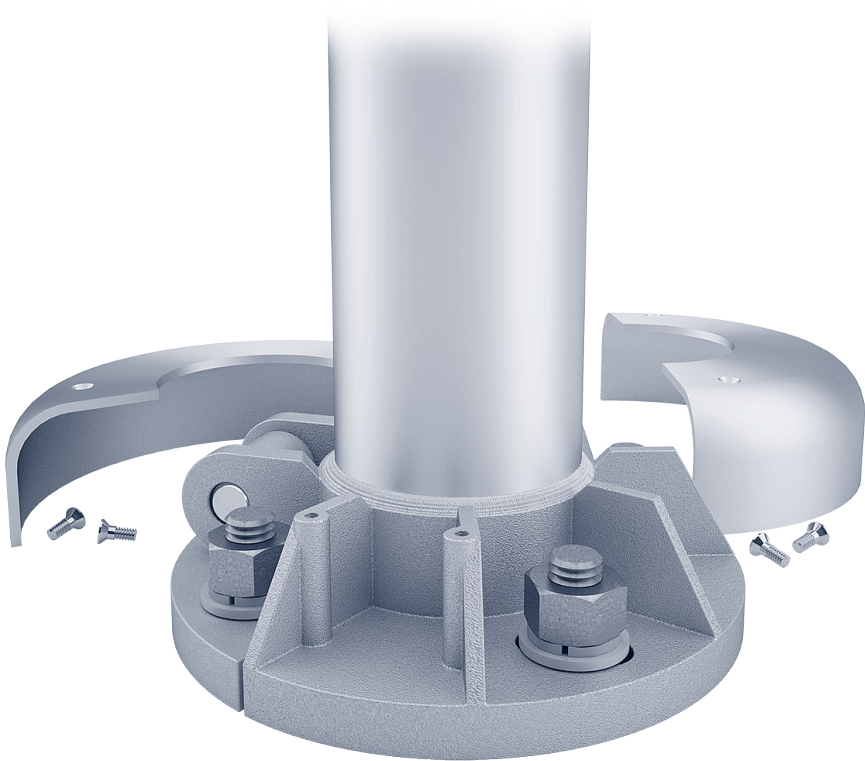
- A = 3"

Base Style

- H = Hinged Base

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

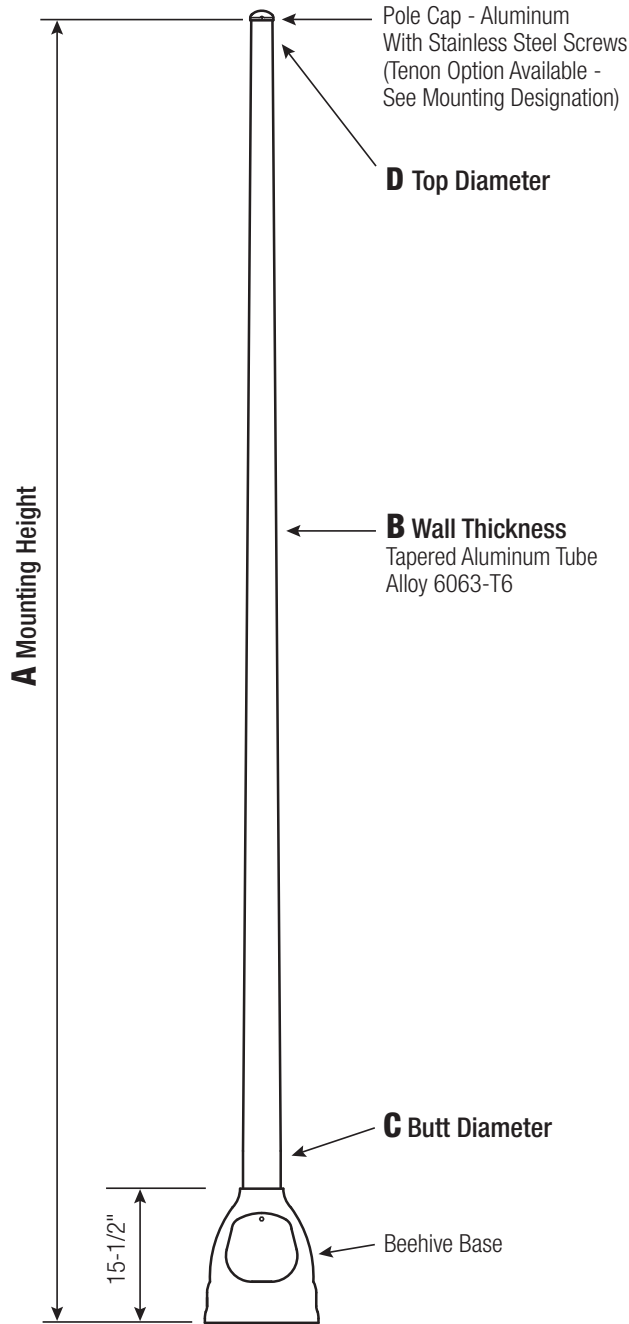


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole No Arm — Beehive Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE DIA.	H BOLT PROJ.	I BOLT SIZE
4 and 5	3	9	13.125	1.75	.75 x 17 x 3

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

Bee Hive Cast Aluminum Transformer Base of Alloy 356-T6 with Aluminum Door and Stainless Steel Attaching Screw.



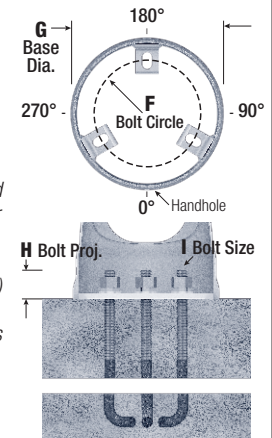
Handhole

4"-5" Butt Diameters - Contoured 7-1/2" W x 7-1/4" H Door Opening with Flush Mount Aluminum Door (Alloy 43F) and Stainless Steel Hex Head Screw. A Grounding Provision incorporating a 3/8" diameter hole is provided.



Anchorage

Anchorage Kit will include three (3) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of Threaded End will be Galvanized per ASTM A153. Kits will contain three (3) Hex Nuts, three (3) Lock Washers, and three (3) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



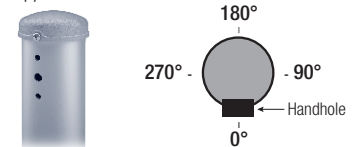
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

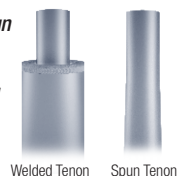
Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun

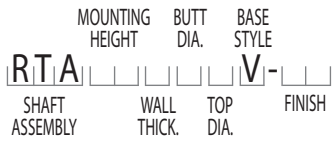
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD Cat. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
06	0.125"	4	100	21.8	17.4	16.2	13.6	11.4	77-001	RTA06B4AV-**-
08	0.125"	4	100	15.4	12.2	11.4	9.4	7.8	77-002	RTA08B4AV-**-
10	0.125"	4	100	11.6	9.0	8.4	6.8	5.6	77-003	RTA10B4AV-**-
10	0.125"	5	100	19.2	15.2	14.2	11.6	9.6	77-017	RTA10B5AV-**-
12	0.125"	4	75	9.0	7.0	6.4	5.0	4.0	77-004	RTA12B4AV-**-
12	0.125"	5	100	15.2	12.0	11.0	9.0	7.4	77-011	RTA12B5AV-**-
14	0.125"	4	50	7.2	5.4	4.8	3.8	3.0	77-005	RTA14B4AV-**-
14	0.125"	5	100	12.2	9.4	8.6	7.0	5.6	77-012	RTA14B5AV-**-
14	0.188"	5	100	19.0	15.0	13.8	11.2	9.2	77-009	RTA14D5AV-**-
16	0.125"	4	30	5.6	4.2	3.8	2.8	2.0	77-006	RTA16B4AV-**-
16	0.125"	5	80	10.0	7.6	6.8	5.4	4.2	77-013	RTA16B5AV-**-
16	0.188"	5	100	15.8	12.2	11.2	9.0	7.4	77-010	RTA16D5AV-**-
18	0.125"	5	55	8.0	6.0	5.4	4.0	3.2	77-007	RTA18B5AV-**-
20	0.125"	5	35	6.6	4.6	4.2	3.0	2.2	77-008	RTA20B5AV-**-
20	0.188"	5	85	10.6	8.0	7.2	5.6	4.4	77-034	RTA20D5AV-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 20 D 5 A V - 01

Round Tapered Aluminum, 20' Mounting Height, .188" Wall Thickness, 5" Butt Diameter, 3" Top Diameter, Beehive Base, Satin Finish.

Wall Thickness

B = .125"
D = .188"

Butt Diameter

4 = 4"
5 = 5"

Top Diameter

A = 3"

Base Style

V = Beehive Base

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

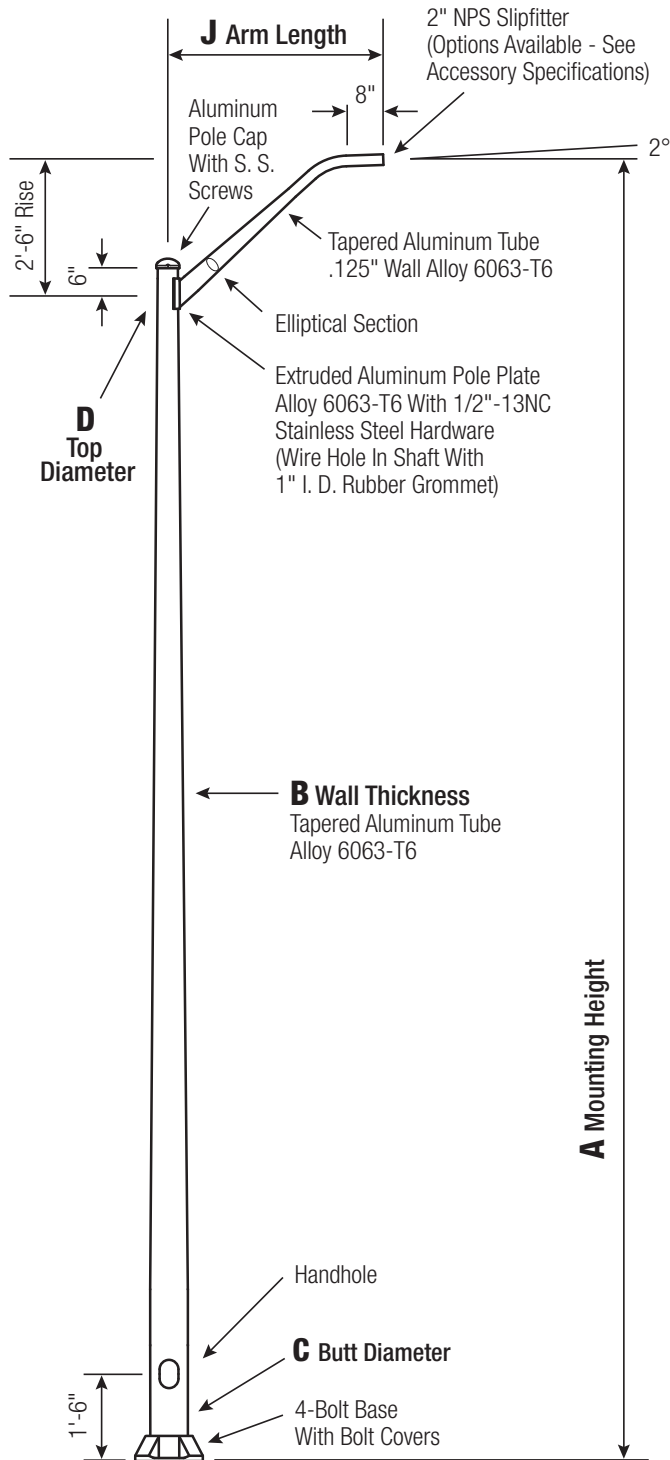


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Mast — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

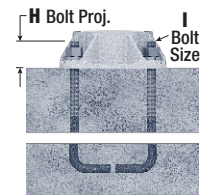
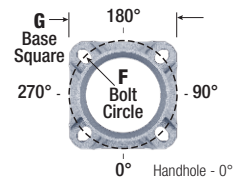
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	6	4'	60	11.0	9.0	8.2	6.5	5.2	21-082	RTA20C6B4M14-**-
20	0.156"	6	6'	60	9.0	7.2	6.6	5.7	4.4	21-085	RTA20C6B4M16-**-
20	0.156"	6	8'	40	6.8	5.2	4.8	4.0	3.2	21-087	RTA20C6B4M18-**-
20	0.188"	6	4'	60	11.0	8.8	8.2	6.8	5.6	21-002	RTA20D6B4M14-**-
20	0.188"	6	6'	60	9.0	7.2	6.6	5.4	4.6	21-005	RTA20D6B4M16-**-
20	0.188"	6	8'	40	6.8	5.2	4.8	4.0	3.2	21-007	RTA20D6B4M18-**-
25	0.156"	6	6'	40	6.6	4.3	3.8	2.5	1.7	21-285W3	RTA25C6B4M16-**-
25	0.188"	6	4'	60	9.6	6.9	6.2	4.7	3.6	21-282	RTA25D6B4M14-**-
25	0.188"	6	6'	60	8.8	6.2	5.4	4.0	2.9	21-285	RTA25D6B4M16-**-
25	0.188"	6	8'	45	6.2	5.0	4.7	3.2	2.2	21-287	RTA25D6B4M18-**-
25	0.156"	7	4'	60	10.4	8.2	7.6	6.3	5.0	21-362	RTA25C7B4M14-**-
25	0.156"	7	6'	60	8.6	6.8	6.2	5.2	4.2	21-365	RTA25C7B4M16-**-
25	0.156"	7	8'	40	6.4	5.0	4.6	3.8	3.0	21-367	RTA25C7B4M18-**-
25	0.188"	7	4'	60	10.4	8.2	7.6	6.4	5.4	21-292	RTA25D7B4M14-**-
25	0.188"	7	6'	60	8.6	6.8	6.2	5.2	4.4	21-295	RTA25D7B4M16-**-
25	0.188"	7	8'	40	6.4	5.0	4.6	3.8	3.0	21-297	RTA25D7B4M18-**-
30	0.156"	7	4'	60	7.6	5.1	4.4	3.1	2.2	21-692	RTA30C7B4M14-**-
30	0.156"	7	6'	40	7.0	4.6	3.9	2.6	1.7	21-695	RTA30C7B4M16-**-
30	0.156"	7	8'	40	6.1	3.8	3.1	1.8	0.9	21-697	RTA30C7B4M18-**-
30	0.156"	8	4'	60	10.0	7.8	7.4	6.0	4.8	21-642	RTA30C8B4M14-**-
30	0.156"	8	6'	60	8.2	6.4	6.0	5.0	4.2	21-645	RTA30C8B4M16-**-
30	0.156"	8	8'	40	6.0	4.8	4.4	3.6	2.8	21-647	RTA30C8B4M18-**-
30	0.188"	8	4'	60	10.0	7.8	7.4	6.0	5.0	21-582	RTA30D8B4M14-**-
30	0.188"	8	6'	60	8.2	6.4	6.0	5.0	4.2	21-585	RTA30D8B4M16-**-
30	0.188"	8	8'	40	6.0	4.8	4.4	3.6	2.8	21-587	RTA30D8B4M18-**-
30	0.188"	8	10'	40	6.0	4.8	4.4	3.4	2.8	21-590	RTA30D8B4M1A-**-
35	0.156"	8	4'	60	8.0	5.3	4.6	3.2	2.2	21-922	RTA35C8B4M14-**-
35	0.156"	8	6'	40	7.4	4.7	4.1	2.7	1.7	21-925	RTA35C8B4M16-**-
35	0.156"	8	8'	40	5.8	3.9	3.3	1.9	0.9	21-927	RTA35C8B4M18-**-
35	0.188"	8	4'	60	9.6	7.8	7.0	5.2	3.9	21-862	RTA35D8B4M14-**-
35	0.188"	8	6'	60	7.8	6.2	6.2	4.5	3.3	21-865	RTA35D8B4M16-**-
35	0.188"	8	8'	40	5.8	4.6	4.2	3.4	2.6	21-867	RTA35D8B4M18-**-
35	0.188"	8	8'	40	5.8	4.6	4.2	3.4	2.8	21-897	RTA35D8C4M18-**-
35	0.250"	8	4'	60	9.6	7.6	7.0	5.8	5.0	21-882	RTA35F8B4M14-**-
35	0.250"	8	6'	60	7.8	6.2	5.8	4.8	4.0	21-885	RTA35F8B4M16-**-
35	0.250"	8	8'	40	5.8	4.6	4.2	3.4	2.8	21-887	RTA35F8B4M18-**-
40	0.188"	8	4'	60	7.0	4.4	3.8	2.4	1.5	50700-041	RTA40D8B4M14-**-
40	0.188"	8	6'	40	6.4	3.8	3.2	1.8	1.0	50700-001	RTA40D8B4M16-**-
40	0.188"	8	8'	40	5.6	3.1	2.5	1.1	-	50700-002	RTA40D8B4M18-**-
40	0.219"	8	6'	55	7.6	5.8	5.0	3.4	2.2	50700-005	RTA40E8B4M16-**-
40	0.219"	8	8'	40	5.6	4.4	4.2	2.6	1.6	50700-006	RTA40E8B4M18-**-
40	0.250"	8	4'	60	9.2	7.4	6.8	5.4	4.2	50700-045	RTA40F8B4M14-**-
40	0.250"	8	6'	60	7.6	6.0	5.6	4.8	3.5	50700-009	RTA40F8B4M16-**-
40	0.250"	8	8'	40	5.6	4.4	4.0	3.2	2.6	50700-025	RTA40F8B4M18-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 M 1 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Mast Arm, Single, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- M = Mast

Arm Quantity

- 1 = Single

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'
- A = 10'

Finish

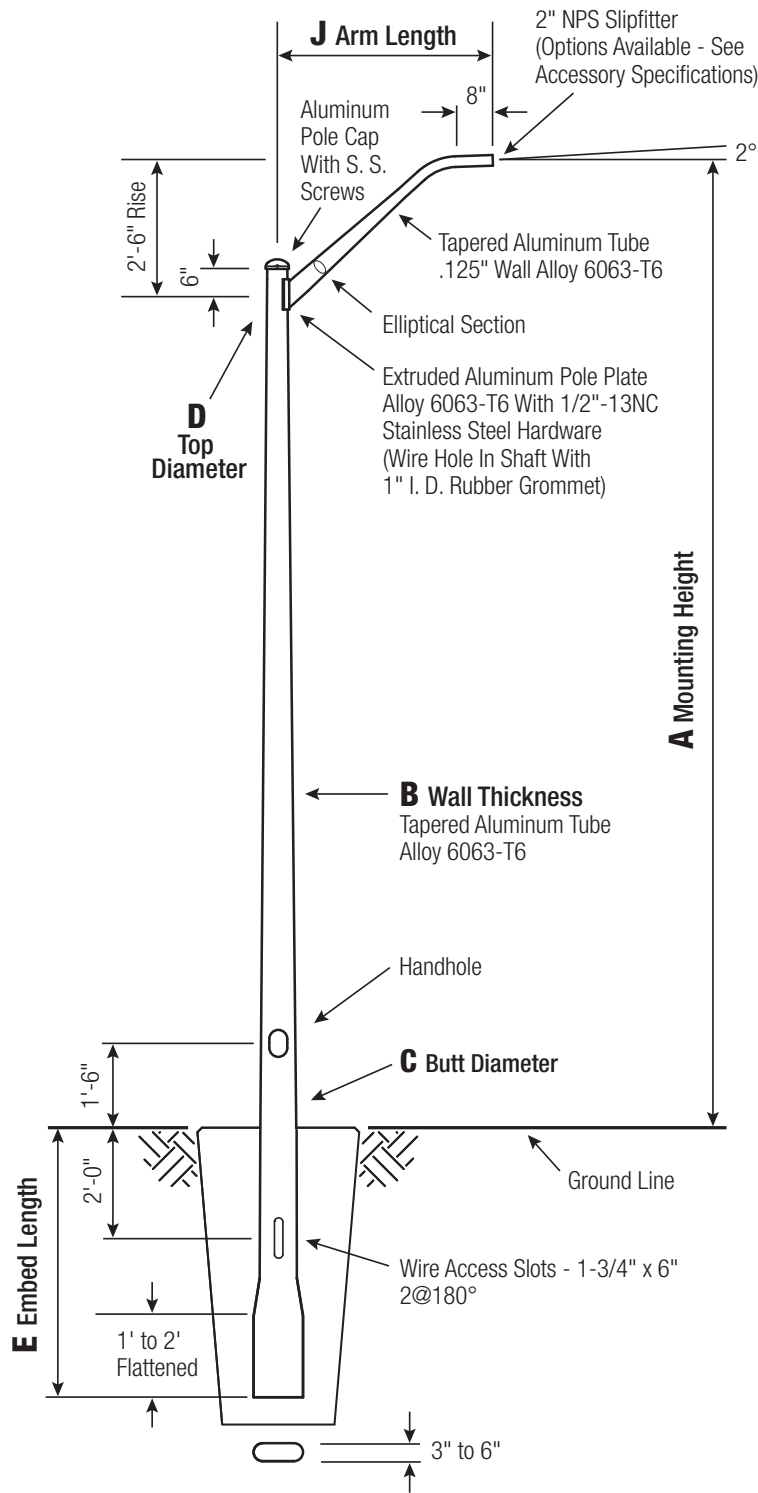
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Mast — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

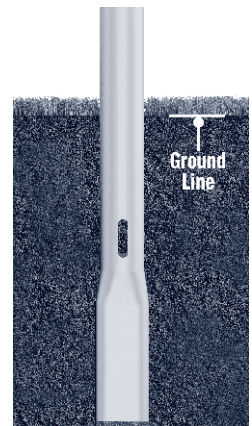
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	Lum. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	6	4'	60	11.0	8.8	8.2	6.8	5.6	20-082	RTA20C6BEM14-**-
20	0.156"	6	6'	60	9.0	7.2	6.6	5.4	4.6	20-085	RTA20C6BEM16-**-
20	0.156"	6	8'	40	6.8	5.2	4.8	4.0	3.2	20-087	RTA20C6BEM18-**-
20	0.188"	6	4'	60	11.0	8.8	8.2	6.8	5.6	20-002	RTA20D6BEM14-**-
20	0.188"	6	6'	60	9.0	7.2	6.6	5.4	4.6	20-005	RTA20D6BEM16-**-
20	0.188"	6	8'	40	6.8	5.2	4.8	4.0	3.2	20-007	RTA20D6BEM18-**-
25	0.156"	7	4'	60	10.4	8.2	7.6	6.4	5.4	20-362	RTA25C7BEM14-**-
25	0.156"	7	6'	60	8.6	6.8	6.2	5.2	4.4	20-365	RTA25C7BEM16-**-
25	0.156"	7	8'	40	6.4	5.0	4.6	3.8	3.0	20-367	RTA25C7BEM18-**-
25	0.188"	7	4'	60	10.4	8.2	7.6	6.4	5.4	20-292	RTA25D7BEM14-**-
25	0.188"	7	6'	60	8.6	6.8	6.2	5.2	4.4	20-295	RTA25D7BEM16-**-
25	0.188"	7	8'	40	6.4	5.0	4.6	3.8	3.0	20-297	RTA25D7BEM18-**-
30	0.156"	7	4'	60	9.8	6.8	6.2	4.6	3.4	20-692	RTA30C7BEM14-**-
30	0.156"	7	6'	60	8.2	6.2	5.4	3.8	2.8	20-695	RTA30C7BEM16-**-
30	0.156"	7	8'	45	6.0	4.6	4.6	3.1	2.1	20-697	RTA30C7BEM18-**-
30	0.156"	8	4'	60	10.0	7.8	7.4	6.0	5.0	20-642	RTA30C8BEM14-**-
30	0.156"	8	6'	60	8.2	6.4	6.0	5.0	4.2	20-645	RTA30C8BEM16-**-
30	0.156"	8	8'	40	6.0	4.8	4.4	3.6	2.8	20-647	RTA30C8BEM18-**-
30	0.188"	8	4'	60	10.0	7.8	7.4	6.0	5.0	20-582	RTA30D8BEM14-**-
30	0.188"	8	6'	60	8.2	6.4	6.0	5.0	4.2	20-585	RTA30D8BEM16-**-
30	0.188"	8	8'	40	6.0	4.8	4.4	3.6	2.8	20-587	RTA30D8BEM18-**-
35	0.188"	8	4'	60	9.6	7.6	7.0	5.8	4.8	20-862	RTA35D8BEM14-**-
35	0.188"	8	6'	60	7.8	6.2	5.8	4.8	4.0	20-865	RTA35D8BEM16-**-
35	0.188"	8	8'	40	5.8	4.6	4.2	3.4	2.8	20-867	RTA35D8BEM18-**-
40	0.188"	8	4'	60	8.6	5.6	4.8	3.4	2.4	20-862	RTA40D8BEM14-**-
40	0.188"	8	6'	40	8.0	5.0	4.2	2.8	1.8	20-865	RTA40D8BEM16-**-
40	0.188"	8	8'	40	5.6	4.2	3.6	2.0	1.0	20-867	RTA40D8BEM18-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E M 1 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Mast Arm, Single, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

C = .156"
D = .188"

Butt Diameter

6 = 6"
7 = 7"
8 = 8"

Top Diameter

B = 4.5"
C = 6"

Base Style

E = Direct Buried

Arm Style

M = Mast

Arm Quantity

1 = Single

Arm Length

4 = 4'
6 = 6'
8 = 8'

Finish

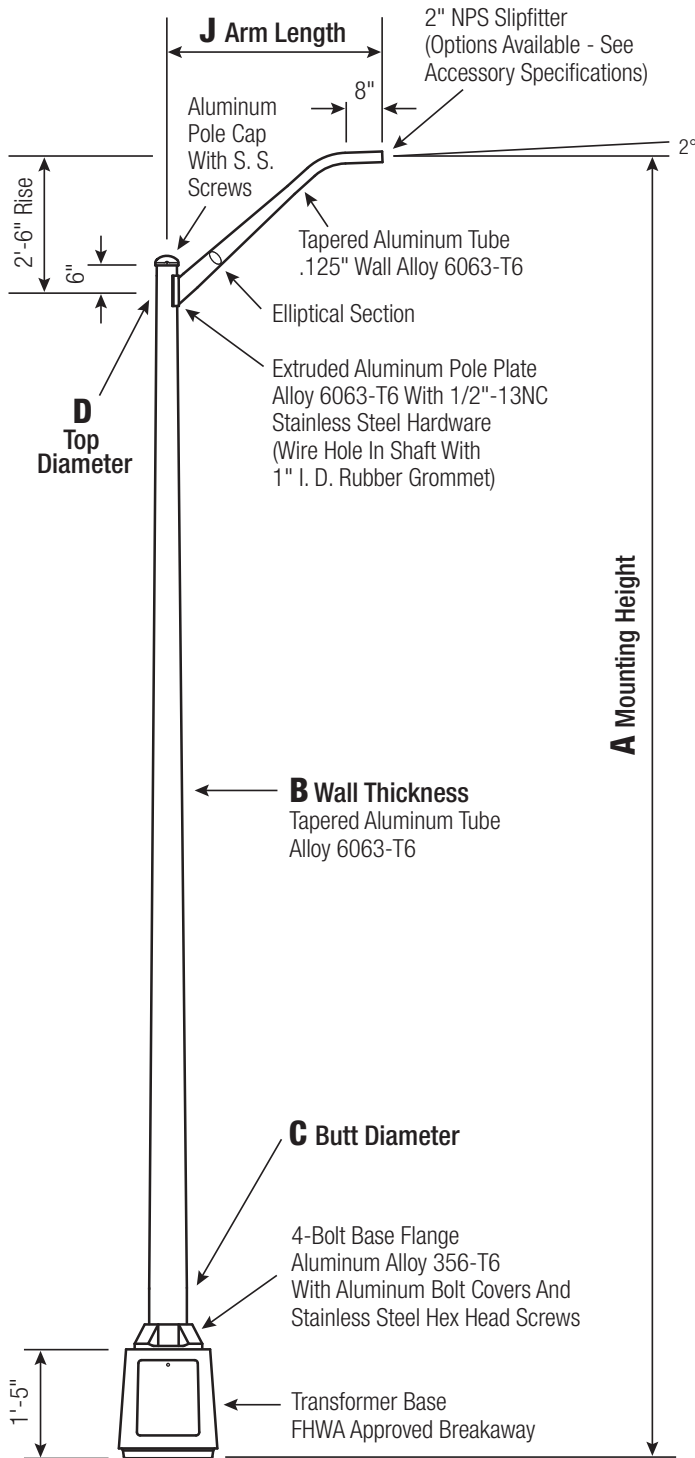
O1 = Satin Aluminum
BA = Black Powder Coat
BH = White Powder Coat
BM = Dark Bronze Powder Coat
BV = Dark Green Powder Coat
GC = Gray Powder Coat
**- = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Mast — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

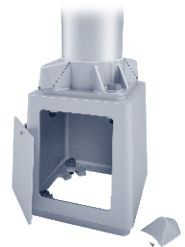
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



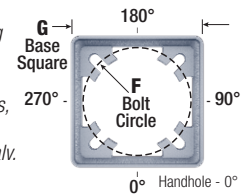
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

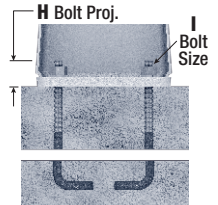


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

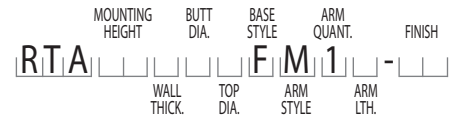
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	Lum. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	7	4'	60	11.0	8.8	8.2	6.8	5.6	23-092	RTA20C7BFM14-**-
20	0.156"	7	6'	60	9.0	7.2	6.6	5.4	4.6	23-095	RTA20C7BFM16-**-
20	0.156"	7	8'	40	6.8	5.2	4.8	4.0	3.2	23-097	RTA20C7BFM18-**-
25	0.156"	7	4'	60	10.4	8.2	7.6	6.4	5.2	23-362	RTA25C7BFM14-**-
25	0.156"	7	6'	60	8.6	6.8	6.2	5.2	4.4	23-365	RTA25C7BFM16-**-
25	0.156"	7	8'	40	6.4	5.0	4.6	3.8	3.0	23-367	RTA25C7BFM18-**-
25	0.188"	7	4'	60	10.4	8.2	7.6	6.4	5.4	23-292	RTA25D7BFM14-**-
25	0.188"	7	6'	60	8.6	6.8	6.2	5.2	4.4	23-295	RTA25D7BFM16-**-
25	0.188"	7	8'	40	6.4	5.0	4.6	3.8	3.0	23-297	RTA25D7BFM18-**-
25	0.188"	8	6'	60	8.6	6.8	6.2	5.2	4.4	23-305	RTA25D8BFM16-**-
25	0.188"	8	8'	40	6.4	5.0	4.6	3.8	3.0	23-307	RTA25D8BFM18-**-
30	0.156"	7	4'	60	7.8	5.4	4.8	3.4	2.5	23-692	RTA30C7BFM14-**-
30	0.156"	8	4'	60	10.0	7.8	7.4	6.0	5.0	23-642	RTA30C8BFM14-**-
30	0.156"	8	6'	60	8.2	6.4	6.0	5.0	4.4	23-645	RTA30C8BFM16-**-
30	0.156"	8	8'	40	6.0	4.8	4.4	3.6	2.8	23-647	RTA30C8BFM18-**-
30	0.188"	8	4'	60	10.0	7.8	7.4	6.0	5.0	23-582	RTA30D8BFM14-**-
30	0.188"	8	6'	60	8.2	6.4	6.0	5.0	4.2	23-585	RTA30D8BFM16-**-
30	0.188"	8	8'	40	6.0	4.8	4.4	3.6	2.8	23-587	RTA30D8BFM18-**-
35	0.188"	8	4'	60	9.6	8.0	7.2	5.4	4.2	23-862	RTA35D8BFM14-**-
35	0.188"	8	6'	60	7.8	6.2	5.8	4.8	3.5	23-865	RTA35D8BFM16-**-
35	0.188"	8	8'	40	5.8	4.6	4.2	3.4	2.8	23-867	RTA35D8BFM18-**-
35	0.219"	8	4'	60	9.6	7.6	7.0	5.8	5.0	23-872	RTA35E8BFM14-**-
35	0.219"	8	6'	60	7.8	6.2	5.8	4.8	4.0	23-875	RTA35E8BFM16-**-
35	0.219"	8	8'	40	5.8	4.6	4.2	3.4	2.8	23-877	RTA35E8BFM18-**-
40	0.188"	8	4'	45	7.4	4.8	4.2	2.8	1.8	50702-041	RTA40D8BFM14-**-
40	0.188"	8	6'	45	6.8	4.2	3.5	2.2	1.2	50702-001	RTA40D8BFM16-**-
40	0.188"	8	8'	45	5.6	3.4	2.8	1.4	-	50702-002	RTA40D8BFM18-**-
40	0.219"	8	4'	60	9.0	6.0	5.4	3.8	2.6	50702-043	RTA40E8BFM14-**-
40	0.219"	8	6'	40	8.0	5.4	4.8	3.2	2.0	50702-005	RTA40E8BFM16-**-
40	0.219"	8	8'	40	5.6	4.4	4.0	2.4	1.4	50702-006	RTA40E8BFM18-**-
40	0.188"	10	4'	60	8.8	7.0	6.4	5.2	4.4	50702-047	RTA40D1CFM14-**-
40	0.188"	10	6'	60	7.6	6.0	5.6	4.6	3.8	50702-013	RTA40D1CFM16-**-
40	0.188"	10	8'	40	5.6	4.4	4.0	3.2	2.6	50702-014	RTA40D1CFM18-**-
45	0.188"	8	4'	55	4.1	2.0	1.4	-	-		RTA45D8BFM14-**-
45	0.188"	8	6'	40	3.6	1.4	0.9	-	-		RTA45D8BFM16-**-
45	0.188"	8	8'	40	2.8	-	-	-	-		RTA45D8BFM18-**-
45	0.219"	8	4'	40	5.8	3.2	2.6	1.4	-		RTA45E8BFM14-**-
45	0.219"	8	6'	60	5.0	2.6	2.0	-	-		RTA45E8BFM16-**-
45	0.219"	8	8'	40	4.4	1.8	1.2	-	-		RTA45E8BFM18-**-
45	0.188"	10	4'	60	8.6	6.8	6.2	5.0	4.2		RTA45D1CFM14-**-
45	0.188"	10	6'	60	7.4	5.8	5.4	4.4	3.8		RTA45D1CFM16-**-
45	0.188"	10	8'	40	5.4	4.2	4.0	3.2	2.6		RTA45D1CFM18-**-
45	0.219"	10	4'	60	8.6	6.8	6.2	5.0	4.2		RTA45E1CFM14-**-
45	0.219"	10	6'	60	7.4	5.8	5.4	4.4	3.8		RTA45E1CFM16-**-
45	0.219"	10	8'	40	5.4	4.2	4.0	3.2	2.6		RTA45E1CFM18-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F M 1 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Mast Arm, Single, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

M = Mast

Arm Quantity

1 = Single

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'

Finish

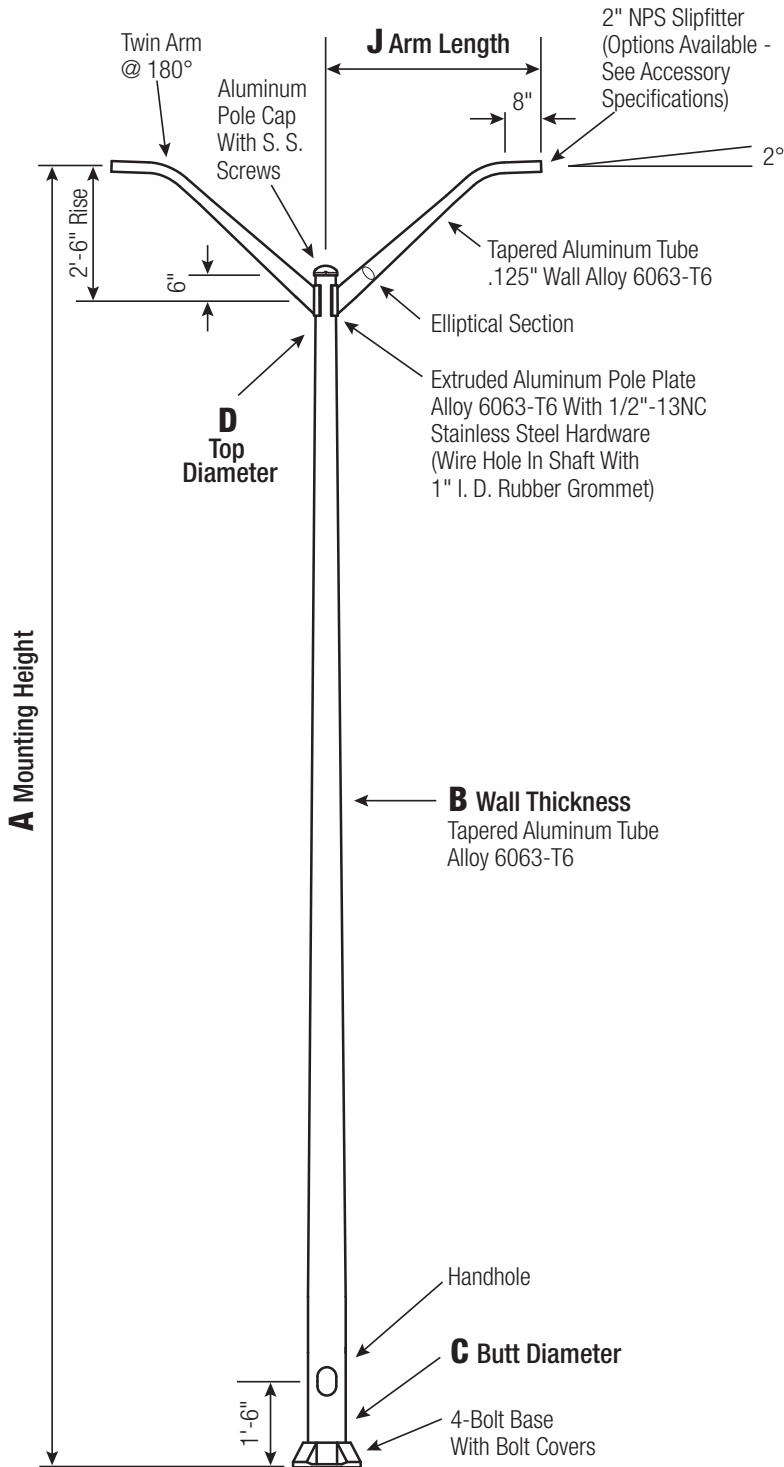
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Mast — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10	6	14 - 15	14	3.25	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

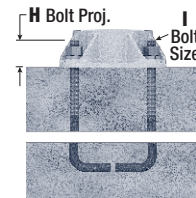
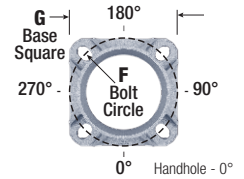
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.

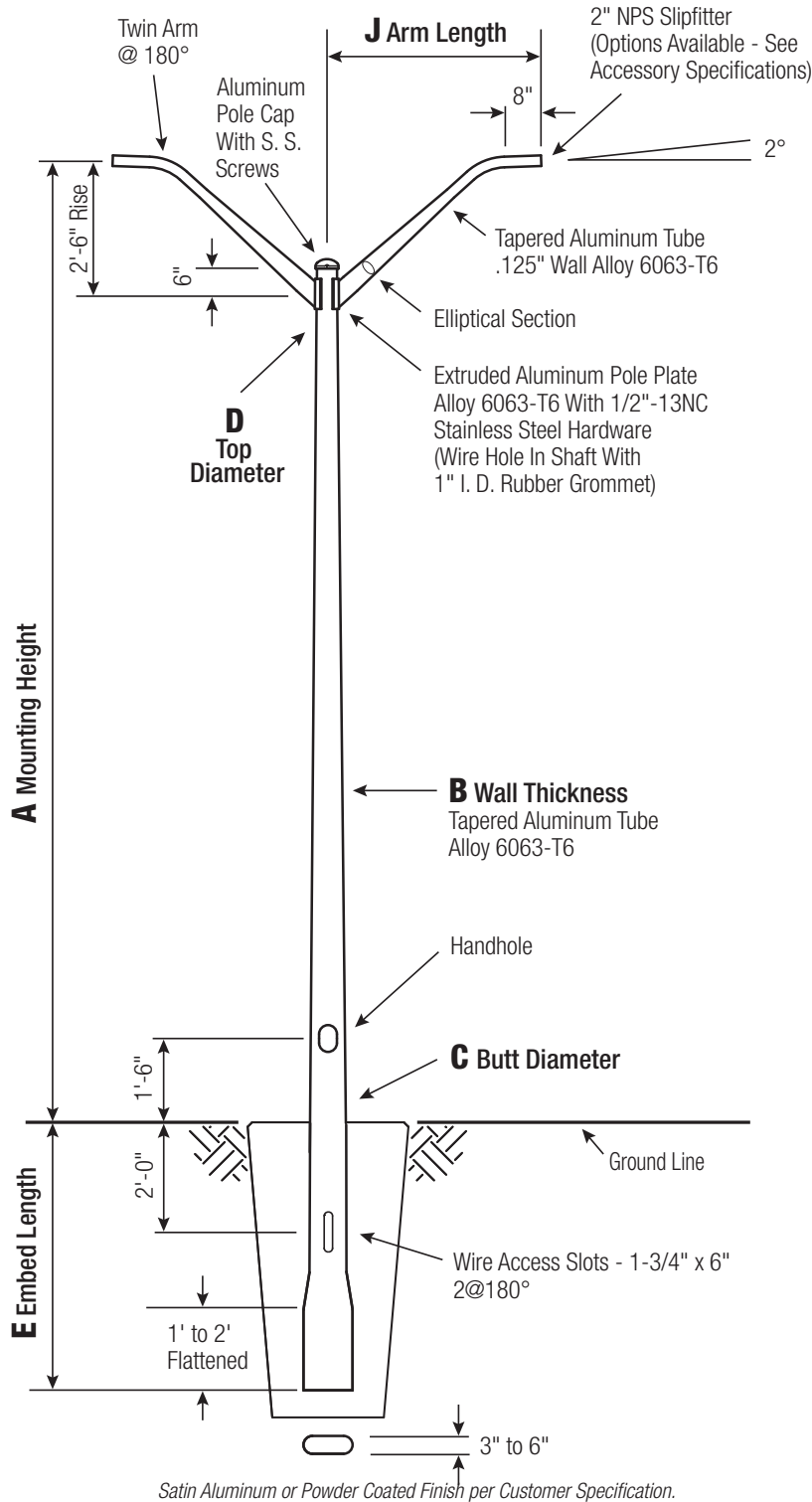


Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

RTA

Round Tapered Aluminum Pole with Arms Double Mast — Direct Buried



C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'

C and D Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

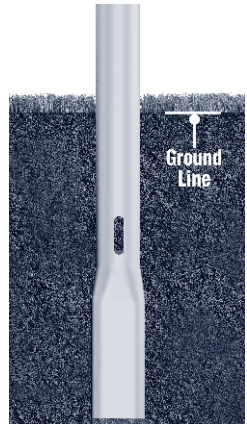
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	6	4'	70	6.8	5.0	4.5	3.4	2.6	29-082	RTA20C6BEM24-**-
20	0.156"	6	6'	55	6.2	4.4	3.9	2.9	2.1	29-085	RTA20C6BEM26-**-
20	0.156"	6	8'	45	5.4	3.7	3.2	2.1	1.4	29-087	RTA20C6BEM28-**-
20	0.188"	6	4'	60	8.2	6.2	5.6	4.2	3.4	29-002	RTA20D6BEM24-**-
20	0.188"	6	6'	60	7.6	5.6	5.0	3.8	2.8	29-005	RTA20D6BEM26-**-
20	0.188"	6	8'	45	6.6	4.8	4.2	3.0	2.0	29-007	RTA20D6BEM28-**-
20	0.156"	7	4'	60	10.6	8.2	7.4	5.9	4.8	29-092	RTA20C7BEM24-**-
20	0.156"	7	6'	60	9.0	7.4	6.8	5.2	4.1	29-095	RTA20C7BEM26-**-
20	0.156"	7	8'	40	6.8	5.2	4.8	4.0	3.4	29-097	RTA20C7BEM28-**-
20	0.188"	7	4'	60	11.0	8.8	8.2	6.8	5.6	29-012	RTA20D7BEM24-**-
20	0.188"	7	6'	60	9.0	7.2	6.6	5.4	4.6	29-015	RTA20D7BEM26-**-
20	0.188"	7	8'	40	6.8	5.2	4.8	4.0	3.2	29-017	RTA20D7BEM28-**-
25	0.188"	6	4'	40	5.0	3.4	3.0	2.2	1.6	29-282	RTA25D6BEM24-**-
25	0.188"	6	6'	40	4.4	2.8	2.4	1.6	1.0	29-285	RTA25D6BEM26-**-
25	0.188"	6	8'	45	3.8	2.2	1.8	-	-	29-287	RTA25D6BEM28-**-
25	0.156"	7	4'	70	6.8	4.9	4.4	3.3	2.5	29-362	RTA25C7BEM24-**-
25	0.156"	7	6'	55	6.2	4.4	3.8	2.7	1.9	29-365	RTA25C7BEM26-**-
25	0.156"	7	8'	45	5.4	3.6	3.1	2.0	1.2	29-367	RTA25C7BEM28-**-
25	0.188"	7	4'	60	8.2	6.0	5.4	4.2	3.2	29-292	RTA25D7BEM24-**-
25	0.188"	7	6'	60	7.6	5.4	4.8	3.6	2.6	29-295	RTA25D7BEM26-**-
25	0.188"	7	8'	45	6.2	4.8	4.2	2.8	2.0	29-297	RTA25D7BEM28-**-
25	0.156"	8	4'	60	8.8	6.7	6.1	4.9	3.9	29-372	RTA25C8BEM24-**-
25	0.156"	8	6'	60	7.8	5.9	5.3	4.1	3.3	29-375	RTA25C8BEM26-**-
25	0.156"	8	8'	45	6.2	5.1	4.6	3.5	2.6	29-377	RTA25C8BEM28-**-
25	0.188"	8	4'	60	10.4	8.2	7.6	6.4	5.2	29-302	RTA25D8BEM24-**-
25	0.188"	8	6'	60	8.6	6.8	6.2	5.2	4.4	29-305	RTA25D8BEM26-**-
25	0.188"	8	8'	40	6.4	5.0	4.6	3.8	3.0	29-307	RTA25D8BEM28-**-
30	0.156"	7	6'	40	3.6	2.2	1.8	1.0	-	29-575	RTA30C7BEM26-**-
30	0.188"	7	4'	40	5.4	3.6	3.2	2.2	1.6	29-572	RTA30D7BEM24-**-
30	0.188"	7	8'	40	4.0	2.4	1.8	1.0	-	29-577	RTA30D7BEM28-**-
30	0.156"	8	4'	70	6.1	4.5	3.9	2.9	2.3	29-642	RTA30C8BEM24-**-
30	0.156"	8	6'	45	5.7	4.1	3.5	2.5	1.9	29-645	RTA30C8BEM26-**-
30	0.156"	8	8'	45	4.9	3.3	2.9	1.9	1.1	29-647	RTA30C8BEM28-**-
30	0.188"	8	10'	55	5.6	3.4	2.8	1.6	-	29-589	RTA30D8BEM2A-**-
30	0.188"	8	4'	60	8.2	6.0	5.4	4.2	3.2	29-582	RTA30D8BEM24-**-
30	0.188"	8	6'	60	7.6	5.4	4.8	3.6	2.6	29-585	RTA30D8BEM26-**-
30	0.188"	8	8'	45	6.0	4.6	4.2	2.8	1.8	29-587	RTA30D8BEM28-**-
35	0.188"	8	4'	40	5.6	3.8	3.4	2.4	1.6	29-862	RTA35D8BEM24-**-
35	0.219"	8	6'	40	5.0	3.2	2.8	1.8	1.0	29-875	RTA35E8BEM26-**-
35	0.250"	8	8'	40	4.4	2.4	2.0	1.0	-	29-887	RTA35F8BEM28-**-
40	0.188"	8	4'	40	3.6	2.0	1.8	1.0	-	29-862	RTA40D8BEM24-**-
40	0.219"	8	6'	40	3.0	1.4	1.2	-	-	29-875	RTA40E8BEM26-**-
40	0.250"	8	8'	40	2.2	0.8	-	-	-	29-887	RTA40F8BEM28-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E M 2 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Mast Arm, Double, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

Direct Buried

Arm Style

M = Mast

Arm Quantity

2 = Double

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'
- A = 10'

Finish

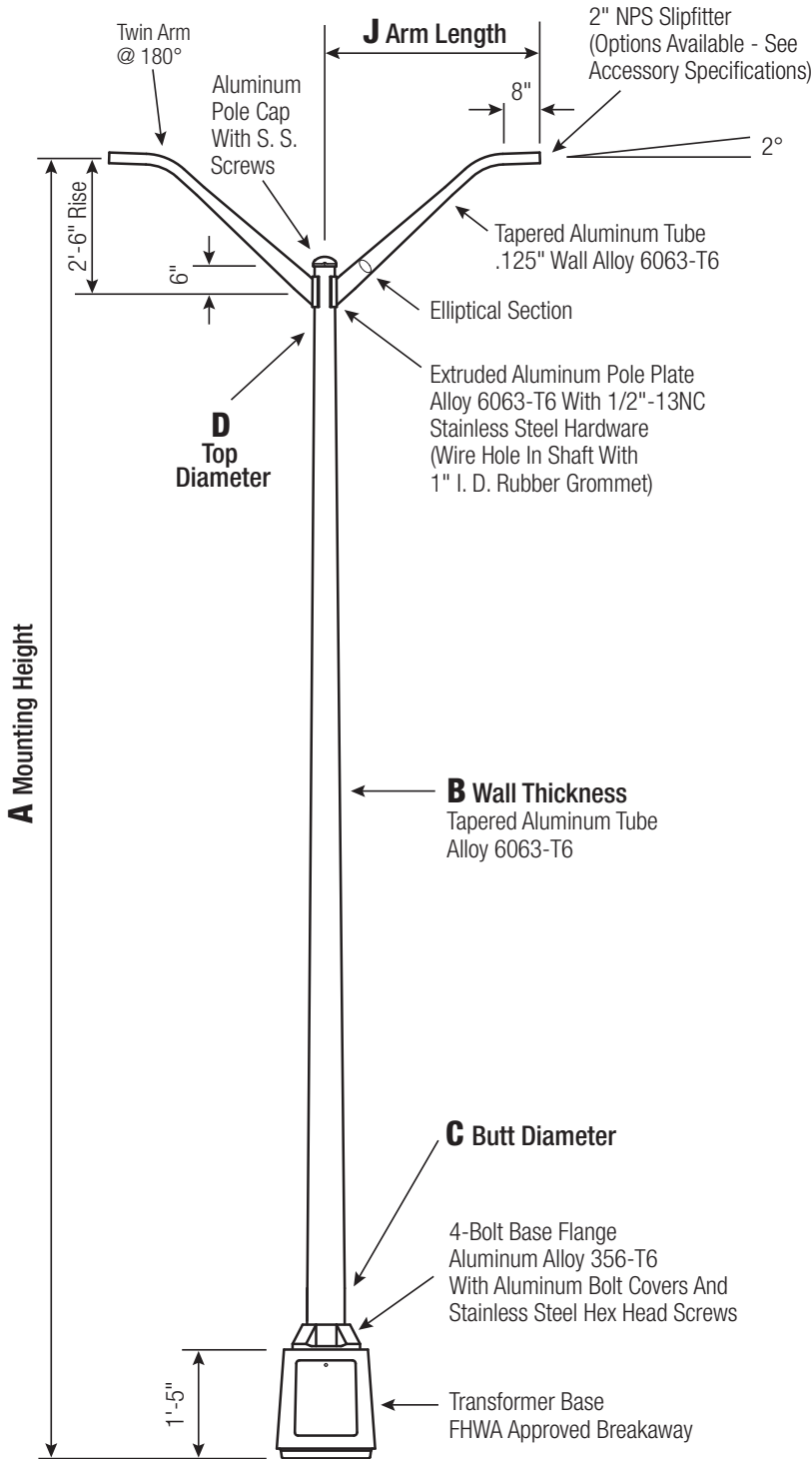
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Mast — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

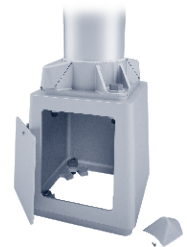
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



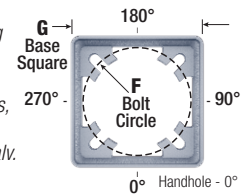
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

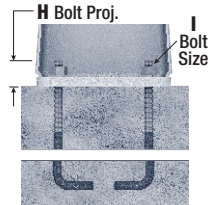


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

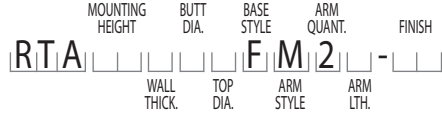
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	7	4'	60	8.8	6.7	6.1	4.8	3.8	24-092	RTA20C7BFM24-**-
20	0.156"	7	6'	60	8.2	6.0	5.4	4.2	3.2	24-095	RTA20C7BFM26-**-
20	0.156"	7	8'	45	6.6	5.3	4.7	3.4	2.5	24-097	RTA20C7BFM28-**-
25	0.156"	7	4'	55	5.6	3.9	3.5	2.6	1.9	24-362	RTA25C7BFM24-**-
25	0.156"	7	6'	45	5.0	3.4	2.9	2.0	1.3	24-365	RTA25C7BFM26-**-
25	0.188"	7	4'	70	7.2	5.3	4.8	3.6	2.8	24-292	RTA25D7BFM24-**-
25	0.188"	7	6'	60	6.6	4.7	4.2	3.0	2.2	24-295	RTA25D7BFM26-**-
25	0.156"	8	6'	60	7.1	5.3	4.7	3.5	2.7	24-375	RTA25C8BFM26-**-
25	0.188"	8	6'	60	8.6	6.8	6.2	5.2	4.1	24-305	RTA25D8BFM26-**-
25	0.188"	8	8'	40	6.4	5.0	4.6	3.8	3.0	24-307	RTA25D8BFM28-**-
30	0.156"	8	4'	45	5.6	3.9	3.4	2.5	1.8	24-642	RTA30C8BFM24-**-
30	0.156"	8	6'	45	4.9	3.3	2.8	1.9	1.2	24-645	RTA30C8BFM26-**-
30	0.156"	8	8'	45	4.2	2.5	2.1	1.1	-	24-647	RTA30C8BFM28-**-
30	0.188"	8	4'	70	7.2	5.3	4.8	3.6	2.7	24-582	RTA30D8BFM24-**-
30	0.188"	8	6'	55	6.8	4.7	4.2	3.0	2.2	24-585	RTA30D8BFM26-**-
30	0.188"	8	8'	45	6.0	4.0	3.5	2.3	1.5	24-587	RTA30D8BFM28-**-
35	0.188"	8	4'	45	4.8	3.3	2.8	1.9	1.3	24-862	RTA35D8BFM24-**-
35	0.188"	8	6'	45	4.2	2.6	2.2	1.3	-	24-865	RTA35D8BFM26-**-
35	0.188"	8	8'	45	3.5	1.9	1.5	-	-	24-867	RTA35D8BFM28-**-
35	0.219"	8	6'	45	5.2	3.4	3.0	2.0	1.2	24-875	RTA35E8BFM26-**-
35	0.250"	8	8'	40	4.6	2.8	2.2	1.2	-	24-887	RTA35F8BFM28-**-
35	0.188"	10	4'	60	9.2	7.4	6.6	5.2	4.0	24-942	RTA35D1CFM24-**-
35	0.188"	10	6'	60	7.8	6.2	5.8	5.1	3.9	24-945	RTA35D1CFM26-**-
35	0.188"	10	8'	45	5.8	4.4	4.2	3.4	2.8	24-947	RTA35D1CFM28-**-
35	0.219"	10	6'	60	7.8	6.2	5.8	4.8	4.0	24-955	RTA35E1CFM26-**-
35	0.250"	10	8'	40	5.8	4.6	4.2	3.4	2.8	24-967	RTA35F1CFM28-**-
40	0.188"	8	4'	45	2.7	1.5	1.2	-	-	50703-041	RTA40D8BFM24-**-
40	0.188"	8	6'	40	2.1	0.9	-	-	-	50703-001	RTA40D8BFM26-**-
40	0.188"	8	8'	45	1.3	-	-	-	-	50703-002	RTA40D8BFM28-**-
40	0.219"	8	6'	55	3.2	1.8	1.4	-	-	50703-005	RTA40E8BFM26-**-
40	0.250"	8	8'	40	2.4	1.0	-	-	-	50703-010	RTA40F8BFM28-**-
40	0.188"	10	4'	60	6.9	5.0	4.4	3.2	2.3	50703-047	RTA40D1CFM24-**-
40	0.188"	10	6'	55	6.8	5.0	4.4	3.2	2.3	50703-013	RTA40D1CFM26-**-
40	0.188"	10	8'	45	5.6	4.2	3.7	2.5	1.6	50703-014	RTA40D1CFM28-**-
40	0.219"	10	6'	40	8.0	5.8	5.2	4.0	2.8	50703-015	RTA40E1CFM26-**-
40	0.250"	10	8'	40	5.6	4.4	4.0	3.2	2.2	50703-018	RTA40F1CFM28-**-
45	0.188"	8	4'	45	1.2	-	-	-	-		RTA45D8BFM24-**-
45	0.219"	8	6'	60	1.5	-	-	-	-		RTA45E8BFM26-**-
45	0.188"	10	4'	40	4.7	3.2	2.8	1.8	1.0		RTA45D1CFM24-**-
45	0.188"	10	6'	40	4.6	3.1	2.7	1.8	1.0		RTA45D1CFM26-**-
45	0.188"	10	8'	40	3.8	2.4	2.0	1.0	-		RTA45D1CFM28-**-
45	0.219"	10	6'	60	5.6	3.8	3.4	2.4	1.6		RTA45E1CFM26-**-
45	0.250"	10	8'	40	4.8	3.2	2.6	1.6	-		RTA45F1CFM28-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F M 26 - 01
 Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Mast Arm, Double, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- M = Mast

Arm Quantity

- 2 = Double

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'

Finish

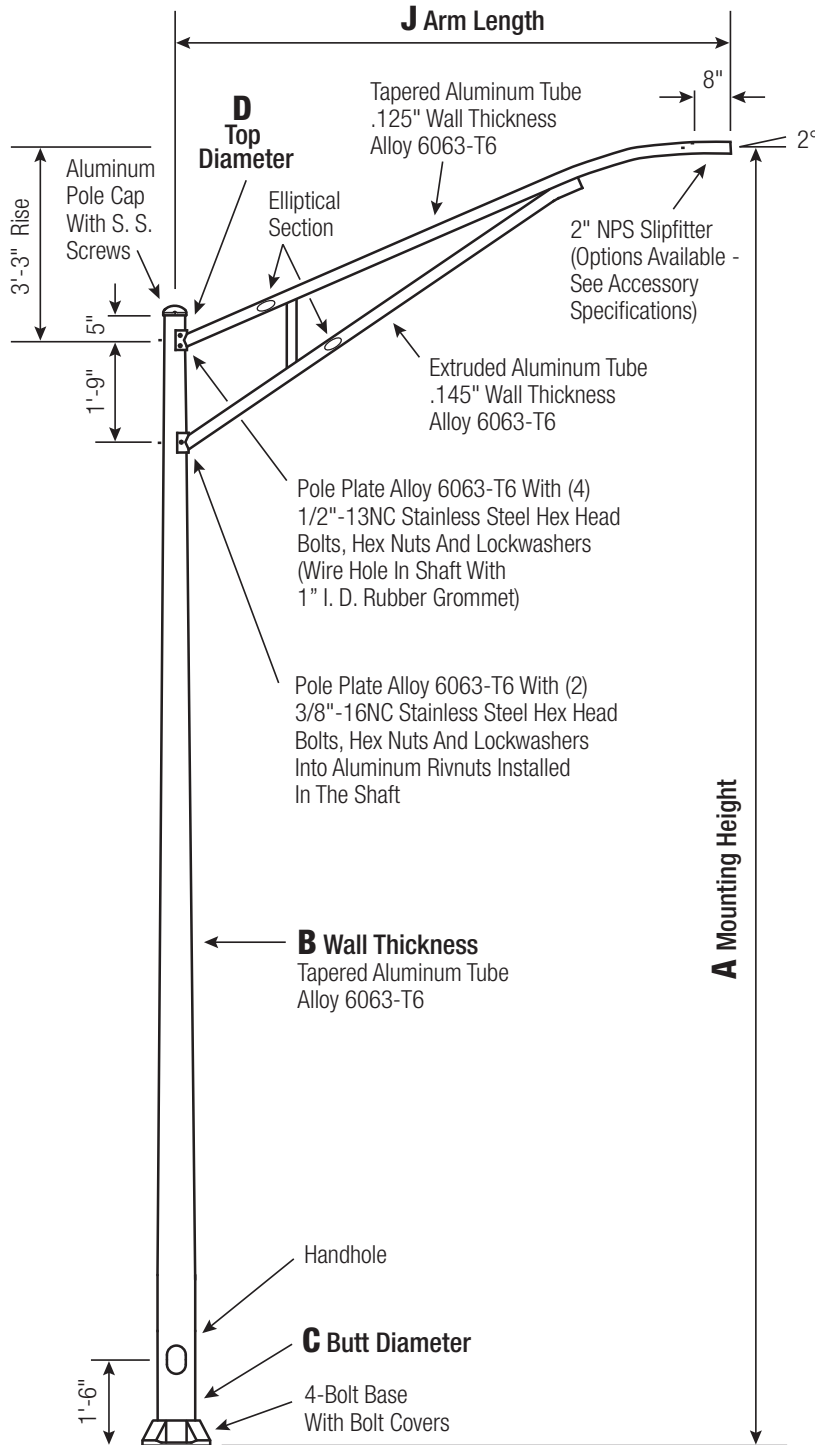
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Truss — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5 and 6	11 - 12	11.25	2.75	1 x 36 x 4
10	6	14 - 15	14	3.25	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

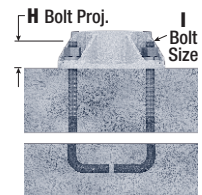
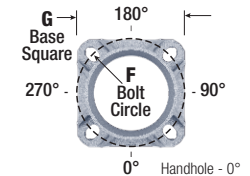
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
25	0.156"	6	8'	40	5.0	3.8	3.5	2.4	1.6	31-325	RTA25C6B4T18-**-
25	0.188"	6	8'	60	5.0	3.8	3.5	2.8	2.2	31-169	RTA25D6B4T18-**-
25	0.156"	7	8'	40	5.0	3.8	3.5	2.8	2.2	31-265	RTA25C7B4T18-**-
25	0.156"	7	10'	40	3.6	2.8	2.4	1.8	1.4	31-268	RTA25C7B4T1A-**-
25	0.188"	7	8'	60	5.0	3.8	3.5	2.8	2.2	31-181	RTA25D7B4T18-**-
25	0.188"	7	10'	40	3.6	2.8	2.4	1.8	1.4	31-184	RTA25D7B4T1A-**-
25	0.188"	7	12'	40	3.8	2.8	2.5	1.8	1.4	31-187	RTA25D7B4T1C-**-
25	0.156"	8	8'	60	5.0	3.8	3.5	2.8	2.2	31-277	RTA25C8B4T18-**-
25	0.156"	8	10'	40	3.6	2.8	2.4	1.8	1.4	31-280	RTA25C8B4T1A-**-
25	0.188"	8	8'	60	5.0	3.8	3.5	2.8	2.2	31-195	RTA25D8B4T18-**-
25	0.188"	8	10'	40	3.6	2.8	2.4	1.8	1.4	31-198	RTA25D8B4T1A-**-
25	0.188"	8	12'	40	3.8	2.8	2.5	1.8	1.4	31-199	RTA25D8B4T1C-**-
25	0.188"	8	12'	40	3.8	2.8	2.5	1.8	1.4	31-237	RTA25D8C4T1C-**-
25	0.188"	8	15'	40	2.8	1.9	1.6	1.1	0.6	31-239	RTA25D8C4T1E-**-
25	0.219"	8	15'	40	2.8	1.9	1.6	1.1	0.6	31-214	RTA25E8B4T1E-**-
30	0.156"	7	8'	40	4.8	3.6	3.4	2.5	1.6	31-661	RTA30C7B4T18-**-
30	0.156"	8	8'	40	4.8	3.6	3.4	2.6	2.0	31-601	RTA30C8B4T18-**-
30	0.188"	8	8'	60	4.8	3.6	3.4	2.6	2.0	31-529	RTA30D8B4T18-**-
30	0.188"	8	8'	60	4.8	3.6	3.4	2.6	2.0	31-567	RTA30D8C4T18-**-
30	0.188"	8	10'	40	3.4	2.6	2.3	1.8	1.3	31-532	RTA30D8B4T1A-**-
30	0.188"	8	10'	40	3.4	2.6	2.3	1.8	1.3	31-570	RTA30D8C4T1A-**-
30	0.188"	8	12'	40	3.6	2.6	2.4	1.8	1.2	31-573	RTA30D8C4T1E-**-
30	0.188"	8	15'	40	2.6	1.8	1.5	1.0	0.6	31-575	RTA30D8C4T1E-**-
35	0.156"	8	8'	40	4.6	3.5	3.2	2.5	1.6	31-925	RTA35C8B4T18-**-
35	0.188"	8	8'	40	4.6	3.5	3.2	2.5	2.0	31-853	RTA35D8B4T18-**-
35	0.188"	8	8'	60	4.6	3.4	3.2	2.5	2.0	31-889	RTA35D8C4T18-**-
35	0.188"	8	15'	40	2.4	1.6	1.4	0.8	0.4	31-899	RTA35D8C4T1E-**-
35	0.219"	8	8'	60	4.6	3.4	3.2	2.5	2.0	31-867	RTA35E8B4T18-**-
35	0.219"	8	10'	40	3.4	2.4	2.2	1.6	1.2	31-868	RTA35E8B4T1A-**-
35	0.219"	8	10'	40	3.4	2.4	2.2	1.6	1.2	31-906	RTA35E8C4T1A-**-
35	0.219"	8	12'	40	3.4	2.5	2.2	1.6	1.2	31-907	RTA35E8C4T1C-**-
35	0.219"	8	15'	40	2.4	1.6	1.4	0.8	0.4	31-911	RTA35E8C4T1E-**-
35	0.250"	8	12'	40	3.4	2.5	2.2	1.6	1.2	31-921	RTA35F8C4T1C-**-
35	0.250"	8	15'	40	2.4	1.6	1.4	0.8	0.4	31-923	RTA35F8C4T1E-**-
40	0.188"	8	8'	45	4.4	3.4	3.0	2.2	1.3	50704-014	RTA40D8C4T18-**-
40	0.219"	8	10'	40	3.2	2.4	2.1	1.6	1.2	50704-045	RTA40E8C4T1A-**-
40	0.250"	8	8'	40	4.4	3.4	3.0	2.4	1.8	50704-053	RTA40F8B4T18-**-
40	0.250"	8	12'	40	3.3	2.4	2.2	1.6	1.1	50704-075	RTA40F8C4T1C-**-
40	0.250"	8	15'	40	2.4	1.6	1.3	0.8	-	50704-077	RTA40F8C4T1E-**-
40	0.188"	10	8'	60	4.4	3.4	3.0	2.4	1.8	50704-081	RTA40D1C4T18-**-
40	0.219"	10	10'	40	3.2	2.4	2.1	1.6	1.2	50704-097	RTA40E1C4T1A-**-
40	0.219"	10	12'	40	3.3	2.4	2.2	1.6	1.1	50704-101	RTA40E1C4T1C-**-
40	0.219"	10	15'	40	2.4	1.6	1.3	0.8	-	50704-103	RTA40E1C4T1E-**-
40	0.250"	10	12'	40	3.3	2.4	2.2	1.6	1.1	50704-114	RTA40F1C4T1C-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 T 1 A - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Truss Arm, Single, 10' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- T = Truss

Arm Quantity

- 1 = Single

Arm Length

- 8 = 8'
- A = 10'
- C = 12'
- E = 15'

Finish

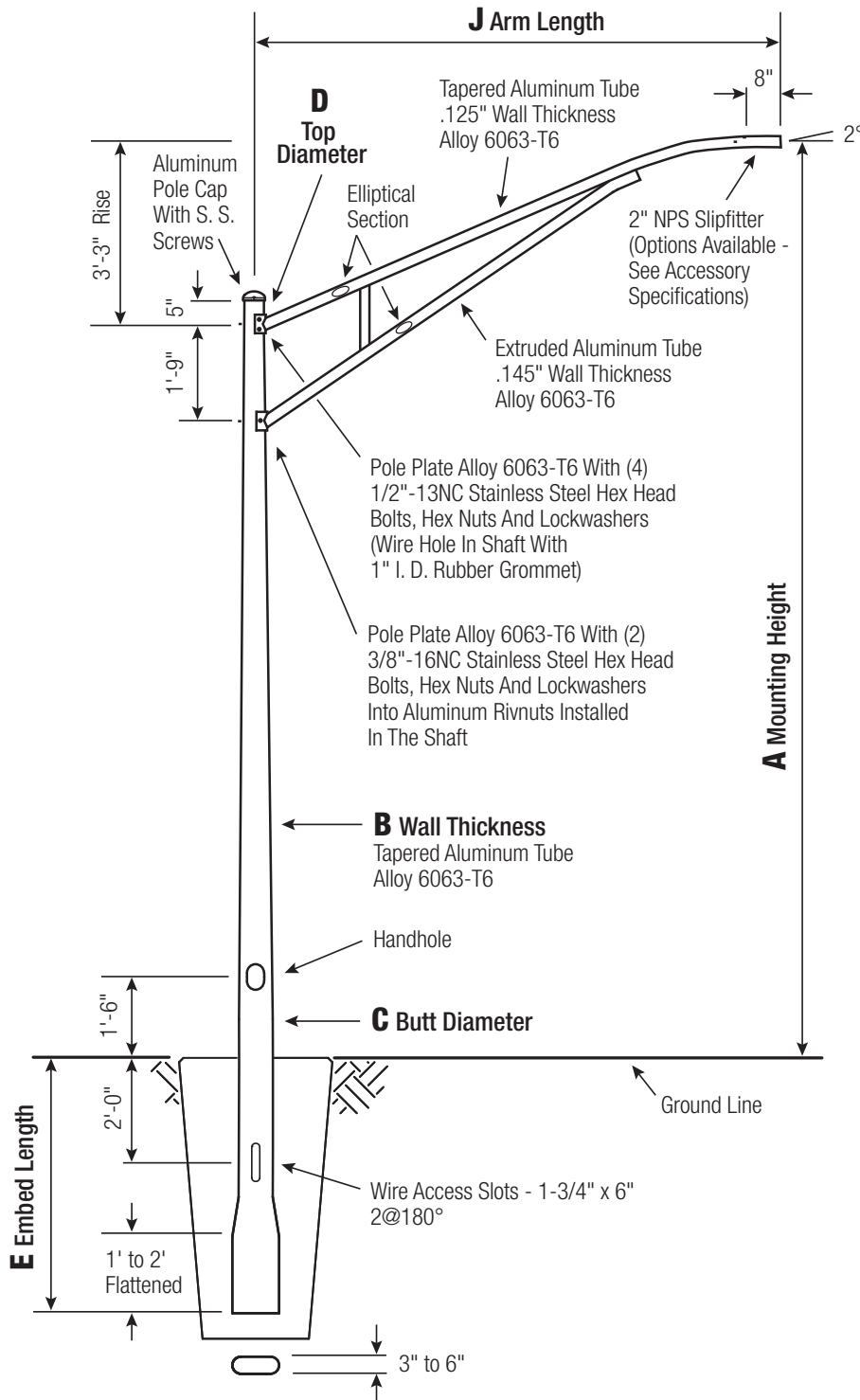
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Truss — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
7	4.5	5'
8	4.5 and 6	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
25	0.156"	7	8'	40	5.0	3.8	3.5	2.8	2.2	30-265	RTA25C7BET18-**-
25	0.156"	7	10'	40	3.6	2.8	2.4	1.8	1.4	30-268	RTA25C7BET1A-**-
25	0.188"	7	8'	60	5.0	3.8	3.5	2.8	2.2	30-181	RTA25D7BET18-**-
25	0.188"	7	10'	40	3.6	2.8	2.4	1.8	1.4	30-184	RTA25D7BET1A-**-
25	0.188"	7	12'	40	3.8	2.8	2.5	1.8	1.4	30-187	RTA25D7BET1C-**-
25	0.188"	8	8'	60	5.0	3.8	3.5	2.8	2.2	30-195	RTA25D8BET18-**-
25	0.188"	8	10'	40	3.6	2.8	2.4	1.8	1.4	30-198	RTA25D8BET1A-**-
25	0.188"	8	12'	40	3.8	2.8	2.5	1.8	1.4	30-199	RTA25D8BET1C-**-
25	0.188"	8	12'	40	3.8	2.8	2.5	1.8	1.4	30-237	RTA25D8CET1C-**-
25	0.188"	8	15'	40	2.8	1.9	1.6	1.1	0.6	30-239	RTA25D8CET1E-**-
25	0.219"	8	15'	40	2.8	1.9	1.6	1.1	0.6	30-214	RTA25E8BET1E-**-
30	0.156"	8	8'	40	4.8	3.6	3.4	2.6	2.0	30-601	RTA30C8BET18-**-
30	0.188"	8	8'	60	4.8	3.6	3.4	2.6	2.0	30-529	RTA30D8BET18-**-
30	0.188"	8	8'	60	4.8	3.6	3.4	2.6	2.0	30-567	RTA30D8CET18-**-
30	0.188"	8	10'	40	3.4	2.6	2.3	1.8	1.3	30-532	RTA30D8BET1A-**-
30	0.188"	8	10'	40	3.4	2.6	2.3	1.8	1.3	30-570	RTA30D8CET1A-**-
30	0.188"	8	12'	40	3.6	2.6	2.4	1.8	1.2	30-573	RTA30D8CET1C-**-
30	0.188"	8	15'	40	2.6	1.8	1.5	1.0	0.6	30-575	RTA30D8CET1E-**-
35	0.188"	8	8'	40	4.6	3.5	3.2	2.5	2.0	30-853	RTA35D8BET18-**-
35	0.188"	8	8'	60	4.6	3.4	3.2	2.5	2.0	30-889	RTA35D8CET18-**-
35	0.188"	8	15'	40	2.4	1.6	1.4	0.8	0.4	30-899	RTA35D8CET1E-**-
35	0.219"	8	8'	60	4.6	3.4	3.2	2.5	2.0	30-867	RTA35E8BET18-**-
35	0.219"	8	10'	40	3.4	2.4	2.2	1.6	1.2	30-868	RTA35E8BET1A-**-
35	0.219"	8	10'	40	3.4	2.4	2.2	1.6	1.2	30-906	RTA35E8CET1A-**-
35	0.219"	8	12'	40	3.4	2.5	2.2	1.6	1.2	30-907	RTA35E8CET1C-**-
35	0.219"	8	15'	40	2.4	1.6	1.4	0.8	0.4	30-911	RTA35E8CET1E-**-
35	0.250"	8	12'	40	3.4	2.5	2.2	1.6	1.2	30-921	RTA35F8CET1C-**-
35	0.250"	8	15'	40	2.4	1.6	1.4	0.8	0.4	30-923	RTA35F8CET1E-**-
40	0.188"	8	8'	40	4.4	3.4	3.0	2.4	1.8		RTA40D8CET18-**-
40	0.219"	8	10'	40	3.2	2.4	2.1	1.6	1.2		RTA40E8CET1A-**-
40	0.250"	8	12'	40	3.3	2.4	2.2	1.6	1.0		RTA40F8CET1C-**-
40	0.250"	8	15'	40	2.4	1.6	1.3	0.8	-		RTA40F8CET1E-**-
40	0.188"	10	8'	60	4.4	3.4	3.0	2.4	1.8		RTA40D1CET18-**-
40	0.219"	10	10'	40	3.2	2.4	2.1	1.6	1.2		RTA40E1CET1A-**-
40	0.219"	10	12'	40	3.3	2.4	2.2	1.6	1.1		RTA40E1CET1C-**-
40	0.219"	10	15'	40	2.4	1.6	1.3	0.8	-		RTA40E1CET1E-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E T 1 A - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Truss Arm, Single, 10' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- T = Truss

Arm Quantity

- 1 = Single

Arm Length

- 8 = 8'
- A = 10'
- C = 12'
- E = 15'

Finish

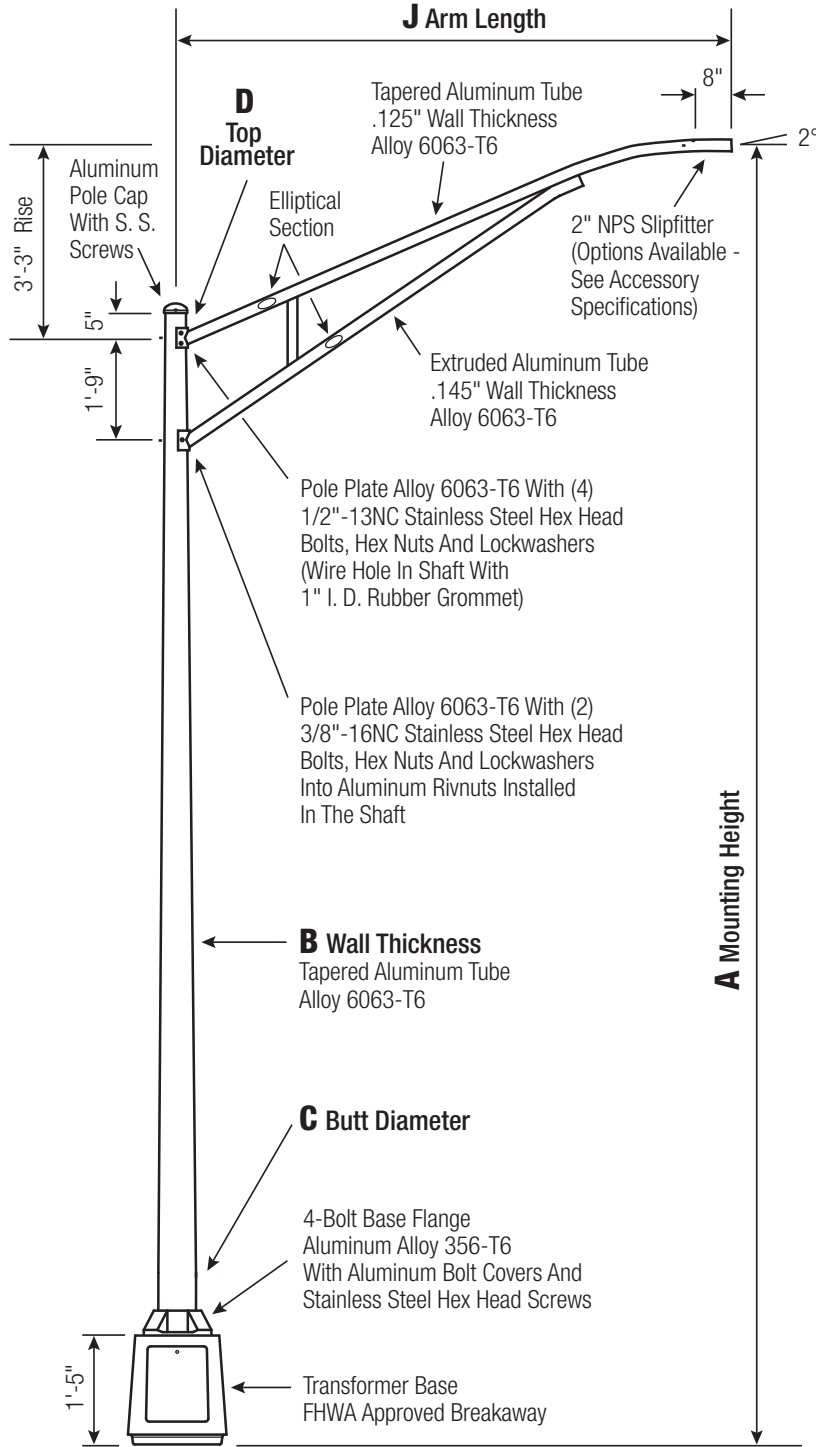
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Truss — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5 and 6	15	15.375	3.5	1 x 36 x 4
10	4.5 and 6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

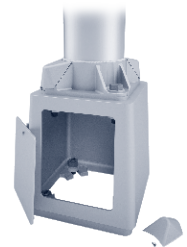
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



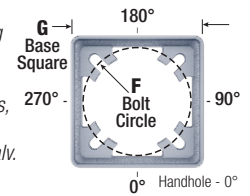
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

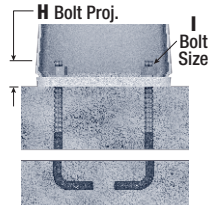


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



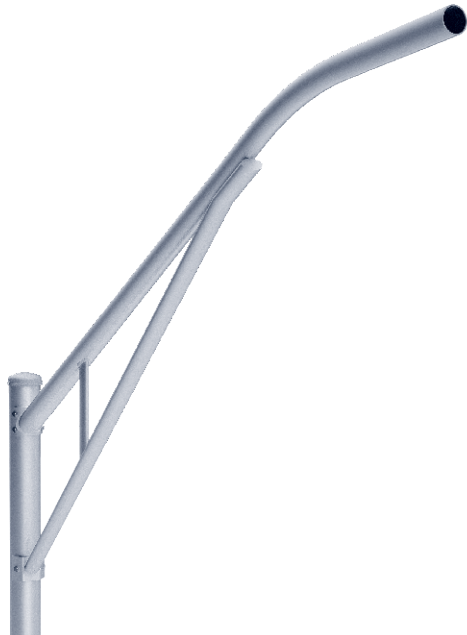
Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

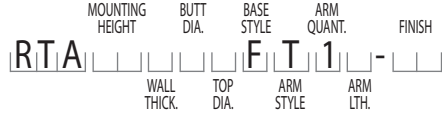
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
25	0.125"	7	8'	40	5.0	3.8	3.4	2.8	2.2		RTA25B7BFT18-**-
25	0.156"	7	8'	60	4.9	3.8	3.4	2.7	2.2	33-265	RTA25C7BFT18-**-
25	0.156"	7	10'	40	3.6	2.6	2.4	1.8	1.4	33-268	RTA25C7BFT1A-**-
25	0.188"	7	8'	60	4.9	3.8	3.4	2.7	2.2	33-181	RTA25D7BFT18-**-
25	0.188"	7	10'	40	3.6	2.6	2.4	1.8	1.4	33-184	RTA25D7BFT1A-**-
25	0.188"	7	12'	40	3.8	2.8	2.4	1.8	1.4	33-187	RTA25D7BFT1C-**-
25	0.188"	8	8'	60	4.9	3.8	3.4	2.7	2.2	33-195	RTA25D8BFT18-**-
25	0.188"	8	10'	40	3.6	2.6	2.4	1.8	1.4	33-198	RTA25D8BFT1A-**-
25	0.188"	8	12'	40	3.8	2.8	2.4	1.8	1.4	33-199	RTA25D8BFT1C-**-
25	0.188"	8	12'	40	3.8	2.8	2.4	1.8	1.4	33-237	RTA25D8BFT1C-**-
25	0.188"	8	15'	40	2.8	1.8	1.6	1.0	0.6	33-239	RTA25D8CFT1E-**-
25	0.219"	8	15'	40	2.8	1.8	1.6	1.0	0.6	33-214	RTA25E8BFT1E-**-
30	0.156"	8	8'	40	4.7	3.6	3.2	2.6	2.0	33-601	RTA30C8BFT18-**-
30	0.156"	8	10'	40	3.4	2.6	2.2	1.7	1.2	33-604	RTA30C8BFT1A-**-
30	0.156"	8	10'	40	3.4	2.6	2.2	1.7	1.2		RTA30C8CFT1A-**-
30	0.156"	8	12'	40	3.6	2.6	2.3	1.7	1.2	33-619	RTA30C8CFT1C-**-
30	0.156"	8	15'	40	2.6	1.7	1.4	1.0	0.6	33-623	RTA30C8CFT1E-**-
30	0.188"	8	8'	60	4.6	3.6	3.2	2.6	2.0	33-529	RTA30D8BFT18-**-
30	0.188"	8	8'	60	4.6	3.6	3.2	2.6	2.0	33-567	RTA30D8CFT18-**-
30	0.188"	8	10'	40	3.4	2.6	2.2	1.7	1.2	33-532	RTA30D8BFT1A-**-
30	0.188"	8	10'	40	3.4	2.6	2.2	1.7	1.2	33-570	RTA30D8CFT1A-**-
30	0.188"	8	12'	40	3.6	2.6	2.3	1.7	1.2	33-571	RTA30D8CFT1C-**-
30	0.188"	8	12'	40	3.6	2.6	2.3	1.7	1.2	33-573	RTA30D8CFT1C-**-
30	0.188"	8	15'	40	2.6	1.7	1.4	1.0	0.6	33-575	RTA30D8CFT1E-**-
35	0.188"	8	8'	40	4.6	3.4	3.2	2.4	2.0	33-853	RTA35D8BFT18-**-
35	0.188"	8	10'	40	3.2	2.4	2.2	1.6	1.2	33-857	RTA35D8BFT1A-**-
35	0.188"	8	15'	40	2.4	1.6	1.4	0.8	0.4	33-899	RTA35D8CFT1E-**-
35	0.219"	8	8'	60	4.5	3.4	3.2	2.4	2.0	33-867	RTA35E8BFT18-**-
35	0.219"	8	10'	40	3.2	2.4	2.2	1.6	1.2	33-906	RTA35E8CFT1A-**-
35	0.250"	8	12'	40	3.4	2.4	2.2	1.6	1.2	33-921	RTA35F8CFT1C-**-
35	0.250"	8	15'	40	2.4	1.6	1.4	0.8	0.4	33-923	RTA35F8CFT1E-**-
40	0.219"	8	8'	40	4.4	3.4	3.0	2.4	1.8	50706-027	RTA40E8BFT18-**-
40	0.219"	8	10'	40	3.2	2.3	2.0	1.6	1.1	50706-031	RTA40E8BFT1A-**-
40	0.219"	8	15'	40	2.3	1.5	1.3	0.8	-	50706-051	RTA40E8CFT1E-**-
40	0.250"	8	8'	60	4.4	3.4	3.0	2.4	1.8	50706-068	RTA40F8CFT18-**-
40	0.250"	8	10'	40	3.2	2.3	2.0	1.6	1.1	50706-072	RTA40F8CFT1A-**-
40	0.250"	8	12'	40	3.2	2.4	2.1	1.5	1.0	50706-075	RTA40F8CFT1C-**-
40	0.250"	8	15'	40	2.3	1.5	1.3	0.8	-	50706-077	RTA40F8CFT1E-**-
40	0.188"	10	15'	40	2.3	1.5	1.3	0.8	-	50706-090	RTA40D1CFT1E-**-
40	0.219"	10	8'	60	4.4	3.4	3.0	2.4	1.8		RTA40E1CFT18-**-
40	0.219"	10	10'	40	3.2	2.3	2.0	1.6	1.1	50706-098	RTA40E1CFT1A-**-
40	0.219"	10	12'	40	3.2	2.4	2.1	1.5	1.0		RTA40E1CFT1C-**-
40	0.219"	10	15'	40	2.3	1.5	1.3	0.8	-	50706-103	RTA40E1CFT1E-**-
45	0.219"	8	15'	40	2.2	1.0	-	-	-		RTA45E8CFT1E-**-
45	0.250"	8	10'	40	3.0	2.2	1.8	0.8	-		RTA45F8CFT1A-**-
45	0.250"	8	15'	40	2.2	1.0	0.6	-	-		RTA45F8CFT1E-**-
45	0.219"	10	10'	40	3.0	2.2	2.0	1.4	1.0		RTA45E1CFT1A-**-
45	0.219"	10	15'	40	2.2	1.4	1.2	0.7	-		RTA45E1CFT1E-**-
45	0.250"	10	10'	40	3.0	2.2	2.0	1.4	1.0		RTA45F1CFT1A-**-
45	0.250"	10	15'	40	2.2	1.4	1.2	0.7	-		RTA45F1CFT1E-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F T 1 A - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Truss Arm, Single, 10' Arm Length, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- T = Truss

Arm Quantity

- 1 = Single

Arm Length

- 8 = 8'
- A = 10'
- C = 12'
- E = 15'

Finish

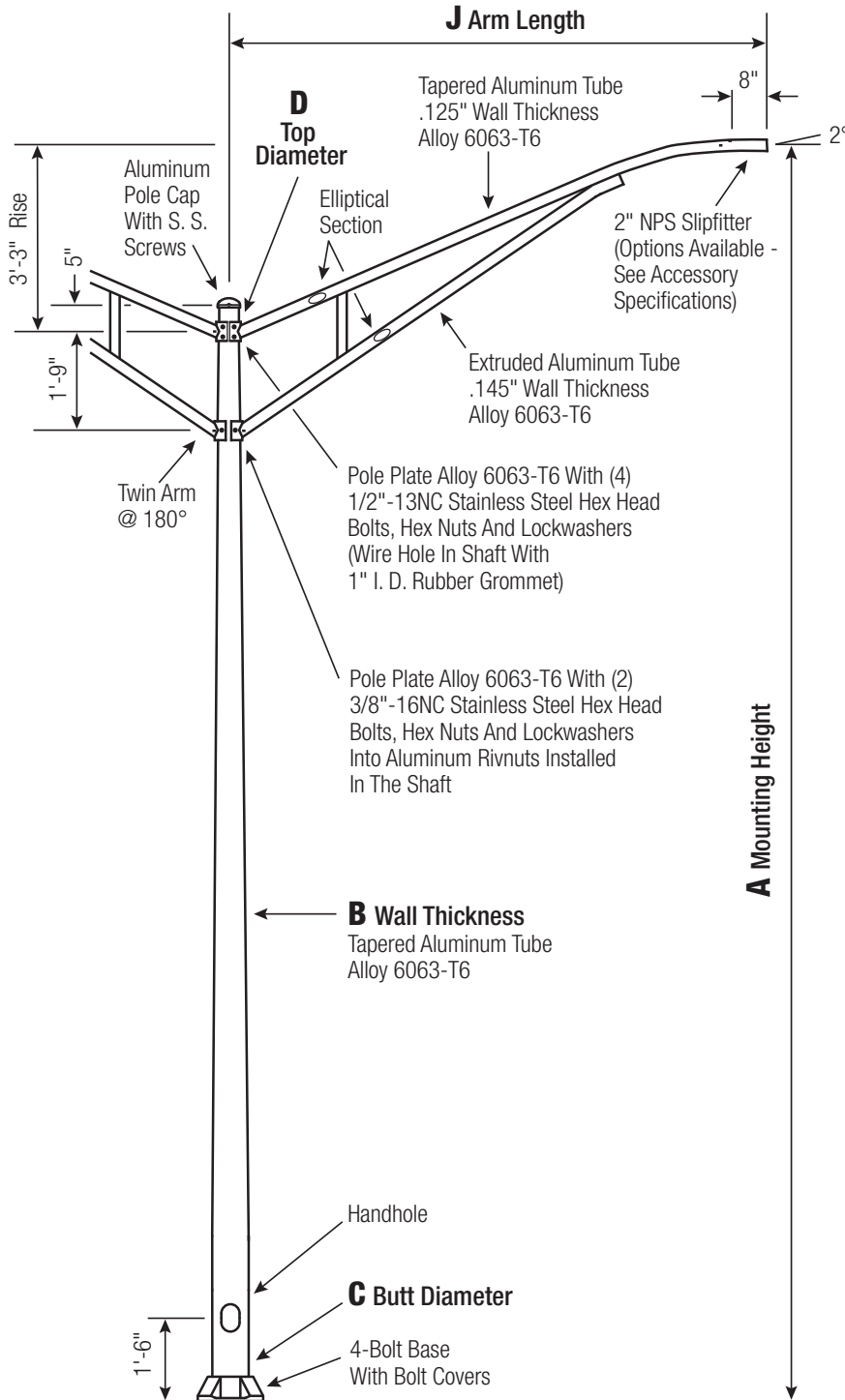
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Truss — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5 and 6	11 - 12	11.25	2.75	1 x 36 x 4
10	6	14 - 15	14	3.25	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



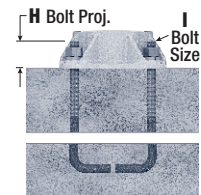
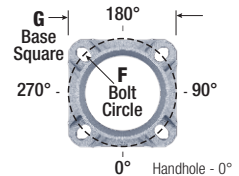
Handhole

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



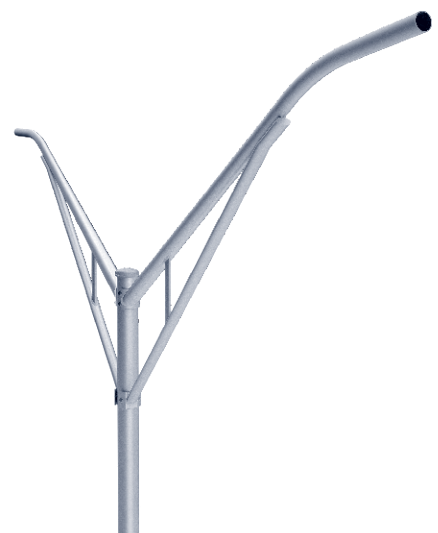
Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

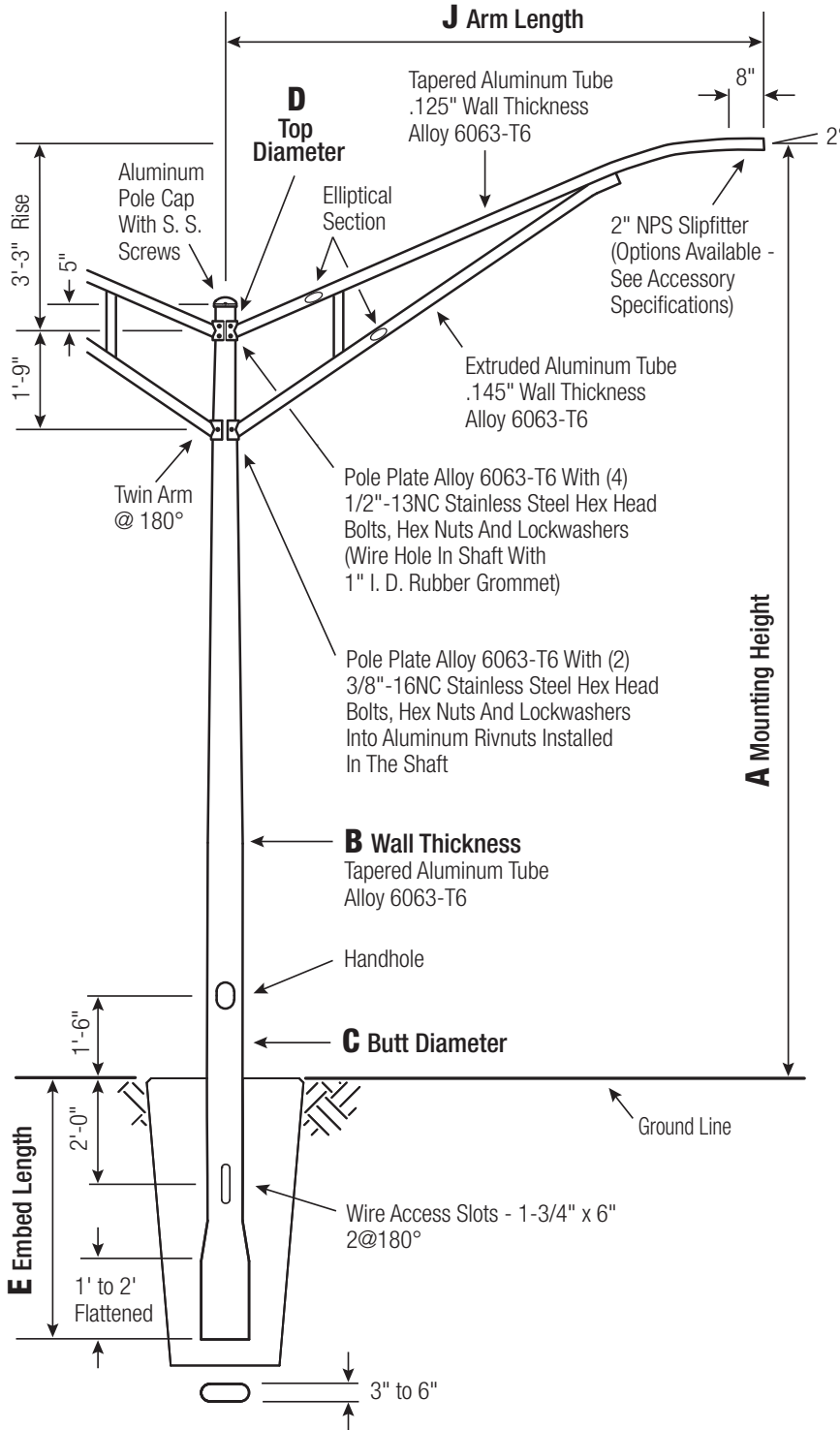
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.



WARNING: Do not install light pole without luminaire.

RTA

Round Tapered Aluminum Pole with Arms Double Truss — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
7	4.5	5'
8	4.5 and 6	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

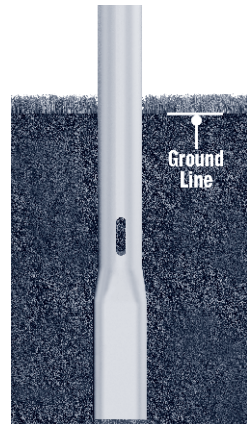
Handhole

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

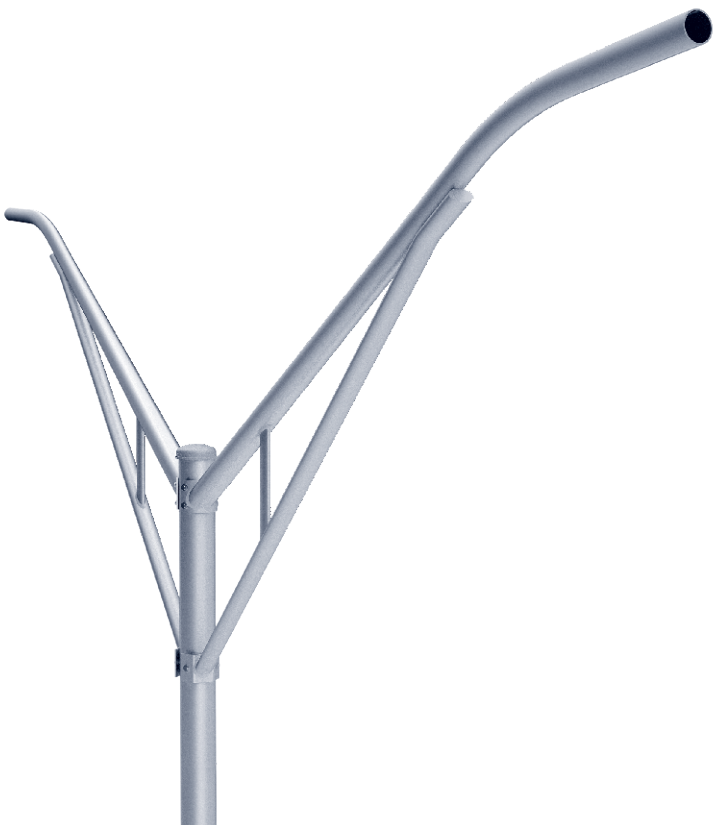
Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

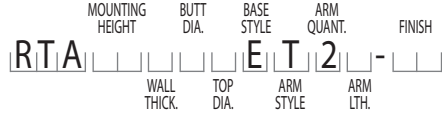
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	Lum. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
25	0.156"	7	8'	45	5.0	3.8	3.5	2.6	1.8	39-265	RTA25C7BET28-**
25	0.188"	7	8'	70	5.0	3.8	3.4	2.8	2.2	39-181	RTA25D7BET28-**
25	0.156"	8	10'	40	3.6	2.8	2.4	1.8	1.4	39-280	RTA25C8BET2A-**
25	0.188"	8	8'	40	5.0	3.8	3.5	2.8	2.2	39-195	RTA25D8BET28-**
25	0.188"	8	10'	40	3.6	2.8	2.4	1.8	1.4	39-198	RTA25D8BET2A-**
25	0.188"	8	12'	40	3.8	2.8	2.5	1.8	1.4	39-199	RTA25D8BET2C-**
25	0.188"	8	15'	40	2.8	1.9	1.6	1.1	-	39-202	RTA25D8BET2E-**
25	0.219"	8	10'	40	3.6	2.8	2.4	1.8	1.4	39-210	RTA25E8BET2A-**
25	0.219"	8	12'	40	3.8	2.8	2.5	1.8	1.4	39-212	RTA25E8BET2C-**
25	0.219"	8	15'	40	2.8	1.9	1.6	1.1	0.6	39-214	RTA25E8BET2E-**
25	0.219"	8	15'	40	2.8	1.9	1.6	1.1	0.6	39-251	RTA25E8CET2E-**
30	0.156"	8	8'	55	4.5	3.1	2.7	1.9	1.3	39-601	RTA30C8BET28-**
30	0.188"	8	8'	60	4.8	3.6	3.4	2.6	2.0	39-529	RTA30D8BET28-**
30	0.188"	8	10'	40	3.4	2.6	2.3	1.8	1.3	39-532	RTA30D8BET2A-**
30	0.188"	8	12'	45	3.6	2.6	2.4	1.8	1.2	39-535	RTA30D8BET2C-**
30	0.219"	8	10'	40	3.4	2.6	2.3	1.8	1.3	39-544	RTA30E8BET2A-**
30	0.219"	8	12'	40	3.6	2.6	2.4	1.8	1.2	39-547	RTA30E8BET2C-**
30	0.250"	8	8'	40	4.8	3.6	3.4	2.6	2.0	39-555	RTA30F8BET28-**
30	0.250"	8	10'	40	3.4	2.6	2.3	1.8	1.3	39-558	RTA30F8BET2A-**
30	0.250"	8	12'	40	3.6	2.6	2.4	1.8	1.2	39-559	RTA30F8BET2C-**
30	0.250"	8	15'	40	2.6	1.8	1.5	1.0	0.6	39-562	RTA30F8BET2E-**
30	0.188"	10	15'	40	2.6	1.8	1.5	1.0	0.6	39-635	RTA30D1CET2E-**
35	0.250"	8	8'	40	4.6	3.2	2.6	1.6	1.0	39-877	RTA35F8BET28-**
35	0.250"	8	10'	40	3.4	2.4	2.2	1.2	0.4	39-880	RTA35F8BET2A-**
35	0.188"	10	8'	40	4.6	3.5	3.2	2.5	2.0	39-951	RTA35D1CET28-**
35	0.188"	10	12'	40	3.4	2.5	2.2	1.6	1.2	39-955	RTA35D1CET2C-**
35	0.188"	10	15'	40	2.4	1.6	1.4	0.8	0.4	39-959	RTA35D1CET2E-**
35	0.219"	10	10'	40	3.4	2.4	2.2	1.6	1.2	39-966	RTA35E1CET2A-**
35	0.250"	10	12'	40	3.4	2.5	2.2	1.6	1.2	39-981	RTA35F1CET2C-**
35	0.250"	10	15'	40	2.4	1.6	1.4	0.8	0.4	39-983	RTA35F1CET2E-**
40	0.250"	8	8'	40	3.0	1.4	1.0	-	-		RTA40F8BET28-**
40	0.188"	10	10'	40	3.2	2.4	2.1	1.6	1.2		RTA40D1CET2A-**
40	0.188"	10	12'	40	3.3	2.4	2.2	1.6	1.1		RTA40D1CET2C-**
40	0.250"	10	8'	40	4.4	3.4	3.0	2.4	1.8		RTA40F1CET28-**
40	0.250"	10	10'	40	3.2	2.4	2.1	1.6	1.2		RTA40F1CET2A-**
40	0.250"	10	12'	40	3.3	2.4	2.2	1.6	1.1		RTA40F1CET2C-**
40	0.250"	10	15'	40	2.4	1.6	1.3	0.8	-		RTA40F1CET2E-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E T 2 A - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Truss Arm, Double, 10' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- T = Truss

Arm Quantity

- 2 = Double

Arm Length

- 8 = 8'
- A = 10'
- C = 12'
- E = 15'

Finish

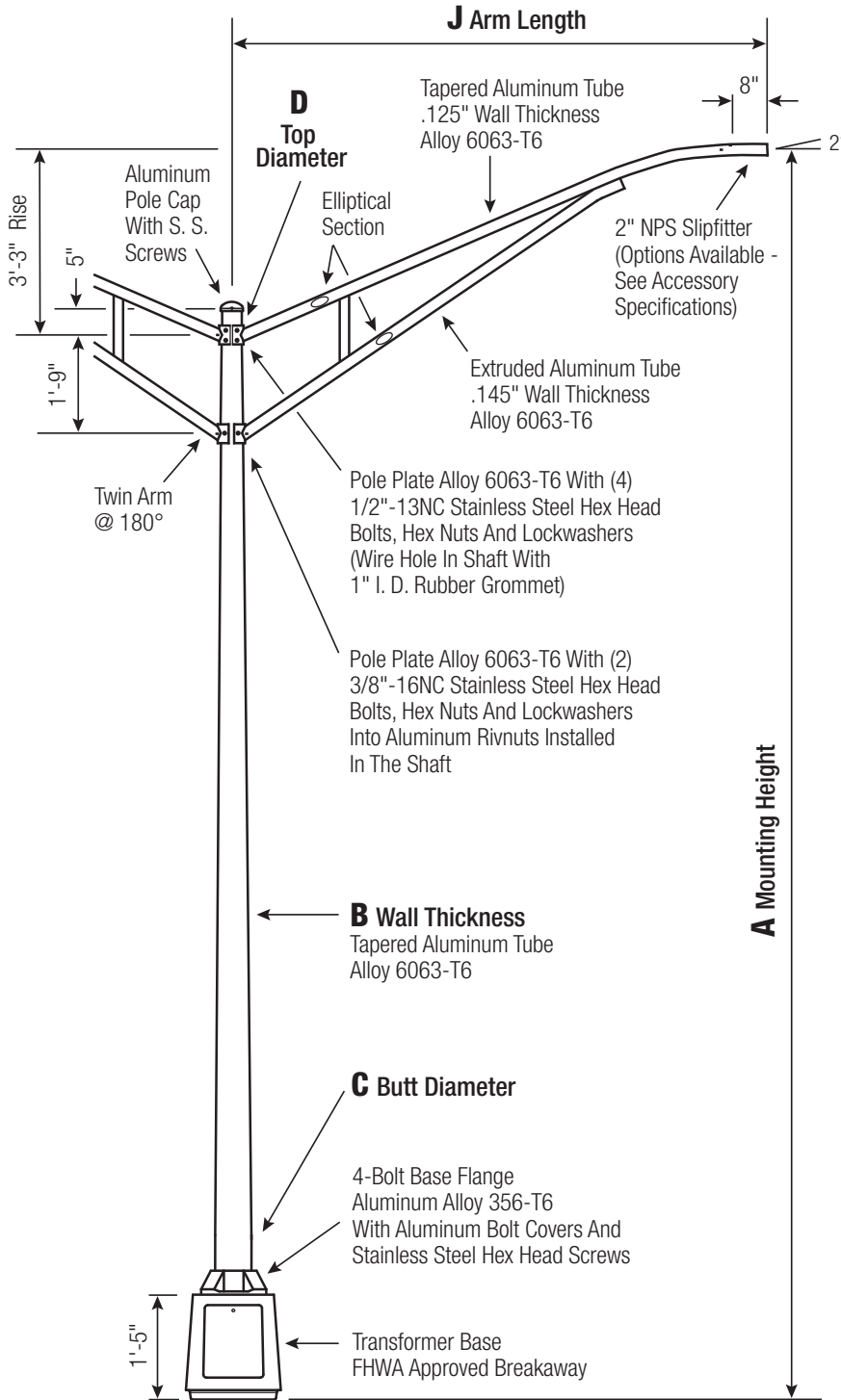
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Truss — Breakaway T-Base



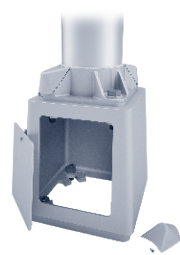
Satin Aluminum or Powder Coated Finish per Customer Specification.

Pole
Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

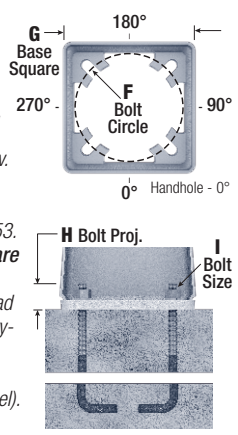
Base Style
Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



Handhole
7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.



Anchorage
Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.
Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.

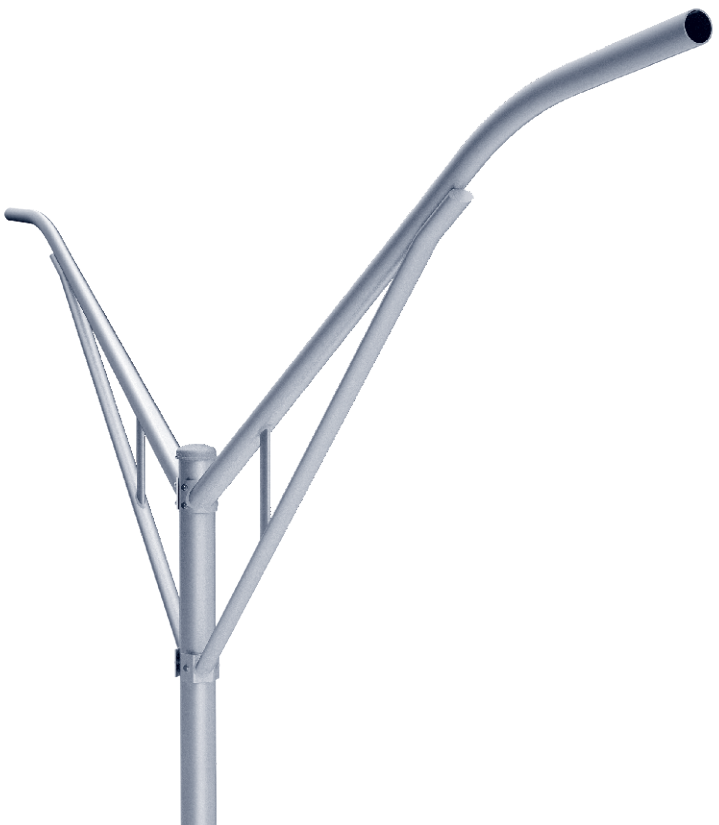


Vibration Damper
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5 and 6	15	15.375	3.5	1 x 36 x 4
10 Up To .250"	6	15	15.375	3.5	1 x 48 x 4
10 .312"	6	17.25	17.4375	3.5	1.25 x 48 x 6

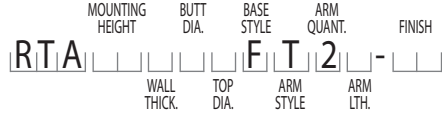
Dimensions in Inches

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
25	0.188"	7	8'	55	4.9	3.8	3.4	2.8	2.1	34-181	RTA25D7BFT28-**
25	0.156"	8	10'	40	3.6	2.6	2.4	1.8	1.4	34-280	RTA25C8BFT2A-**
25	0.188"	8	8'	40	5.0	3.8	3.4	2.8	2.2	34-195	RTA25D8BFT28-**
25	0.188"	8	10'	40	3.6	2.6	2.4	1.8	1.4	34-198	RTA25D8BFT2A-**
25	0.188"	8	12'	40	3.8	2.8	2.4	1.8	1.4	34-199	RTA25D8BFT2C-**
25	0.188"	8	15'	40	2.8	1.8	1.6	1.0	-	34-202	RTA25D8BFT2E-**
25	0.219"	8	12'	40	3.8	2.8	2.4	1.8	1.4	34-212	RTA25E8BFT2C-**
25	0.219"	8	15'	40	2.8	1.8	1.6	1.0	0.6	34-251	RTA25E8CFT2E-**
30	0.188"	8	8'	55	4.6	3.6	3.2	2.6	2.0	34-529	RTA30D8BFT28-**
30	0.188"	8	10'	45	3.4	2.6	2.2	1.7	1.2	34-532	RTA30D8BFT2A-**
30	0.219"	8	12'	45	3.6	2.6	2.4	1.7	1.2	34-547	RTA30E8BFT2C-**
30	0.250"	8	8'	40	4.7	3.6	3.2	2.6	2.0	34-555	RTA30F8BFT28-**
30	0.250"	8	10'	40	3.4	2.6	2.2	1.7	1.2	34-558	RTA30F8BFT2A-**
30	0.250"	8	12'	40	3.6	2.6	2.4	1.7	1.2	34-559	RTA30F8BFT2C-**
30	0.250"	8	15'	40	2.6	1.7	1.4	1.0	-	34-562	RTA30F8BFT2E-**
30	0.188"	10	15'	40	2.6	1.7	1.4	1.0	0.6	34-635	RTA30D1CFT2E-**
35	0.250"	8	8'	40	4.6	3.4	2.8	1.8	1.0	34-877	RTA35F8BFT28-**
35	0.250"	8	10'	40	3.2	2.4	2.2	1.4	-	34-881	RTA35D8BFT2A-**
35	0.188"	10	8'	40	4.6	3.4	3.2	2.4	2.0	34-951	RTA35D1CFT28-**
35	0.188"	10	12'	40	3.4	2.4	2.2	1.6	1.2	34-955	RTA35D1CFT2C-**
35	0.188"	10	15'	40	2.4	1.6	1.4	0.8	-	34-959	RTA35D1CFT2E-**
35	0.219"	10	10'	40	3.2	2.4	2.2	1.6	1.2	34-966	RTA35E1CFT2A-**
35	0.250"	10	12'	40	3.4	2.4	2.2	1.6	1.2	34-981	RTA35F1CFT2C-**
35	0.250"	10	15'	40	2.4	1.6	1.4	0.8	0.4	34-983	RTA35F1CFT2E-**
40	0.250"	8	8'	45	3.2	1.6	1.2	-	-	50707-053	RTA40F8BFT28-**
40	0.250"	8	10'	40	2.4	1.2	-	-	-	50707-045	RTA40F8CFT2A-**
40	0.188"	10	10'	40	3.2	2.3	2.0	1.6	1.1	50707-085	RTA40D1CFT2A-**
40	0.188"	10	12'	40	3.2	2.4	2.1	1.5	1.0	50707-086	RTA40D1CFT2C-**
40	0.250"	10	8'	40	4.4	3.4	3.0	2.4	1.8	50707-107	RTA40F1CFT28-**
40	0.250"	10	10'	40	3.2	2.3	2.0	1.6	1.1	50707-111	RTA40F1CFT2A-**
40	0.250"	10	12'	40	3.2	2.4	2.1	1.5	1.0	50707-114	RTA40F1CFT2C-**
40	0.250"	10	15'	40	2.3	1.5	1.3	0.8	-	50707-116	RTA40F1CFT2E-**
45	0.250"	8	8'	40	1.4	-	-	-	-		RTA45F8BFT28-**
45	0.188"	10	10'	40	3.0	2.2	2.0	1.1	-		RTA45D1CFT2A-**
45	0.188"	10	12'	55	3.2	2.0	1.6	-	-		RTA45D1CFT2C-**
45	0.250"	10	8'	40	4.2	3.2	3.0	2.2	1.4		RTA45F1CFT28-**
45	0.250"	10	10'	40	3.0	2.2	2.0	1.4	1.0		RTA45F1CFT2A-**
45	0.250"	10	12'	40	3.2	2.2	2.0	1.4	-		RTA45F1CFT2C-**
45	0.250"	10	15'	40	2.2	1.4	1.2	-	-		RTA45F1CFT2E-**
45	0.312"	10	12'	40	3.2	2.2	2.0	1.4	0.4		RTA45G1CFT2C-**
45	0.312"	10	15'	40	2.2	1.4	1.2	0.6	-		RTA45G1CFT2E-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F T 2 A - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Truss Arm, Double, 10" Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

T = Truss

Arm Quantity

2 = Double

Arm Length

- 8 = 8'
- A = 10'
- C = 12'
- E = 15'

Finish

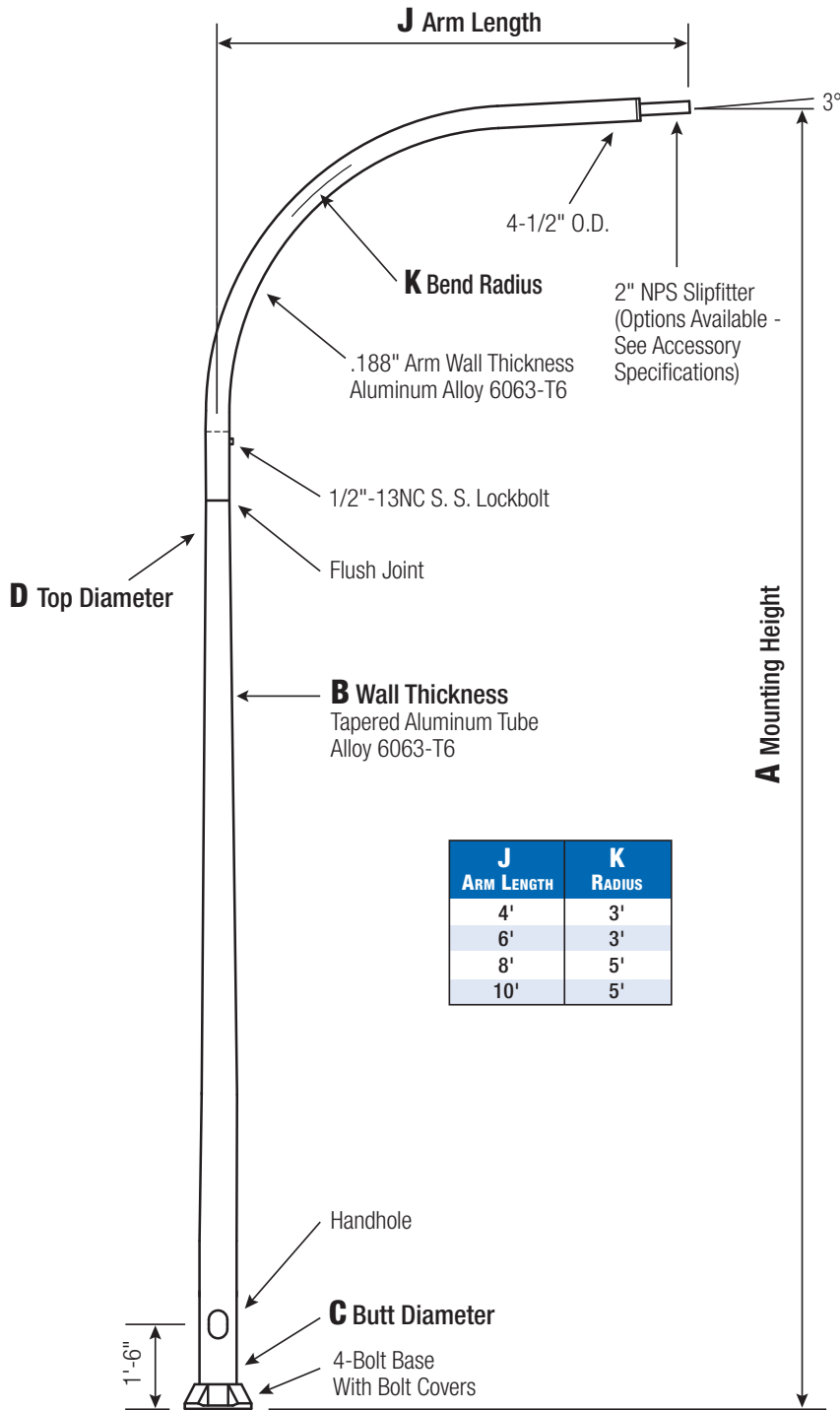
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Davit — 4-Bolt Base



J ARM LENGTH	K RADIUS
4'	3'
6'	3'
8'	5'
10'	5'

Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10	6	14 - 15	14	3.25	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

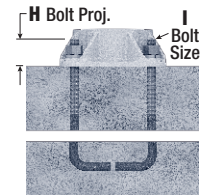
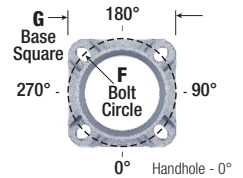
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

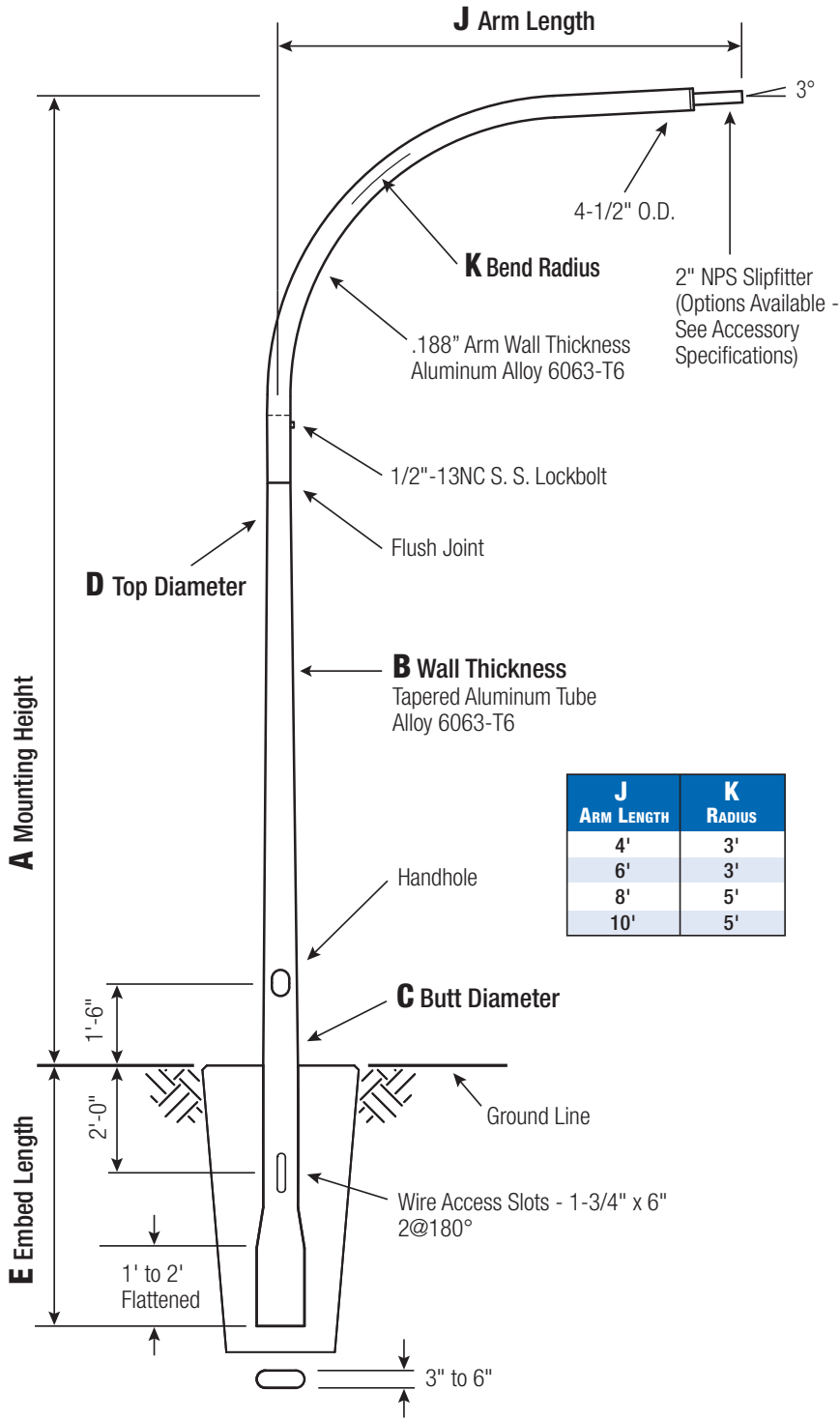
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.



WARNING: Do not install light pole without luminaire.

RTA

Round Tapered Aluminum Pole with Arms Single Davit — Direct Buried



J ARM LENGTH	K RADIUS
4'	3'
6'	3'
8'	5'
10'	5'

Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

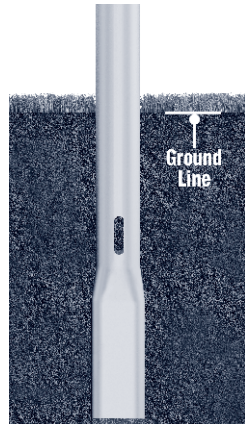
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.

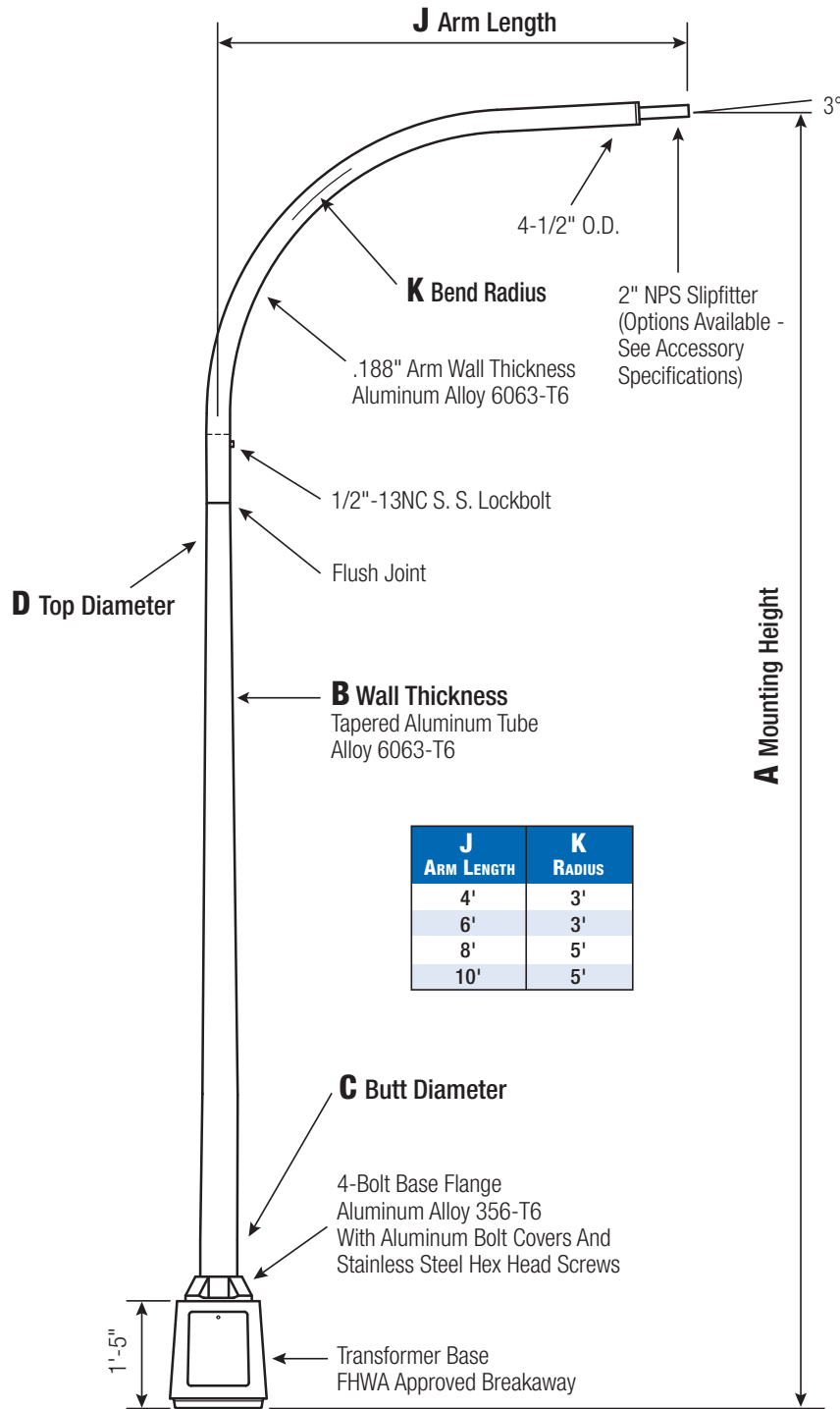


Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

RTA

Round Tapered Aluminum Pole with Arms Single Davit — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

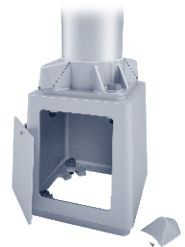
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



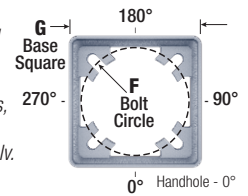
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

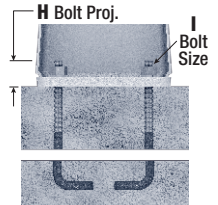


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



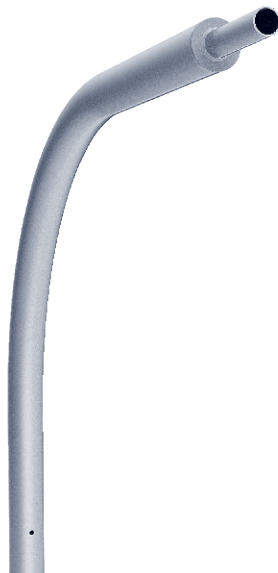
Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

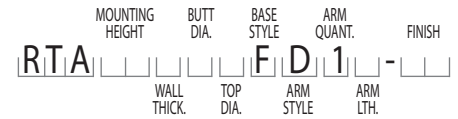
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	Lum. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	7	4'	35	18.4	14.2	13.0	10.4	8.5	43-025	RTA20C7BFD14-**-
20	0.156"	7	6'	35	16.1	12.5	11.5	9.3	7.3	43-026	RTA20C7BFD16-**-
20	0.156"	7	8'	35	13.4	10.2	9.3	7.1	5.5	43-027	RTA20C7BFD18-**-
25	0.156"	7	4'	35	12.4	9.2	8.2	6.4	4.9	43-103	RTA25C7BFD14-**-
25	0.156"	7	6'	35	11.4	8.2	7.4	5.6	4.1	43-104	RTA25C7BFD16-**-
25	0.156"	7	8'	35	10.4	7.5	6.7	4.9	3.5	43-105	RTA25C7BFD18-**-
25	0.188"	7	4'	35	15.8	12.0	10.8	8.6	6.8	43-079	RTA25D7BFD14-**-
25	0.188"	7	6'	35	14.8	11.0	10.0	7.6	6.0	43-080	RTA25D7BFD16-**-
25	0.188"	7	8'	35	13.8	10.2	9.2	7.0	5.3	43-081	RTA25D7BFD18-**-
30	0.156"	7	4'	35	8.0	5.4	4.8	3.3	2.2	43-145	RTA30C7BFD14-**-
30	0.156"	7	6'	35	7.2	4.8	4.0	2.6	1.6	43-146	RTA30C7BFD16-**-
30	0.156"	7	8'	35	6.6	4.2	3.5	2.1	1.1	43-147	RTA30C7BFD18-**-
30	0.188"	7	4'	35	10.8	7.6	6.8	5.0	3.8	43-151	RTA30D7BFD14-**-
30	0.188"	7	6'	35	10.0	7.0	6.2	4.4	3.1	43-152	RTA30D7BFD16-**-
30	0.188"	7	8'	35	9.2	6.3	5.5	3.8	2.6	43-153	RTA30D7BFD18-**-
30	0.156"	8	4'	35	9.8	7.3	6.5	4.9	3.7	43-175	RTA30C8BFD14-**-
30	0.156"	8	6'	35	7.9	5.7	5.1	3.7	2.7	43-176	RTA30C8BFD16-**-
30	0.156"	8	8'	35	6.1	4.3	3.8	2.6	1.7	43-177	RTA30C8BFD18-**-
30	0.156"	8	10'	35	4.4	2.7	2.3	1.2	-	43-178	RTA30C8BFD1A-**-
30	0.188"	8	4'	35	15.0	11.6	10.8	8.5	6.7	43-157	RTA30D8BFD14-**-
30	0.188"	8	6'	35	12.8	9.7	8.8	6.7	5.1	43-158	RTA30D8BFD16-**-
30	0.188"	8	8'	35	10.6	7.9	7.1	5.3	3.9	43-159	RTA30D8BFD18-**-
30	0.188"	8	10'	35	8.4	5.9	5.1	3.7	2.6	43-160	RTA30D8BFD1A-**-
35	0.156"	8	4'	35	7.9	5.5	4.7	3.3	2.1	43-223	RTA35C8BFD14-**-
35	0.156"	8	6'	35	6.3	4.1	3.5	2.3	1.3	43-224	RTA35C8BFD16-**-
35	0.156"	8	8'	35	4.9	3.1	2.5	1.5	0.9	43-225	RTA35C8BFD18-**-
35	0.188"	8	4'	35	11.4	8.2	7.3	5.4	3.9	43-229	RTA35D8BFD14-**-
35	0.188"	8	6'	35	10.5	7.5	6.6	4.7	3.3	43-230	RTA35D8BFD16-**-
35	0.188"	8	8'	35	9.2	6.5	5.7	3.9	2.5	43-231	RTA35D8BFD18-**-
35	0.188"	8	10'	35	7.1	4.7	3.9	2.5	1.5	43-232	RTA35D8BFD1A-**-
35	0.219"	8	4'	35	14.4	10.4	9.4	7.2	5.4	43-235	RTA35E8BFD14-**-
35	0.219"	8	6'	35	13.6	9.8	8.8	6.5	4.8	43-236	RTA35E8BFD16-**-
35	0.219"	8	8'	35	12.5	9.2	8.1	5.9	4.3	43-237	RTA35E8BFD18-**-
35	0.219"	8	10'	35	11.2	8.1	7.1	4.9	3.3	43-238	RTA35E8BFD1A-**-
40	0.188"	8	4'	35	7.4	4.8	4.2	2.8	1.7	43-325	RTA40D8BFD14-**-
40	0.188"	8	6'	35	6.6	4.1	3.5	2.1	1.0	43-326	RTA40D8BFD16-**-
40	0.188"	8	8'	35	6.4	3.7	3.0	1.6	0.5	43-327	RTA40D8BFD18-**-
40	0.219"	8	4'	35	10.0	6.8	6.0	4.2	2.9	43-331	RTA40E8BFD14-**-
40	0.219"	8	6'	35	9.4	6.2	5.4	3.6	2.3	43-332	RTA40E8BFD16-**-
40	0.219"	8	8'	35	8.8	5.7	4.9	3.1	1.8	43-333	RTA40E8BFD18-**-
40	0.219"	8	10'	35	7.9	4.9	4.1	2.4	1.1	43-334	RTA40E8BFD1A-**-
40	0.250"	8	4'	35	12.4	8.8	7.8	5.8	4.2	43-337	RTA40F8BFD14-**-
40	0.250"	8	6'	35	11.6	8.0	7.2	5.0	3.6	43-338	RTA40F8BFD16-**-
40	0.250"	8	8'	35	11.0	7.6	6.6	4.6	3.1	43-339	RTA40F8BFD18-**-
40	0.250"	8	10'	35	10.2	6.8	5.9	3.8	2.4	43-340	RTA40F8BFD1A-**-
45	0.250"	10	4'	35	19.0	14.4	13.0	10.0	7.8	43-433	RTA45F1CFD14-**-
45	0.250"	10	6'	35	18.2	13.6	12.4	9.4	7.1	43-434	RTA45F1CFD16-**-
45	0.250"	10	8'	35	17.8	13.0	11.8	9.0	6.7	43-435	RTA45F1CFD18-**-
45	0.250"	10	10'	35	16.1	11.9	10.8	8.2	5.9	43-436	RTA45F1CFD1A-**-



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F D 16 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Davit Arm, Single, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- D = Davit

Arm Quantity

- 1 = Single

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'
- A = 10'

Finish

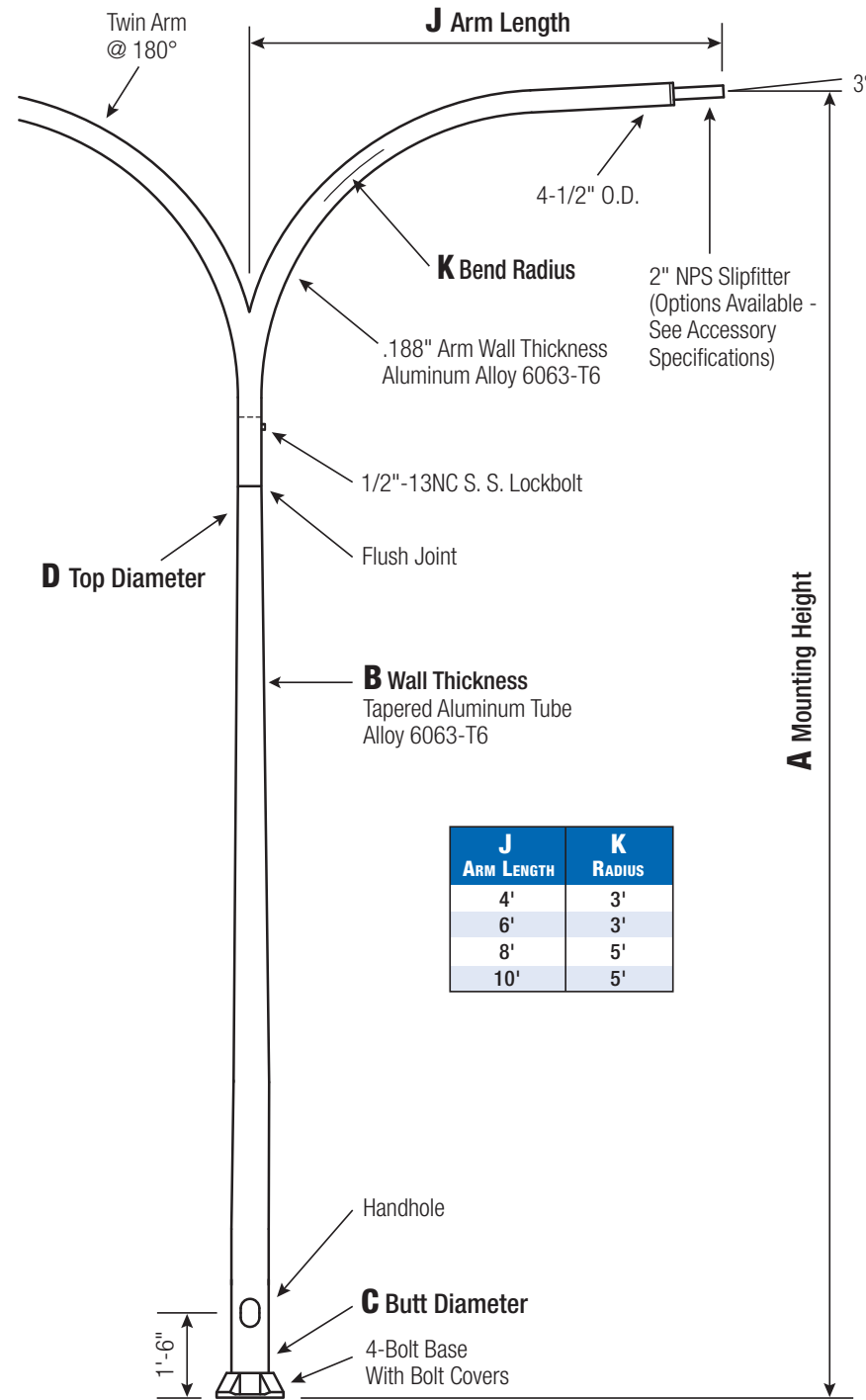
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Davit — 4-Bolt Base



J ARM LENGTH	K RADIUS
4'	3'
6'	3'
8'	5'
10'	5'

Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10	6	14 - 15	14	3.25	1 x 48 x 4

Dimensions in Inches

Pole
Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

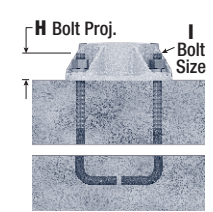
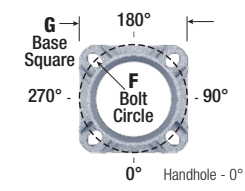
Base Style
4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage
Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.



WARNING: Do not install light pole without luminaire.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	6	4'	35	5.8	4.2	3.7	2.7	2.0	42-031	RTA20C6B4D24-**-
20	0.156"	6	6'	35	5.4	3.7	3.2	2.2	1.5	42-032	RTA20C6B4D26-**-
20	0.156"	6	8'	35	4.7	3.1	2.6	1.6	0.9	42-033	RTA20C6B4D28-**-
20	0.188"	6	4'	35	7.5	5.6	5.0	3.8	2.9	42-001	RTA20D6B4D24-**-
20	0.188"	6	6'	35	7.0	5.0	4.5	3.3	2.4	42-002	RTA20D6B4D26-**-
20	0.188"	6	8'	35	6.4	4.4	3.9	2.7	1.8	42-003	RTA20D6B4D28-**-
20	0.156"	7	4'	35	9.2	7.0	6.3	4.9	3.8	42-025	RTA20C7B4D24-**-
20	0.156"	7	6'	35	8.8	6.4	5.8	4.4	3.3	42-026	RTA20C7B4D26-**-
20	0.156"	7	8'	35	8.2	5.8	5.2	3.8	2.7	42-027	RTA20C7B4D28-**-
20	0.188"	7	4'	35	11.6	8.8	8.1	6.4	5.1	42-007	RTA20D7B4D24-**-
20	0.188"	7	6'	35	11.2	8.4	7.6	5.9	4.6	42-008	RTA20D7B4D26-**-
20	0.188"	7	8'	35	10.4	7.8	7.0	5.3	4.0	42-009	RTA20D7B4D28-**-
25	0.156"	6	4'	35	3.1	1.8	1.5	0.8	-	-	RTA25C6B4D24-**-
25	0.156"	6	6'	35	2.5	1.3	1.0	-	-	-	RTA25C6B4D26-**-
25	0.188"	6	4'	35	4.4	2.9	2.5	1.7	1.0	42-073	RTA25D6B4D24-**-
25	0.188"	6	6'	35	3.8	2.4	2.0	1.1	0.5	42-074	RTA25D6B4D26-**-
25	0.188"	6	8'	35	3.2	1.7	1.3	0.5	-	42-075	RTA25D6B4D28-**-
25	0.188"	6	10'	35	2.6	1.1	0.7	-	-	42-076	RTA25D6B4D2A-**-
25	0.156"	7	4'	35	5.6	4.0	3.5	2.5	1.7	42-103	RTA25C7B4D24-**-
25	0.156"	7	6'	35	5.2	3.4	3.0	2.0	1.2	42-104	RTA25C7B4D26-**-
25	0.156"	7	8'	35	4.5	2.8	2.3	1.3	0.6	42-105	RTA25C7B4D28-**-
25	0.156"	7	10'	35	3.9	2.2	1.7	0.7	-	42-106	RTA25C7B4D2A-**-
25	0.188"	7	4'	35	7.4	5.4	4.8	3.6	2.7	42-079	RTA25D7B4D24-**-
25	0.188"	7	6'	35	7.0	4.9	4.4	3.1	2.2	42-080	RTA25D7B4D26-**-
25	0.188"	7	8'	35	6.3	4.2	3.7	2.5	1.5	42-081	RTA25D7B4D28-**-
25	0.156"	8	6'	35	7.1	5.1	4.7	3.5	2.5	-	RTA25C8B4D26-**-
25	0.156"	8	8'	35	6.5	4.5	4.1	2.9	1.9	-	RTA25C8B4D28-**-
25	0.156"	8	10'	35	5.9	3.9	3.5	2.3	1.5	-	RTA25C8B4D2A-**-
25	0.188"	8	4'	35	11.0	8.4	7.6	6.0	4.7	42-085	RTA25D8B4D24-**-
25	0.188"	8	6'	35	10.6	7.9	7.1	5.5	4.2	42-086	RTA25D8B4D26-**-
25	0.188"	8	8'	35	9.8	7.2	6.5	4.8	3.5	42-087	RTA25D8B4D28-**-
25	0.188"	8	10'	35	9.4	6.6	5.9	4.2	2.9	42-088	RTA25D8B4D2A-**-
30	0.188"	6	4'	35	2.1	1.0	0.7	-	-	-	RTA30D6B4D24-**-
30	0.156"	7	4'	35	3.2	1.9	1.5	0.8	-	42-145	RTA30C7B4D24-**-
30	0.156"	7	6'	35	2.6	1.3	1.0	-	-	42-146	RTA30C7B4D26-**-
30	0.156"	7	8'	35	2.0	0.7	-	-	-	42-147	RTA30C7B4D28-**-
30	0.156"	8	4'	35	5.3	3.7	3.3	2.3	1.5	42-175	RTA30C8B4D24-**-
30	0.156"	8	6'	35	4.9	3.1	2.7	1.7	1.0	42-176	RTA30C8B4D26-**-
30	0.156"	8	8'	35	4.1	2.5	2.1	1.1	-	42-177	RTA30C8B4D28-**-
30	0.156"	8	10'	35	3.5	1.9	1.5	0.5	-	42-178	RTA30C8B4D2A-**-
30	0.188"	8	4'	35	7.5	5.4	4.8	3.6	2.6	42-157	RTA30D8B4D24-**-
30	0.188"	8	6'	35	7.0	4.8	4.3	3.0	2.1	42-158	RTA30D8B4D26-**-
30	0.188"	8	8'	35	6.2	4.2	3.6	2.4	1.4	42-159	RTA30D8B4D28-**-
30	0.188"	8	10'	35	5.6	3.6	3.0	1.7	0.8	42-160	RTA30D8B4D2A-**-
30	0.219"	8	4'	35	9.2	6.8	6.2	4.7	3.6	42-163	RTA30E8B4D24-**-
30	0.219"	8	6'	35	8.8	6.3	5.6	4.2	3.0	42-164	RTA30E8B4D26-**-
30	0.219"	8	8'	35	8.0	5.6	5.0	3.5	2.4	42-165	RTA30E8B4D28-**-
30	0.219"	8	10'	35	7.4	5.0	4.4	2.8	1.8	42-166	RTA30E8B4D2A-**-
30	0.250"	8	4'	35	11.0	8.2	7.5	5.8	4.6	42-169	RTA30F8B4D24-**-
30	0.250"	8	6'	35	10.6	7.8	7.0	5.3	4.0	42-170	RTA30F8B4D26-**-
30	0.250"	8	8'	35	9.8	7.0	6.3	4.6	3.4	42-171	RTA30F8B4D28-**-
30	0.250"	8	10'	35	9.2	6.4	5.6	4.0	2.7	42-172	RTA30F8B4D2A-**-
35	0.156"	8	4'	35	3.3	1.9	1.5	0.7	-	42-223	RTA35C8B4D24-**-
35	0.156"	8	6'	35	2.7	1.3	1.0	-	-	42-224	RTA35C8B4D26-**-
35	0.156"	8	8'	35	2.0	0.6	-	-	-	42-225	RTA35C8B4D28-**-
35	0.188"	8	4'	35	4.8	3.2	2.7	1.8	1.1	42-229	RTA35D8B4D24-**-
35	0.188"	8	6'	35	4.3	2.6	2.2	1.2	0.5	42-230	RTA35D8B4D26-**-
35	0.188"	8	8'	35	3.6	1.9	1.5	0.5	-	42-231	RTA35D8B4D28-**-
35	0.188"	8	10'	35	3.0	1.3	0.8	-	-	42-232	RTA35D8B4D2A-**-
35	0.219"	8	4'	35	6.4	4.4	3.8	2.7	1.9	42-235	RTA35E8B4D24-**-
35	0.219"	8	6'	35	5.8	3.8	3.3	2.2	1.3	42-236	RTA35E8B4D26-**-
35	0.250"	8	4'	35	7.8	5.6	5.0	3.6	2.6	42-241	RTA35F8B4D24-**-
35	0.250"	8	6'	35	7.2	5.0	4.4	3.1	2.1	42-242	RTA35F8B4D26-**-
35	0.250"	8	8'	35	6.6	4.3	3.7	2.4	1.4	42-243	RTA35F8B4D28-**-
35	0.250"	8	10'	35	5.8	3.6	3.0	1.8	0.8	42-244	RTA35F8B4D2A-**-
35	0.188"	10	8'	35	9.4	6.8	6.0	4.4	3.1	42-249	RTA35D1C4D28-**-
35	0.188"	10	10'	35	8.8	6.2	5.4	3.8	2.4	42-250	RTA35D1C4D2A-**-
40	0.188"	8	4'	35	2.8	1.4	1.1	-	-	42-325	RTA40D8B4D24-**-
40	0.188"	8	6'	35	2.2	0.8	0.5	-	-	42-326	RTA40D8B4D26-**-
40	0.188"	8	8'	35	1.5	-	-	-	-	42-327	RTA40D8B4D28-**-
40	0.250"	8	4'	35	5.2	3.4	3.0	1.9	1.1	42-337	RTA40F8B4D24-**-
40	0.250"	8	6'	35	4.7	2.8	2.4	1.3	0.6	42-338	RTA40F8B4D26-**-
40	0.250"	8	8'	35	4.0	2.2	1.7	0.6	-	42-339	RTA40F8B4D28-**-
40	0.250"	8	10'	35	3.3	1.5	1.0	-	-	42-340	RTA40F8B4D2A-**-
40	0.188"	10	6'	35	7.0	5.0	4.4	3.0	2.0	42-375	RTA40D1C4D26-**-
40	0.188"	10	8'	35	6.4	4.3	3.8	2.4	1.3	42-363	RTA40D1C4D28-**-
40	0.188"	10	10'	35	5.8	3.6	3.1	1.8	0.7	42-364	RTA40D1C4D2A-**-
40	0.250"	10	10'	35	9.8	7.0	6.2	4.4	2.9	42-376	RTA40F1C4D2A-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 D 2 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Davit Arm, Double, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- D = Davit

Arm Quantity

- 2 = Double

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'
- A = 10'

Finish

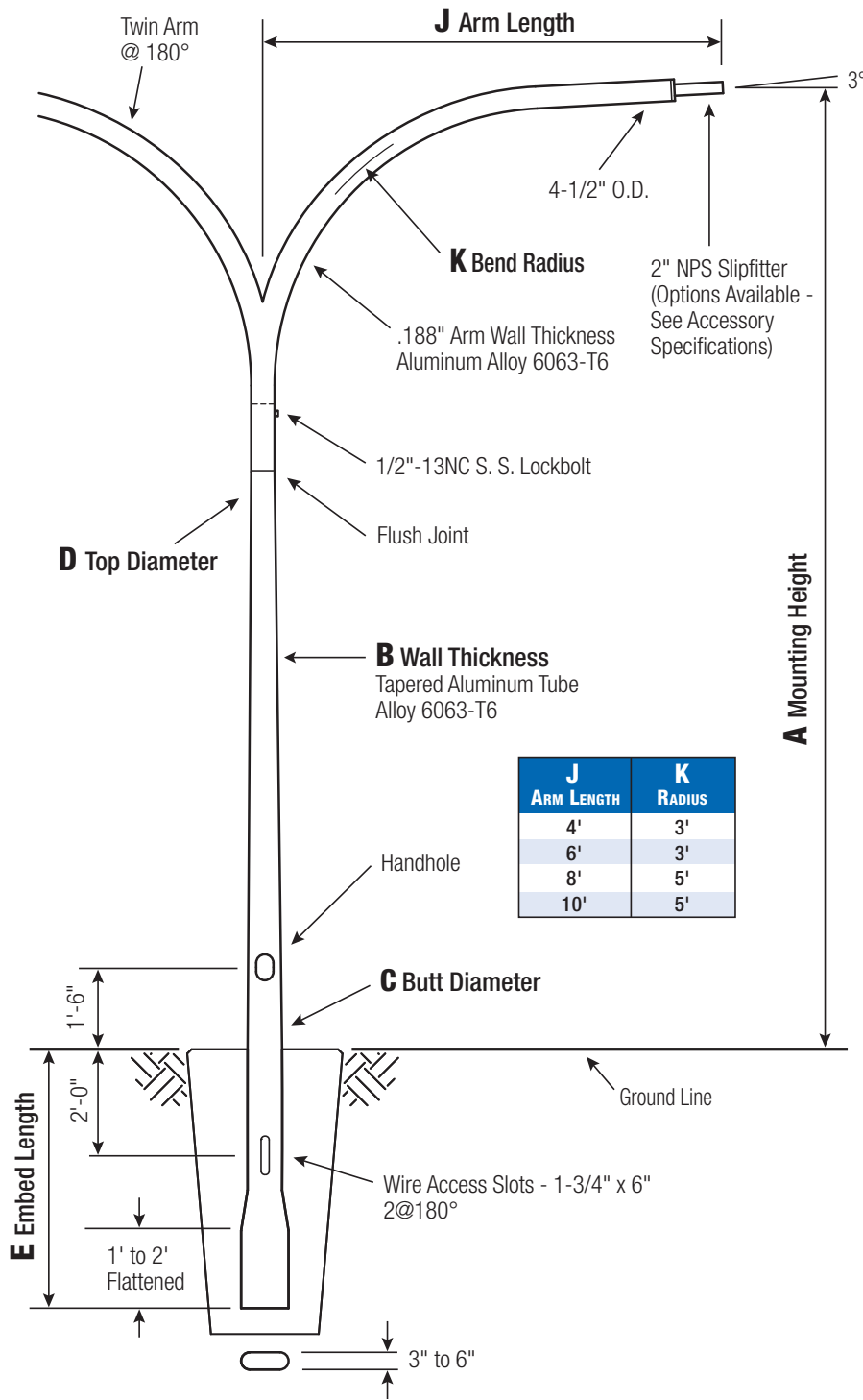
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Davit — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'

C and D Dimensions in Inches

Pole

Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

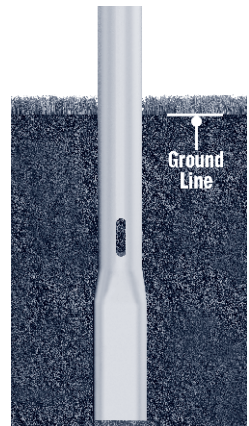
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

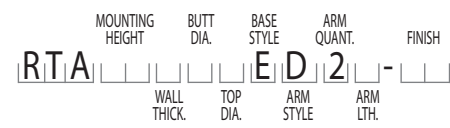
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	6	4'	35	7.2	5.3	4.8	3.6	2.7	49-031	RTA20C6BED24-**
20	0.156"	6	6'	35	6.7	4.8	4.3	3.1	2.2	49-032	RTA20C6BED26-**
20	0.188"	6	4'	35	9.2	6.8	6.2	4.8	3.8	49-001	RTA20D6BED24-**
20	0.188"	6	6'	35	8.6	6.4	5.8	4.4	3.3	49-002	RTA20D6BED26-**
20	0.188"	6	8'	35	8.0	5.8	5.2	3.7	2.7	49-003	RTA20D6BED28-**
20	0.156"	7	4'	35	11.2	8.5	7.8	6.1	4.8	49-025	RTA20C7BED24-**
20	0.156"	7	6'	35	10.6	8.0	7.2	5.6	4.4	49-026	RTA20C7BED26-**
20	0.156"	7	8'	35	10.0	7.4	6.6	5.0	3.8	49-027	RTA20C7BED28-**
20	0.188"	7	4'	35	13.8	10.7	9.8	7.8	6.4	49-007	RTA20D7BED24-**
20	0.188"	7	6'	35	13.4	10.2	9.4	7.4	5.8	49-008	RTA20D7BED26-**
20	0.188"	7	8'	35	12.8	9.6	8.8	6.8	5.2	49-009	RTA20D7BED28-**
25	0.156"	7	4'	35	7.2	5.2	4.6	3.4	2.5	49-103	RTA25C7BED24-**
25	0.156"	7	6'	35	6.6	4.6	4.1	2.9	2.0	49-104	RTA25C7BED26-**
25	0.188"	7	4'	35	9.2	6.8	6.2	4.8	3.6	49-079	RTA25D7BED24-**
25	0.188"	7	6'	35	8.6	6.3	5.6	4.2	3.1	49-080	RTA25D7BED26-**
25	0.188"	7	8'	35	8.0	5.6	5.0	3.6	2.5	49-081	RTA25D7BED28-**
25	0.188"	8	4'	35	11.2	8.7	8.0	6.3	5.1	49-085	RTA25D8BED24-**
25	0.188"	8	6'	35	10.8	8.2	7.5	5.9	4.7	49-086	RTA25D8BED26-**
25	0.188"	8	8'	35	10.2	7.6	6.9	5.3	4.1	49-087	RTA25D8BED28-**
30	0.156"	8	4'	35	5.5	4.1	3.5	2.7	1.9	49-175	RTA30C8BED24-**
30	0.156"	8	6'	35	5.1	3.5	3.1	2.3	1.5	49-176	RTA30C8BED26-**
30	0.188"	8	4'	35	8.6	6.5	5.7	4.5	3.3	49-157	RTA30D8BED24-**
30	0.188"	8	6'	35	8.1	5.9	5.3	3.9	2.9	49-158	RTA30D8BED26-**
30	0.188"	8	8'	35	7.5	5.3	4.7	3.3	2.3	49-159	RTA30D8BED28-**
30	0.219"	8	4'	35	11.4	8.6	7.8	6.1	4.8	49-163	RTA30E8BED24-**
30	0.219"	8	6'	35	10.8	8.0	7.3	5.6	4.2	49-164	RTA30E8BED26-**
30	0.219"	8	8'	35	10.2	7.4	6.6	4.9	3.6	49-165	RTA30E8BED28-**
30	0.219"	8	10'	35	9.6	6.8	6.0	4.3	2.9	49-166	RTA30E8BED2A-**
30	0.250"	8	4'	35	13.6	10.2	9.4	7.4	5.8	49-169	RTA30F8BED24-**
30	0.250"	8	6'	35	13.0	9.8	8.8	6.8	5.4	49-170	RTA30F8BED26-**
30	0.250"	8	8'	35	12.2	9.0	8.2	6.2	4.6	49-171	RTA30F8BED28-**
30	0.250"	8	10'	35	11.6	8.4	7.6	5.6	4.0	49-172	RTA30F8BED2A-**
35	0.188"	8	4'	35	6.3	4.3	3.9	2.7	1.9	49-229	RTA35D8BED24-**
35	0.219"	8	4'	35	8.2	5.8	5.2	3.8	2.8	49-235	RTA35E8BED24-**
35	0.219"	8	6'	35	7.6	5.2	4.6	3.3	2.3	49-236	RTA35E8BED26-**
35	0.250"	8	4'	35	9.8	7.2	6.4	4.9	3.8	49-241	RTA35F8BED24-**
35	0.250"	8	6'	35	9.2	6.6	6.0	4.4	3.2	49-242	RTA35F8BED26-**
35	0.250"	8	8'	35	8.6	6.0	5.2	3.6	2.5	49-243	RTA35F8BED28-**
40	0.219"	8	4'	35	5.6	3.6	3.2	2.1	1.3	49-241	RTA40E8BED24-**
40	0.219"	8	6'	35	5.0	3.1	2.6	1.5	0.7	49-242	RTA40E8BED26-**
40	0.250"	8	4'	35	7.0	4.8	4.2	3.0	2.1	49-241	RTA40F8BED24-**
40	0.250"	8	6'	35	6.4	4.2	3.6	2.4	1.5	49-242	RTA40F8BED26-**
40	0.312"	8	4'	35	9.8	7.0	6.4	4.8	3.6	49-241	RTA40G8BED24-**
40	0.312"	8	6'	35	9.2	6.4	5.8	4.2	3.0	49-242	RTA40G8BED26-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E D 2 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Davit Arm, Double, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"

Top Diameter

- B = 4.5"

Base Style

- E = Direct Buried

Arm Style

- D = Davit

Arm Quantity

- 2 = Double

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'
- A = 10'

Finish

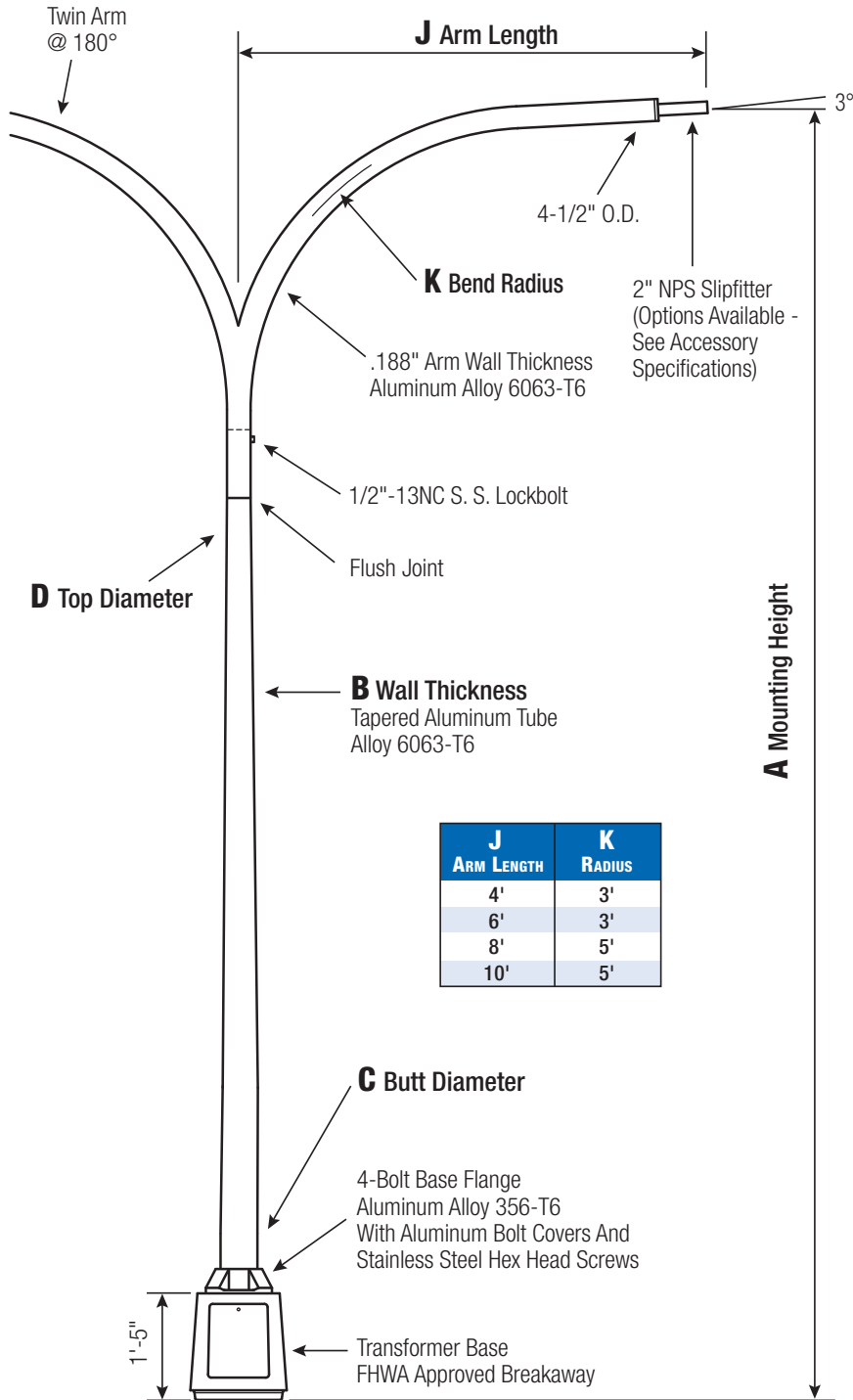
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Davit — Breakaway T-Base



J ARM LENGTH	K RADIUS
4'	3'
6'	3'
8'	5'
10'	5'

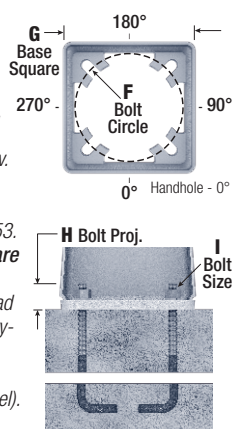
Satin Aluminum or Powder Coated Finish per Customer Specification.

Pole
Shaft and arms will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style
Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.

Handhole
7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

Anchorage
Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.
Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

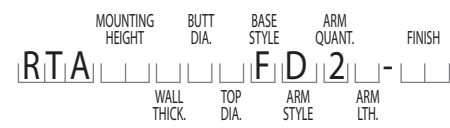
Dimensions in Inches

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	J ARM LENGTH	LUM. WEIGHT	MAXIMUM EPA PER ARM					OLD CAT. NUMBER	CATALOG NUMBER
					90	100	110	120	130		
20	0.156"	7	4'	35	9.0	6.8	6.2	4.8	3.8	44-025	RTA20C7BFD24-**
20	0.156"	7	6'	35	8.6	6.4	5.7	4.3	3.3	44-026	RTA20C7BFD26-**
20	0.156"	7	8'	35	8.0	5.8	5.1	3.7	2.7	44-027	RTA20C7BFD28-**
20	0.188"	7	4'	35	11.4	8.7	8.0	6.3	5.0	44-007	RTA20D7BFD24-**
20	0.188"	7	6'	35	10.8	8.2	7.4	5.8	4.5	44-008	RTA20D7BFD26-**
20	0.188"	7	8'	35	10.2	7.6	6.8	5.2	3.9	44-009	RTA20D7BFD28-**
25	0.156"	7	4'	35	5.6	4.0	3.5	2.5	1.8	44-103	RTA25C7BFD24-**
25	0.156"	7	6'	35	5.2	3.5	3.0	2.0	1.3	44-104	RTA25C7BFD26-**
25	0.188"	7	4'	35	7.4	5.4	4.8	3.6	2.7	44-079	RTA25D7BFD24-**
25	0.188"	7	6'	35	6.9	4.9	4.4	3.1	2.2	44-080	RTA25D7BFD26-**
25	0.188"	7	8'	35	6.2	4.2	3.7	2.5	1.6	44-081	RTA25D7BFD28-**
30	0.156"	8	4'	35	4.9	3.5	3.1	2.1	1.5	44-175	RTA30C8BFD24-**
30	0.156"	8	6'	35	4.5	2.9	2.5	1.7	1.1	44-176	RTA30C8BFD26-**
30	0.188"	8	4'	35	7.5	5.4	4.9	3.6	2.6	44-157	RTA30D8BFD24-**
30	0.188"	8	6'	35	7.0	4.9	4.3	3.1	2.1	44-158	RTA30D8BFD26-**
30	0.188"	8	8'	35	6.3	4.2	3.6	2.4	1.4	44-159	RTA30D8BFD28-**
30	0.188"	8	10'	35	5.7	3.6	3.0	1.8	0.8	44-160	RTA30D8BFD2A-**
30	0.219"	8	4'	35	9.2	6.8	6.2	4.7	3.6	44-163	RTA30E8BFD24-**
30	0.219"	8	6'	35	8.8	6.3	5.6	4.2	3.1	44-164	RTA30E8BFD26-**
30	0.219"	8	8'	35	8.0	5.6	5.0	3.5	2.4	44-165	RTA30E8BFD28-**
30	0.219"	8	10'	35	7.4	5.0	4.4	2.9	1.8	44-166	RTA30E8BFD2A-**
30	0.250"	8	4'	35	11.0	8.2	7.4	5.8	4.6	44-169	RTA30F8BFD24-**
30	0.250"	8	6'	35	10.4	7.7	7.0	5.2	4.0	44-170	RTA30F8BFD26-**
30	0.250"	8	8'	35	9.8	7.0	6.2	4.6	3.3	44-171	RTA30F8BFD28-**
30	0.250"	8	10'	35	9.2	6.4	5.6	4.0	2.7	44-172	RTA30F8BFD2A-**
35	0.188"	8	4'	35	4.9	3.2	2.8	1.8	1.1	44-229	RTA35D8BFD24-**
35	0.219"	8	4'	35	6.4	4.4	3.9	2.8	1.9	44-235	RTA35E8BFD24-**
35	0.219"	8	6'	35	5.8	3.9	3.4	2.2	1.4	44-236	RTA35E8BFD26-**
35	0.219"	8	8'	35	5.2	3.2	2.7	1.5	0.7	44-237	RTA35E8BFD28-**
35	0.250"	8	4'	35	7.8	5.6	5.0	3.7	2.7	44-241	RTA35F8BFD24-**
35	0.250"	8	6'	35	7.2	5.0	4.4	3.1	2.2	44-242	RTA35F8BFD26-**
35	0.250"	8	8'	35	6.6	4.4	3.8	2.4	1.5	44-243	RTA35F8BFD28-**
35	0.250"	8	10'	35	5.9	3.7	3.1	1.8	0.8	44-244	RTA35F8BFD2A-**
35	0.250"	10	8'	35	14.0	10.6	9.6	7.4	5.6	44-261	RTA35F1CFD28-**
35	0.250"	10	10'	35	13.4	10.0	9.0	6.7	5.0	44-262	RTA35F1CFD2A-**
40	0.219"	10	4'	35	9.6	7.0	6.4	4.8	3.7	44-367	RTA40E1CFD24-**
40	0.219"	10	6'	35	9.2	6.6	6.0	4.4	3.1	44-368	RTA40E1CFD26-**
40	0.219"	10	8'	35	8.4	6.0	5.2	3.7	2.4	44-369	RTA40E1CFD28-**
40	0.219"	10	10'	35	7.8	5.3	4.6	3.0	1.8	44-370	RTA40E1CFD2A-**
40	0.250"	10	4'	35	11.6	8.6	7.9	6.2	4.8	44-373	RTA40F1CFD24-**
40	0.250"	10	6'	35	11.0	8.2	7.4	5.6	4.2	44-374	RTA40F1CFD26-**
40	0.250"	10	8'	35	10.4	7.6	6.8	5.0	3.6	44-375	RTA40F1CFD28-**
40	0.250"	10	10'	35	9.8	6.9	6.2	4.3	2.9	44-376	RTA40F1CFD2A-**
45	0.250"	10	8'	35	7.6	5.2	4.5	3.0	1.8	44-435	RTA45F1CFD28-**
45	0.250"	10	10'	35	3.3	1.8	1.4	0.5	-	44-436	RTA45F1BFD2A-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F D 2 6 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Davit Arm, Double, 6' Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"

Base Style

- F = Breakaway T-Base

Arm Style

- D = Davit

Arm Quantity

- 2 = Double

Arm Length

- 4 = 4'
- 6 = 6'
- 8 = 8'
- A = 10'

Finish

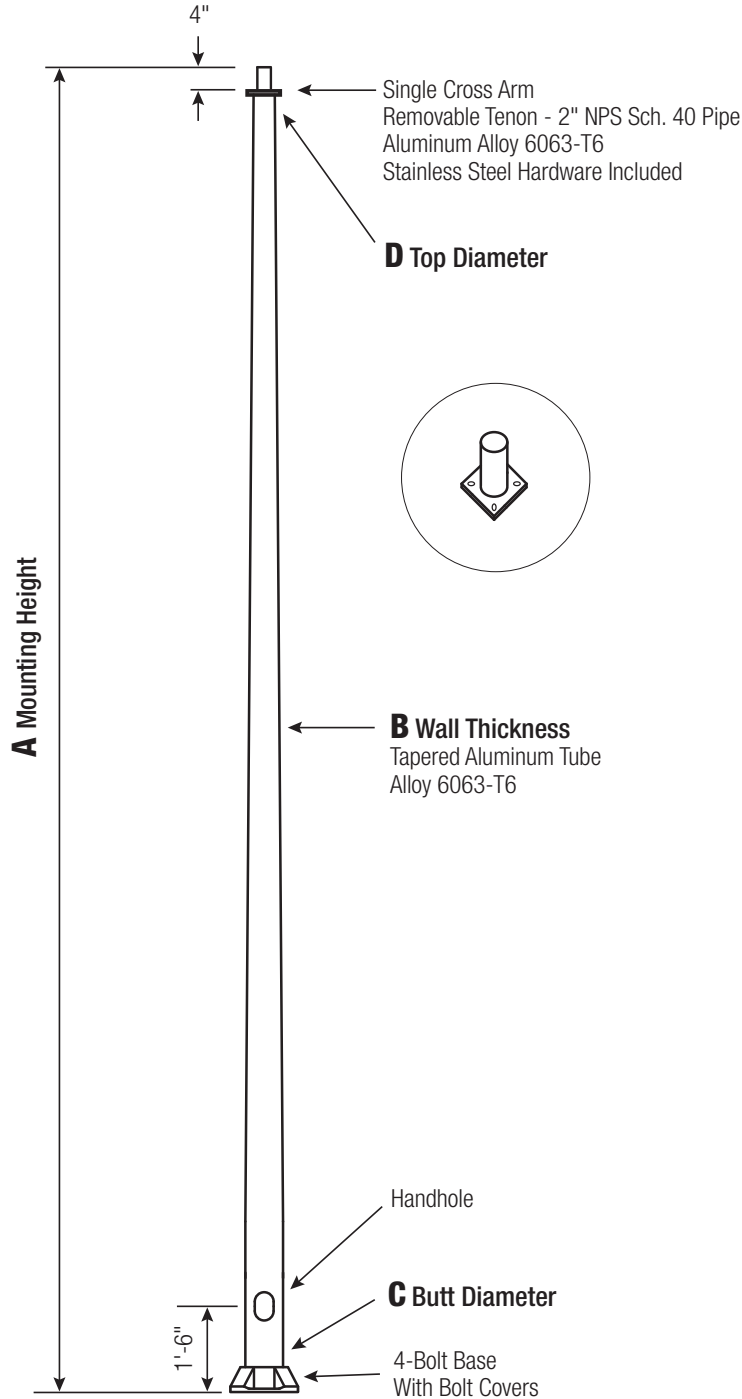
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Cross Arm — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

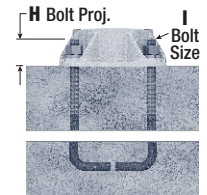
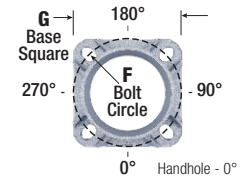
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

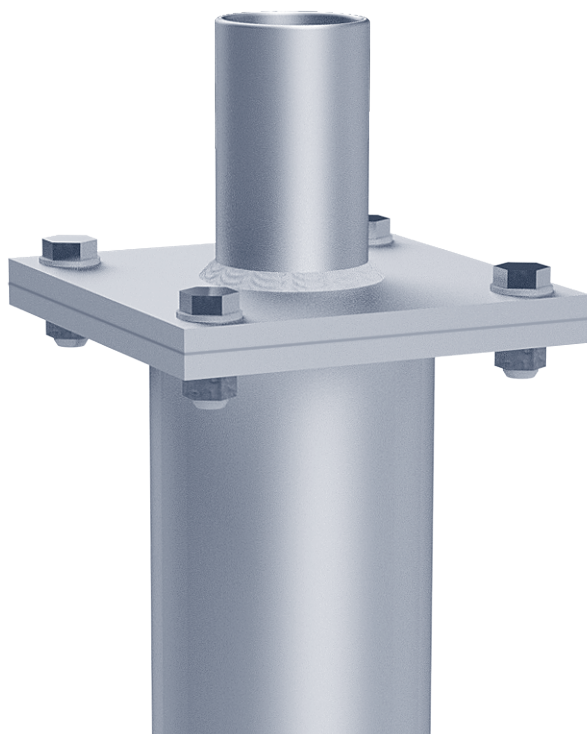
Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	100	12.6	9.6	8.8	7.0	5.8	RTA20C6B4F10-**
20	0.188"	6	100	15.8	12.2	11.2	9.2	7.6	RTA20D6B4F10-**
20	0.156"	7	100	19.0	14.8	13.8	11.2	9.4	RTA20C7B4F10-**
20	0.188"	7	100	23.6	18.4	17.0	14.0	11.8	RTA20D7B4F10-**
20	0.188"	8	100	32.4	25.8	24.0	19.8	16.8	RTA20D8B4F10-**
25	0.188"	6	85	10.0	7.4	6.6	5.2	4.2	RTA25D6B4F10-**
25	0.156"	7	100	12.6	9.4	8.6	6.8	5.6	RTA25C7B4F10-**
25	0.188"	7	100	16.0	12.2	11.2	9.0	7.4	RTA25D7B4F10-**
25	0.156"	8	100	18.2	14.2	13.0	10.6	8.8	RTA25C8B4F10-**
25	0.188"	8	100	22.8	17.8	16.4	13.4	11.2	RTA25D8B4F10-**
25	0.219"	8	100	27.2	21.4	19.8	16.2	13.6	RTA25E8B4F10-**
25	0.250"	8	100	31.4	24.8	23.0	19.0	15.8	RTA25F8B4F10-**
30	0.188"	7	85	10.8	7.8	7.0	5.4	4.4	RTA30D7B4F10-**
30	0.156"	8	100	12.4	9.2	8.4	6.6	5.4	RTA30C8B4F10-**
30	0.188"	8	100	16.2	12.2	11.2	9.0	7.4	RTA30D8B4F10-**
30	0.219"	8	100	19.6	15.0	13.8	11.2	9.4	RTA30E8B4F10-**
30	0.250"	8	100	23.0	17.8	16.4	13.4	11.2	RTA30F8B4F10-**
30	0.188"	10	100	29.6	23.6	22.0	18.2	15.2	RTA30D1C4F10-**
30	0.219"	10	100	35.2	28.0	26.2	21.6	18.2	RTA30E1C4F10-**
30	0.250"	10	100	40.8	32.6	30.4	25.2	21.2	RTA30F1C4F10-**
30	0.312"	10	100	41.9	33.5	31.2	25.9	21.8	RTA30G1C4F10-**
35	0.188"	8	90	11.2	8.2	7.4	5.6	4.6	RTA35D8B4F10-**
35	0.219"	8	100	14.0	10.4	9.4	7.4	6.0	RTA35E8B4F10-**
35	0.250"	8	100	16.8	12.6	11.6	9.2	7.6	RTA35F8B4F10-**
35	0.188"	10	100	22.2	17.6	16.4	13.4	11.0	RTA35D1C4F10-**
35	0.219"	10	100	27.0	21.4	19.8	16.4	13.6	RTA35E1C4F10-**
35	0.250"	10	100	31.6	25.0	23.2	19.2	16.0	RTA35F1C4F10-**
40	0.188"	8	40	7.6	5.2	4.4	3.2	2.4	RTA40D8B4F10-**
40	0.219"	8	65	10.0	7.0	6.2	4.6	3.6	RTA40E8B4F10-**
40	0.250"	8	90	12.2	8.6	7.8	6.0	4.8	RTA40F8B4F10-**
40	0.188"	10	100	16.6	13.0	12.0	9.6	7.8	RTA40D1C4F10-**
40	0.219"	10	100	20.6	16.2	15.0	12.2	10.0	RTA40E1C4F10-**
40	0.250"	10	100	24.6	19.2	17.8	14.6	12.0	RTA40F1C4F10-**
40	0.312"	10	100	32.0	25.4	23.6	19.4	16.2	RTA40G1C4F10-**
45	0.188"	10	100	12.0	9.2	8.4	6.6	5.2	RTA45D1C4F10-**
45	0.219"	10	100	15.4	12.0	11.0	8.8	7.0	RTA45E1C4F10-**
45	0.250"	10	100	18.8	14.6	13.6	11.0	8.8	RTA45F1C4F10-**
45	0.312"	10	100	25.4	20.0	18.4	15.0	12.4	RTA45G1C4F10-**
45	0.250"	12	100	32.6	25.6	23.8	19.4	16.0	RTA45F2C4F10-**
45	0.312"	12	100	41.8	33.4	31.0	25.6	21.2	RTA45G2C4F10-**
45	0.375"	12	100	45.3	36.0	33.5	27.5	22.9	RTA45H2C4F10-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 F 1 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Cross Arm, Single, No Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- F = Cross Arm

Arm Quantity

- 1 = Single

Arm Length

- 0 = Standard Removable Tenon

Finish

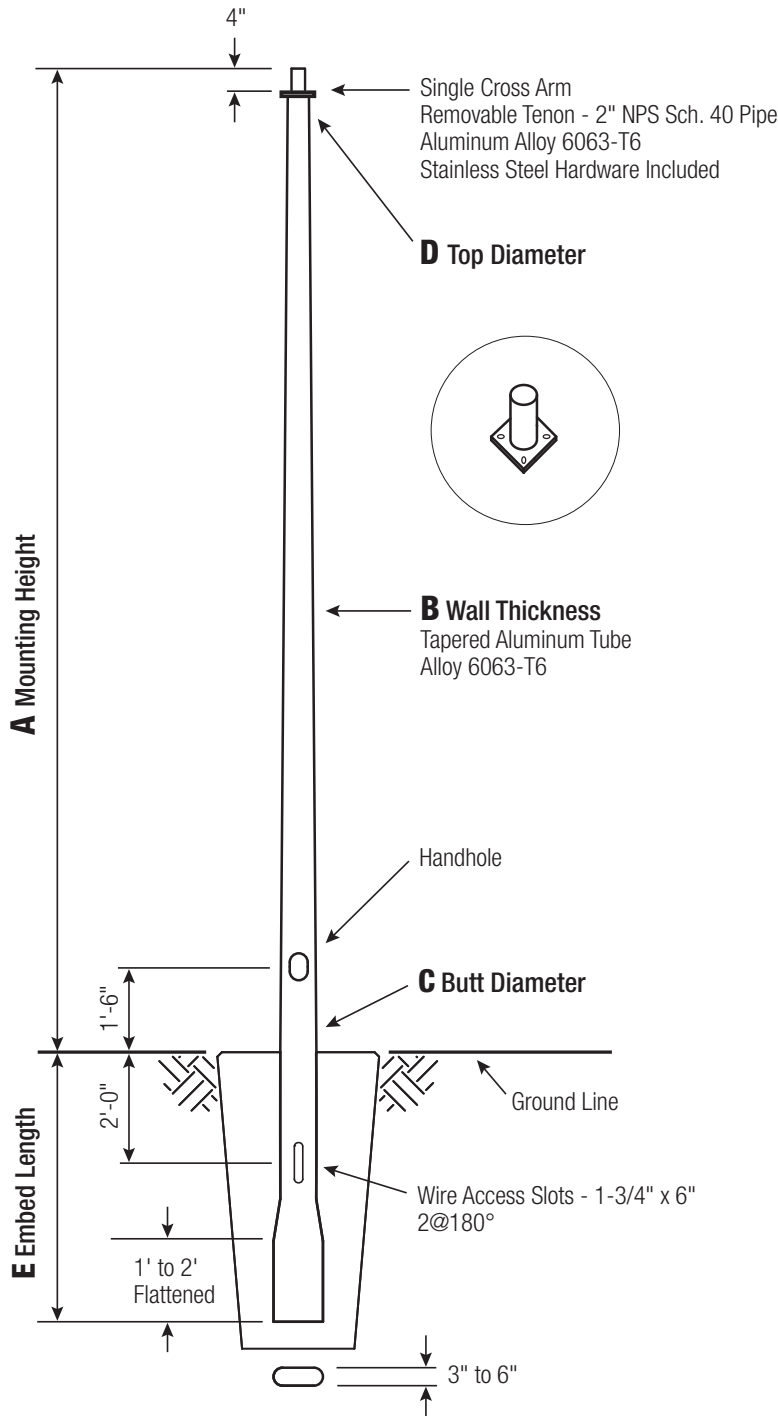
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Cross Arm — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

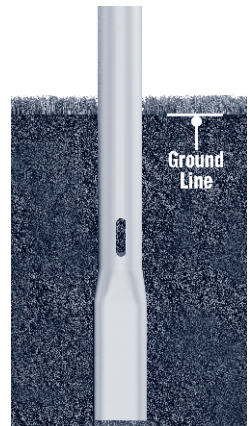
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

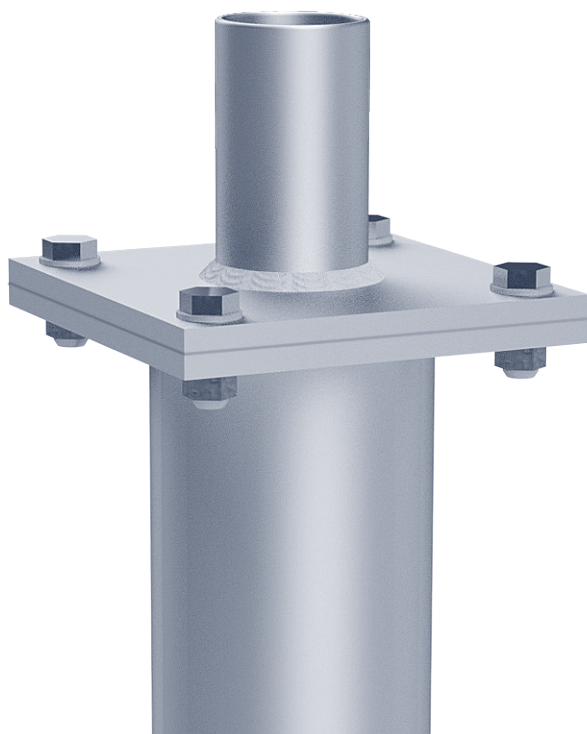
Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

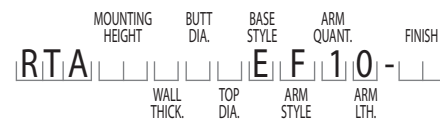
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	100	15.2	11.6	10.8	8.8	7.2	RTA20C6BEF10-**
20	0.188"	6	100	18.8	14.6	13.4	11.0	9.2	RTA20D6BEF10-**
20	0.156"	7	100	22.6	17.8	16.4	13.4	11.4	RTA20C7BEF10-**
20	0.188"	7	100	27.8	22.0	20.4	16.8	14.2	RTA20D7BEF10-**
20	0.188"	8	100	38.2	30.4	28.2	23.4	19.8	RTA20D8BEF10-**
25	0.188"	6	100	12.4	9.2	8.4	6.8	5.4	RTA25D6BEF10-**
25	0.156"	7	100	15.2	11.6	10.6	8.6	7.0	RTA25C7BEF10-**
25	0.188"	7	100	19.4	14.8	13.6	11.2	9.2	RTA25D7BEF10-**
25	0.156"	8	100	22.0	17.0	15.8	12.8	10.8	RTA25C8BEF10-**
25	0.188"	8	100	27.2	21.4	19.8	16.2	13.6	RTA25D8BEF10-**
25	0.219"	8	100	32.2	25.4	23.6	19.4	16.4	RTA25E8BEF10-**
25	0.250"	8	100	37.0	29.4	27.2	22.6	19.0	RTA25F8BEF10-**
30	0.188"	7	100	13.4	10.0	9.0	7.2	5.8	RTA30D7BEF10-**
30	0.156"	8	100	15.4	11.6	10.6	8.6	7.0	RTA30C8BEF10-**
30	0.188"	8	100	19.8	15.2	14.0	11.2	9.4	RTA30D8BEF10-**
30	0.219"	8	100	23.8	18.4	17.0	13.8	11.6	RTA30E8BEF10-**
30	0.250"	8	100	27.6	21.6	20.0	16.4	13.6	RTA30F8BEF10-**
30	0.188"	10	100	35.4	28.0	26.2	21.6	18.2	RTA30D1CEF10-**
30	0.219"	10	100	41.8	33.4	31.2	25.8	21.8	RTA30E1CEF10-**
30	0.250"	10	100	48.2	38.6	36.0	30.0	25.2	RTA30F1CEF10-**
35	0.188"	8	100	14.2	10.4	9.6	7.6	6.0	RTA35D8BEF10-**
35	0.219"	8	100	17.4	13.2	12.0	9.6	8.0	RTA35E8BEF10-**
35	0.250"	8	100	20.8	15.8	14.6	11.8	9.6	RTA35F8BEF10-**
35	0.188"	10	100	27.0	21.4	19.8	16.4	13.6	RTA35D1CEF10-**
35	0.219"	10	100	32.4	25.8	24.0	19.8	16.6	RTA35E1CEF10-**
35	0.250"	10	100	37.6	30.2	28.0	23.2	19.4	RTA35F1CEF10-**
40	0.188"	8	70	10.0	7.0	6.2	4.6	3.6	RTA40D8BEF10-**
40	0.219"	8	100	12.6	9.0	8.2	6.2	5.0	RTA40E8BEF10-**
40	0.250"	8	100	15.2	11.2	10.2	8.0	6.6	RTA40F8BEF10-**
40	0.188"	10	100	20.6	16.2	15.0	12.2	10.0	RTA40D1CEF10-**
40	0.219"	10	100	25.2	20.0	18.6	15.2	12.6	RTA40E1CEF10-**
40	0.250"	10	100	29.8	23.6	22.0	18.0	15.0	RTA40F1CEF10-**
40	0.312"	10	100	38.6	30.8	28.6	23.6	19.8	RTA40G1CEF10-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E F 1 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Cross Arm, Single, No Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- F = Cross Arm

Arm Quantity

- 1 = Single

Arm Length

- 0 = Standard Removable Tenon

Finish

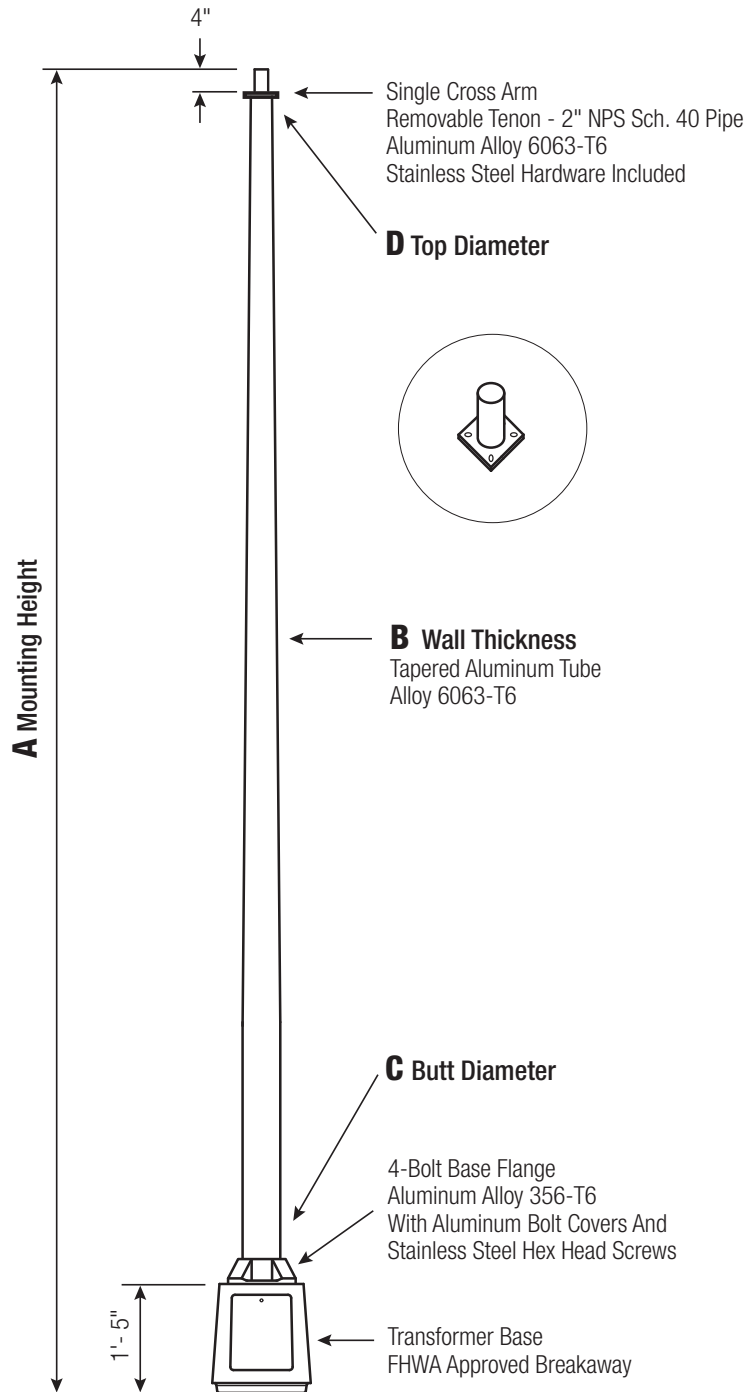
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Single Cross Arm — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

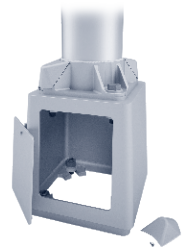
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



Handhole

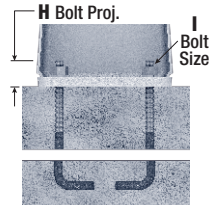
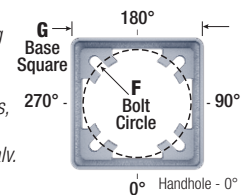
7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.



Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.

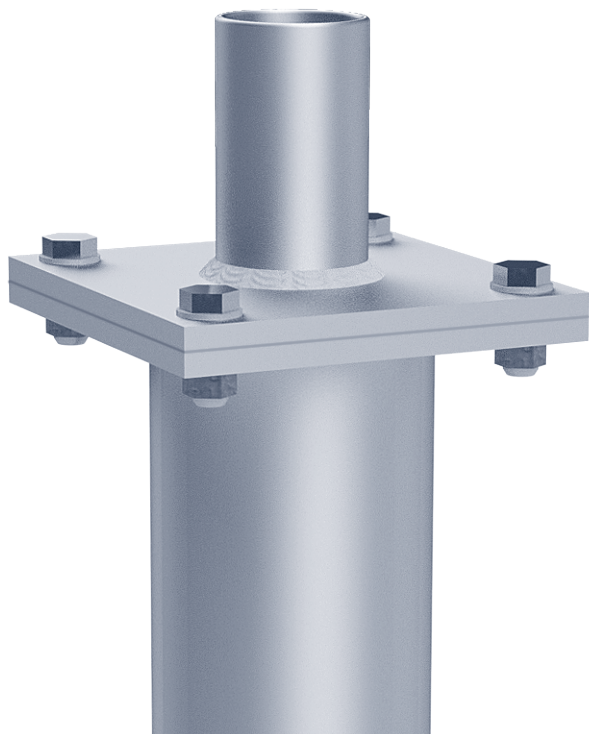
Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

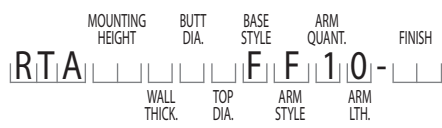
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	100	23.2	18.4	17.0	14.0	11.8	RTA20D7BFF10-**
20	0.188"	8	100	32.0	25.4	23.6	19.6	16.6	RTA20D8BFF10-**
25	0.188"	7	100	16.0	12.4	11.4	9.2	7.6	RTA25D7BFF10-**
25	0.188"	8	100	22.8	17.8	16.4	13.6	11.4	RTA25D8BFF10-**
25	0.219"	8	100	27.0	21.2	19.6	16.2	13.6	RTA25E8BFF10-**
25	0.250"	8	100	31.0	24.6	22.8	18.8	15.8	RTA25F8BFF10-**
30	0.188"	7	90	11.0	8.0	7.4	5.8	4.6	RTA30D7BFF10-**
30	0.188"	8	100	16.2	12.4	11.4	9.2	7.6	RTA30D8BFF10-**
30	0.219"	8	100	19.8	15.2	14.0	11.4	9.4	RTA30E8BFF10-**
30	0.250"	8	100	23.0	18.0	16.6	13.6	11.2	RTA30F8BFF10-**
30	0.188"	10	100	29.4	23.4	21.8	18.0	15.2	RTA30D1CFF10-**
30	0.219"	10	100	34.8	28.0	26.0	21.6	18.0	RTA30E1CFF10-**
30	0.250"	10	100	40.0	32.2	30.0	25.0	21.0	RTA30F1CFF10-**
35	0.188"	8	95	11.4	8.4	7.6	6.0	4.8	RTA35D8BFF10-**
35	0.219"	8	100	14.4	10.6	9.8	7.8	6.4	RTA35E8BFF10-**
35	0.250"	8	100	17.0	13.0	11.8	9.4	7.8	RTA35F8BFF10-**
35	0.188"	10	100	22.4	17.6	16.4	13.4	11.2	RTA35D1CFF10-**
35	0.219"	10	100	27.0	21.4	19.8	16.4	13.6	RTA35E1CFF10-**
35	0.250"	10	100	31.4	25.0	23.2	19.2	16.0	RTA35F1CFF10-**
40	0.188"	8	45	8.0	5.4	4.8	3.6	2.6	RTA40D8BFF10-**
40	0.219"	8	75	10.2	7.2	6.4	4.8	3.8	RTA40E8BFF10-**
40	0.250"	8	100	12.4	9.0	8.0	6.2	5.0	RTA40F8BFF10-**
40	0.188"	10	100	16.8	13.2	12.0	9.8	8.0	RTA40D1CFF10-**
40	0.219"	10	100	20.6	16.2	15.0	12.2	10.2	RTA40E1CFF10-**
40	0.250"	10	100	24.6	19.4	18.0	14.8	12.2	RTA40F1CFF10-**
45	0.188"	8	30	4.8	2.8	2.2	1.4	-	RTA45D8BFF10-**
45	0.219"	8	30	7.0	4.4	3.8	2.6	2.0	RTA45E8BFF10-**
45	0.250"	8	50	8.8	6.0	5.2	3.8	3.0	RTA45F8BFF10-**
45	0.188"	10	100	12.4	9.4	8.6	6.8	5.4	RTA45D1CFF10-**
45	0.219"	10	100	15.6	12.2	11.2	9.0	7.2	RTA45E1CFF10-**
45	0.250"	10	100	19.0	14.8	13.8	11.0	9.0	RTA45F1CFF10-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F F 1 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Cross Arm, Single, No Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

F = Cross Arm

Arm Quantity

1 = Single

Arm Length

0 = Standard Removable Tenon

Finish

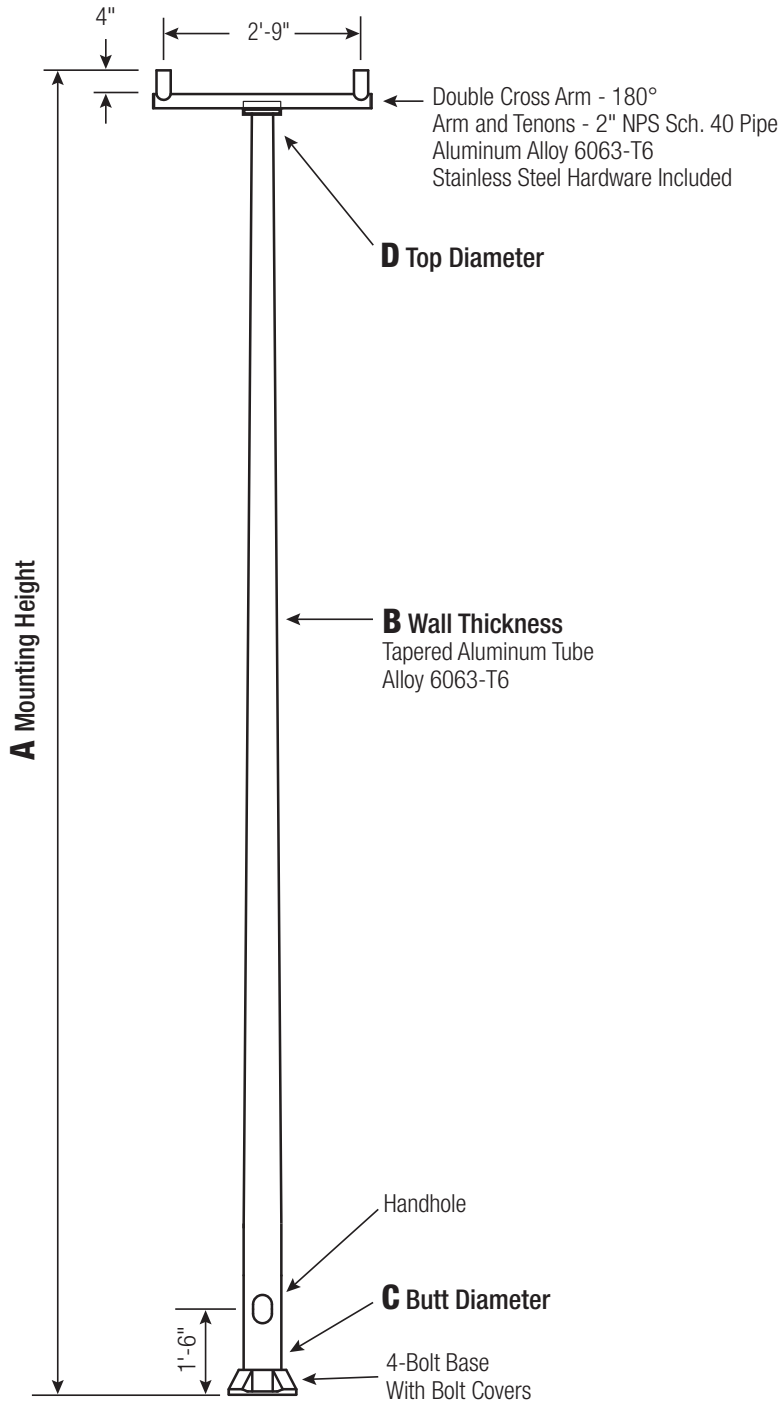
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Cross Arm — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5 and 6	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

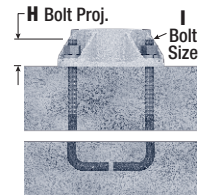
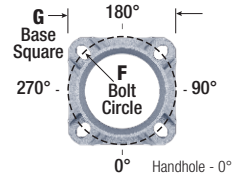
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	45	5.8	4.2	3.8	3.0	2.4	RTA20C6B4F20-**
20	0.188"	6	60	7.2	5.4	5.0	4.0	3.2	RTA20D6B4F20-**
20	0.156"	7	80	8.8	6.8	6.2	5.0	4.0	RTA20C7B4F20-**
20	0.188"	7	100	11.0	8.4	7.8	6.4	5.2	RTA20D7B4F20-**
20	0.188"	8	100	15.4	12.2	11.2	9.2	7.6	RTA20D8B4F20-**
25	0.188"	6	25	4.6	3.2	2.8	2.2	1.6	RTA25D6B4F20-**
25	0.156"	7	40	5.8	4.2	3.8	3.0	2.4	RTA25C7B4F20-**
25	0.188"	7	60	7.4	5.4	5.0	4.0	3.2	RTA25D7B4F20-**
25	0.156"	8	75	8.4	6.4	5.8	4.6	3.8	RTA25C8B4F20-**
25	0.188"	8	100	10.6	8.2	7.4	6.0	5.0	RTA25D8B4F20-**
25	0.219"	8	100	12.8	9.8	9.0	7.4	6.0	RTA25E8B4F20-**
25	0.250"	8	100	14.8	11.6	10.6	8.8	7.2	RTA25F8B4F20-**
30	0.188"	7	30	4.8	3.4	3.0	2.2	1.8	RTA30D7B4F20-**
30	0.156"	8	40	5.8	4.2	3.8	2.8	2.2	RTA30C8B4F20-**
30	0.188"	8	60	7.4	5.6	5.0	4.0	3.2	RTA30D8B4F20-**
30	0.219"	8	80	9.0	6.8	6.2	5.0	4.0	RTA30E8B4F20-**
30	0.250"	8	100	10.6	8.0	7.4	6.0	4.8	RTA30F8B4F20-**
30	0.188"	10	100	14.0	11.0	10.2	8.4	6.8	RTA30D1C4F20-**
30	0.219"	10	100	16.8	13.2	12.4	10.0	8.4	RTA30E1C4F20-**
30	0.250"	10	100	19.6	15.6	14.4	11.8	9.8	RTA30F1C4F20-**
35	0.188"	8	30	5.2	3.6	3.2	2.4	1.8	RTA35D8B4F20-**
35	0.219"	8	45	6.4	4.6	4.2	3.2	2.4	RTA35E8B4F20-**
35	0.250"	8	60	7.8	5.8	5.2	4.0	3.2	RTA35F8B4F20-**
35	0.188"	10	95	10.4	8.0	7.4	6.0	4.8	RTA35D1C4F20-**
35	0.219"	10	100	12.6	9.8	9.2	7.4	6.0	RTA35E1C4F20-**
35	0.250"	10	100	15.0	11.8	10.8	8.8	7.2	RTA35F1C4F20-**
40	0.188"	8	35	3.2	1.8	1.6	-	-	RTA40D8B4F20-**
40	0.219"	8	30	4.4	3.0	2.6	1.8	1.2	RTA40E8B4F20-**
40	0.250"	8	30	5.6	3.8	3.4	2.6	1.8	RTA40F8B4F20-**
40	0.188"	10	60	7.6	5.8	5.4	4.2	3.4	RTA40D1C4F20-**
40	0.219"	10	85	9.4	7.4	6.8	5.4	4.2	RTA40E1C4F20-**
40	0.250"	10	100	11.4	8.8	8.2	6.6	5.2	RTA40F1C4F20-**
40	0.312"	10	100	15.2	11.8	11.0	9.0	7.4	RTA40G1C4F20-**
45	0.188"	10	35	5.6	4.0	3.6	2.8	2.0	RTA45D1C4F20-**
45	0.219"	10	50	7.2	5.4	5.0	3.8	3.0	RTA45E1C4F20-**
45	0.250"	10	70	8.6	6.6	6.0	4.8	3.8	RTA45F1C4F20-**
45	0.312"	10	100	11.8	9.2	8.4	6.8	5.4	RTA45G1C4F20-**
45	0.250"	12	100	15.4	12.0	11.0	8.8	7.2	RTA45F2C4F20-**
45	0.312"	12	100	20.2	16.0	14.8	12.0	9.8	RTA45G2C4F20-**
45	0.375"	12	100	22.1	17.4	16.2	13.2	10.9	RTA45H2C4F20-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 F 20 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Cross Arm, Double, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- F = Cross Arm

Arm Quantity

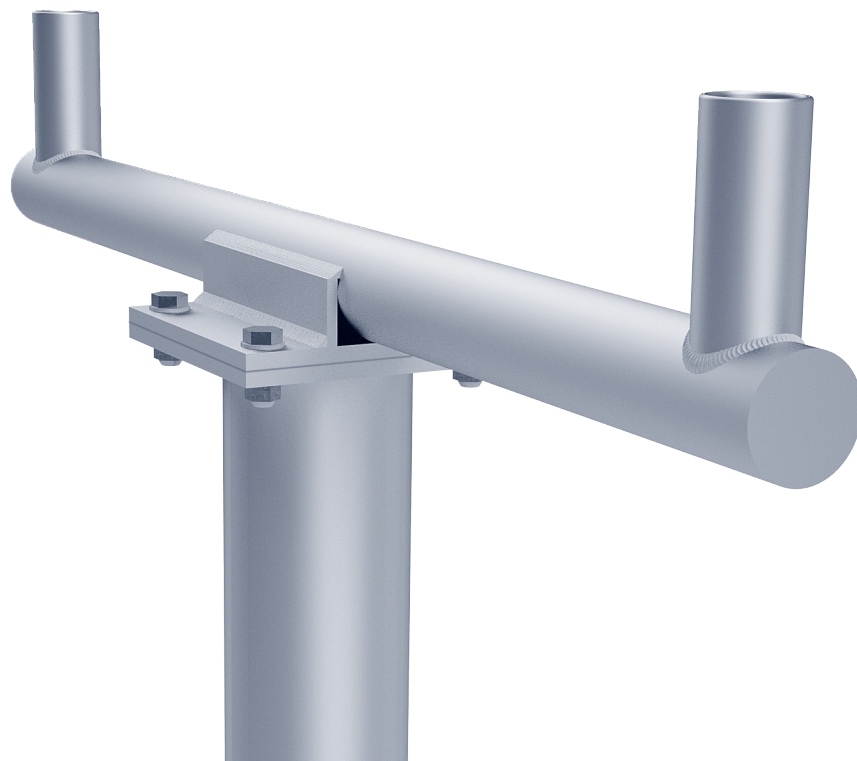
- 2 = Double

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

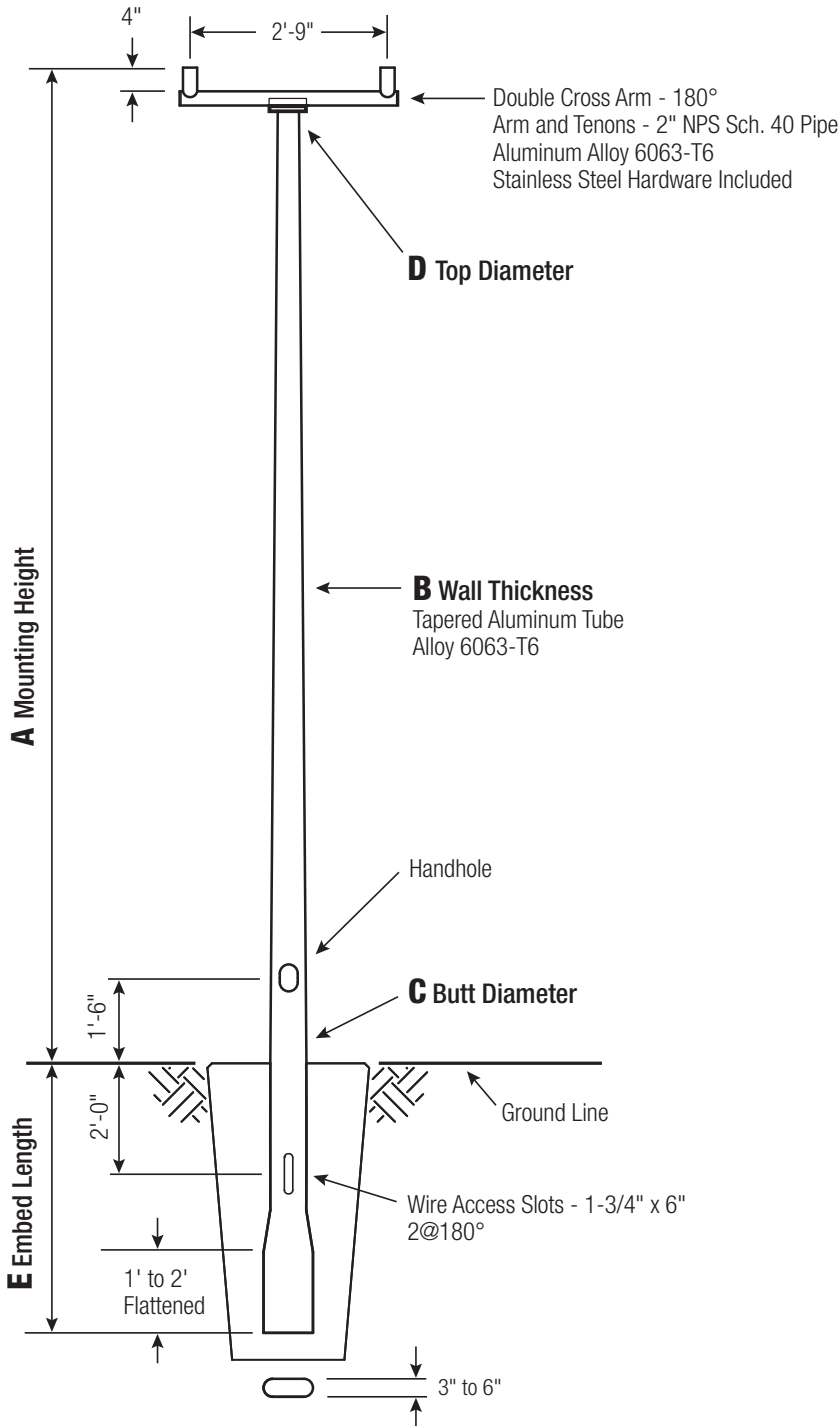


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Cross Arm — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

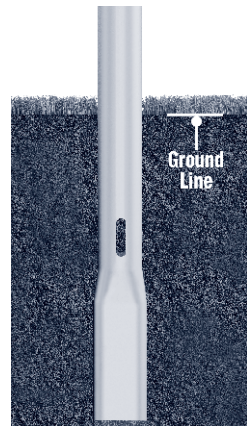
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	60	7.0	5.2	4.8	3.8	3.0	RTA20C6BEF20-**
20	0.188"	6	80	8.8	6.6	6.0	4.8	4.0	RTA20D6BEF20-**
20	0.156"	7	100	10.4	8.0	7.4	6.0	5.0	RTA20C7BEF20-**
20	0.188"	7	100	13.0	10.2	9.4	7.6	6.4	RTA20D7BEF20-**
20	0.188"	8	100	18.2	14.4	13.4	11.0	9.2	RTA20D8BEF20-**
25	0.188"	6	40	5.6	4.0	3.6	2.8	2.2	RTA25D6BEF20-**
25	0.156"	7	55	7.0	5.2	4.8	3.8	3.0	RTA25C7BEF20-**
25	0.188"	7	80	8.8	6.8	6.2	4.8	4.0	RTA25D7BEF20-**
25	0.156"	8	95	10.0	7.8	7.0	5.6	4.6	RTA25C8BEF20-**
25	0.188"	8	100	12.8	9.8	9.0	7.4	6.0	RTA25D8BEF20-**
25	0.219"	8	100	15.2	11.8	11.0	9.0	7.4	RTA25E8BEF20-**
25	0.250"	8	100	17.6	13.8	12.8	10.6	8.8	RTA25F8BEF20-**
30	0.188"	7	45	6.2	4.4	4.0	3.0	2.4	RTA30D7BEF20-**
30	0.156"	8	55	7.0	5.2	4.8	3.6	3.0	RTA30C8BEF20-**
30	0.188"	8	80	9.0	6.8	6.2	5.0	4.0	RTA30D8BEF20-**
30	0.219"	8	100	11.0	8.4	7.6	6.2	5.0	RTA30E8BEF20-**
30	0.250"	8	100	12.8	10.0	9.2	7.4	6.0	RTA30F8BEF20-**
30	0.188"	10	100	16.8	13.2	12.2	10.0	8.4	RTA30D1CEF20-**
30	0.219"	10	100	20.0	15.8	14.8	12.2	10.2	RTA30E1CEF20-**
30	0.250"	10	100	23.2	18.4	17.2	14.2	11.8	RTA30F1CEF20-**
35	0.188"	8	45	6.4	4.6	4.2	3.2	2.6	RTA35D8BEF20-**
35	0.219"	8	65	8.0	6.0	5.4	4.2	3.4	RTA35E8BEF20-**
35	0.250"	8	80	9.6	7.2	6.4	5.2	4.2	RTA35F8BEF20-**
35	0.188"	10	100	12.6	9.8	9.2	7.4	6.0	RTA35D1CEF20-**
35	0.219"	10	100	15.4	12.0	11.2	9.2	7.6	RTA35E1CEF20-**
35	0.250"	10	100	18.0	14.2	13.2	10.8	9.0	RTA35F1CEF20-**
40	0.188"	8	30	4.4	3.0	2.6	1.8	1.2	RTA40D8BEF20-**
40	0.219"	8	35	5.8	4.0	3.6	2.6	2.0	RTA40E8BEF20-**
40	0.250"	8	50	7.0	5.0	4.6	3.4	2.6	RTA40F8BEF20-**
40	0.188"	10	80	9.6	7.4	6.8	5.4	4.2	RTA40D1CEF20-**
40	0.219"	10	100	11.6	9.0	8.4	6.8	5.4	RTA40E1CEF20-**
40	0.250"	10	100	14.0	11.0	10.0	8.2	6.6	RTA40F1CEF20-**
40	0.312"	10	100	18.4	14.4	13.4	11.0	9.0	RTA40G1CEF20-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E F 2 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Cross Arm, Double, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- F = Cross Arm

Arm Quantity

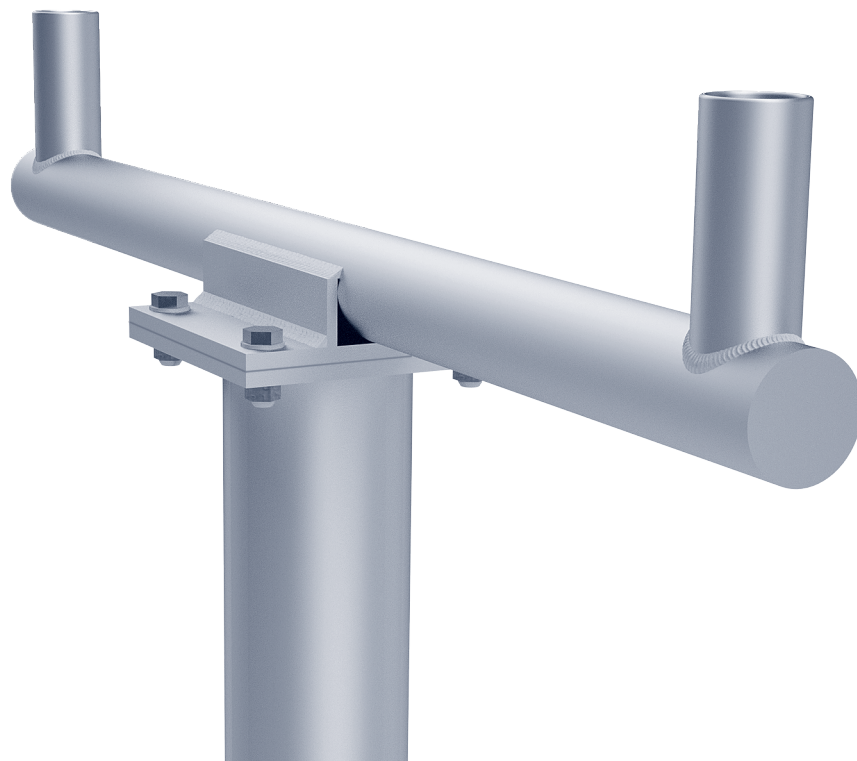
- 2 = Double

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

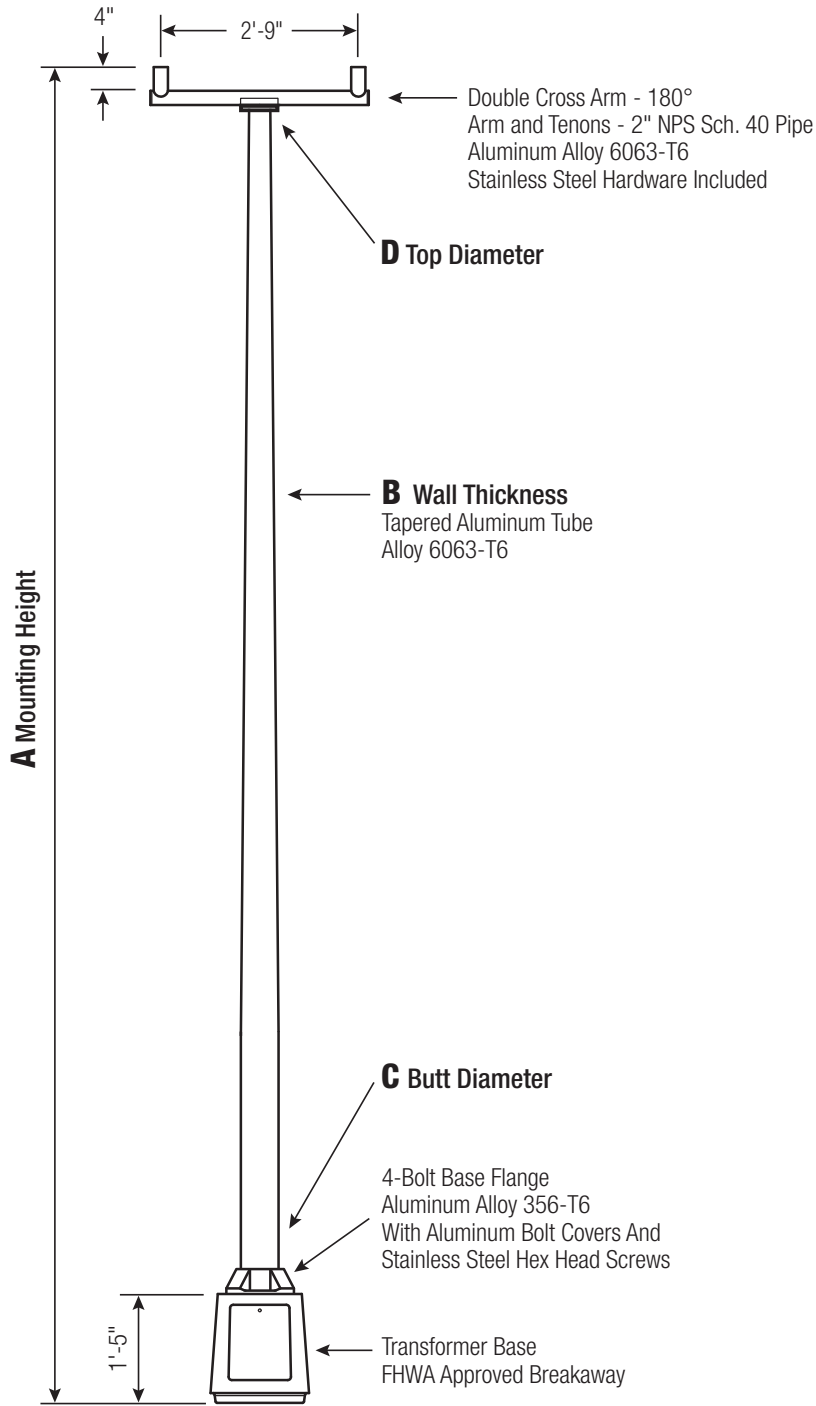


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Cross Arm — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

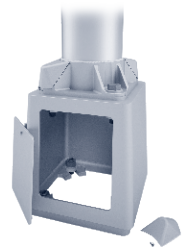
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



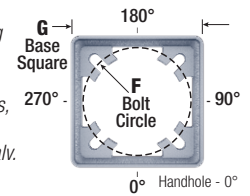
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

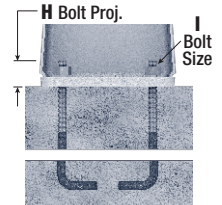


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



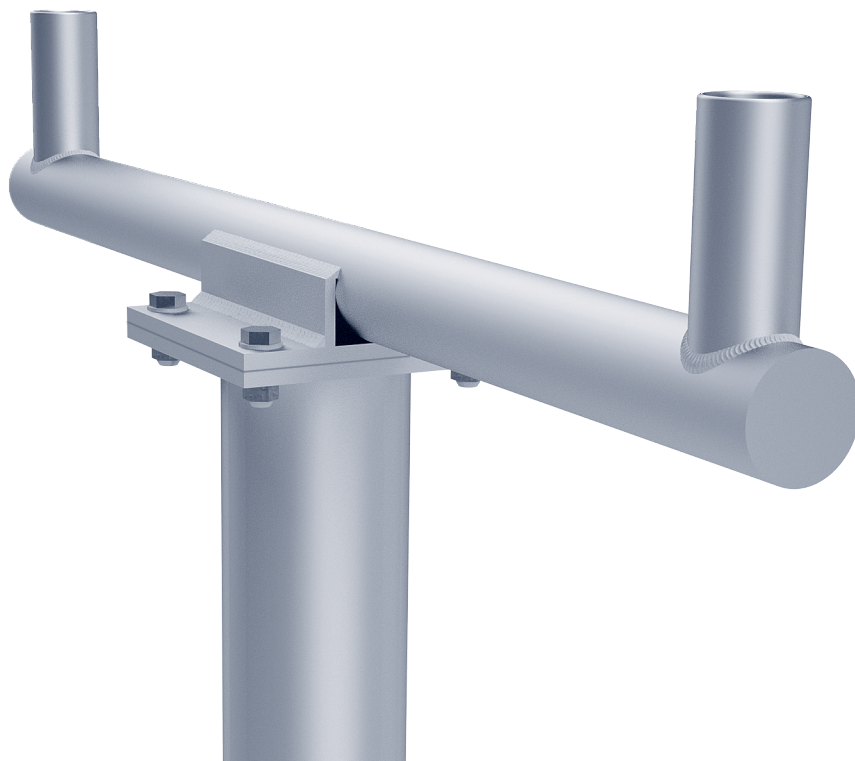
Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



Vibration Damper

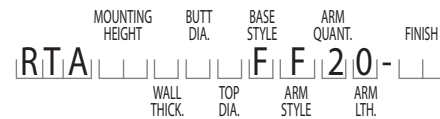
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	100	11.0	8.4	7.8	6.4	5.2	RTA20D7BFF20-**
20	0.188"	8	100	15.2	12.0	11.0	9.2	7.6	RTA20D8BFF20-**
25	0.188"	7	60	7.4	5.6	5.0	4.0	3.2	RTA25D7BFF20-**
25	0.188"	8	100	10.6	8.2	7.4	6.0	5.0	RTA25D8BFF20-**
25	0.219"	8	100	12.6	9.8	9.0	7.4	6.2	RTA25E8BFF20-**
25	0.250"	8	100	14.8	11.6	10.6	8.6	7.2	RTA25F8BFF20-**
30	0.188"	7	30	5.0	3.6	3.2	2.4	1.8	RTA30D7BFF20-**
30	0.188"	8	60	7.6	5.6	5.2	4.0	3.2	RTA30D8BFF20-**
30	0.219"	8	80	9.2	6.8	6.4	5.0	4.0	RTA30E8BFF20-**
30	0.250"	8	100	10.6	8.2	7.4	6.0	5.0	RTA30F8BFF20-**
30	0.188"	10	100	13.8	11.0	10.2	8.2	6.8	RTA30D1CFF20-**
30	0.219"	10	100	16.6	13.2	12.2	10.0	8.4	RTA30E1CFF20-**
30	0.250"	10	100	19.4	15.4	14.2	11.8	9.8	RTA30F1CFF20-**
35	0.188"	8	30	5.2	3.8	3.4	2.4	2.0	RTA35D8BFF20-**
35	0.219"	8	45	6.6	4.8	4.4	3.4	2.6	RTA35E8BFF20-**
35	0.250"	8	65	7.8	5.8	5.2	4.2	3.2	RTA35F8BFF20-**
35	0.188"	10	95	10.4	8.0	7.4	6.0	4.8	RTA35D1CFF20-**
35	0.219"	10	100	12.6	9.8	9.2	7.4	6.0	RTA35E1CFF20-**
35	0.250"	10	100	14.8	11.6	10.8	8.8	7.2	RTA35F1CFF20-**
40	0.188"	8	25	3.4	2.2	1.8	1.2	-	RTA40D8BFF20-**
40	0.219"	8	30	4.6	3.0	2.6	2.0	1.4	RTA40E8BFF20-**
40	0.250"	8	35	5.6	4.0	3.6	2.6	2.0	RTA40F8BFF20-**
40	0.188"	10	65	7.8	5.8	5.4	4.2	3.4	RTA40D1CFF20-**
40	0.219"	10	85	9.6	7.4	6.8	5.4	4.4	RTA40E1CFF20-**
40	0.250"	10	100	11.4	8.8	8.2	6.6	5.4	RTA40F1CFF20-**
45	0.188"	10	35	5.6	4.2	3.8	2.8	2.2	RTA45D1CFF20-**
45	0.219"	10	55	7.2	5.4	5.0	3.8	3.0	RTA45E1CFF20-**
45	0.250"	10	75	8.8	6.6	6.2	4.8	3.8	RTA45F1CFF20-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F F 2 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Cross Arm, Double, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

F = Cross Arm

Arm Quantity

2 = Double

Arm Length

0 = Standard Length

Finish

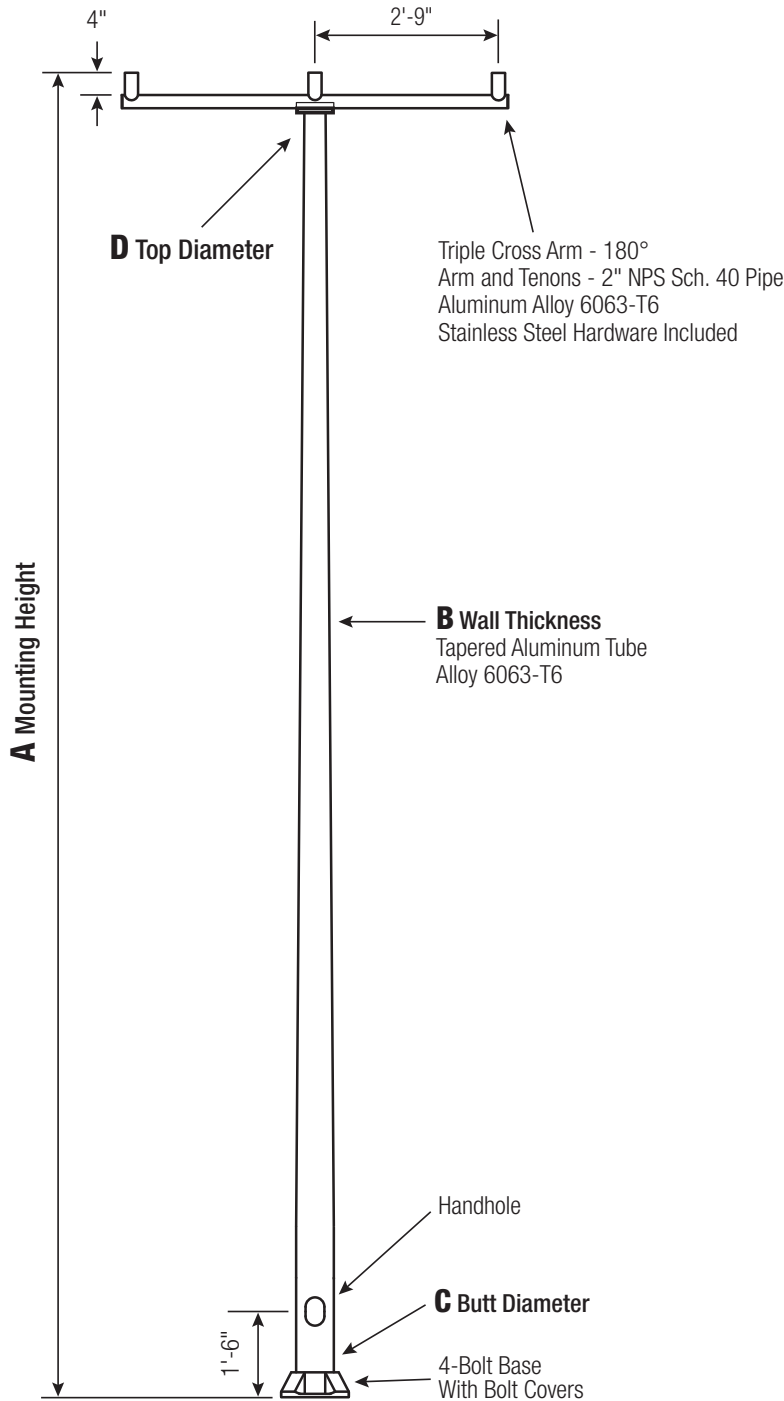
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Cross Arm 180° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

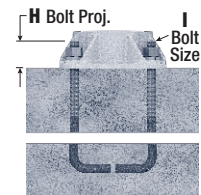
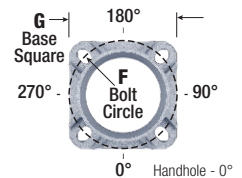
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	3.0	2.0	1.8	1.2	-	RTA20C6B4F30-**
20	0.188"	6	30	4.2	3.0	2.6	2.0	1.4	RTA20D6B4F30-**
20	0.156"	7	35	5.2	3.8	3.4	2.6	2.0	RTA20C7B4F30-**
20	0.188"	7	50	6.6	5.0	4.4	3.4	2.8	RTA20D7B4F30-**
20	0.188"	8	85	9.4	7.2	6.6	5.2	4.2	RTA20D8B4F30-**
25	0.188"	6	25	2.2	1.4	1.0	-	-	RTA25D6B4F30-**
25	0.156"	7	25	3.0	2.0	1.8	1.2	-	RTA25C7B4F30-**
25	0.188"	7	30	4.2	3.0	2.6	1.8	1.4	RTA25D7B4F30-**
25	0.156"	8	30	4.8	3.6	3.2	2.4	1.8	RTA25C8B4F30-**
25	0.188"	8	45	6.4	4.6	4.2	3.2	2.6	RTA25D8B4F30-**
25	0.219"	8	60	7.6	5.8	5.2	4.2	3.2	RTA25E8B4F30-**
25	0.250"	8	75	9.0	6.8	6.2	5.0	4.0	RTA25F8B4F30-**
30	0.188"	7	25	2.4	1.4	1.2	-	-	RTA30D7B4F30-**
30	0.156"	8	25	3.0	2.0	1.6	1.2	-	RTA30C8B4F30-**
30	0.188"	8	30	4.2	3.0	2.6	1.8	1.4	RTA30D8B4F30-**
30	0.219"	8	30	5.4	3.8	3.4	2.6	2.0	RTA30E8B4F30-**
30	0.250"	8	45	6.4	4.6	4.2	3.2	2.6	RTA30F8B4F30-**
30	0.188"	10	70	8.4	6.4	6.0	4.8	3.8	RTA30D1C4F30-**
30	0.219"	10	90	10.2	8.0	7.4	5.8	4.8	RTA30E1C4F30-**
30	0.250"	10	100	12.0	9.4	8.6	7.0	5.6	RTA30F1C4F30-**
35	0.188"	8	30	2.6	1.6	1.2	-	-	RTA35D8B4F30-**
35	0.219"	8	30	3.4	2.2	2.0	1.4	-	RTA35E8B4F30-**
35	0.250"	8	30	4.4	3.0	2.6	2.0	1.4	RTA35F8B4F30-**
35	0.188"	10	45	6.2	4.6	4.2	3.2	2.4	RTA35D1C4F30-**
35	0.219"	10	60	7.6	5.8	5.2	4.2	3.2	RTA35E1C4F30-**
35	0.250"	10	75	9.0	7.0	6.4	5.0	4.0	RTA35F1C4F30-**
40	0.188"	8	25	1.2	-	-	-	-	RTA40D8B4F30-**
40	0.219"	8	25	2.0	1.0	-	-	-	RTA40E8B4F30-**
40	0.250"	8	30	2.8	1.6	1.4	-	-	RTA40F8B4F30-**
40	0.188"	10	30	4.4	3.2	2.8	2.0	1.4	RTA40D1C4F30-**
40	0.219"	10	35	5.6	4.2	3.8	-	2.2	RTA40E1C4F30-**
40	0.250"	10	50	6.8	5.2	4.6	3.6	2.8	RTA40F1C4F30-**
40	0.312"	10	75	9.2	7.0	6.4	5.2	4.0	RTA40G1C4F30-**
45	0.188"	10	35	2.8	1.8	1.6	-	-	RTA45D1C4F30-**
45	0.219"	10	25	4.0	2.8	2.6	1.8	1.2	RTA45E1C4F30-**
45	0.250"	10	25	5.0	3.8	3.4	2.4	1.8	RTA45F1C4F30-**
45	0.312"	10	50	7.2	5.4	4.8	3.8	2.8	RTA45G1C4F30-**
45	0.250"	12	75	9.4	7.0	6.4	5.0	4.0	RTA45F2C4F30-**
45	0.312"	12	100	12.4	9.6	8.8	7.0	5.6	RTA45G2C4F30-**
45	0.375"	12	100	13.9	10.8	10.0	8.0	6.4	RTA45H2C4F30-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 F 3 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Cross Arm, Triple - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- F = Cross Arm

Arm Quantity

- 3 = Triple - 180°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

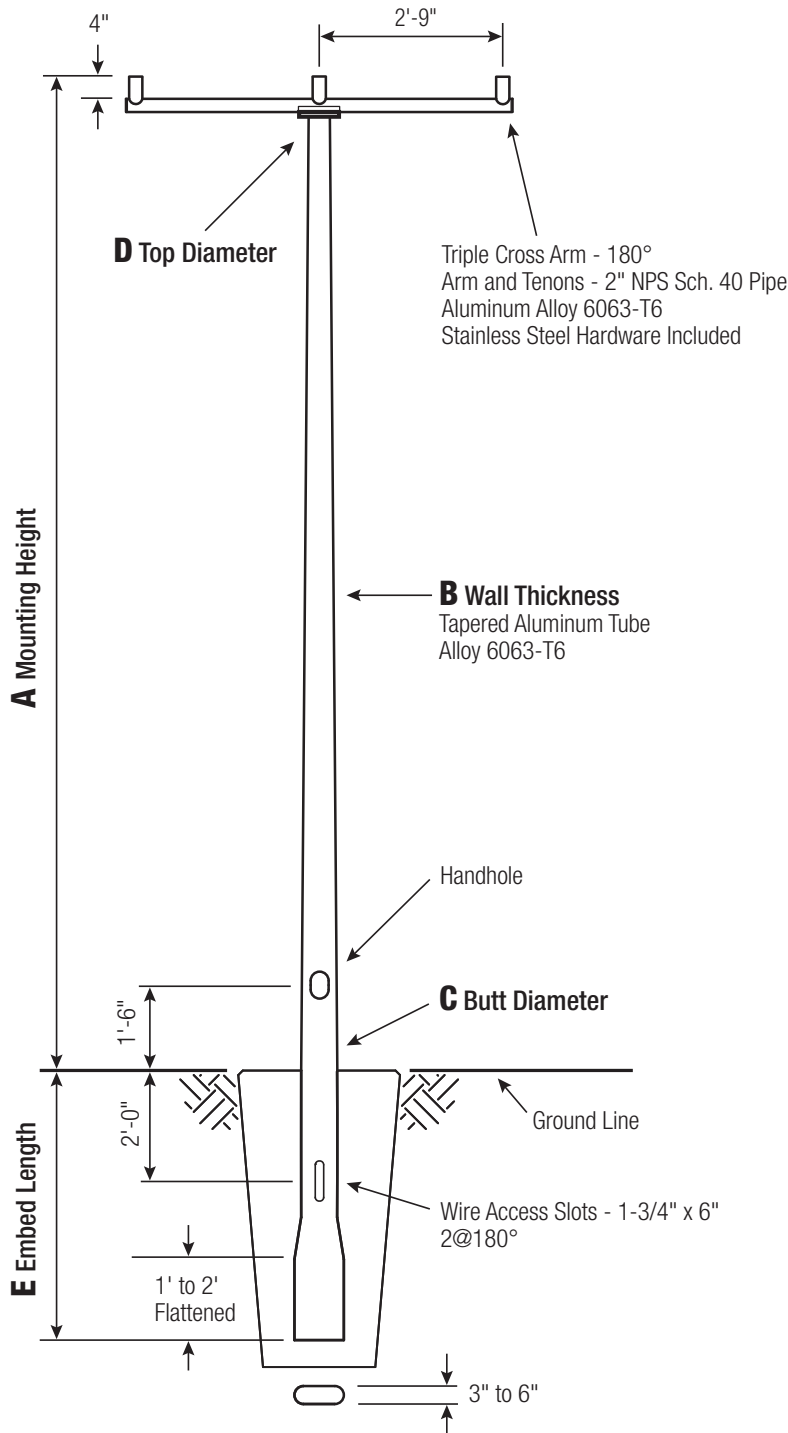


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Cross Arm 180° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

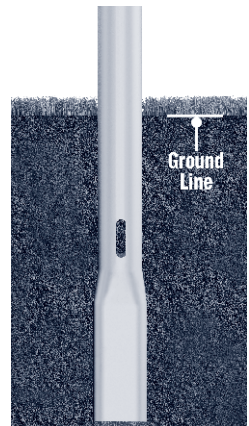
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	30	3.8	2.8	2.4	1.8	1.4	RTA20C6BEF30-**
20	0.188"	6	35	5.0	3.8	3.4	2.6	2.0	RTA20D6BEF30-**
20	0.156"	7	45	6.2	4.6	4.2	3.4	2.6	RTA20C7BEF30-**
20	0.188"	7	65	8.0	6.0	5.4	4.4	3.4	RTA20D7BEF30-**
20	0.188"	8	100	11.2	8.6	8.0	6.4	5.2	RTA20D8BEF30-**
25	0.188"	6	25	3.0	2.0	1.6	1.2	-	RTA25D6BEF30-**
25	0.156"	7	25	4.0	2.8	2.4	1.8	1.2	RTA25C7BEF30-**
25	0.188"	7	30	5.2	3.8	3.4	2.6	2.0	RTA25D7BEF30-**
25	0.156"	8	40	6.0	4.4	4.0	3.0	2.4	RTA25C8BEF30-**
25	0.188"	8	60	7.6	5.8	5.2	4.2	3.2	RTA25D8BEF30-**
25	0.219"	8	80	9.2	7.0	6.4	5.2	4.2	RTA25E8BEF30-**
25	0.250"	8	100	10.8	8.2	7.6	6.0	5.0	RTA25F8BEF30-**
30	0.188"	7	25	3.2	2.2	1.8	1.2	-	RTA30D7BEF30-**
30	0.156"	8	25	4.0	2.8	2.4	1.8	1.2	RTA30C8BEF30-**
30	0.188"	8	30	5.4	3.8	3.4	2.6	2.0	RTA30D8BEF30-**
30	0.219"	8	45	6.6	4.8	4.4	3.4	2.6	RTA30E8BEF30-**
30	0.250"	8	60	7.8	5.8	5.2	4.2	3.2	RTA30F8BEF30-**
30	0.188"	10	90	10.2	7.8	7.2	5.8	4.6	RTA30D1CEF30-**
30	0.219"	10	100	12.4	9.6	8.8	7.2	5.8	RTA30E1CEF30-**
30	0.250"	10	100	14.4	11.4	10.4	8.6	7.0	RTA30F1CEF30-**
35	0.188"	8	30	3.6	2.4	2.0	1.4	-	RTA35D8BEF30-**
35	0.219"	8	30	4.6	3.2	2.8	2.0	1.4	RTA35E8BEF30-**
35	0.250"	8	35	5.6	4.0	3.6	2.8	2.0	RTA35F8BEF30-**
35	0.188"	10	60	7.6	5.8	5.2	4.2	3.2	RTA35D1CEF30-**
35	0.219"	10	80	9.2	7.2	6.6	5.2	4.2	RTA35E1CEF30-**
35	0.250"	10	100	11.0	8.4	7.8	6.2	5.0	RTA35F1CEF30-**
40	0.188"	8	25	2.0	1.0	-	-	-	RTA40D8BEF30-**
40	0.219"	8	35	3.0	1.8	1.4	-	-	RTA40E8BEF30-**
40	0.250"	8	35	3.8	2.6	2.2	1.4	-	RTA40F8BEF30-**
40	0.188"	10	35	5.6	4.2	3.8	2.8	2.2	RTA40D1CEF30-**
40	0.219"	10	50	7.0	5.4	4.8	3.8	3.0	RTA40E1CEF30-**
40	0.250"	10	70	8.4	6.4	5.8	4.6	3.6	RTA40F1CEF30-**
40	0.312"	10	100	11.2	8.6	8.0	6.4	5.2	RTA40G1CEF30-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E F 3 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Cross Arm, Triple - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- F = Cross Arm

Arm Quantity

- 3 = Triple - 180°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

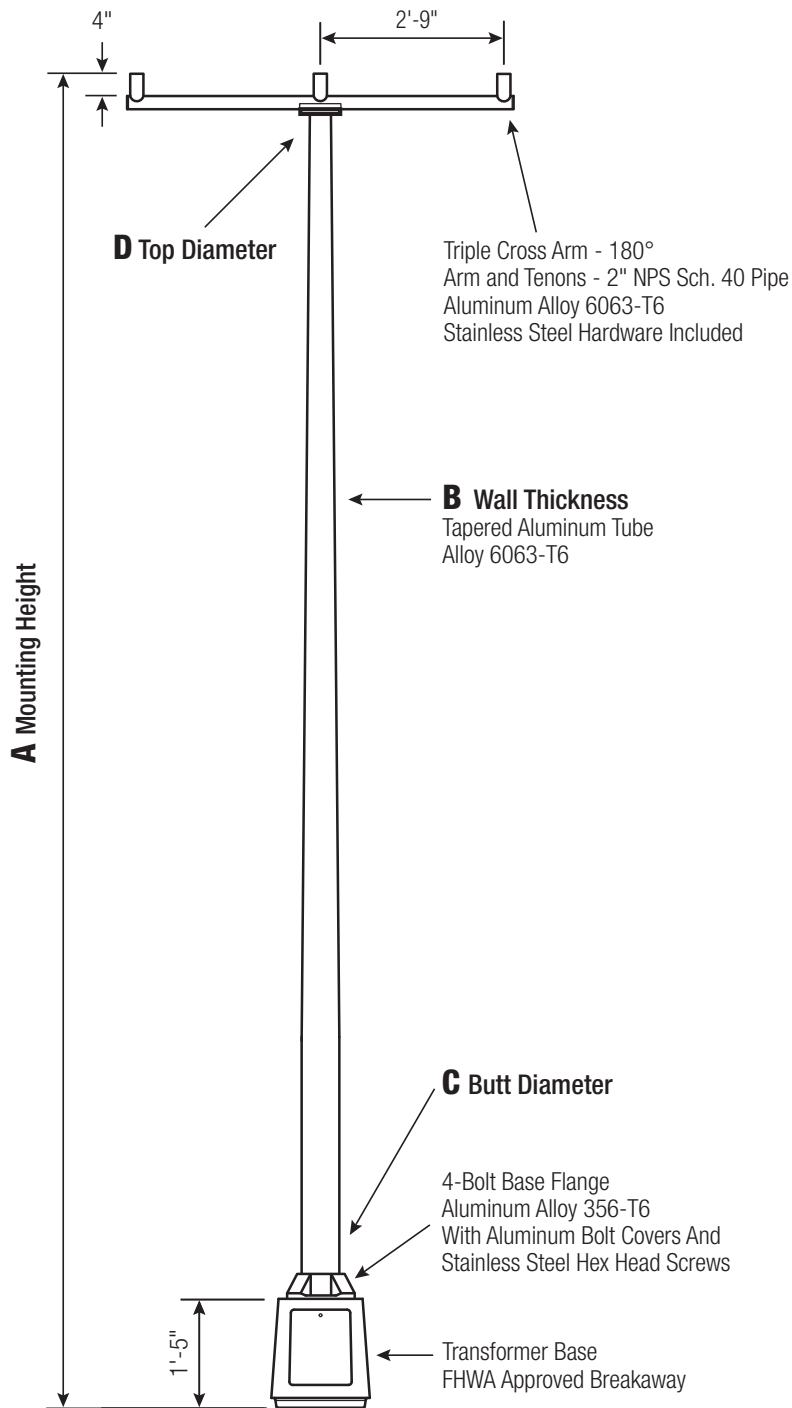


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Cross Arm 180° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

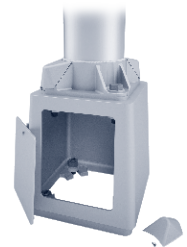
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



Handhole

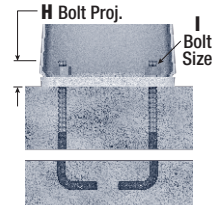
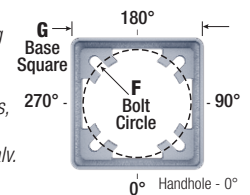
7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.



Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.

Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



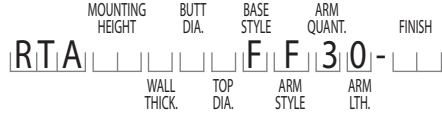
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	50	6.6	5.0	4.4	3.6	2.8	RTA20D7BFF30-**
20	0.188"	8	85	9.2	7.2	6.6	5.2	4.2	RTA20D8BFF30-**
25	0.188"	7	30	4.2	3.0	2.6	2.0	1.4	RTA25D7BFF30-**
25	0.188"	8	45	6.4	4.8	4.2	3.4	2.6	RTA25D8BFF30-**
25	0.219"	8	60	7.6	5.8	5.2	4.2	3.4	RTA25E8BFF30-**
25	0.250"	8	75	9.0	6.8	6.2	5.0	4.0	RTA25F8BFF30-**
30	0.188"	7	30	2.4	1.6	1.2	-	-	RTA30D7BFF30-**
30	0.188"	8	30	4.2	3.0	2.6	2.0	1.4	RTA30D8BFF30-**
30	0.219"	8	35	5.4	3.8	3.4	2.6	2.0	RTA30E8BFF30-**
30	0.250"	8	45	6.4	4.8	4.2	3.2	2.6	RTA30F8BFF30-**
30	0.188"	10	70	8.4	6.4	6.0	4.8	3.8	RTA30D1CFF30-**
30	0.219"	10	90	10.2	7.8	7.2	5.8	4.8	RTA30E1CFF30-**
30	0.250"	10	100	12.0	9.2	8.6	7.0	5.6	RTA30F1CFF30-**
35	0.188"	8	30	2.6	1.6	1.4	-	-	RTA35D8BFF30-**
35	0.219"	8	30	3.6	2.4	2.0	1.4	-	RTA35E8BFF30-**
35	0.250"	8	30	4.4	3.2	2.8	2.0	1.4	RTA35F8BFF30-**
35	0.188"	10	45	6.2	4.6	4.2	3.2	2.6	RTA35D1CFF30-**
35	0.219"	10	60	7.6	5.8	5.2	4.2	3.2	RTA35E1CFF30-**
35	0.250"	10	75	9.0	7.0	6.4	5.0	4.0	RTA35F1CFF30-**
40	0.188"	8	30	1.4	-	-	-	-	RTA40D8BFF30-**
40	0.219"	8	25	2.2	1.2	-	-	-	RTA40E8BFF30-**
40	0.250"	8	35	2.8	1.8	1.4	-	-	RTA40F8BFF30-**
40	0.188"	10	35	4.4	3.2	2.8	2.0	1.4	RTA40D1CFF30-**
40	0.219"	10	35	5.6	4.2	3.8	2.8	2.2	RTA40E1CFF30-**
40	0.250"	10	50	6.8	5.2	4.6	3.6	2.8	RTA40F1CFF30-**
45	0.188"	10	25	3.0	2.0	1.8	1.2	-	RTA45D1CFF30-**
45	0.219"	10	25	4.0	2.8	2.6	1.8	1.2	RTA45E1CFF30-**
45	0.250"	10	30	5.2	3.8	3.4	2.6	1.8	RTA45F1CFF30-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F F 3 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Cross Arm, Triple - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

F = Cross Arm

Arm Quantity

3 = Triple - 180°

Arm Length

0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

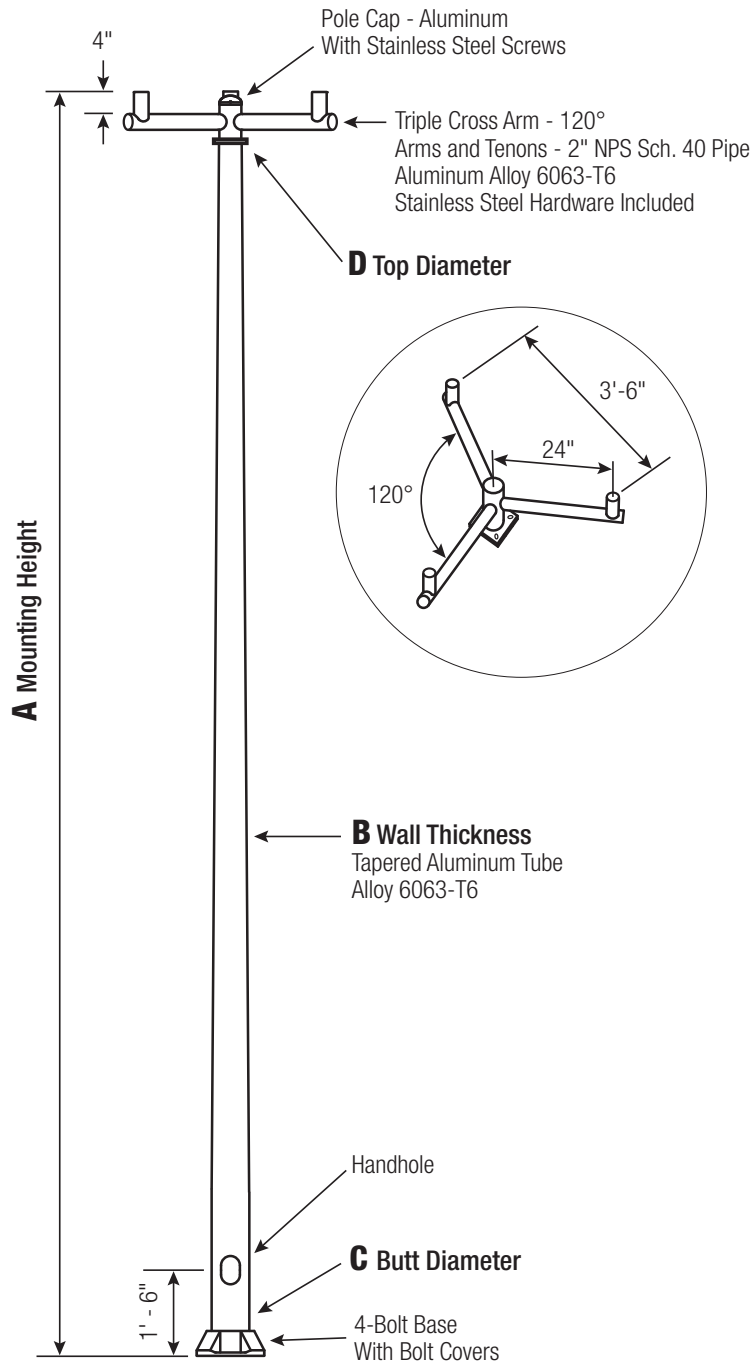


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Cross Arm 120° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

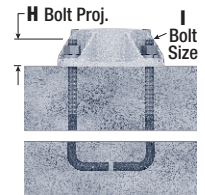
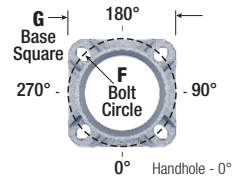
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	3.0	2.0	1.8	1.2	-	RTA20C6B4FC0-**
20	0.188"	6	30	4.2	3.0	2.6	2.0	1.4	RTA20D6B4FC0-**
20	0.156"	7	35	5.2	3.8	3.4	2.6	2.0	RTA20C7B4FC0-**
20	0.188"	7	50	6.6	5.0	4.4	3.6	2.8	RTA20D7B4FC0-**
20	0.188"	8	85	9.4	7.2	6.6	5.2	4.2	RTA20D8B4FC0-**
25	0.188"	6	25	2.2	1.4	1.0	-	-	RTA25D6B4FC0-**
25	0.156"	7	25	3.0	2.0	1.8	1.2	-	RTA25C7B4FC0-**
25	0.188"	7	30	4.2	3.0	2.6	1.8	1.4	RTA25D7B4FC0-**
25	0.156"	8	30	4.8	3.6	3.2	2.4	1.8	RTA25C8B4FC0-**
25	0.188"	8	45	6.4	4.8	4.2	3.2	2.6	RTA25D8B4FC0-**
25	0.219"	8	60	7.6	5.8	5.2	4.2	3.4	RTA25E8B4FC0-**
25	0.250"	8	75	9.0	6.8	6.2	5.0	4.0	RTA25F8B4FC0-**
30	0.188"	7	25	2.4	1.4	1.2	-	-	RTA30D7B4FC0-**
30	0.156"	8	25	3.0	2.0	1.6	1.2	-	RTA30C8B4FC0-**
30	0.188"	8	30	4.2	3.0	2.6	1.8	1.4	RTA30D8B4FC0-**
30	0.219"	8	30	5.4	3.8	3.4	2.6	2.0	RTA30E8B4FC0-**
30	0.250"	8	45	6.4	4.6	4.2	3.2	2.6	RTA30F8B4FC0-**
30	0.188"	10	70	8.4	6.4	6.0	4.8	3.8	RTA30D1C4FC0-**
30	0.219"	10	90	10.2	8.0	7.4	5.8	4.8	RTA30E1C4FC0-**
30	0.250"	10	100	12.0	9.4	8.6	7.0	5.6	RTA30F1C4FC0-**
35	0.188"	8	30	2.6	1.6	1.2	-	-	RTA35D8B4FC0-**
35	0.219"	8	30	3.4	2.2	2.0	1.4	-	RTA35E8B4FC0-**
35	0.250"	8	30	4.4	3.0	2.6	2.0	1.4	RTA35F8B4FC0-**
35	0.188"	10	45	6.2	4.6	4.2	3.2	2.4	RTA35D1C4FC0-**
35	0.219"	10	60	7.6	5.8	5.2	4.2	3.2	RTA35E1C4FC0-**
35	0.250"	10	75	9.0	7.0	6.4	5.0	4.0	RTA35F1C4FC0-**
40	0.188"	8	25	1.2	-	-	-	-	RTA40D8B4FC0-**
40	0.219"	8	25	2.0	1.0	-	-	-	RTA40E8B4FC0-**
40	0.250"	8	30	2.8	1.6	1.4	-	-	RTA40F8B4FC0-**
40	0.188"	10	30	4.4	3.2	2.8	2.0	1.4	RTA40D1C4FC0-**
40	0.219"	10	35	5.6	4.2	3.8	2.8	2.2	RTA40E1C4FC0-**
40	0.250"	10	50	6.8	5.2	4.6	3.6	2.8	RTA40F1C4FC0-**
40	0.312"	10	75	9.2	7.0	6.4	5.2	4.0	RTA40G1C4FC0-**
45	0.188"	10	35	2.8	1.8	1.6	-	-	RTA45D1C4FC0-**
45	0.219"	10	25	4.0	2.8	2.6	1.8	1.2	RTA45E1C4FC0-**
45	0.250"	10	25	5.0	3.8	3.4	2.4	1.8	RTA45F1C4FC0-**
45	0.312"	10	50	7.2	5.4	4.8	3.8	2.8	RTA45G1C4FC0-**
45	0.250"	12	75	9.4	7.0	6.4	5.0	4.0	RTA45F2C4FC0-**
45	0.312"	12	100	12.4	9.6	8.8	7.0	5.6	RTA45G2C4FC0-**
45	0.375"	12	100	13.9	10.8	10.0	8.0	6.4	RTA45H2C4FC0-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 F C 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Cross Arm, Triple - 120°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- F = Cross Arm

Arm Quantity

- C = Triple - 120°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

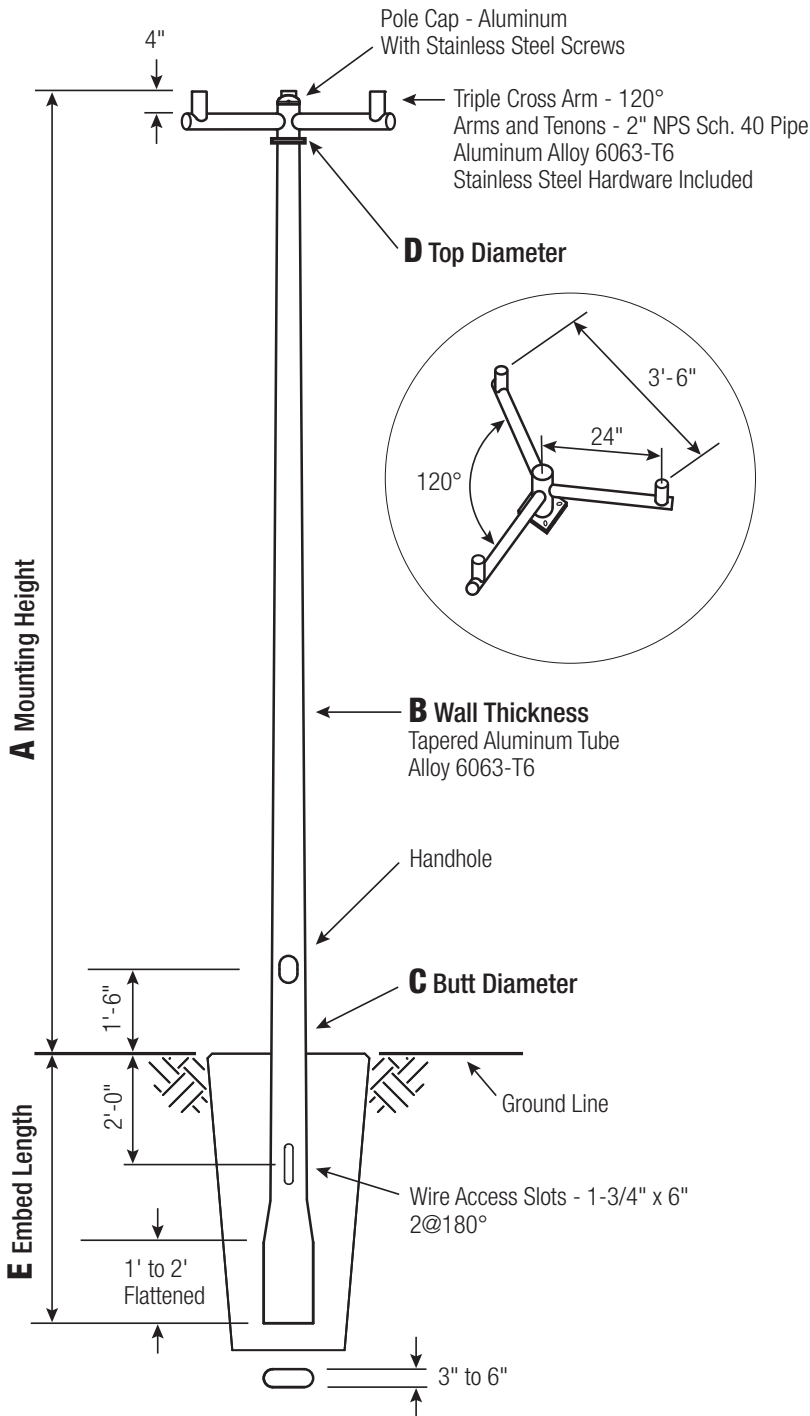


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Cross Arm 120° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

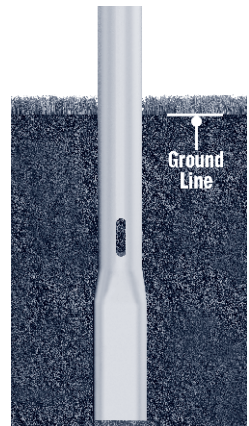
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



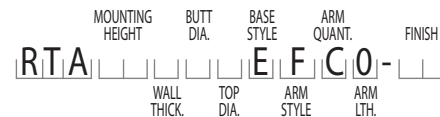
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	30	4.0	2.8	2.4	1.8	1.4	RTA20C6BEFCO-**
20	0.188"	6	35	5.0	3.8	3.4	2.6	2.0	RTA20D6BEFCO-**
20	0.156"	7	45	6.2	4.8	4.2	3.4	2.6	RTA20C7BEFCO-**
20	0.188"	7	65	8.0	6.0	5.4	4.4	3.4	RTA20D7BEFCO-**
20	0.188"	8	100	11.2	8.6	8.0	6.4	5.2	RTA20D8BEFCO-**
25	0.188"	6	25	3.0	2.0	1.6	1.2	-	RTA25D6BEFCO-**
25	0.156"	7	25	4.0	2.8	2.4	1.8	1.2	RTA25C7BEFCO-**
25	0.188"	7	30	5.2	3.8	3.4	2.6	2.0	RTA25D7BEFCO-**
25	0.156"	8	40	6.0	4.4	4.0	3.0	2.4	RTA25C8BEFCO-**
25	0.188"	8	60	7.6	5.8	5.2	4.2	3.2	RTA25D8BEFCO-**
25	0.219"	8	80	9.2	7.0	6.4	5.2	4.2	RTA25E8BEFCO-**
25	0.250"	8	100	10.8	8.2	7.6	6.0	5.0	RTA25F8BEFCO-**
30	0.188"	7	25	3.2	2.2	1.8	1.2	-	RTA30D7BEFCO-**
30	0.156"	8	30	4.0	2.8	2.4	1.6	1.2	RTA30C8BEFCO-**
30	0.188"	8	30	5.4	3.8	3.4	2.6	2.0	RTA30D8BEFCO-**
30	0.219"	8	45	6.6	4.8	4.4	3.4	2.6	RTA30E8BEFCO-**
30	0.250"	8	60	7.8	5.8	5.4	4.2	3.2	RTA30F8BEFCO-**
30	0.188"	10	90	10.2	7.8	7.2	5.8	4.6	RTA30D1CEFCO-**
30	0.219"	10	100	12.4	9.6	8.8	7.2	5.8	RTA30E1CEFCO-**
30	0.250"	10	100	14.4	11.4	10.4	8.6	7.0	RTA30F1CEFCO-**
35	0.188"	8	30	3.4	2.4	2.0	1.4	-	RTA35D8BEFCO-**
35	0.219"	8	30	4.6	3.2	2.8	2.0	1.4	RTA35E8BEFCO-**
35	0.250"	8	35	5.6	4.0	3.6	2.8	2.0	RTA35F8BEFCO-**
35	0.188"	10	60	7.6	5.8	5.2	4.2	3.2	RTA35D1CEFCO-**
35	0.219"	10	80	9.2	7.2	6.6	5.2	4.2	RTA35E1CEFCO-**
35	0.250"	10	100	11.0	8.4	7.8	6.2	5.0	RTA35F1CEFCO-**
40	0.188"	8	25	2.0	1.0	-	-	-	RTA40D8BEFCO-**
40	0.219"	8	35	3.0	1.8	1.4	-	-	RTA40E8BEFCO-**
40	0.250"	8	35	3.8	2.6	2.2	1.4	-	RTA40F8BEFCO-**
40	0.188"	10	35	5.6	4.2	3.8	2.8	2.2	RTA40D1CEFCO-**
40	0.219"	10	50	7.0	5.4	4.8	3.8	3.0	RTA40E1CEFCO-**
40	0.250"	10	70	8.4	6.4	5.8	4.6	3.6	RTA40F1CEFCO-**
40	0.312"	10	100	11.2	8.6	8.0	6.4	5.2	RTA40G1CEFCO-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E F C 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Cross Arm, Triple - 120°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- F = Cross Arm

Arm Quantity

- C = Triple - 120°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

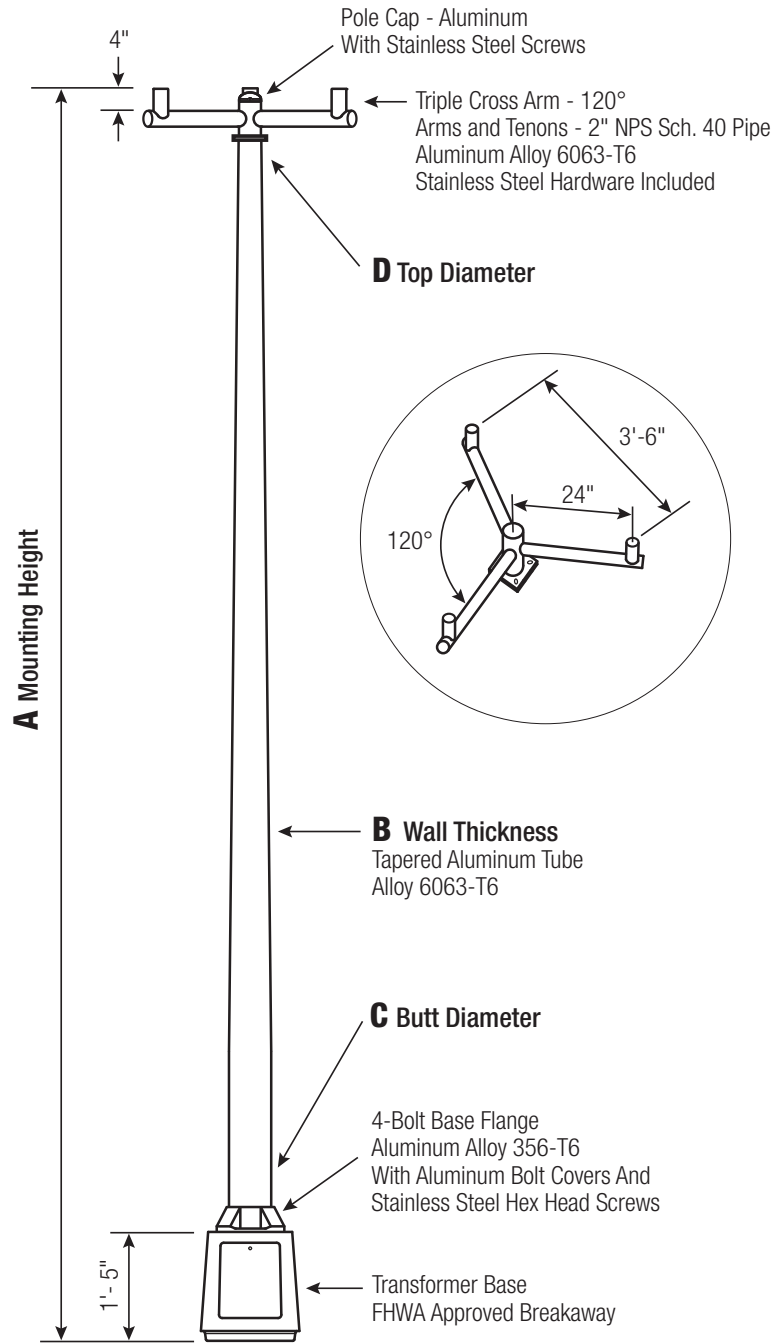


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Cross Arm 120° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

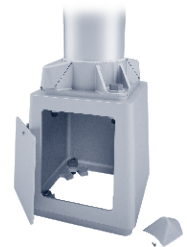
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



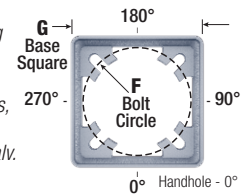
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

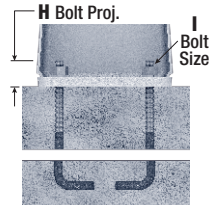


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



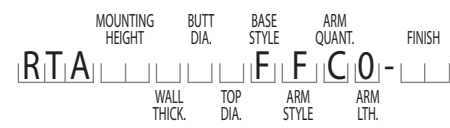
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	50	6.6	5.0	4.4	3.6	2.8	RTA20D7BFFCO-**
20	0.188"	8	85	9.2	7.2	6.6	5.2	4.2	RTA20D8BFFCO-**
25	0.188"	7	30	4.2	3.0	2.6	2.0	1.4	RTA25D7BFFCO-**
25	0.188"	8	45	6.4	4.8	4.2	3.4	2.6	RTA25D8BFFCO-**
25	0.219"	8	60	7.6	5.8	5.2	4.2	3.4	RTA25E8BFFCO-**
25	0.250"	8	75	9.0	6.8	6.2	5.0	4.0	RTA25F8BFFCO-**
30	0.188"	7	30	2.4	1.6	1.2	-	-	RTA30D7BFFCO-**
30	0.188"	8	30	4.2	3.0	2.6	2.0	1.4	RTA30D8BFFCO-**
30	0.219"	8	35	5.4	3.8	3.4	2.6	2.0	RTA30E8BFFCO-**
30	0.250"	8	45	6.4	4.8	4.2	3.2	2.6	RTA30F8BFFCO-**
30	0.188"	10	70	8.4	6.4	6.0	4.8	3.8	RTA30D1CFFCO-**
30	0.219"	10	90	10.2	7.8	7.2	5.8	4.8	RTA30E1CFFCO-**
30	0.250"	10	100	12.0	9.4	8.6	7.0	5.6	RTA30F1CFFCO-**
35	0.188"	8	30	2.6	1.6	1.4	-	-	RTA35D8BFFCO-**
35	0.219"	8	30	3.6	2.4	2.0	1.4	-	RTA35E8BFFCO-**
35	0.250"	8	30	4.4	3.2	2.8	2.0	1.4	RTA35F8BFFCO-**
35	0.188"	10	45	6.2	4.6	4.2	3.2	2.6	RTA35D1CFFCO-**
35	0.219"	10	60	7.6	5.8	5.4	4.2	3.2	RTA35E1CFFCO-**
35	0.250"	10	75	9.0	7.0	6.4	5.0	4.0	RTA35F1CFFCO-**
40	0.188"	8	30	1.4	-	-	-	-	RTA40D8BFFCO-**
40	0.219"	8	25	2.2	1.2	-	-	-	RTA40E8BFFCO-**
40	0.250"	8	35	2.8	1.8	1.4	-	-	RTA40F8BFFCO-**
40	0.188"	10	35	4.4	3.2	2.8	2.0	1.4	RTA40D1CFFCO-**
40	0.219"	10	35	5.6	4.2	3.8	2.8	2.2	RTA40E1CFFCO-**
40	0.250"	10	50	6.8	5.2	4.6	3.6	2.8	RTA40F1CFFCO-**
45	0.188"	10	25	3.0	2.0	1.8	1.2	-	RTA45D1CFFCO-**
45	0.219"	10	25	4.0	2.8	2.6	1.8	1.2	RTA45E1CFFCO-**
45	0.250"	10	30	5.2	3.8	3.4	2.6	1.8	RTA45F1CFFCO-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F F C 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Cross Arm, Triple - 120°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

F = Cross Arm

Arm Quantity

C = Triple - 120°

Arm Length

0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

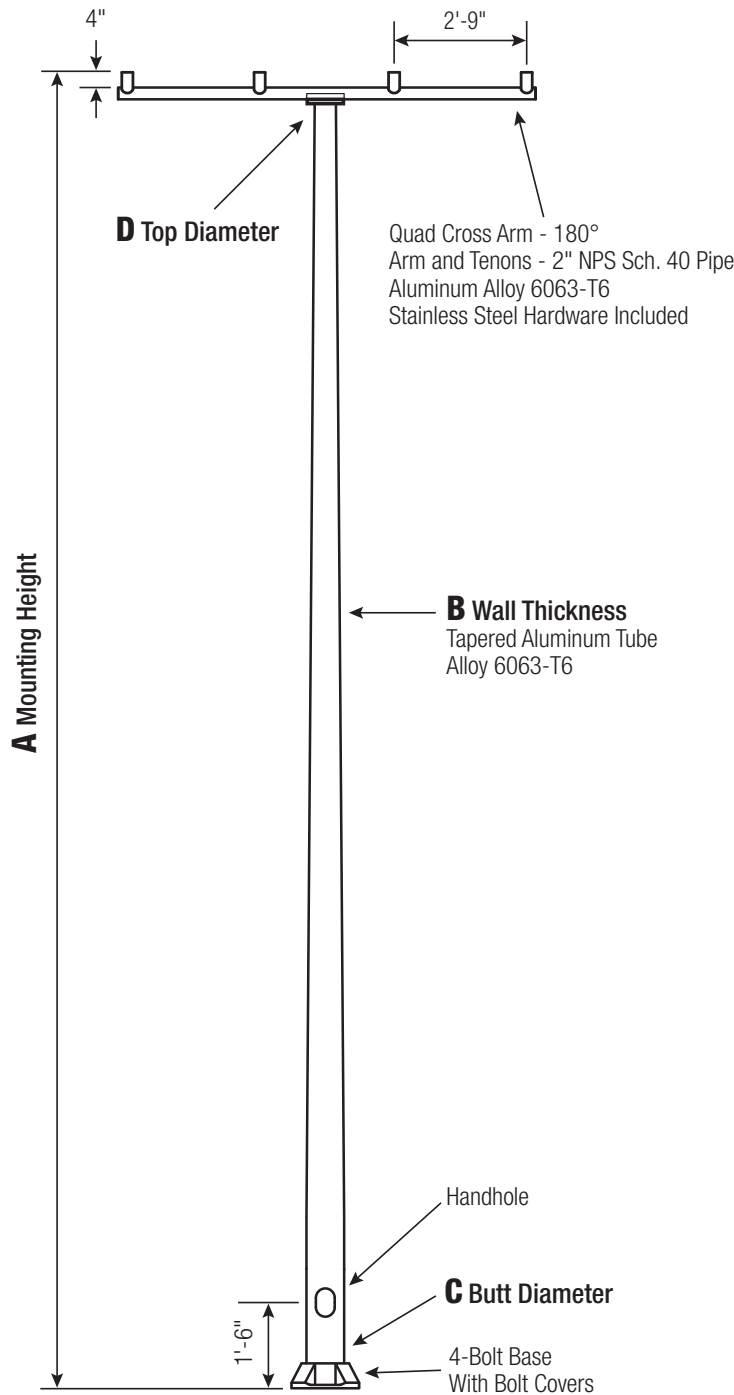


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Cross Arm 180° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

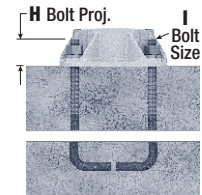
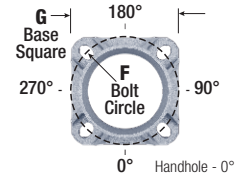
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	30	1.4	-	-	-	-	RTA20C6B4F40-**
20	0.188"	6	30	2.2	1.2	-	-	-	RTA20D6B4F40-**
20	0.156"	7	25	3.0	2.0	1.6	1.0	-	RTA20C7B4F40-**
20	0.188"	7	25	4.0	2.8	2.6	1.8	1.2	RTA20D7B4F40-**
20	0.188"	8	40	6.2	4.6	4.2	3.2	2.4	RTA20D8B4F40-**
25	0.156"	7	30	1.4	-	-	-	-	RTA25C7B4F40-**
25	0.188"	7	25	2.2	1.2	-	-	-	RTA25D7B4F40-**
25	0.156"	8	30	2.8	1.8	1.4	-	-	RTA25C8B4F40-**
25	0.188"	8	35	3.8	2.6	2.2	1.6	-	RTA25D8B4F40-**
25	0.219"	8	25	5.0	3.6	3.2	2.2	1.6	RTA25E8B4F40-**
25	0.250"	8	35	6.0	4.4	3.8	3.0	2.2	RTA25F8B4F40-**
30	0.156"	8	30	1.2	-	-	-	-	RTA30C8B4F40-**
30	0.188"	8	25	2.2	1.2	-	-	-	RTA30D8B4F40-**
30	0.219"	8	35	3.0	2.0	1.6	-	-	RTA30E8B4F40-**
30	0.250"	8	35	3.8	2.6	2.2	1.6	-	RTA30F8B4F40-**
30	0.188"	10	30	5.6	4.0	3.6	2.8	2.0	RTA30D1C4F40-**
30	0.219"	10	45	6.8	5.2	4.6	3.6	2.8	RTA30E1C4F40-**
30	0.250"	10	60	8.2	6.2	5.6	4.4	3.4	RTA30F1C4F40-**
35	0.219"	8	35	1.6	-	-	-	-	RTA35E8B4F40-**
35	0.250"	8	25	2.4	1.4	1.0	-	-	RTA35F8B4F40-**
35	0.188"	10	35	3.6	2.6	2.2	1.4	-	RTA35D1C4F40-**
35	0.219"	10	25	4.8	3.4	3.2	2.2	1.6	RTA35E1C4F40-**
35	0.250"	10	35	6.0	4.4	4.0	3.0	2.2	RTA35F1C4F40-**
40	0.250"	8	25	1.2	-	-	-	-	RTA40F8B4F40-**
40	0.188"	10	25	2.2	1.4	1.2	-	-	RTA40D1C4F40-**
40	0.219"	10	25	3.2	2.2	1.8	1.2	-	RTA40E1C4F40-**
40	0.250"	10	25	4.2	3.0	2.6	1.8	1.2	RTA40F1C4F40-**
40	0.312"	10	35	6.0	4.4	4.0	3.0	2.2	RTA40G1C4F40-**
45	0.188"	10	25	1.2	-	-	-	-	RTA45D1C4F40-**
45	0.219"	10	25	2.0	1.2	-	-	-	RTA45E1C4F40-**
45	0.250"	10	35	2.8	1.8	1.4	-	-	RTA45F1C4F40-**
45	0.312"	10	30	4.4	3.0	2.8	2.0	1.2	RTA45G1C4F40-**
45	0.250"	12	35	6.2	4.4	4.0	3.0	2.2	RTA45F2C4F40-**
45	0.312"	12	60	8.4	6.2	5.8	4.4	3.4	RTA45G2C4F40-**
45	0.375"	12	75	9.5	7.2	6.6	5.1	3.9	RTA45H2C4F40-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 F 4 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Cross Arm, Quad - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- F = Cross Arm

Arm Quantity

- 4 = Quad - 180°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

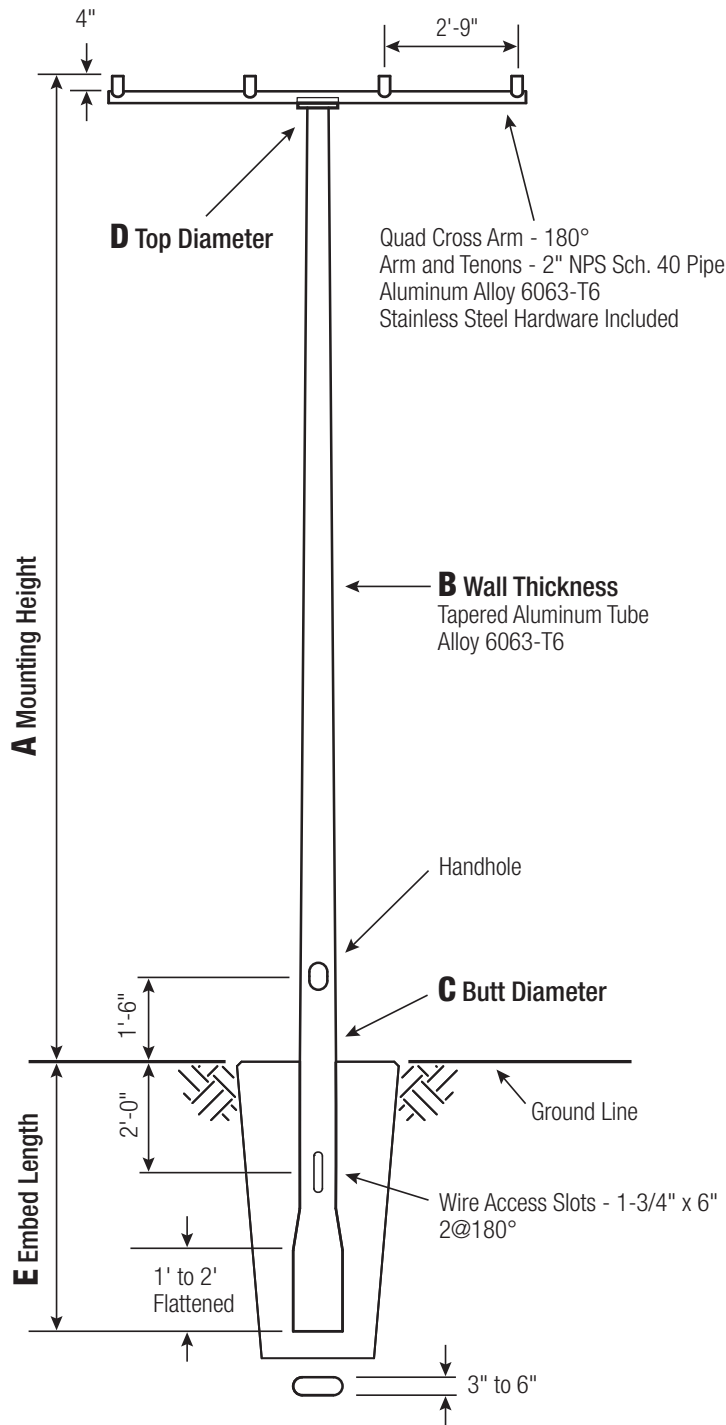


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Cross Arm 180° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

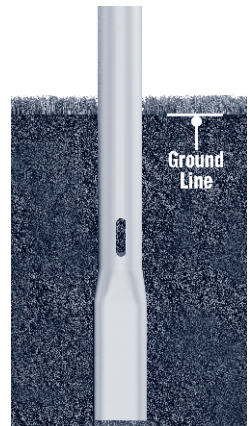
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	2.0	1.2	-	-	-	RTA20C6BEF40-**
20	0.188"	6	35	2.8	1.8	1.6	-	-	RTA20D6BEF40-**
20	0.156"	7	25	3.8	2.6	2.4	1.6	1.0	RTA20C7BEF40-**
20	0.188"	7	25	5.2	3.6	3.4	2.4	1.8	RTA20D7BEF40-**
20	0.188"	8	55	7.6	5.6	5.2	4.0	3.0	RTA20D8BEF40-**
25	0.188"	6	25	1.2	-	-	-	-	RTA25D6BEF40-**
25	0.156"	7	25	2.0	1.2	-	-	-	RTA25C7BEF40-**
25	0.188"	7	35	3.0	1.8	1.6	-	-	RTA25D7BEF40-**
25	0.156"	8	35	3.6	2.4	2.0	1.4	-	RTA25C8BEF40-**
25	0.188"	8	25	5.0	3.6	3.2	2.2	1.6	RTA25D8BEF40-**
25	0.219"	8	40	6.0	4.4	4.0	3.0	2.2	RTA25E8BEF40-**
25	0.250"	8	50	7.2	5.4	4.8	3.8	2.8	RTA25F8BEF40-**
30	0.188"	7	30	1.4	-	-	-	-	RTA30D7BEF40-**
30	0.156"	8	25	2.0	1.0	-	-	-	RTA30C8BEF40-**
30	0.188"	8	35	3.0	1.8	1.6	-	-	RTA30D8BEF40-**
30	0.219"	8	25	4.0	2.8	2.4	1.6	1.0	RTA30E8BEF40-**
30	0.250"	8	25	5.0	3.6	3.2	2.2	1.6	RTA30F8BEF40-**
30	0.188"	10	45	6.8	5.0	4.6	3.6	2.6	RTA30D1CEF40-**
30	0.219"	10	65	8.4	6.4	5.8	4.4	3.6	RTA30E1CEF40-**
30	0.250"	10	80	9.8	7.6	6.8	5.4	4.4	RTA30F1CEF40-**
35	0.188"	8	35	1.6	-	-	-	-	RTA35D8BEF40-**
35	0.219"	8	25	2.4	1.4	1.2	-	-	RTA35E8BEF40-**
35	0.250"	8	25	3.2	2.0	1.8	1.0	-	RTA35F8BEF40-**
35	0.188"	10	35	4.8	3.4	3.0	2.2	1.6	RTA35D1CEF40-**
35	0.219"	10	35	6.2	4.6	4.0	3.0	2.2	RTA35E1CEF40-**
35	0.250"	10	50	7.4	5.6	5.0	3.8	3.0	RTA35F1CEF40-**
40	0.219"	8	25	1.2	-	-	-	-	RTA40E8BEF40-**
40	0.250"	8	40	1.8	-	-	-	-	RTA40F8BEF40-**
40	0.188"	10	25	3.2	2.2	1.8	1.2	-	RTA40D1CEF40-**
40	0.219"	10	30	4.4	3.0	2.8	2.0	1.2	RTA40E1CEF40-**
40	0.250"	10	30	5.4	4.0	3.6	2.6	1.8	RTA40F1CEF40-**
40	0.312"	10	50	7.6	5.6	5.2	4.0	3.0	RTA40G1CEF40-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E F 4 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Cross Arm, Quad - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- F = Cross Arm

Arm Quantity

- 4 = Quad - 180°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

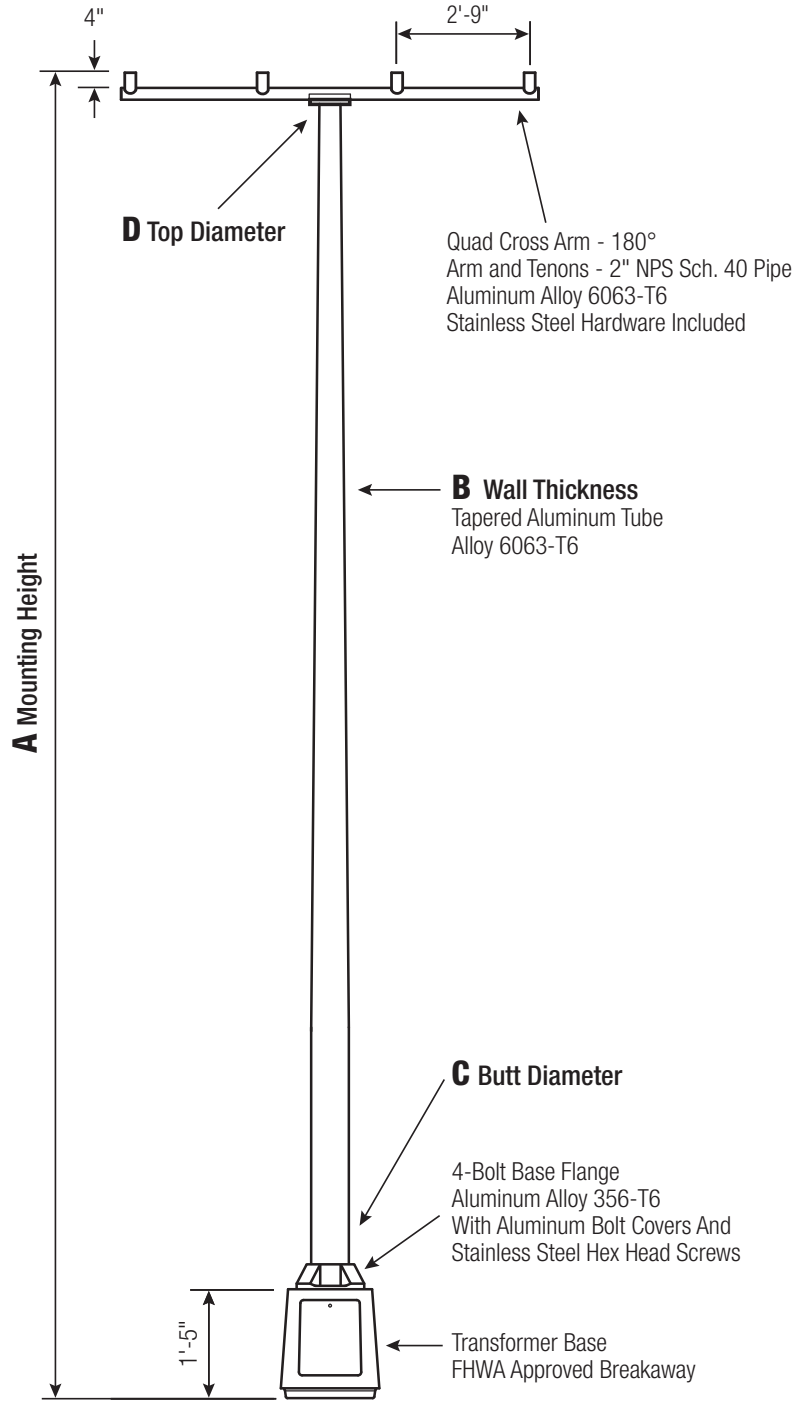


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Cross Arm 180° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10 Up To .250"	6	15	15.375	3.5	1 x 48 x 4
10 .312"	6	17.25	17.4375	3.5	1.25 x 48 x 6

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

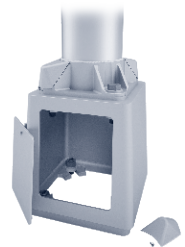
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



Handhole

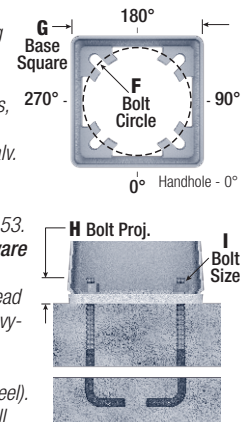
7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.



Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.

Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



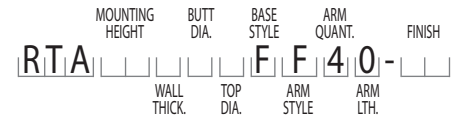
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A MTG. HGT.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	25	4.0	2.8	2.6	1.8	1.2	RTA20D7BFF40-**
20	0.188"	8	40	6.2	4.6	4.0	3.2	2.4	RTA20D8BFF40-**
25	0.188"	7	25	2.2	1.4	1.0	-	-	RTA25D7BFF40-**
25	0.188"	8	25	3.8	2.6	2.4	1.6	1.0	RTA25D8BFF40-**
25	0.219"	8	25	5.0	3.6	3.2	2.2	1.6	RTA25E8BFF40-**
25	0.250"	8	35	5.8	4.2	3.8	2.8	2.2	RTA25F8BFF40-**
30	0.188"	8	25	2.2	1.4	1.0	-	-	RTA30D8BFF40-**
30	0.219"	8	25	3.0	2.0	1.6	1.0	-	RTA30E8BFF40-**
30	0.250"	8	35	3.8	2.6	2.2	1.6	-	RTA30F8BFF40-**
30	0.188"	10	30	5.4	4.0	3.6	2.6	2.0	RTA30D1CFF40-**
30	0.219"	10	45	6.8	5.0	4.6	3.6	2.6	RTA30E1CFF40-**
30	0.250"	10	60	8.0	6.0	5.6	4.4	3.4	RTA30F1CFF40-**
35	0.219"	8	35	1.6	-	-	-	-	RTA35E8BFF40-**
35	0.250"	8	25	2.4	1.4	1.2	-	-	RTA35F8BFF40-**
35	0.188"	10	35	3.6	2.6	2.2	1.6	-	RTA35D1CFF40-**
35	0.219"	10	25	4.8	3.6	3.2	2.2	1.6	RTA35E1CFF40-**
35	0.250"	10	35	6.0	4.4	4.0	3.0	2.2	RTA35F1CFF40-**
40	0.250"	8	25	1.2	-	-	-	-	RTA40F8BFF40-**
40	0.188"	10	25	2.4	1.4	1.2	-	-	RTA40D1CFF40-**
40	0.219"	10	25	3.2	2.2	2.0	1.2	-	RTA40E1CFF40-**
40	0.250"	10	25	4.2	3.0	2.6	1.8	1.2	RTA40F1CFF40-**
40	0.312"	10	35	6.0	4.4	4.0	3.0	2.2	RTA40G1CFF40-**
45	0.188"	10	25	1.2	-	-	-	-	RTA45D1CFF40-**
45	0.219"	10	25	2.0	1.2	-	-	-	RTA45E1CFF40-**
45	0.250"	10	35	2.8	1.8	1.6	-	-	RTA45F1CFF40-**
45	0.312"	10	30	4.4	3.2	2.8	2.0	1.2	RTA45G1CFF40-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F F 4 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Cross Arm, Quad - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- F = Cross Arm

Arm Quantity

- 4 = Quad - 180°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

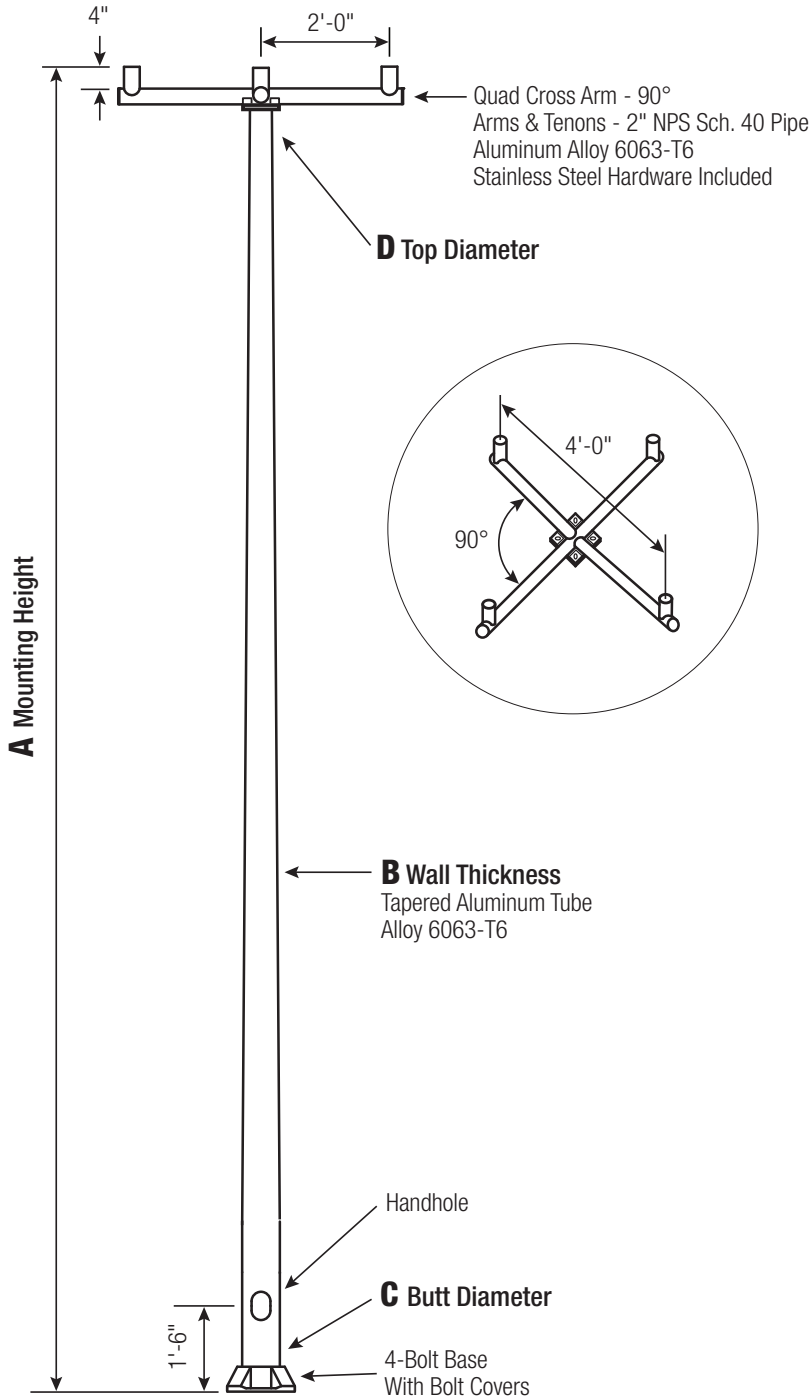


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Cross Arm 90° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

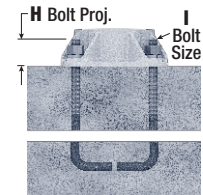
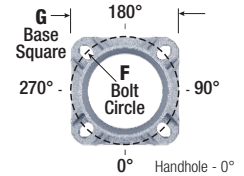
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	1.8	1.0	-	-	-	RTA20C6B4FD0-**
20	0.188"	6	30	2.6	1.8	1.4	-	-	RTA20D6B4FD0-**
20	0.156"	7	35	3.4	2.4	2.0	1.4	-	RTA20C7B4FD0-**
20	0.188"	7	25	4.6	3.2	3.0	2.2	1.6	RTA20D7B4FD0-**
20	0.188"	8	50	6.6	5.0	4.6	3.6	2.8	RTA20D8B4FD0-**
25	0.188"	6	25	1.2	-	-	-	-	RTA25D6B4FD0-**
25	0.156"	7	40	1.8	-	-	-	-	RTA25C7B4FD0-**
25	0.188"	7	30	2.6	1.6	1.4	-	-	RTA25D7B4FD0-**
25	0.156"	8	30	3.2	2.2	1.8	1.2	-	RTA25C8B4FD0-**
25	0.188"	8	25	4.4	3.0	2.8	2.0	1.4	RTA25D8B4FD0-**
25	0.219"	8	35	5.4	4.0	3.6	2.6	2.0	RTA25E8B4FD0-**
25	0.250"	8	45	6.4	4.8	4.2	3.4	2.6	RTA25F8B4FD0-**
30	0.188"	7	30	1.2	-	-	-	-	RTA30D7B4FD0-**
30	0.156"	8	40	1.6	-	-	-	-	RTA30C8B4FD0-**
30	0.188"	8	30	2.6	1.6	1.4	-	-	RTA30D8B4FD0-**
30	0.219"	8	30	3.4	2.4	2.0	1.4	-	RTA30E8B4FD0-**
30	0.250"	8	30	4.4	3.0	2.8	2.0	1.4	RTA30F8B4FD0-**
30	0.188"	10	40	6.0	4.4	4.0	3.2	2.4	RTA30D1C4FD0-**
30	0.219"	10	55	7.2	5.6	5.0	4.0	3.2	RTA30E1C4FD0-**
30	0.250"	10	70	8.6	6.6	6.0	4.8	3.8	RTA30F1C4FD0-**
35	0.188"	8	30	1.4	-	-	-	-	RTA35D8B4FD0-**
35	0.219"	8	25	2.2	1.2	-	-	-	RTA35E8B4FD0-**
35	0.250"	8	35	2.8	1.8	1.4	-	-	RTA35F8B4FD0-**
35	0.188"	10	30	4.2	3.0	2.6	2.0	1.4	RTA35D1C4FD0-**
35	0.219"	10	35	5.2	4.0	3.6	2.6	2.0	RTA35E1C4FD0-**
35	0.250"	10	45	6.4	4.8	4.4	3.4	2.6	RTA35F1C4FD0-**
40	0.250"	8	35	1.6	-	-	-	-	RTA40F8B4FD0-**
40	0.188"	10	35	2.6	1.8	1.6	-	-	RTA40D1C4FD0-**
40	0.219"	10	25	3.8	2.6	2.4	1.6	1.2	RTA40E1C4FD0-**
40	0.250"	10	25	4.6	3.4	3.0	2.2	1.6	RTA40F1C4FD0-**
40	0.312"	10	45	6.4	4.8	4.4	3.4	2.6	RTA40G1C4FD0-**
45	0.188"	10	35	1.6	-	-	-	-	RTA45D1C4FD0-**
45	0.219"	10	30	2.4	1.6	1.4	-	-	RTA45E1C4FD0-**
45	0.250"	10	30	3.2	2.2	2.0	1.4	-	RTA45F1C4FD0-**
45	0.312"	10	25	5.0	3.6	3.2	2.4	1.8	RTA45G1C4FD0-**
45	0.250"	12	45	6.6	4.8	4.4	3.4	2.6	RTA45F2C4FD0-**
45	0.312"	12	70	8.8	6.8	6.2	4.8	3.8	RTA45G2C4FD0-**
45	0.375"	12	85	10.0	7.7	7.0	5.5	4.4	RTA45H2C4FD0-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 F D 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Cross Arm, Quad - 90°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- F = Cross Arm

Arm Quantity

- D = Quad - 90°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

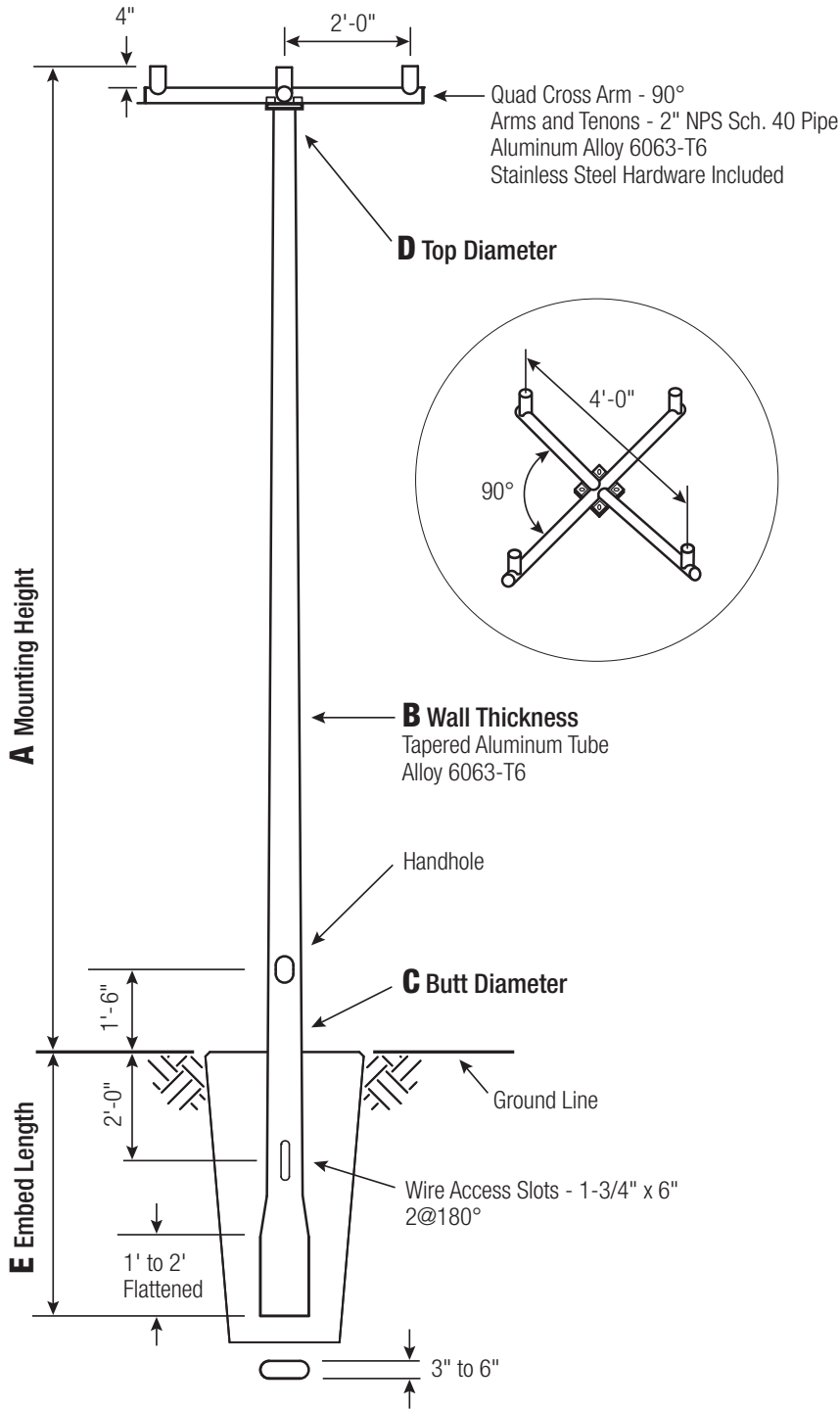


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Cross Arm 90° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

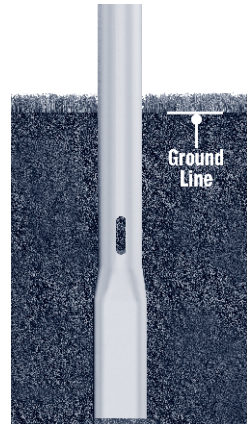
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	30	2.4	1.6	1.4	-	-	RTA20C6BEFDO-**
20	0.188"	6	30	3.4	2.4	2.0	1.4	-	RTA20D6BEFDO-**
20	0.156"	7	25	4.4	3.2	2.8	2.0	1.6	RTA20C7BEFDO-**
20	0.188"	7	40	5.6	4.0	3.6	2.8	2.2	RTA20D7BEFDO-**
20	0.188"	8	65	8.0	6.0	5.6	4.4	3.6	RTA20D8BEFDO-**
25	0.188"	6	35	1.6	-	-	-	-	RTA25D6BEFDO-**
25	0.156"	7	30	2.4	1.6	1.4	-	-	RTA25C7BEFDO-**
25	0.188"	7	30	3.4	2.4	2.0	1.4	-	RTA25D7BEFDO-**
25	0.156"	8	30	4.0	2.8	2.6	1.8	1.4	RTA25C8BEFDO-**
25	0.188"	8	35	5.4	4.0	3.6	2.6	2.0	RTA25D8BEFDO-**
25	0.219"	8	50	6.4	4.8	4.4	3.4	2.6	RTA25E8BEFDO-**
25	0.250"	8	60	7.6	5.8	5.2	4.2	3.2	RTA25F8BEFDO-**
30	0.188"	7	25	2.0	1.2	-	-	-	RTA30D7BEFDO-**
30	0.156"	8	30	2.4	1.6	1.2	-	-	RTA30C8BEFDO-**
30	0.188"	8	30	3.4	2.4	2.0	1.4	-	RTA30D8BEFDO-**
30	0.219"	8	25	4.6	3.2	2.8	2.2	1.6	RTA30E8BEFDO-**
30	0.250"	8	35	5.4	4.0	3.6	2.6	2.0	RTA30F8BEFDO-**
30	0.188"	10	55	7.2	5.4	5.0	4.0	3.0	RTA30D1CEFDO-**
30	0.219"	10	75	8.8	6.8	6.2	5.0	4.0	RTA30E1CEFDO-**
30	0.250"	10	90	10.2	8.0	7.2	5.8	4.8	RTA30F1CEFDO-**
35	0.188"	8	25	2.2	1.2	-	-	-	RTA35D8BEFDO-**
35	0.219"	8	35	2.8	1.8	1.6	-	-	RTA35E8BEFDO-**
35	0.250"	8	25	3.8	2.6	2.2	1.6	1.0	RTA35F8BEFDO-**
35	0.188"	10	35	5.2	4.0	3.6	2.6	2.0	RTA35D1CEFDO-**
35	0.219"	10	50	6.6	5.0	4.4	3.4	2.6	RTA35E1CEFDO-**
35	0.250"	10	60	7.8	6.0	5.4	4.2	3.4	RTA35F1CEFDO-**
40	0.188"	8	25	1.0	-	-	-	-	RTA40D8BEFDO-**
40	0.219"	8	35	1.6	-	-	-	-	RTA40E8BEFDO-**
40	0.250"	8	25	2.4	1.4	1.2	-	-	RTA40F8BEFDO-**
40	0.188"	10	25	3.8	2.6	2.4	1.6	1.2	RTA40D1CEFDO-**
40	0.219"	10	25	4.8	3.6	3.2	2.4	1.8	RTA40E1CEFDO-**
40	0.250"	10	40	5.8	4.4	4.0	3.0	2.4	RTA40F1CEFDO-**
40	0.312"	10	65	8.0	6.0	5.6	4.4	3.4	RTA40G1CEFDO-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E F D 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Cross Arm, Quad - 90°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- F = Cross Arm

Arm Quantity

- D = Quad - 90°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

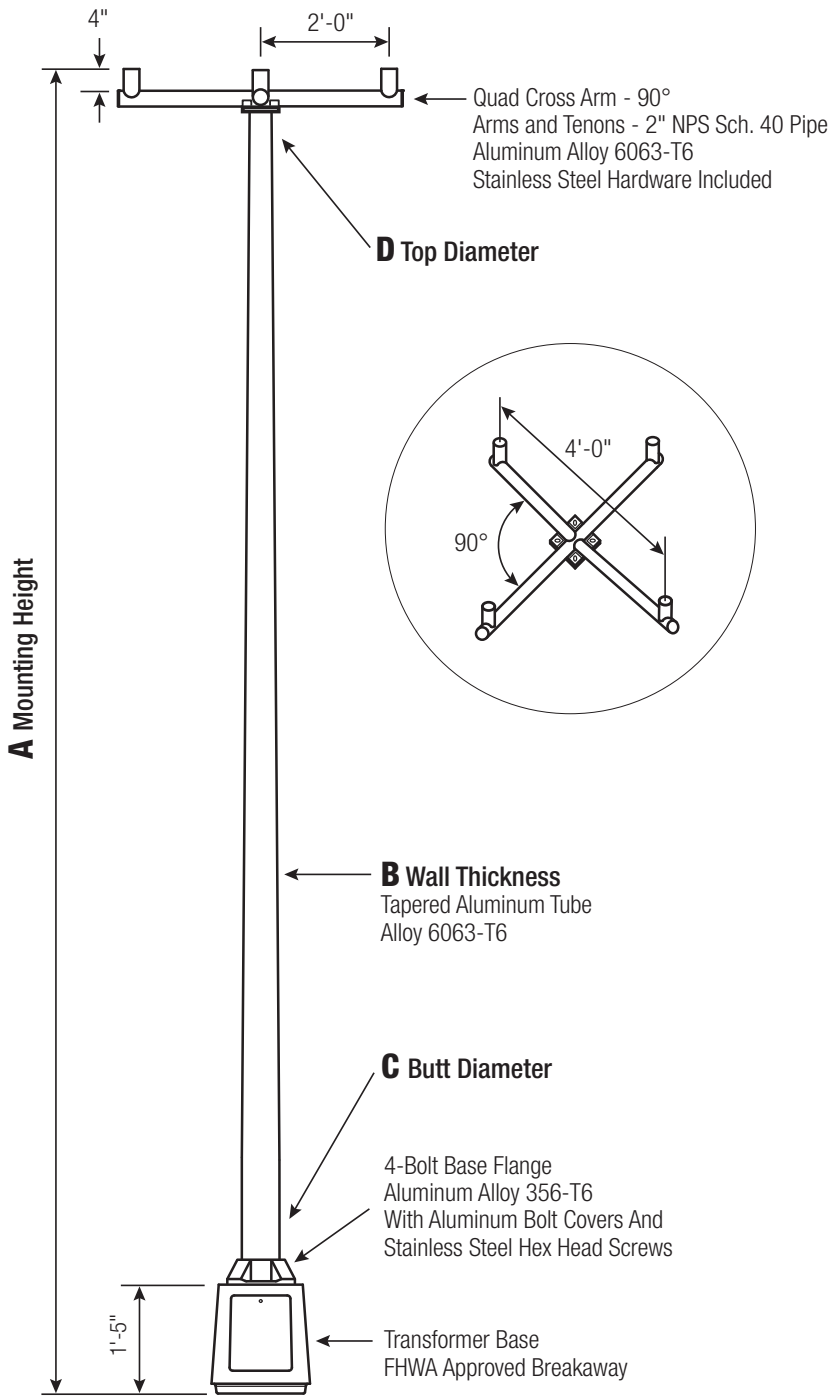


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Cross Arm 90° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10 Up To .250"	6	15	15.375	3.5	1 x 48 x 4
10 .312"	6	17.25	17.4375	3.5	1.25 x 48 x 6

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

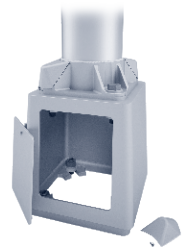
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



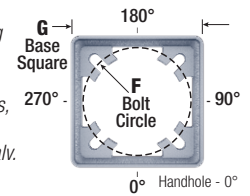
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

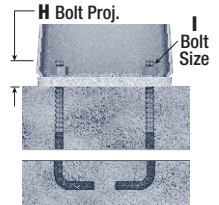


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



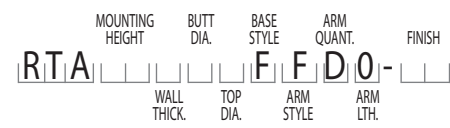
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	25	4.4	3.2	3.0	2.2	1.6	RTA20D7BFFD0-**-
20	0.188"	8	50	6.6	5.0	4.6	3.6	2.8	RTA20D8BFFD0-**-
25	0.188"	7	35	2.6	1.8	1.4	-	-	RTA25D7BFFD0-**-
25	0.188"	8	25	4.4	3.2	2.8	2.0	1.6	RTA25D8BFFD0-**-
25	0.219"	8	35	5.4	4.0	3.6	2.6	2.0	RTA25E8BFFD0-**-
25	0.250"	8	45	6.2	4.8	4.2	3.4	2.6	RTA25F8BFFD0-**-
30	0.188"	7	30	1.4	-	-	-	-	RTA30D7BFFD0-**-
30	0.188"	8	35	2.6	1.8	1.4	-	-	RTA30D8BFFD0-**-
30	0.219"	8	35	3.4	2.4	2.2	1.4	-	RTA30E8BFFD0-**-
30	0.250"	8	30	4.4	3.0	2.8	2.0	1.4	RTA30F8BFFD0-**-
30	0.188"	10	40	5.8	4.4	4.0	3.2	2.4	RTA30D1CFFD0-**-
30	0.219"	10	55	7.2	5.4	5.0	4.0	3.2	RTA30E1CFFD0-**-
30	0.250"	10	70	8.4	6.6	6.0	4.8	3.8	RTA30F1CFFD0-**-
35	0.188"	8	30	1.4	-	-	-	-	RTA35D8BFFD0-**-
35	0.219"	8	25	2.2	1.4	1.0	-	-	RTA35E8BFFD0-**-
35	0.250"	8	35	2.8	1.8	1.6	-	-	RTA35F8BFFD0-**-
35	0.188"	10	30	4.2	3.0	2.8	2.0	1.4	RTA35D1CFFD0-**-
35	0.219"	10	35	5.2	4.0	3.6	2.6	2.0	RTA35E1CFFD0-**-
35	0.250"	10	45	6.4	4.8	4.4	3.4	2.6	RTA35F1CFFD0-**-
40	0.219"	8	25	1.0	-	-	-	-	RTA40E8BFFD0-**-
40	0.250"	8	35	1.6	-	-	-	-	RTA40F8BFFD0-**-
40	0.188"	10	25	2.8	1.8	1.6	1.0	-	RTA40D1CFFD0-**-
40	0.219"	10	25	3.8	2.6	2.4	1.8	1.2	RTA40E1CFFD0-**-
40	0.250"	10	25	4.8	3.4	3.2	2.4	1.6	RTA40F1CFFD0-**-
40	0.312"	10	45	6.4	4.8	4.4	3.4	2.6	RTA40G1CFFD0-**-
45	0.188"	10	35	1.6	-	-	-	-	RTA45D1CFFD0-**-
45	0.219"	10	30	2.4	1.6	1.4	-	-	RTA45E1CFFD0-**-
45	0.250"	10	30	3.2	2.2	2.0	1.4	-	RTA45F1CFFD0-**-
45	0.312"	10	25	5.0	3.6	3.2	2.4	1.8	RTA45G1CFFD0-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F F D 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Cross Arm, Quad - 90°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- F = Cross Arm

Arm Quantity

- D = Quad - 90°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

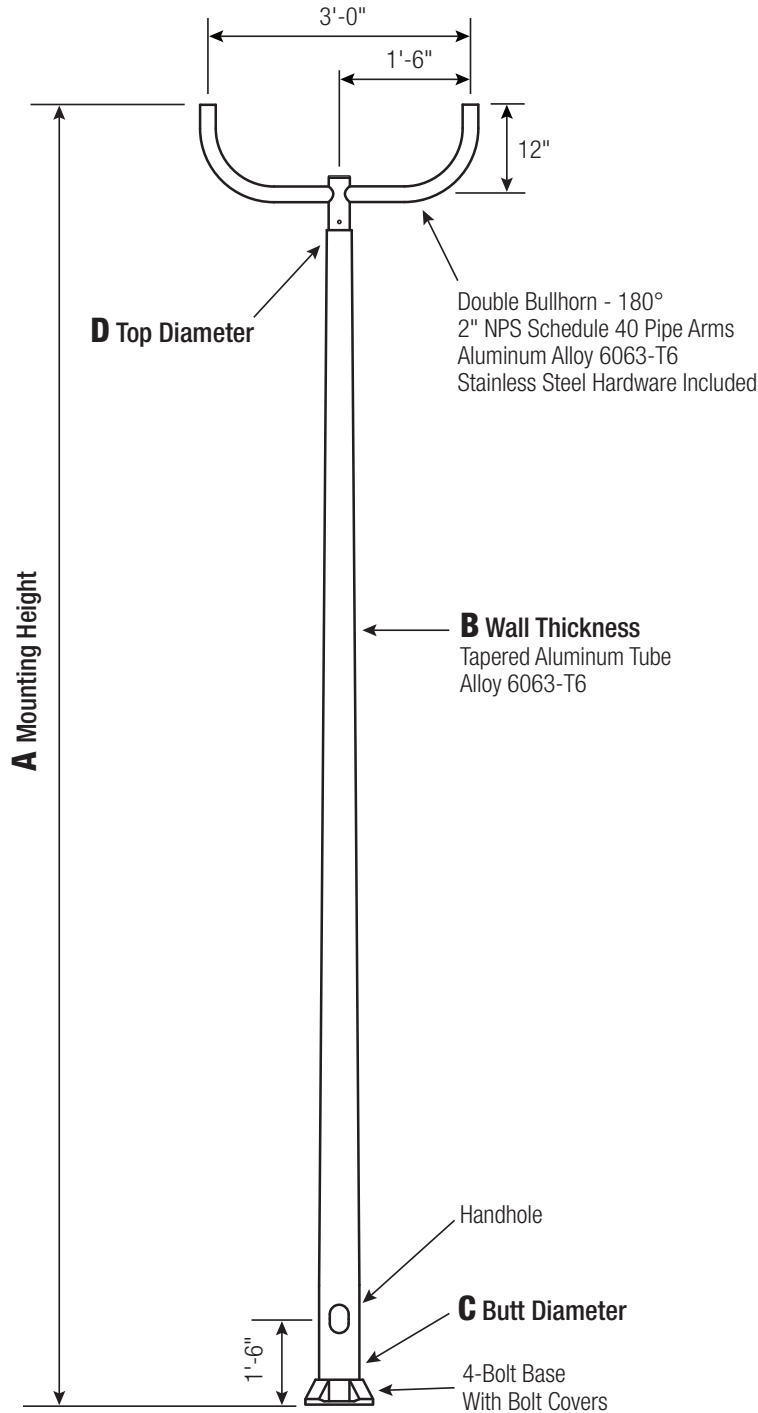


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Bullhorn — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

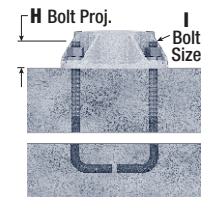
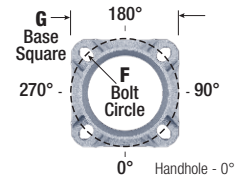
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

WARNING: Do not install light pole without luminaire.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	40	5.8	4.2	3.8	3.0	2.4	RTA20C6B4B20-**
20	0.188"	6	60	7.2	5.4	5.0	4.0	3.2	RTA20D6B4B20-**
20	0.156"	7	80	8.8	6.8	6.2	5.0	4.0	RTA20C7B4B20-**
20	0.188"	7	100	11.0	8.4	7.8	6.2	5.2	RTA20D7B4B20-**
20	0.188"	8	100	11.8	10.2	8.6	7.4	6.0	RTA20D8B4B20-**
25	0.188"	6	25	4.6	3.2	2.8	2.0	1.6	RTA25D6B4B20-**
25	0.156"	7	40	5.8	4.2	3.8	2.8	2.2	RTA25C7B4B20-**
25	0.188"	7	60	7.4	5.4	5.0	3.8	3.0	RTA25D7B4B20-**
25	0.156"	8	70	8.4	6.4	5.8	4.6	3.8	RTA25C8B4B20-**
25	0.188"	8	100	10.6	8.0	7.4	6.0	4.8	RTA25D8B4B20-**
25	0.219"	8	100	11.8	9.8	8.6	7.4	6.0	RTA25E8B4B20-**
25	0.250"	8	100	11.8	10.2	8.6	7.4	6.0	RTA25F8B4B20-**
30	0.188"	7	25	4.8	3.4	3.0	2.2	1.6	RTA30D7B4B20-**
30	0.156"	8	35	5.8	4.2	3.6	2.8	2.2	RTA30C8B4B20-**
30	0.188"	8	55	7.4	5.6	5.0	3.8	3.0	RTA30D8B4B20-**
30	0.219"	8	75	9.0	6.8	6.2	5.0	4.0	RTA30E8B4B20-**
30	0.250"	8	95	10.6	8.0	7.4	5.8	4.8	RTA30F8B4B20-**
30	0.188"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30D1C4B20-**
30	0.219"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30E1C4B20-**
30	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30F1C4B20-**
35	0.188"	8	25	5.2	3.6	3.2	2.4	1.8	RTA35D8B4B20-**
35	0.219"	8	45	6.4	4.6	4.2	3.2	2.4	RTA35E8B4B20-**
35	0.250"	8	60	7.8	5.6	5.2	4.0	3.2	RTA35F8B4B20-**
35	0.188"	10	90	10.4	8.0	7.4	5.8	4.8	RTA35D1C4B20-**
35	0.219"	10	100	11.8	9.8	8.6	7.4	6.0	RTA35E1C4B20-**
35	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA35F1C4B20-**
40	0.188"	8	35	3.2	1.8	1.6	-	-	RTA40D8B4B20-**
40	0.219"	8	25	4.4	2.8	2.6	1.8	1.2	RTA40E8B4B20-**
40	0.250"	8	30	5.6	3.8	3.4	2.4	1.8	RTA40F8B4B20-**
40	0.188"	10	60	7.6	5.8	5.2	4.2	3.2	RTA40D1C4B20-**
40	0.219"	10	80	9.6	7.4	6.8	5.4	4.2	RTA40E1C4B20-**
40	0.250"	10	100	11.4	8.8	8.0	6.4	5.2	RTA40F1C4B20-**
40	0.312"	10	100	11.8	10.2	8.6	7.4	6.0	RTA40G1C4B20-**
45	0.188"	10	30	5.6	4.0	3.6	2.8	2.0	RTA45D1C4B20-**
45	0.219"	10	50	7.2	5.4	4.8	3.8	2.8	RTA45E1C4B20-**
45	0.250"	10	70	8.6	6.6	6.0	4.8	3.6	RTA45F1C4B20-**
45	0.312"	10	100	11.8	9.0	8.4	6.6	5.4	RTA45G1C4B20-**
45	0.250"	12	100	11.8	10.2	8.6	7.4	6.0	RTA45F2C4B20-**
45	0.312"	12	100	11.8	10.2	8.6	7.4	6.0	RTA45G2C4B20-**
45	0.375"	12	100	11.8	10.2	8.6	7.4	6.0	RTA45H2C4B20-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 B 2 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Bullhorn Arm, Double, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

- 2 = Double

Arm Length

- 0 = Standard Length

Finish

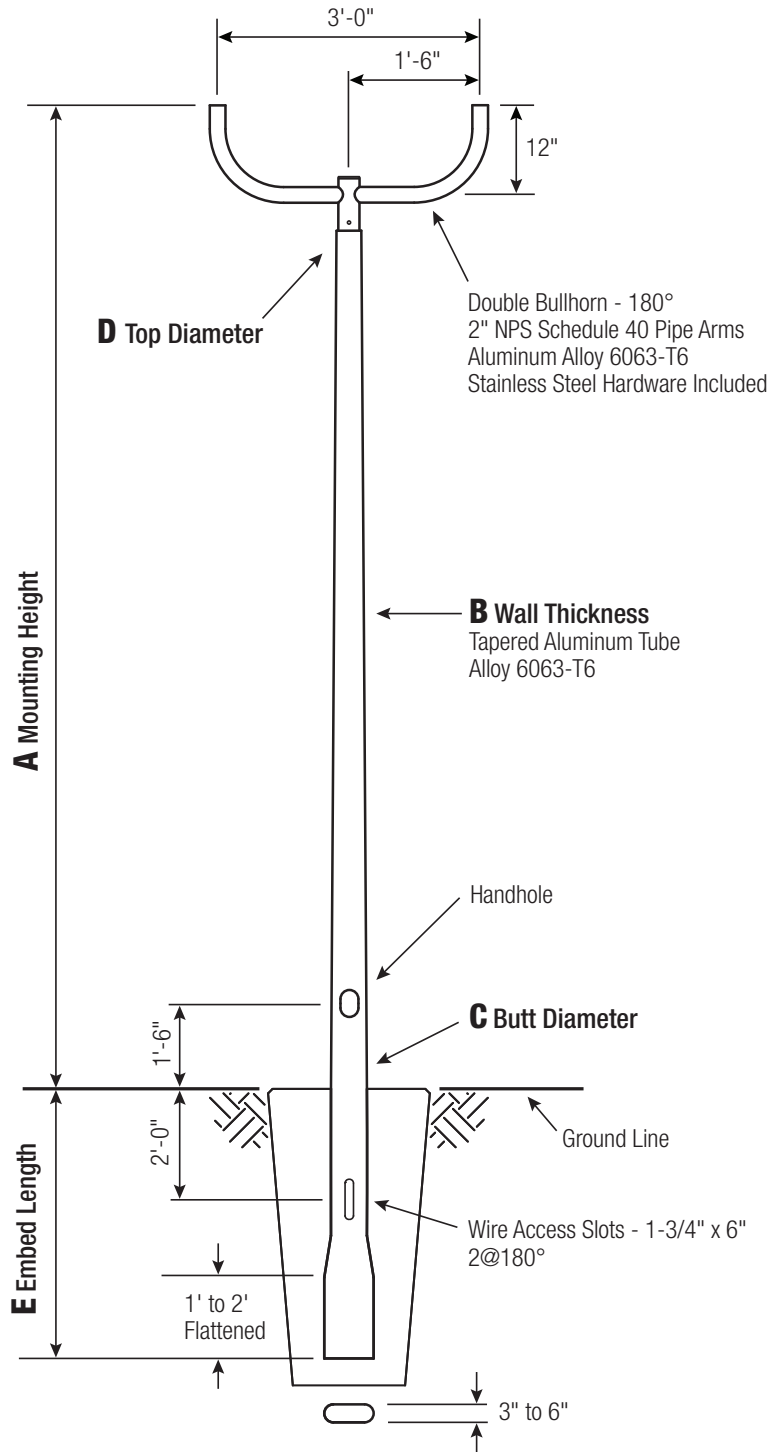
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Bullhorn — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

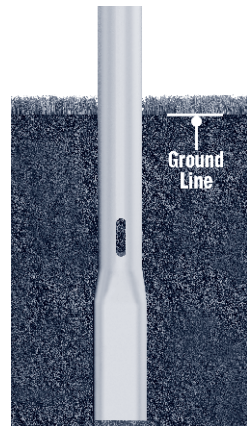
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	55	7.0	5.2	4.8	3.8	3.0	RTA20C6BEB20-**
20	0.188"	6	75	8.8	6.6	6.0	4.8	4.0	RTA20D6BEB20-**
20	0.156"	7	100	10.4	8.0	7.4	6.0	5.0	RTA20C7BEB20-**
20	0.188"	7	100	11.8	10.2	8.6	7.4	6.0	RTA20D7BEB20-**
20	0.188"	8	100	11.8	10.2	8.6	7.4	6.0	RTA20D8BEB20-**
25	0.188"	6	40	5.6	4.0	3.6	2.8	2.2	RTA25D6BEB20-**
25	0.156"	7	55	7.0	5.2	4.8	3.6	3.0	RTA25C7BEB20-**
25	0.188"	7	75	9.0	6.8	6.2	4.8	4.0	RTA25D7BEB20-**
25	0.156"	8	90	9.6	7.4	6.8	5.6	4.6	RTA25C8BEB20-**
25	0.188"	8	100	11.8	9.8	8.6	7.4	6.0	RTA25D8BEB20-**
25	0.219"	8	100	11.8	10.2	8.6	7.4	6.0	RTA25E8BEB20-**
25	0.250"	8	100	11.8	10.2	8.6	7.4	6.0	RTA25F8BEB20-**
30	0.188"	7	40	6.2	4.4	4.0	3.0	2.4	RTA30D7BEB20-**
30	0.156"	8	55	7.0	5.2	4.8	3.6	2.8	RTA30C8BEB20-**
30	0.188"	8	75	9.0	6.8	6.2	5.0	4.0	RTA30D8BEB20-**
30	0.219"	8	100	11.0	8.4	7.6	6.0	5.0	RTA30E8BEB20-**
30	0.250"	8	100	11.8	10.0	8.6	7.4	6.0	RTA30F8BEB20-**
30	0.188"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30D1CEB20-**
30	0.219"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30E1CEB20-**
30	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30F1CEB20-**
35	0.188"	8	45	6.4	4.6	4.2	3.2	2.4	RTA35D8BEB20-**
35	0.219"	8	60	8.0	6.0	5.4	4.2	3.2	RTA35E8BEB20-**
35	0.250"	8	80	9.6	7.2	6.4	5.0	4.0	RTA35F8BEB20-**
35	0.188"	10	100	11.8	9.8	8.6	7.4	6.0	RTA35D1CEB20-**
35	0.219"	10	100	11.8	10.2	8.6	7.4	6.0	RTA35E1CEB20-**
35	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA35F1CEB20-**
40	0.188"	8	25	4.4	3.0	2.6	1.8	1.2	RTA40D8BEB20-**
40	0.219"	8	30	5.8	4.0	3.6	2.6	2.0	RTA40E8BEB20-**
40	0.250"	8	45	7.0	5.0	4.6	3.4	2.6	RTA40F8BEB20-**
40	0.188"	10	80	9.6	7.2	6.6	5.2	4.2	RTA40D1CEB20-**
40	0.219"	10	100	11.8	9.0	8.4	6.6	5.4	RTA40E1CEB20-**
40	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA40F1CEB20-**
40	0.312"	10	100	11.8	10.2	8.6	7.4	6.0	RTA40G1CEB20-**



Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E B 2 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Bullhorn Arm, Double, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- B = Bullhorn Arm

Arm Quantity

- 2 = Double

Arm Length

- 0 = Standard Length

Finish

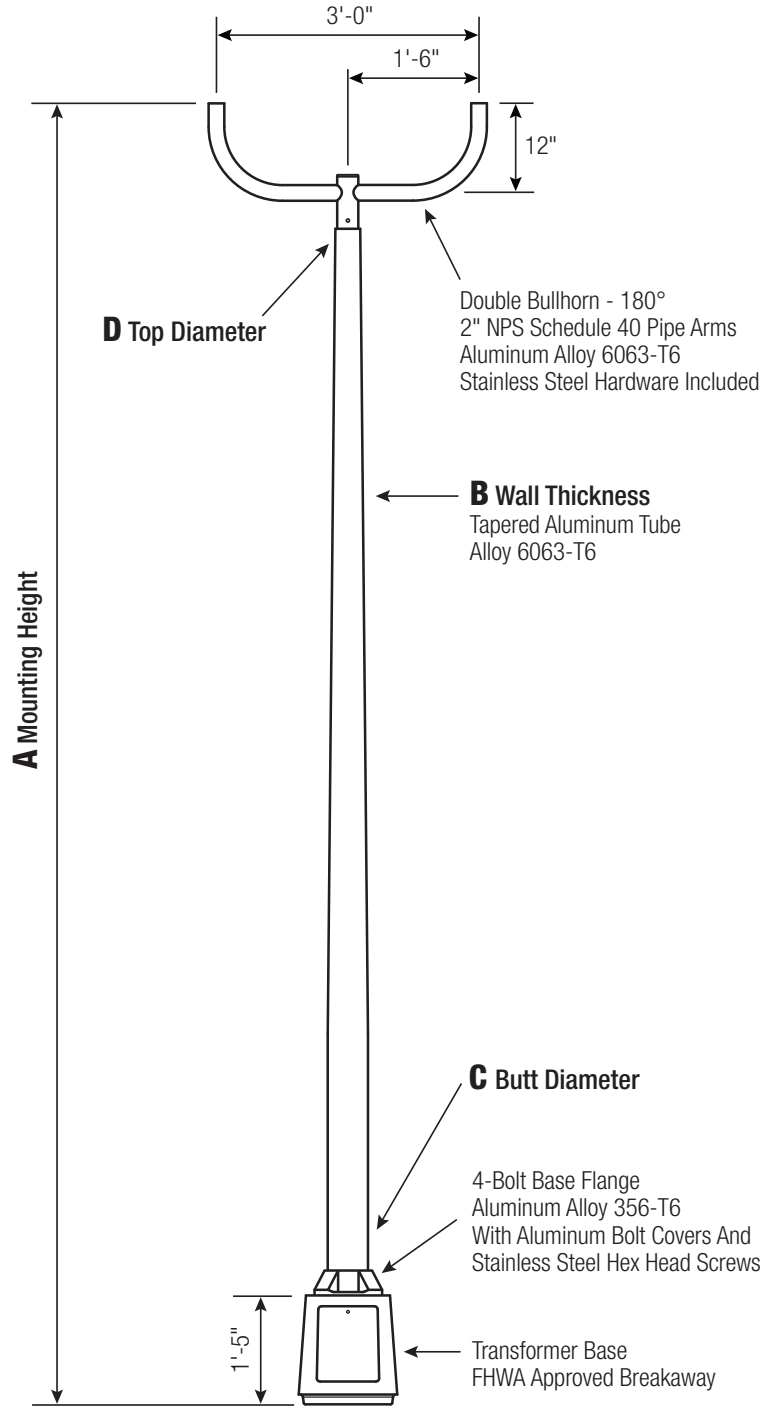
- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Double Bullhorn — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

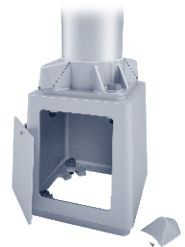
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



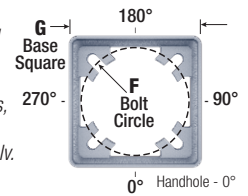
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

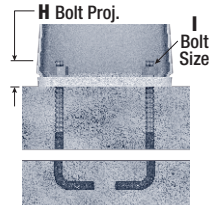


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



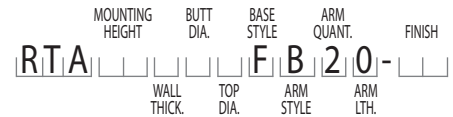
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	100	10.8	8.4	7.8	6.2	5.2	RTA20D7BFB20-**
20	0.188"	8	100	11.8	10.2	8.6	7.4	6.0	RTA20D8BFB20-**
25	0.188"	7	60	7.4	5.6	5.0	4.0	3.2	RTA25D7BFB20-**
25	0.188"	8	100	10.6	8.2	7.4	6.0	5.0	RTA25D8BFB20-**
25	0.219"	8	100	11.8	9.8	8.6	7.4	6.0	RTA25E8BFB20-**
25	0.250"	8	100	11.8	10.2	8.6	7.4	6.0	RTA25F8BFB20-**
30	0.188"	7	30	5.0	3.4	3.2	2.4	1.8	RTA30D7BFB20-**
30	0.188"	8	60	7.4	5.6	5.0	4.0	3.2	RTA30D8BFB20-**
30	0.219"	8	80	9.0	6.8	6.2	5.0	4.0	RTA30E8BFB20-**
30	0.250"	8	100	10.6	8.2	7.4	6.0	4.8	RTA30F8BFB20-**
30	0.188"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30D1CFB20-**
30	0.219"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30E1CFB20-**
30	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30F1CFB20-**
35	0.188"	8	30	5.2	3.6	3.2	2.4	1.8	RTA35D8BFB20-**
35	0.219"	8	45	6.6	4.8	4.2	3.2	2.6	RTA35E8BFB20-**
35	0.250"	8	60	7.8	5.8	5.2	4.0	3.2	RTA35F8BFB20-**
35	0.188"	10	95	10.4	8.0	7.4	5.8	4.8	RTA35D1CFB20-**
35	0.219"	10	100	11.8	9.8	8.6	7.4	6.0	RTA35E1CFB20-**
35	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA35F1CFB20-**
40	0.188"	8	25	3.4	2.0	1.8	1.2	-	RTA40D8BFB20-**
40	0.219"	8	30	4.6	3.0	2.6	1.8	1.4	RTA40E8BFB20-**
40	0.250"	8	30	5.6	4.0	3.6	2.6	2.0	RTA40F8BFB20-**
40	0.188"	10	60	7.8	5.8	5.4	4.2	3.4	RTA40D1CFB20-**
40	0.219"	10	80	9.6	7.4	6.8	5.4	4.2	RTA40E1CFB20-**
40	0.250"	10	100	11.4	8.8	8.2	6.6	5.2	RTA40F1CFB20-**
45	0.188"	10	35	5.6	4.2	3.8	2.8	2.0	RTA45D1CFB20-**
45	0.219"	10	50	7.2	5.4	5.0	3.8	3.0	RTA45E1CFB20-**
45	0.250"	10	70	8.8	6.6	6.2	4.8	3.8	RTA45F1CFB20-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F B 2 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Bullhorn Arm, Double, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

B = Bullhorn Arm

Arm Quantity

2 = Double

Arm Length

0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

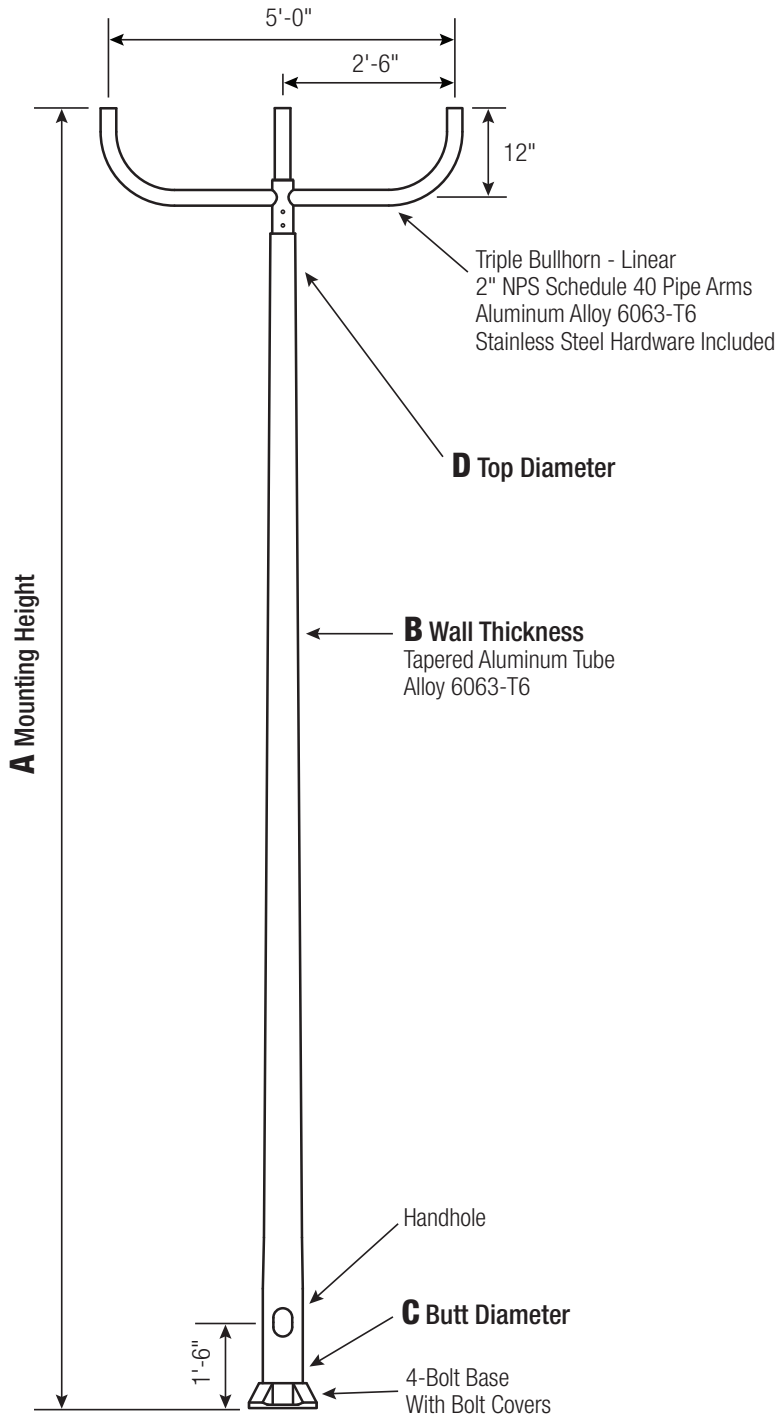


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Bullhorn 180° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

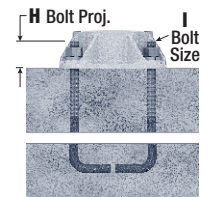
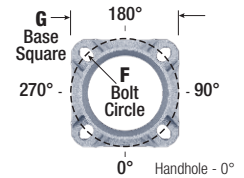
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	35	2.8	1.8	1.6	-	-	RTA20C6B4B30-**
20	0.188"	6	25	4.0	2.8	2.4	1.8	1.2	RTA20D6B4B30-**
20	0.156"	7	30	5.0	3.6	3.2	2.4	1.8	RTA20C7B4B30-**
20	0.188"	7	45	6.4	4.8	4.4	3.4	2.6	RTA20D7B4B30-**
20	0.188"	8	80	9.2	7.0	6.4	5.2	4.0	RTA20D8B4B30-**
25	0.188"	6	25	2.0	1.2	-	-	-	RTA25D6B4B30-**
25	0.156"	7	35	2.8	1.8	1.6	-	-	RTA25C7B4B30-**
25	0.188"	7	25	4.0	2.8	2.4	1.6	1.2	RTA25D7B4B30-**
25	0.156"	8	25	4.8	3.4	3.0	2.2	1.6	RTA25C8B4B30-**
25	0.188"	8	40	6.2	4.6	4.0	3.0	2.4	RTA25D8B4B30-**
25	0.219"	8	55	7.6	5.6	5.2	4.0	3.0	RTA25E8B4B30-**
25	0.250"	8	70	8.8	6.8	6.2	4.8	3.8	RTA25F8B4B30-**
30	0.188"	7	25	2.2	1.2	-	-	-	RTA30D7B4B30-**
30	0.156"	8	30	2.8	1.8	1.4	-	-	RTA30C8B4B30-**
30	0.188"	8	25	4.0	2.8	2.4	1.6	1.2	RTA30D8B4B30-**
30	0.219"	8	25	5.2	3.6	3.2	2.4	1.8	RTA30E8B4B30-**
30	0.250"	8	40	6.2	4.6	4.0	3.0	2.4	RTA30F8B4B30-**
30	0.188"	10	65	8.4	6.4	5.8	4.6	3.6	RTA30D1C4B30-**
30	0.219"	10	85	10.2	7.8	7.2	5.6	4.6	RTA30E1C4B30-**
30	0.250"	10	100	11.8	9.2	8.4	6.8	5.4	RTA30F1C4B30-**
35	0.188"	8	25	2.4	1.4	1.0	-	-	RTA35D8B4B30-**
35	0.219"	8	25	3.4	2.2	1.8	1.2	-	RTA35E8B4B30-**
35	0.250"	8	25	4.2	2.8	2.6	1.8	1.2	RTA35F8B4B30-**
35	0.188"	10	35	6.0	4.4	4.0	3.0	2.2	RTA35D1C4B30-**
35	0.219"	10	55	7.4	5.6	5.2	4.0	3.0	RTA35E1C4B30-**
35	0.250"	10	70	9.0	6.8	6.2	4.8	3.8	RTA35F1C4B30-**
40	0.188"	8	25	1.0	-	-	-	-	RTA40D8B4B30-**
40	0.219"	8	40	1.8	-	-	-	-	RTA40E8B4B30-**
40	0.250"	8	25	2.6	1.6	1.2	-	-	RTA40F8B4B30-**
40	0.188"	10	25	4.2	3.0	2.6	1.8	1.2	RTA40D1C4B30-**
40	0.219"	10	30	5.4	4.0	3.6	2.6	2.0	RTA40E1C4B30-**
40	0.250"	10	45	6.6	5.0	4.4	3.4	2.6	RTA40F1C4B30-**
40	0.312"	10	70	9.0	6.8	6.2	5.0	3.8	RTA40G1C4B30-**
45	0.188"	10	30	2.6	1.6	1.4	-	-	RTA45D1C4B30-**
45	0.219"	10	35	3.8	2.6	2.2	1.6	-	RTA45E1C4B30-**
45	0.250"	10	35	4.8	3.4	3.0	2.2	1.6	RTA45F1C4B30-**
45	0.312"	10	45	7.0	5.2	4.6	3.6	2.6	RTA45G1C4B30-**
45	0.250"	12	70	9.2	7.0	6.4	4.8	3.8	RTA45F2C4B30-**
45	0.312"	12	100	11.8	9.4	8.6	6.8	5.4	RTA45G2C4B30-**
45	0.375"	12	100	11.8	10.2	8.6	7.4	6.0	RTA45H2C4B30-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 B 3 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Bullhorn Arm, Triple - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

- 3 = Triple - 180°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

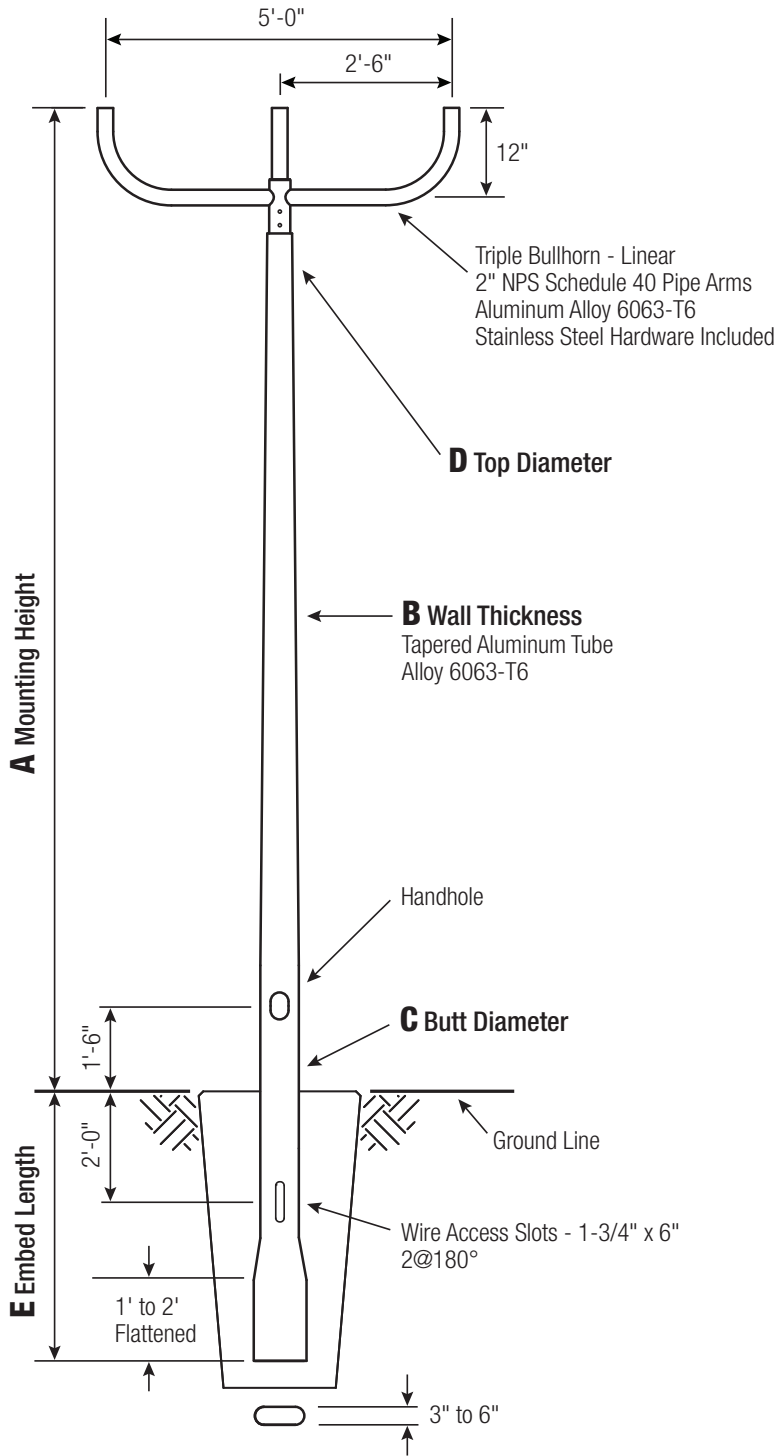
EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



RTA

Round Tapered Aluminum Pole with Arms Triple Bullhorn 180° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

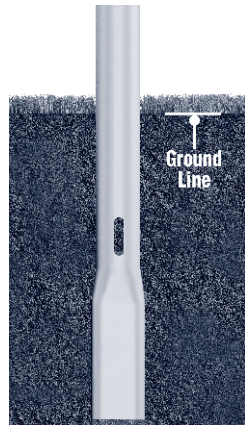
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	3.8	2.6	2.2	1.6	1.0	RTA20C6BEB30-**-
20	0.188"	6	25	5.0	3.6	3.2	2.4	1.8	RTA20D6BEB30-**-
20	0.156"	7	40	6.2	4.6	4.0	3.2	2.4	RTA20C7BEB30-**-
20	0.188"	7	60	7.8	5.8	5.4	4.2	3.2	RTA20D7BEB30-**-
20	0.188"	8	100	11.0	8.4	7.8	6.2	5.0	RTA20D8BEB30-**-
25	0.188"	6	30	2.8	1.8	1.4	-	-	RTA25D6BEB30-**-
25	0.156"	7	35	3.8	2.6	2.2	1.6	-	RTA25C7BEB30-**-
25	0.188"	7	25	5.0	3.6	3.2	2.4	1.8	RTA25D7BEB30-**-
25	0.156"	8	40	5.6	4.2	3.8	2.8	2.2	RTA25C8BEB30-**-
25	0.188"	8	55	7.6	5.6	5.0	4.0	3.0	RTA25D8BEB30-**-
25	0.219"	8	75	9.2	6.8	6.2	5.0	4.0	RTA25E8BEB30-**-
25	0.250"	8	90	10.6	8.2	7.4	6.0	4.8	RTA25F8BEB30-**-
30	0.188"	7	35	3.0	2.0	1.6	-	-	RTA30D7BEB30-**-
30	0.156"	8	25	3.8	2.6	2.2	1.6	1.0	RTA30C8BEB30-**-
30	0.188"	8	25	5.2	3.8	3.2	2.4	1.8	RTA30D8BEB30-**-
30	0.219"	8	40	6.4	4.8	4.2	3.2	2.4	RTA30E8BEB30-**-
30	0.250"	8	55	7.6	5.6	5.2	4.0	3.0	RTA30F8BEB30-**-
30	0.188"	10	85	10.0	7.8	7.0	5.6	4.4	RTA30D1CEB30-**-
30	0.219"	10	100	11.8	9.4	8.6	7.0	5.6	RTA30E1CEB30-**-
30	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30F1CEB30-**-
35	0.188"	8	25	3.4	2.2	1.8	1.2	-	RTA35D8BEB30-**-
35	0.219"	8	25	4.4	3.0	2.6	1.8	1.2	RTA35E8BEB30-**-
35	0.250"	8	30	5.6	3.8	3.4	2.6	1.8	RTA35F8BEB30-**-
35	0.188"	10	55	7.4	5.6	5.2	4.0	3.0	RTA35D1CEB30-**-
35	0.219"	10	75	9.2	7.0	6.4	5.0	4.0	RTA35E1CEB30-**-
35	0.250"	10	95	10.8	8.4	7.6	6.0	4.8	RTA35F1CEB30-**-
40	0.188"	8	40	1.8	-	-	-	-	RTA40D8BEB30-**-
40	0.219"	8	30	2.8	1.6	1.4	-	-	RTA40E8BEB30-**-
40	0.250"	8	30	3.8	2.4	2.0	1.2	-	RTA40F8BEB30-**-
40	0.188"	10	30	5.4	4.0	3.6	2.6	2.0	RTA40D1CEB30-**-
40	0.219"	10	45	7.0	5.2	4.6	3.6	2.8	RTA40E1CEB30-**-
40	0.250"	10	60	8.4	6.2	5.8	4.4	3.4	RTA40F1CEB30-**-
40	0.312"	10	95	11.0	8.4	7.8	6.2	5.0	RTA40G1CEB30-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E B 3 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Bullhorn Arm, Triple - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- B = Bullhorn Arm

Arm Quantity

- 3 = Triple - 180°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

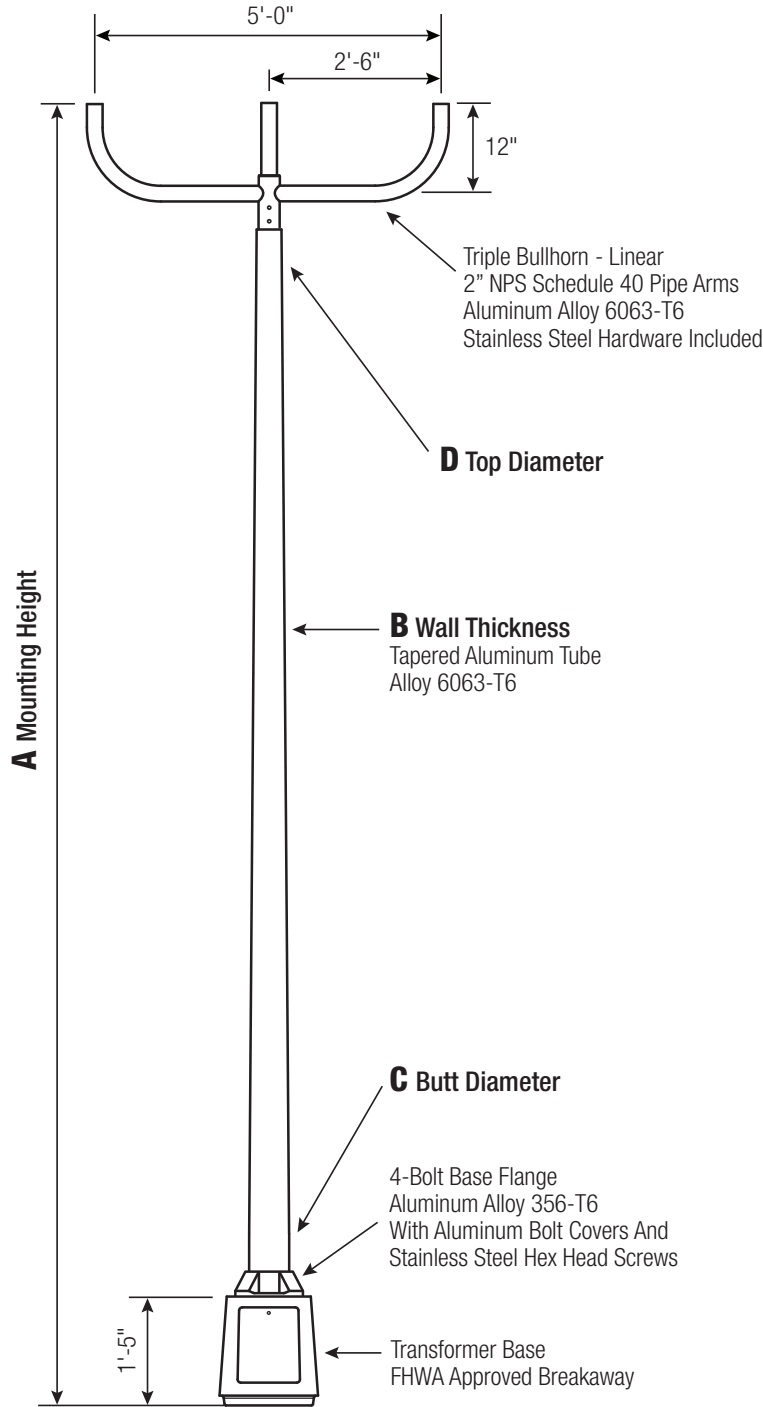


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Bullhorn 180° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

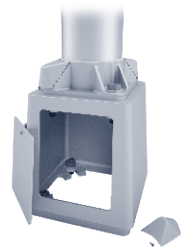
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



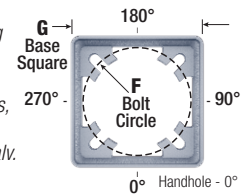
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

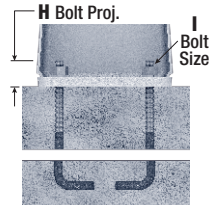


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



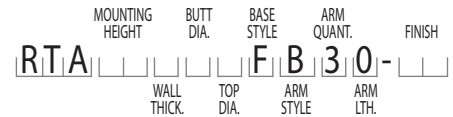
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	45	6.4	4.8	4.2	3.4	2.6	RTA20D7BFB30-**
20	0.188"	8	80	9.2	7.0	6.4	5.0	4.0	RTA20D8BFB30-**
25	0.188"	7	25	4.0	2.8	2.4	1.8	1.2	RTA25D7BFB30-**
25	0.188"	8	40	6.2	4.6	4.0	3.2	2.4	RTA25D8BFB30-**
25	0.219"	8	55	7.6	5.6	5.2	4.0	3.2	RTA25E8BFB30-**
25	0.250"	8	70	8.8	6.6	6.0	4.8	3.8	RTA25F8BFB30-**
30	0.188"	7	25	2.4	1.4	1.0	-	-	RTA30D7BFB30-**
30	0.188"	8	25	4.0	2.8	2.4	1.8	1.2	RTA30D8BFB30-**
30	0.219"	8	30	5.2	3.8	3.4	2.4	1.8	RTA30E8BFB30-**
30	0.250"	8	40	6.2	4.6	4.0	3.0	2.4	RTA30F8BFB30-**
30	0.188"	10	65	8.2	6.2	5.8	4.6	3.6	RTA30D1CFB30-**
30	0.219"	10	85	10.0	7.8	7.0	5.6	4.4	RTA30E1CFB30-**
30	0.250"	10	100	11.8	9.2	8.4	6.8	5.4	RTA30F1CFB30-**
35	0.188"	8	25	2.4	1.4	1.2	-	-	RTA35D8BFB30-**
35	0.219"	8	25	3.4	2.2	1.8	1.2	-	RTA35E8BFB30-**
35	0.250"	8	25	4.4	3.0	2.6	1.8	1.2	RTA35F8BFB30-**
35	0.188"	10	40	6.0	4.4	4.0	3.0	2.2	RTA35D1CFB30-**
35	0.219"	10	55	7.4	5.6	5.2	4.0	3.0	RTA35E1CFB30-**
35	0.250"	10	70	8.8	6.8	6.2	4.8	3.8	RTA35F1CFB30-**
40	0.188"	8	25	1.2	-	-	-	-	RTA40D8BFB30-**
40	0.219"	8	40	1.8	-	-	-	-	RTA40E8BFB30-**
40	0.250"	8	30	2.8	1.6	1.4	-	-	RTA40F8BFB30-**
40	0.188"	10	30	4.2	3.0	2.6	1.8	1.2	RTA40D1CFB30-**
40	0.219"	10	30	5.6	4.0	3.6	2.6	2.0	RTA40E1CFB30-**
40	0.250"	10	45	6.6	5.0	4.6	3.4	2.6	RTA40F1CFB30-**
45	0.188"	10	35	2.6	1.8	1.4	-	-	RTA45D1CFB30-**
45	0.219"	10	35	3.8	2.6	2.4	1.6	-	RTA45E1CFB30-**
45	0.250"	10	25	5.0	3.6	3.2	2.4	1.6	RTA45F1CFB30-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F B 3 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Bullhorn Arm, Triple - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

B = Bullhorn Arm

Arm Quantity

3 = Triple - 180°

Arm Length

0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

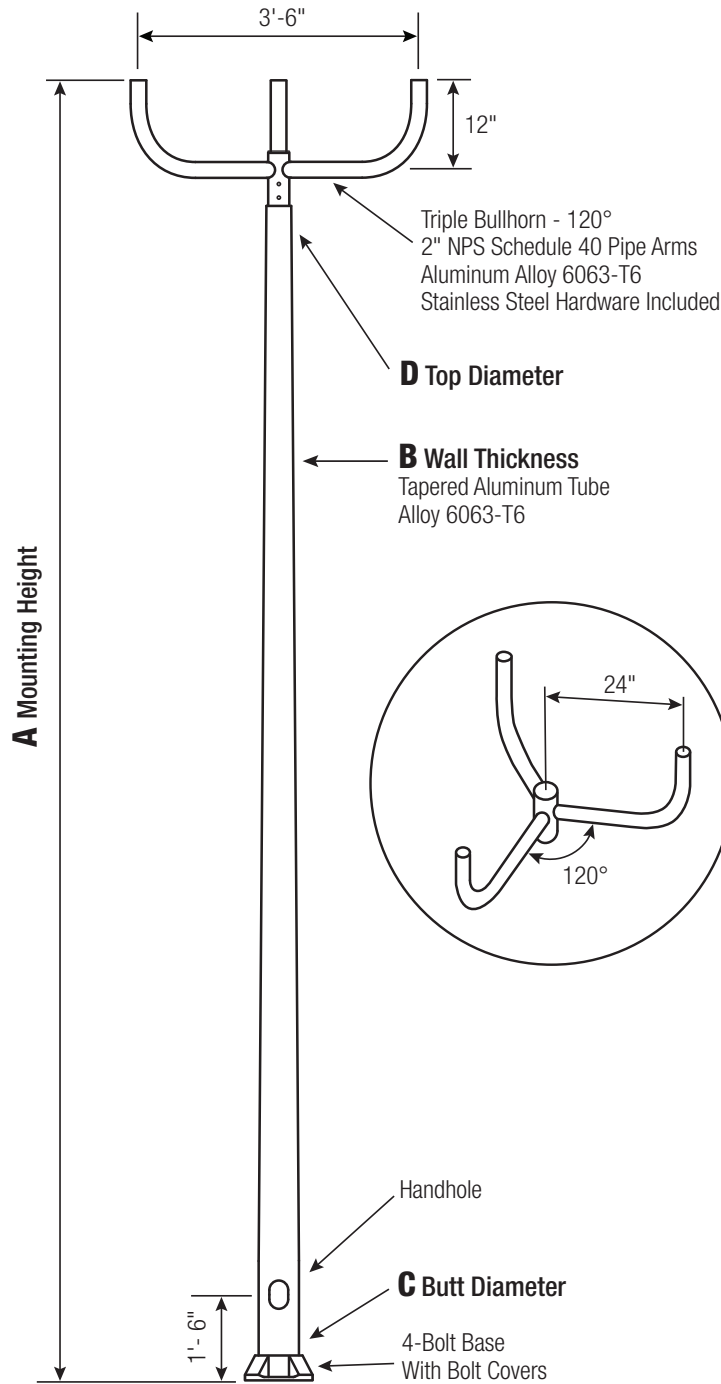


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Bullhorn 120° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

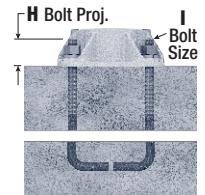
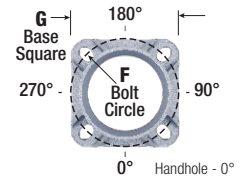
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

WARNING: Do not install light pole without luminaire.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	2.4	1.4	1.2	-	-	RTA20C6B4BC0-**
20	0.188"	6	30	3.4	2.2	2.0	1.2	-	RTA20D6B4BC0-**
20	0.156"	7	30	4.6	3.2	2.8	2.0	1.4	RTA20C7B4BC0-**
20	0.188"	7	35	6.0	4.4	3.8	2.8	2.2	RTA20D7B4BC0-**
20	0.188"	8	70	8.8	6.6	6.0	4.6	3.6	RTA20D8B4BC0-**
25	0.188"	6	35	1.6	-	-	-	-	RTA25D6B4BC0-**
25	0.156"	7	25	2.4	1.4	1.2	-	-	RTA25C7B4BC0-**
25	0.188"	7	25	3.6	2.2	2.0	1.2	-	RTA25D7B4BC0-**
25	0.156"	8	25	4.2	3.0	2.6	1.8	1.2	RTA25C8B4BC0-**
25	0.188"	8	30	5.8	4.2	3.6	2.6	2.0	RTA25D8B4BC0-**
25	0.219"	8	45	7.2	5.2	4.8	3.6	2.6	RTA25E8B4BC0-**
25	0.250"	8	60	8.4	6.2	5.8	4.4	3.4	RTA25F8B4BC0-**
30	0.188"	7	40	1.8	-	-	-	-	RTA30D7B4BC0-**
30	0.156"	8	30	2.4	1.2	-	-	-	RTA30C8B4BC0-**
30	0.188"	8	25	3.6	2.4	2.0	1.2	-	RTA30D8B4BC0-**
30	0.219"	8	30	4.8	3.2	2.8	2.0	1.2	RTA30E8B4BC0-**
30	0.250"	8	30	5.8	4.2	3.6	2.6	1.8	RTA30F8B4BC0-**
30	0.188"	10	55	8.0	6.0	5.4	4.2	3.2	RTA30D1C4BC0-**
30	0.219"	10	75	9.8	7.4	6.8	5.2	4.0	RTA30E1C4BC0-**
30	0.250"	10	100	11.4	8.8	8.0	6.4	5.0	RTA30F1C4BC0-**
35	0.188"	8	40	1.8	-	-	-	-	RTA35D8B4BC0-**
35	0.219"	8	30	2.8	1.6	1.4	-	-	RTA35E8B4BC0-**
35	0.250"	8	30	3.8	2.4	2.0	1.2	-	RTA35F8B4BC0-**
35	0.188"	10	25	5.6	4.0	3.6	2.6	1.8	RTA35D1C4BC0-**
35	0.219"	10	45	7.0	5.2	4.8	3.6	2.6	RTA35E1C4BC0-**
35	0.250"	10	60	8.6	6.4	5.8	4.4	3.4	RTA35F1C4BC0-**
40	0.219"	8	30	1.4	-	-	-	-	RTA40E8B4BC0-**
40	0.250"	8	25	2.2	1.0	-	-	-	RTA40F8B4BC0-**
40	0.188"	10	30	3.8	2.4	2.2	1.4	-	RTA40D1C4BC0-**
40	0.219"	10	35	5.0	3.6	3.2	2.2	1.4	RTA40E1C4BC0-**
40	0.250"	10	35	6.2	4.6	4.0	3.0	2.2	RTA40F1C4BC0-**
40	0.312"	10	60	8.6	6.4	5.8	4.6	3.4	RTA40G1C4BC0-**
45	0.188"	10	25	2.2	1.2	-	-	-	RTA45D1C4BC0-**
45	0.219"	10	25	3.4	2.2	1.8	1.0	-	RTA45E1C4BC0-**
45	0.250"	10	25	4.4	3.0	2.6	1.8	1.2	RTA45F1C4BC0-**
45	0.312"	10	35	6.6	4.8	4.2	3.2	2.2	RTA45G1C4BC0-**
45	0.250"	12	60	8.8	6.6	5.8	4.4	3.4	RTA45F2C4BC0-**
45	0.312"	12	95	11.8	9.0	8.2	6.4	5.0	RTA45G2C4BC0-**
45	0.375"	12	100	11.8	10.2	8.6	7.3	5.8	RTA45H2C4BC0-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 B C 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Bullhorn Arm, Triple - 120°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

- C = Triple - 120°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

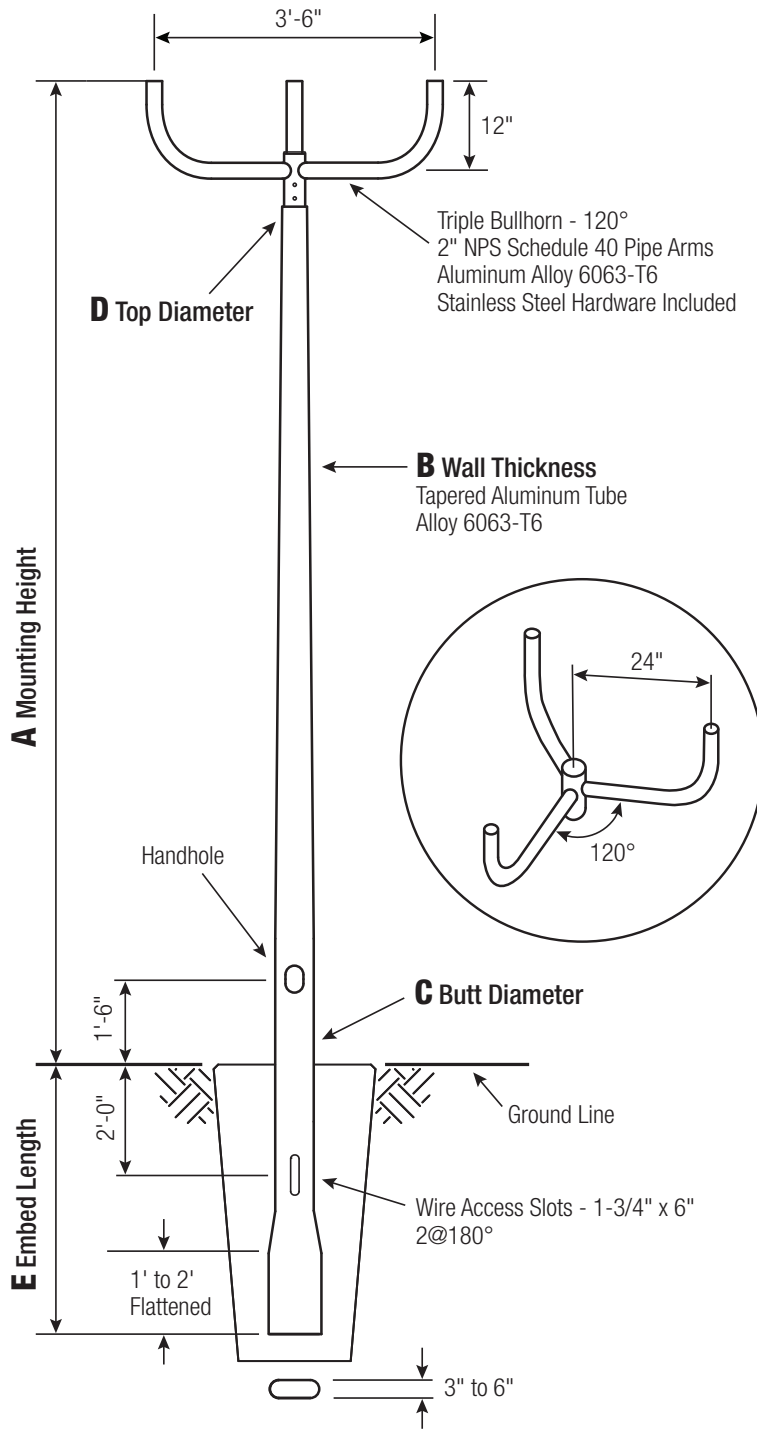


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Bullhorn 120° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

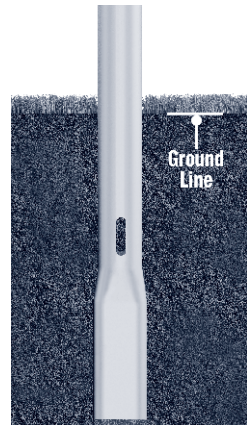
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	3.4	2.2	1.8	1.2	-	RTA20C6BEBCO-**
20	0.188"	6	30	4.6	3.2	2.8	2.0	1.4	RTA20D6BEBCO-**
20	0.156"	7	30	5.8	4.2	3.6	2.8	2.0	RTA20C7BEBCO-**
20	0.188"	7	50	7.4	5.4	5.0	3.8	2.8	RTA20D7BEBCO-**
20	0.188"	8	90	10.6	8.0	7.4	5.8	4.6	RTA20D8BEBCO-**
25	0.188"	6	30	2.4	1.2	-	-	-	RTA25D6BEBCO-**
25	0.156"	7	25	3.4	2.2	1.8	1.0	-	RTA25C7BEBCO-**
25	0.188"	7	30	4.6	3.2	2.8	2.0	1.2	RTA25D7BEBCO-**
25	0.156"	8	30	5.4	3.8	3.4	2.4	1.8	RTA25C8BEBCO-**
25	0.188"	8	45	7.2	5.2	4.6	3.6	2.6	RTA25D8BEBCO-**
25	0.219"	8	65	8.8	6.4	5.8	4.6	3.6	RTA25E8BEBCO-**
25	0.250"	8	80	10.2	7.8	7.0	5.6	4.4	RTA25F8BEBCO-**
30	0.188"	7	25	2.6	1.6	1.2	-	-	RTA30D7BEBCO-**
30	0.156"	8	25	3.4	2.2	1.8	1.0	-	RTA30C8BEBCO-**
30	0.188"	8	30	4.8	3.2	2.8	2.0	1.2	RTA30D8BEBCO-**
30	0.219"	8	30	6.0	4.4	3.8	2.8	2.0	RTA30E8BEBCO-**
30	0.250"	8	45	7.2	5.2	4.8	3.6	2.6	RTA30F8BEBCO-**
30	0.188"	10	75	9.6	7.4	6.6	5.2	4.0	RTA30D1CEBCO-**
30	0.219"	10	100	11.8	9.0	8.2	6.6	5.2	RTA30E1CEBCO-**
30	0.250"	10	100	11.8	10.2	8.6	7.4	6.0	RTA30F1CEBCO-**
35	0.188"	8	30	2.8	1.6	1.4	-	-	RTA35D8BEBCO-**
35	0.219"	8	30	4.0	2.6	2.2	1.4	-	RTA35E8BEBCO-**
35	0.250"	8	30	5.0	3.4	3.0	2.0	1.4	RTA35F8BEBCO-**
35	0.188"	10	45	7.0	5.2	4.8	3.6	2.6	RTA35D1CEBCO-**
35	0.219"	10	65	8.8	6.6	6.0	4.6	3.6	RTA35E1CEBCO-**
35	0.250"	10	85	10.4	8.0	7.2	5.6	4.4	RTA35F1CEBCO-**
40	0.188"	8	30	1.4	-	-	-	-	RTA40D8BEBCO-**
40	0.219"	8	25	2.4	1.2	-	-	-	RTA40E8BEBCO-**
40	0.250"	8	35	3.2	1.8	1.6	-	-	RTA40F8BEBCO-**
40	0.188"	10	35	5.0	3.6	3.2	2.2	1.4	RTA40D1CEBCO-**
40	0.219"	10	35	6.6	4.8	4.2	3.2	2.2	RTA40E1CEBCO-**
40	0.250"	10	50	8.0	5.8	5.4	4.0	3.0	RTA40F1CEBCO-**
40	0.312"	10	85	10.6	8.0	7.4	5.8	4.6	RTA40G1CEBCO-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E B C O - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Bullhorn Arm, Triple - 120°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- B = Bullhorn Arm

Arm Quantity

- C = Triple - 120°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

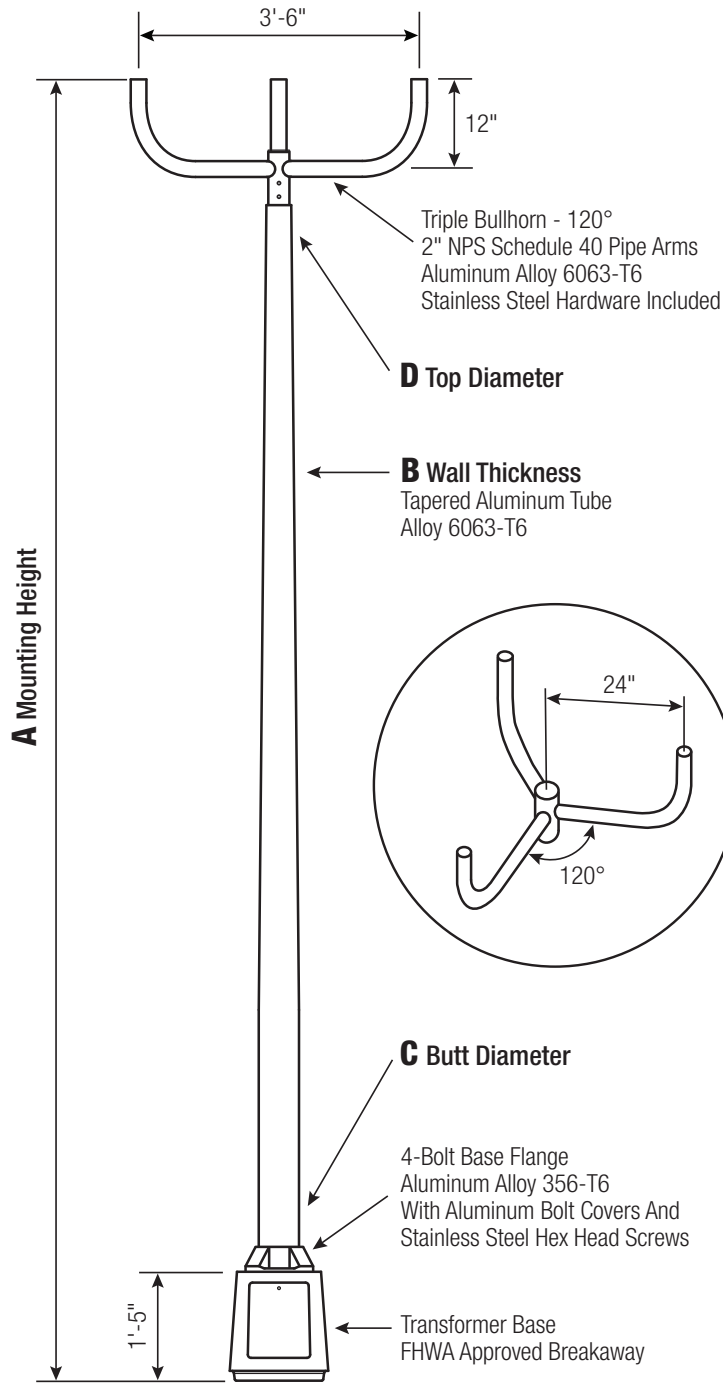


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Triple Bullhorn 120° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

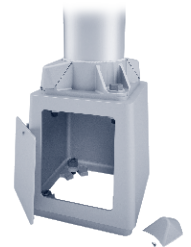
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



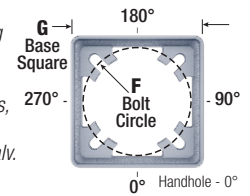
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

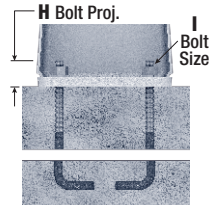


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



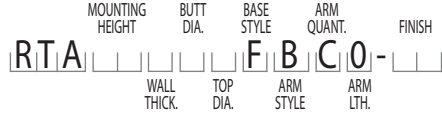
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	35	6.0	4.4	3.8	2.8	2.2	RTA20D7BFBC0-**-
20	0.188"	8	65	8.8	6.6	6.0	4.6	3.6	RTA20D8BFBC0-**-
25	0.188"	7	30	3.6	2.4	2.0	1.2	-	RTA25D7BFBC0-**-
25	0.188"	8	30	5.8	4.2	3.6	2.8	2.0	RTA25D8BFBC0-**-
25	0.219"	8	45	7.0	5.2	4.6	3.6	2.6	RTA25E8BFBC0-**-
25	0.250"	8	60	8.4	6.2	5.6	4.4	3.4	RTA25F8BFBC0-**-
30	0.188"	7	40	1.8	-	-	-	-	RTA30D7BFBC0-**-
30	0.188"	8	30	3.6	2.4	2.0	1.2	-	RTA30D8BFBC0-**-
30	0.219"	8	30	4.8	3.2	2.8	2.0	1.4	RTA30E8BFBC0-**-
30	0.250"	8	30	5.8	4.2	3.6	2.6	2.0	RTA30F8BFBC0-**-
30	0.188"	10	55	7.8	5.8	5.4	4.0	3.2	RTA30D1CFBC0-**-
30	0.219"	10	75	9.6	7.2	6.6	5.2	4.0	RTA30E1CFBC0-**-
30	0.250"	10	95	11.4	8.6	8.0	6.2	5.0	RTA30F1CFBC0-**-
35	0.188"	8	45	2.0	-	-	-	-	RTA35D8BFBC0-**-
35	0.219"	8	30	3.0	1.8	1.4	-	-	RTA35E8BFBC0-**-
35	0.250"	8	30	3.8	2.4	2.2	1.4	-	RTA35F8BFBC0-**-
35	0.188"	10	25	5.6	4.0	3.6	2.6	1.8	RTA35D1CFBC0-**-
35	0.219"	10	45	7.0	5.2	4.6	3.6	2.6	RTA35E1CFBC0-**-
35	0.250"	10	60	8.4	6.4	5.8	4.4	3.4	RTA35F1CFBC0-**-
40	0.219"	8	35	1.4	-	-	-	-	RTA40E8BFBC0-**-
40	0.250"	8	25	2.4	1.2	-	-	-	RTA40F8BFBC0-**-
40	0.188"	10	30	3.8	2.6	2.2	1.4	-	RTA40D1CFBC0-**-
40	0.219"	10	35	5.0	3.6	3.2	2.2	1.4	RTA40E1CFBC0-**-
40	0.250"	10	35	6.2	4.6	4.2	3.0	2.2	RTA40F1CFBC0-**-
45	0.188"	10	25	2.2	1.4	1.0	-	-	RTA45D1CFBC0-**-
45	0.219"	10	25	3.4	2.2	2.0	1.2	-	RTA45E1CFBC0-**-
45	0.250"	10	25	4.6	3.2	2.8	1.8	1.2	RTA45F1CFBC0-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F B C 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Bullhorn Arm, Triple - 120°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

F = Breakaway T-Base

Arm Style

B = Bullhorn Arm

Arm Quantity

C = Triple - 120°

Arm Length

0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

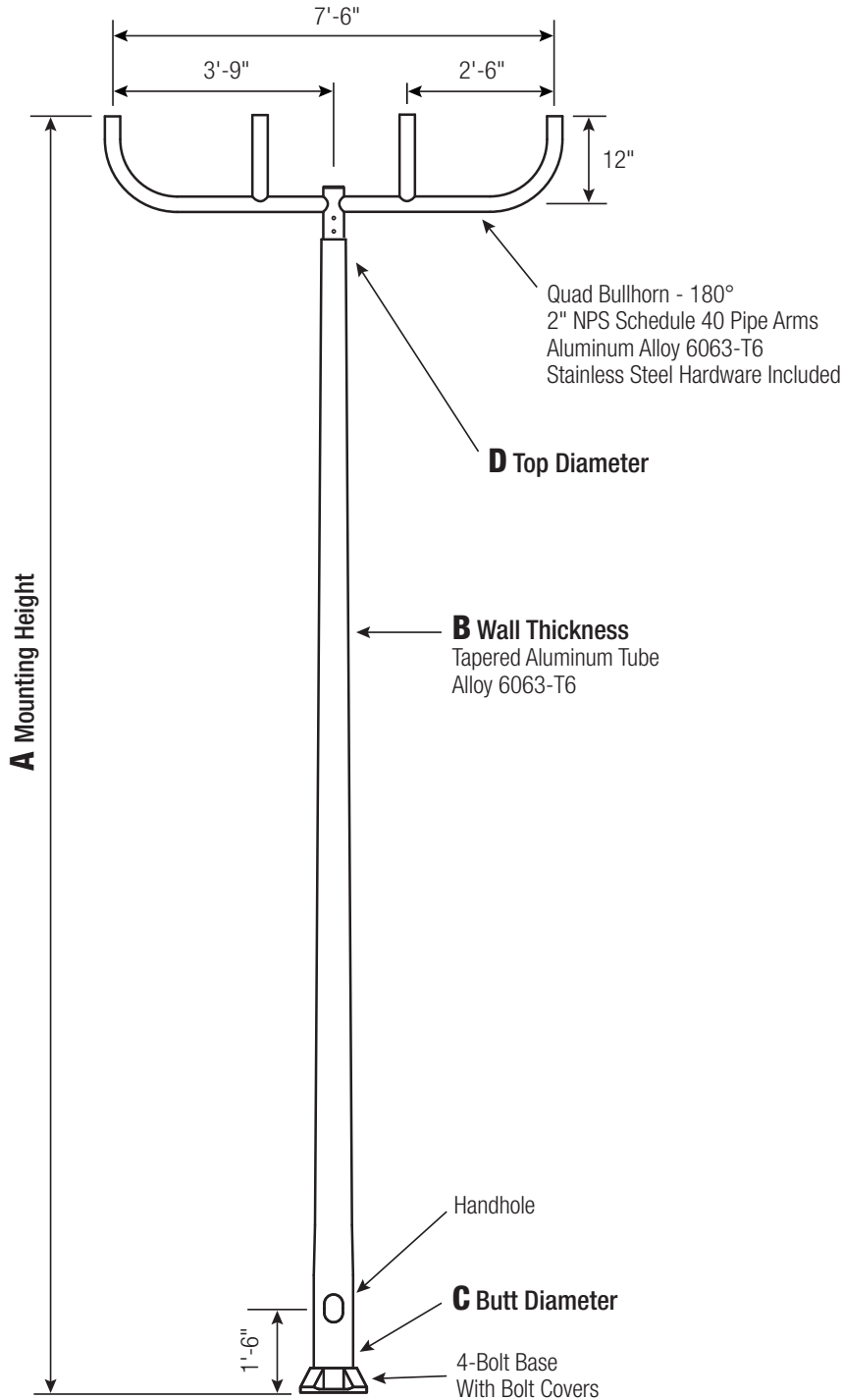


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Bullhorn 180° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

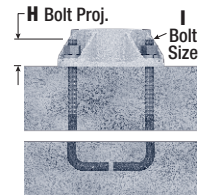
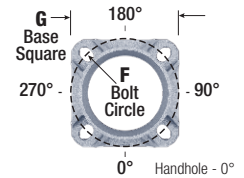
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	1.2	-	-	-	-	RTA20C6B4B40-**
20	0.188"	6	40	1.8	-	-	-	-	RTA20D6B4B40-**
20	0.156"	7	30	2.6	1.6	1.4	-	-	RTA20C7B4B40-**
20	0.188"	7	30	3.8	2.6	2.2	1.4	-	RTA20D7B4B40-**
20	0.188"	8	35	6.0	4.4	3.8	2.8	2.0	RTA20D8B4B40-**
25	0.156"	7	25	1.0	-	-	-	-	RTA25C7B4B40-**
25	0.188"	7	40	1.8	-	-	-	-	RTA25D7B4B40-**
25	0.156"	8	25	2.4	1.4	1.2	-	-	RTA25C8B4B40-**
25	0.188"	8	30	3.6	2.4	2.0	1.2	-	RTA25D8B4B40-**
25	0.219"	8	30	4.6	3.2	2.8	2.0	1.4	RTA25E8B4B40-**
25	0.250"	8	30	5.6	4.0	3.6	2.6	1.8	RTA25F8B4B40-**
30	0.156"	8	25	1.0	-	-	-	-	RTA30C8B4B40-**
30	0.188"	8	40	1.8	-	-	-	-	RTA30D8B4B40-**
30	0.219"	8	30	2.8	1.6	1.4	-	-	RTA30E8B4B40-**
30	0.250"	8	25	3.6	2.4	2.0	1.2	-	RTA30F8B4B40-**
30	0.188"	10	25	5.2	3.8	3.4	2.4	1.6	RTA30D1C4B40-**
30	0.219"	10	40	6.6	4.8	4.4	3.2	2.4	RTA30E1C4B40-**
30	0.250"	10	55	8.0	5.8	5.4	4.0	3.0	RTA30F1C4B40-**
35	0.219"	8	30	1.4	-	-	-	-	RTA35E8B4B40-**
35	0.250"	8	25	2.0	1.0	-	-	-	RTA35F8B4B40-**
35	0.188"	10	25	3.4	2.2	2.0	1.2	-	RTA35D1C4B40-**
35	0.219"	10	30	4.6	3.2	2.8	2.0	1.2	RTA35E1C4B40-**
35	0.250"	10	25	5.8	4.2	3.6	2.6	1.8	RTA35F1C4B40-**
40	0.188"	10	25	2.0	1.2	-	-	-	RTA40D1C4B40-**
40	0.219"	10	35	3.0	1.8	1.6	-	-	RTA40E1C4B40-**
40	0.250"	10	35	4.0	2.6	2.2	1.4	-	RTA40F1C4B40-**
40	0.312"	10	30	5.8	4.2	3.8	2.6	1.8	RTA40G1C4B40-**
45	0.219"	10	35	1.6	-	-	-	-	RTA45E1C4B40-**
45	0.250"	10	25	2.6	1.6	1.2	-	-	RTA45F1C4B40-**
45	0.312"	10	35	4.2	2.8	2.4	1.6	-	RTA45G1C4B40-**
45	0.250"	12	25	6.0	4.2	3.8	2.6	1.8	RTA45F2C4B40-**
45	0.312"	12	50	8.2	6.0	5.4	4.2	3.0	RTA45G2C4B40-**
45	0.375"	12	65	9.2	6.9	6.2	4.7	3.6	RTA45H2C4B40-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 B 4 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Bullhorn Arm, Quad - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

- 4 = Quad - 180°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

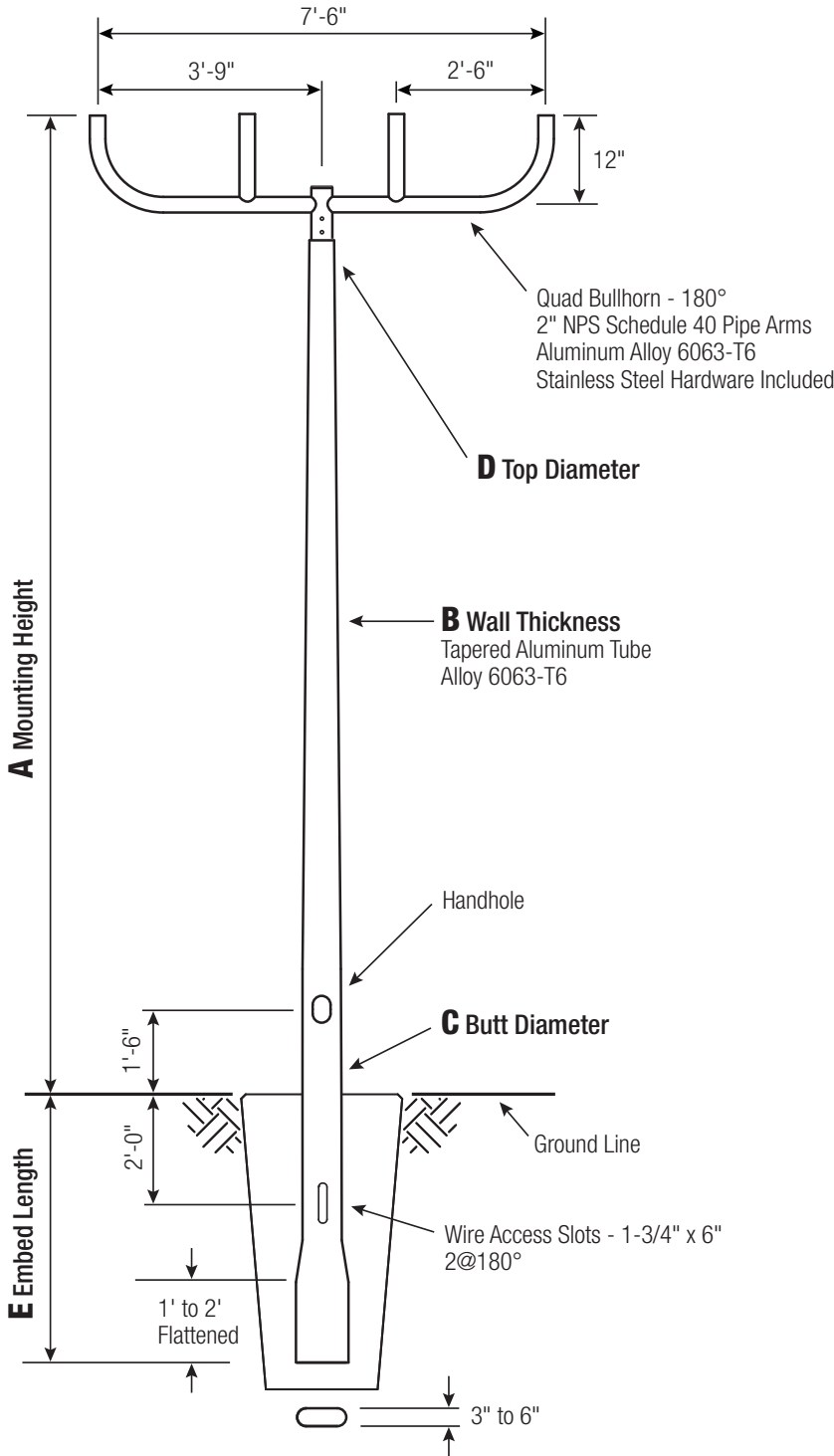
EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



RTA

Round Tapered Aluminum Pole with Arms Quad Bullhorn 180° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

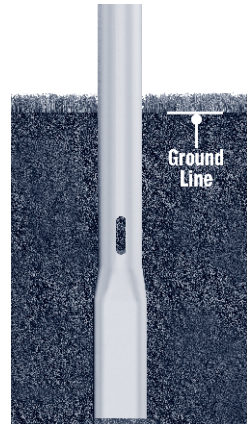
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	40	1.6	-	-	-	-	RTA20C6BEB40-**
20	0.188"	6	30	2.6	1.6	1.4	-	-	RTA20D6BEB40-**
20	0.156"	7	30	3.6	2.4	2.0	1.4	-	RTA20C7BEB40-**
20	0.188"	7	30	4.8	3.4	3.0	2.2	1.4	RTA20D7BEB40-**
20	0.188"	8	50	7.4	5.4	4.8	3.6	2.8	RTA20D8BEB40-**
25	0.156"	7	40	1.6	-	-	-	-	RTA25C7BEB40-**
25	0.188"	7	30	2.6	1.6	1.4	-	-	RTA25D7BEB40-**
25	0.156"	8	25	3.2	2.2	1.8	1.2	-	RTA25C8BEB40-**
25	0.188"	8	30	4.6	3.2	2.8	2.0	1.4	RTA25D8BEB40-**
25	0.219"	8	30	6.0	4.2	3.8	2.8	2.0	RTA25E8BEB40-**
25	0.250"	8	45	7.0	5.2	4.6	3.4	2.6	RTA25F8BEB40-**
30	0.188"	7	25	1.2	-	-	-	-	RTA30D7BEB40-**
30	0.156"	8	35	1.6	-	-	-	-	RTA30C8BEB40-**
30	0.188"	8	30	2.8	1.6	1.4	-	-	RTA30D8BEB40-**
30	0.219"	8	30	3.8	2.4	2.2	1.4	-	RTA30E8BEB40-**
30	0.250"	8	30	4.8	3.2	2.8	2.0	1.2	RTA30F8BEB40-**
30	0.188"	10	40	6.6	4.8	4.4	3.2	2.4	RTA30D1CEB40-**
30	0.219"	10	55	8.2	6.0	5.6	4.2	3.2	RTA30E1CEB40-**
30	0.250"	10	75	9.6	7.2	6.6	5.2	4.0	RTA30F1CEB40-**
35	0.188"	8	30	1.4	-	-	-	-	RTA35D8BEB40-**
35	0.219"	8	25	2.2	1.2	-	-	-	RTA35E8BEB40-**
35	0.250"	8	30	3.0	1.8	1.4	-	-	RTA35F8BEB40-**
35	0.188"	10	30	4.6	3.2	2.8	2.0	1.2	RTA35D1CEB40-**
35	0.219"	10	30	6.0	4.2	3.8	2.8	2.0	RTA35E1CEB40-**
35	0.250"	10	45	7.2	5.2	4.8	3.6	2.6	RTA35F1CEB40-**
40	0.250"	8	35	1.6	-	-	-	-	RTA40F8BEB40-**
40	0.188"	10	35	3.0	1.8	1.6	-	-	RTA40D1CEB40-**
40	0.219"	10	35	4.0	2.8	2.4	1.6	-	RTA40E1CEB40-**
40	0.250"	10	35	5.2	3.6	3.2	2.4	1.6	RTA40F1CEB40-**
40	0.312"	10	45	7.4	5.4	4.8	3.6	2.8	RTA40G1CEB40-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E B 4 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Bullhorn Arm, Quad - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- B = Bullhorn Arm

Arm Quantity

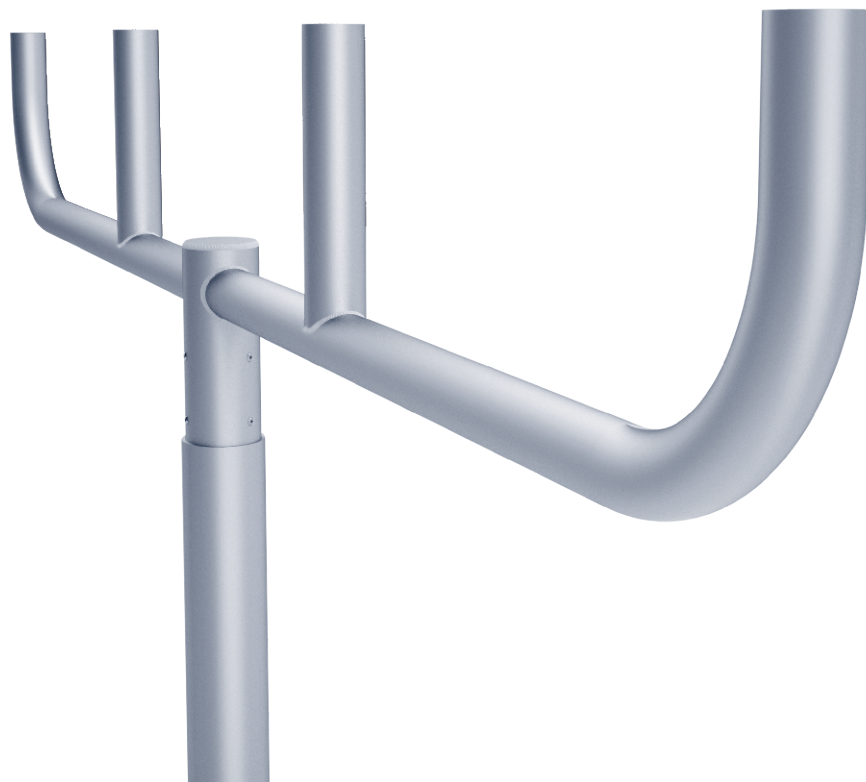
- 4 = Quad - 180°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

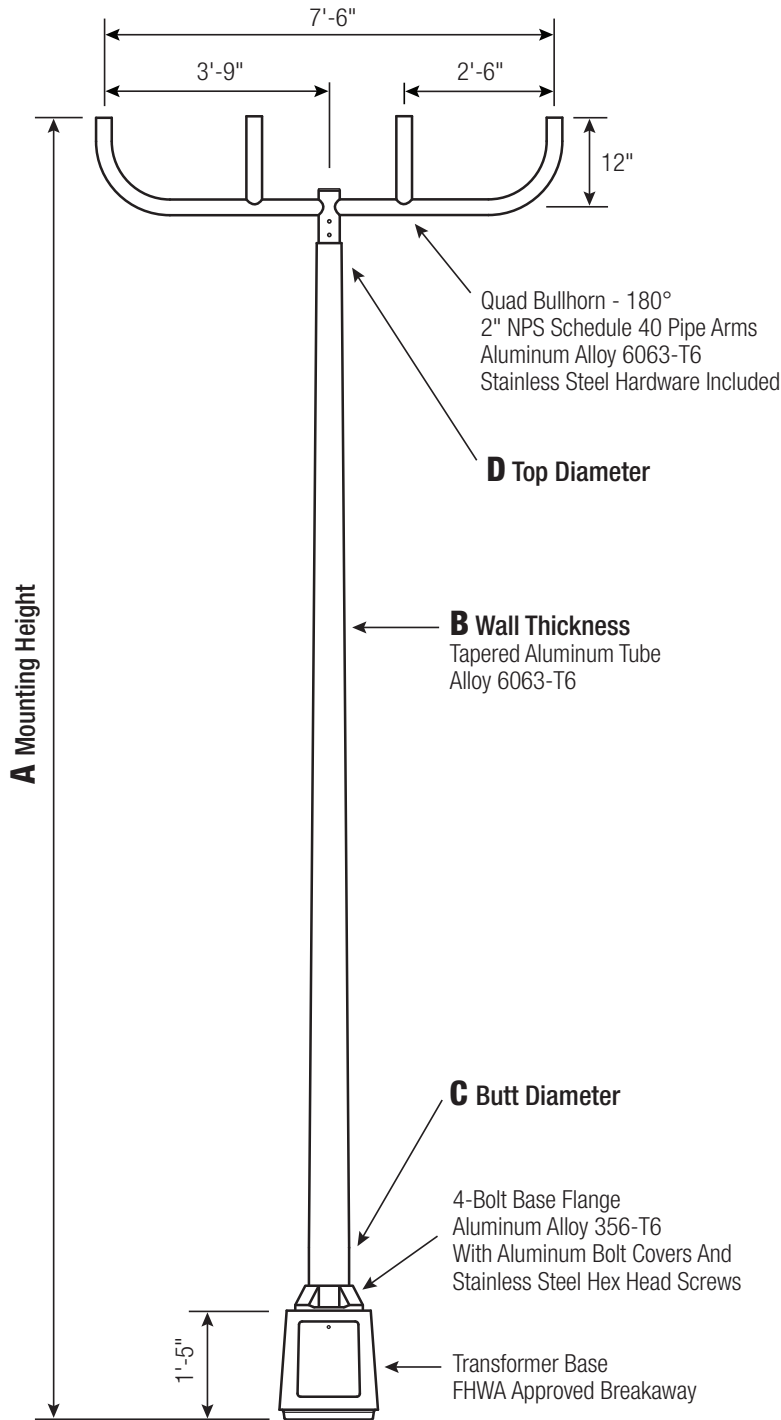


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Bullhorn 180° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10	6	15	15.375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

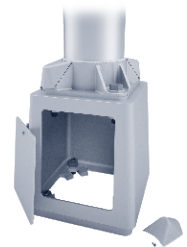
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



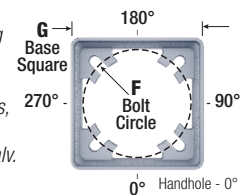
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

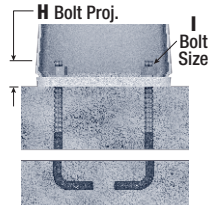


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



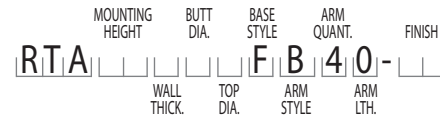
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	30	3.8	2.6	2.2	1.4	-	RTA20D7BFB40-**
20	0.188"	8	30	5.8	4.2	3.8	2.8	2.0	RTA20D8BFB40-**
25	0.188"	7	45	1.8	-	-	-	-	RTA25D7BFB40-**
25	0.188"	8	30	3.6	2.4	2.0	1.2	-	RTA25D8BFB40-**
25	0.219"	8	30	4.6	3.2	2.8	2.0	1.4	RTA25E8BFB40-**
25	0.250"	8	30	5.6	4.0	3.6	2.6	1.8	RTA25F8BFB40-**
30	0.188"	8	45	1.8	-	-	-	-	RTA30D8BFB40-**
30	0.219"	8	30	2.8	1.6	1.4	-	-	RTA30E8BFB40-**
30	0.250"	8	30	3.6	2.4	2.0	1.2	-	RTA30F8BFB40-**
30	0.188"	10	25	5.2	3.8	3.4	2.4	1.6	RTA30D1CFB40-**
30	0.219"	10	40	6.6	4.8	4.4	3.2	2.4	RTA30E1CFB40-**
30	0.250"	10	55	7.8	5.8	5.2	4.0	3.0	RTA30F1CFB40-**
35	0.219"	8	30	1.4	-	-	-	-	RTA35E8BFB40-**
35	0.250"	8	25	2.2	1.2	-	-	-	RTA35F8BFB40-**
35	0.188"	10	25	3.4	2.2	2.0	1.2	-	RTA35D1CFB40-**
35	0.219"	10	30	4.6	3.2	2.8	2.0	1.2	RTA35E1CFB40-**
35	0.250"	10	25	5.6	4.2	3.6	2.6	1.8	RTA35F1CFB40-**
40	0.188"	10	25	2.0	1.2	-	-	-	RTA40D1CFB40-**
40	0.219"	10	35	3.0	1.8	1.6	-	-	RTA40E1CFB40-**
40	0.250"	10	35	4.0	2.6	2.4	1.6	-	RTA40F1CFB40-**
40	0.312"	10	30	5.8	4.2	3.8	2.8	2.0	RTA40G1CFB40-**
45	0.219"	10	40	1.6	-	-	-	-	RTA45E1CFB40-**
45	0.250"	10	30	2.6	1.6	1.2	-	-	RTA45F1CFB40-**
45	0.312"	10	35	4.2	2.8	2.4	1.6	-	RTA45G1CFB40-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F B 4 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Bullhorn Arm, Quad - 180°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

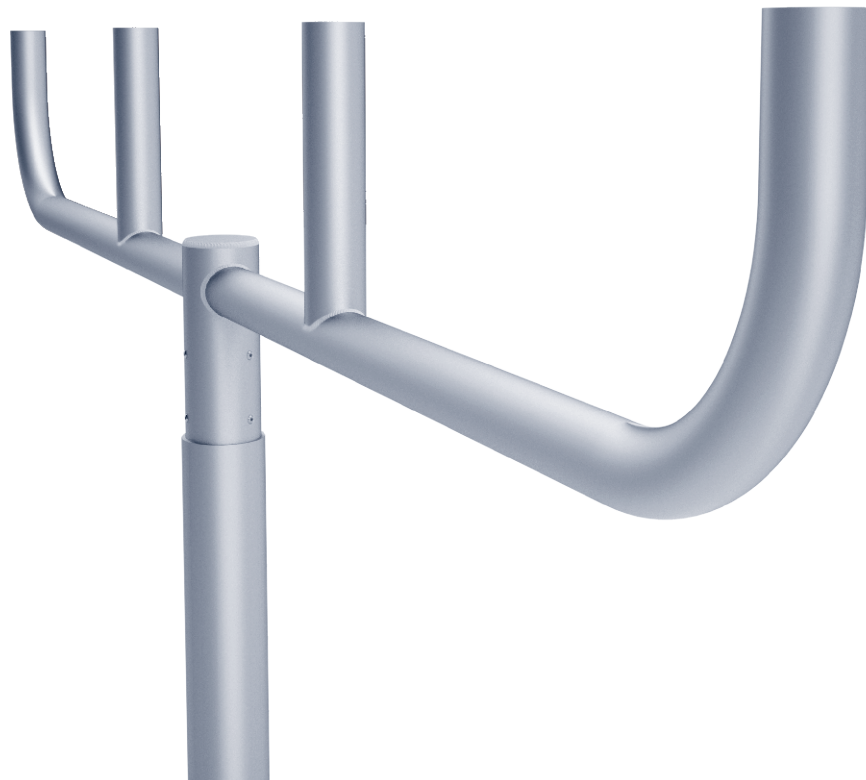
- 4 = Quad - 180°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

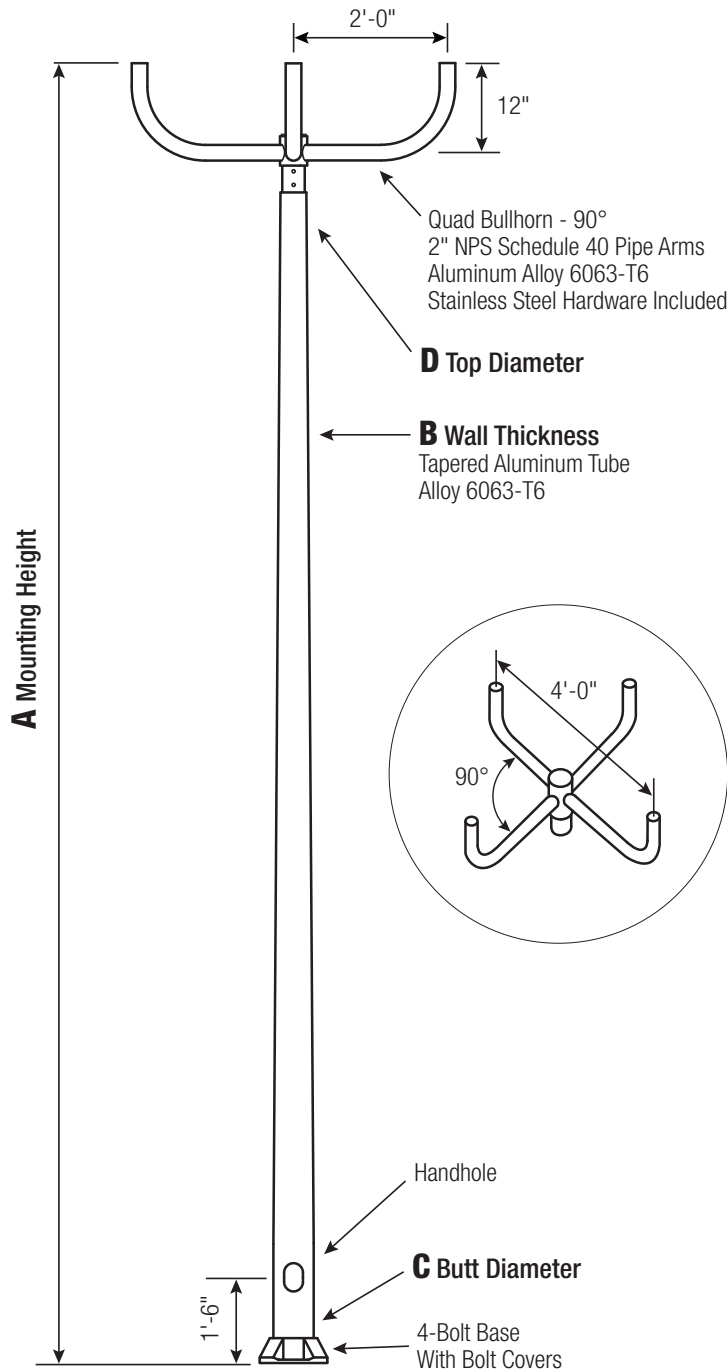


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Bullhorn 90° — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
6	4.5	9 - 10	9.75	2.75	1 x 36 x 4
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
10 Up To .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312" +	6	14 - 15	14	3.25	1.25 x 48 x 6
12*	6	16 - 18	17	3.75	1.25 x 48 x 6

*Two-Piece Pole Design

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

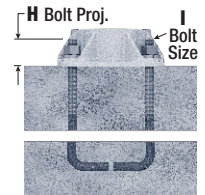
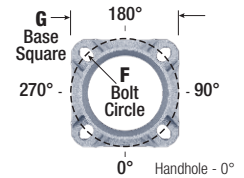
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

WARNING: Do not install light pole without luminaire.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	30	1.4	-	-	-	-	RTA20C6B4BD0-**
20	0.188"	6	25	2.2	1.2	-	-	-	RTA20D6B4BD0-**
20	0.156"	7	35	3.0	1.8	1.6	-	-	RTA20C7B4BD0-**
20	0.188"	7	25	4.0	2.8	2.4	1.8	1.2	RTA20D7B4BD0-**
20	0.188"	8	40	6.2	4.6	4.0	3.0	2.4	RTA20D8B4BD0-**
25	0.156"	7	30	1.2	-	-	-	-	RTA25C7B4BD0-**
25	0.188"	7	25	2.2	1.2	-	-	-	RTA25D7B4BD0-**
25	0.156"	8	30	2.6	1.6	1.4	-	-	RTA25C8B4BD0-**
25	0.188"	8	35	3.8	2.6	2.2	1.4	-	RTA25D8B4BD0-**
25	0.219"	8	35	4.8	3.4	3.0	2.2	1.6	RTA25E8B4BD0-**
25	0.250"	8	35	6.0	4.2	3.8	2.8	2.0	RTA25F8B4BD0-**
30	0.156"	8	30	1.2	-	-	-	-	RTA30C8B4BD0-**
30	0.188"	8	25	2.2	1.2	-	-	-	RTA30D8B4BD0-**
30	0.219"	8	35	3.0	1.8	1.6	-	-	RTA30E8B4BD0-**
30	0.250"	8	35	3.8	2.6	2.2	1.4	-	RTA30F8B4BD0-**
30	0.188"	10	30	5.4	4.0	3.6	2.6	2.0	RTA30D1C4BD0-**
30	0.219"	10	45	6.8	5.0	4.6	3.4	2.6	RTA30E1C4BD0-**
30	0.250"	10	60	8.2	6.2	5.6	4.4	3.4	RTA30F1C4BD0-**
35	0.219"	8	35	1.6	-	-	-	-	RTA35E8B4BD0-**
35	0.250"	8	30	2.2	1.2	-	-	-	RTA35F8B4BD0-**
35	0.188"	10	30	3.6	2.4	2.2	1.4	-	RTA35D1C4BD0-**
35	0.219"	10	35	4.8	3.4	3.0	2.2	1.4	RTA35E1C4BD0-**
35	0.250"	10	35	6.0	4.4	3.8	2.8	2.0	RTA35F1C4BD0-**
40	0.250"	8	25	1.2	-	-	-	-	RTA40F8B4BD0-**
40	0.188"	10	25	2.2	1.4	1.0	-	-	RTA40D1C4BD0-**
40	0.219"	10	25	3.2	2.2	1.8	1.2	-	RTA40E1C4BD0-**
40	0.250"	10	25	4.2	3.0	2.6	1.8	1.2	RTA40F1C4BD0-**
40	0.312"	10	35	6.0	4.4	4.0	3.0	2.2	RTA40G1C4BD0-**
45	0.188"	10	25	1.2	-	-	-	-	RTA45D1C4BD0-**
45	0.219"	10	25	2.0	1.0	-	-	-	RTA45E1C4BD0-**
45	0.250"	10	30	2.8	1.8	1.4	-	-	RTA45F1C4BD0-**
45	0.312"	10	25	4.4	3.0	2.8	1.8	1.2	RTA45G1C4BD0-**
45	0.250"	12	30	6.2	4.4	4.0	3.0	2.0	RTA45F2C4BD0-**
45	0.312"	12	55	8.4	6.2	5.6	4.4	3.2	RTA45G2C4BD0-**
45	0.375"	12	70	9.5	7.1	6.5	5.0	3.8	RTA45H2C4BD0-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B 4 B D 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Bullhorn Arm, Quad - 90°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"
- H = .375"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"
- 2 = 12"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- 4 = 4-Bolt Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

- D = Quad - 90°

Arm Length

- 0 = Standard Length

Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

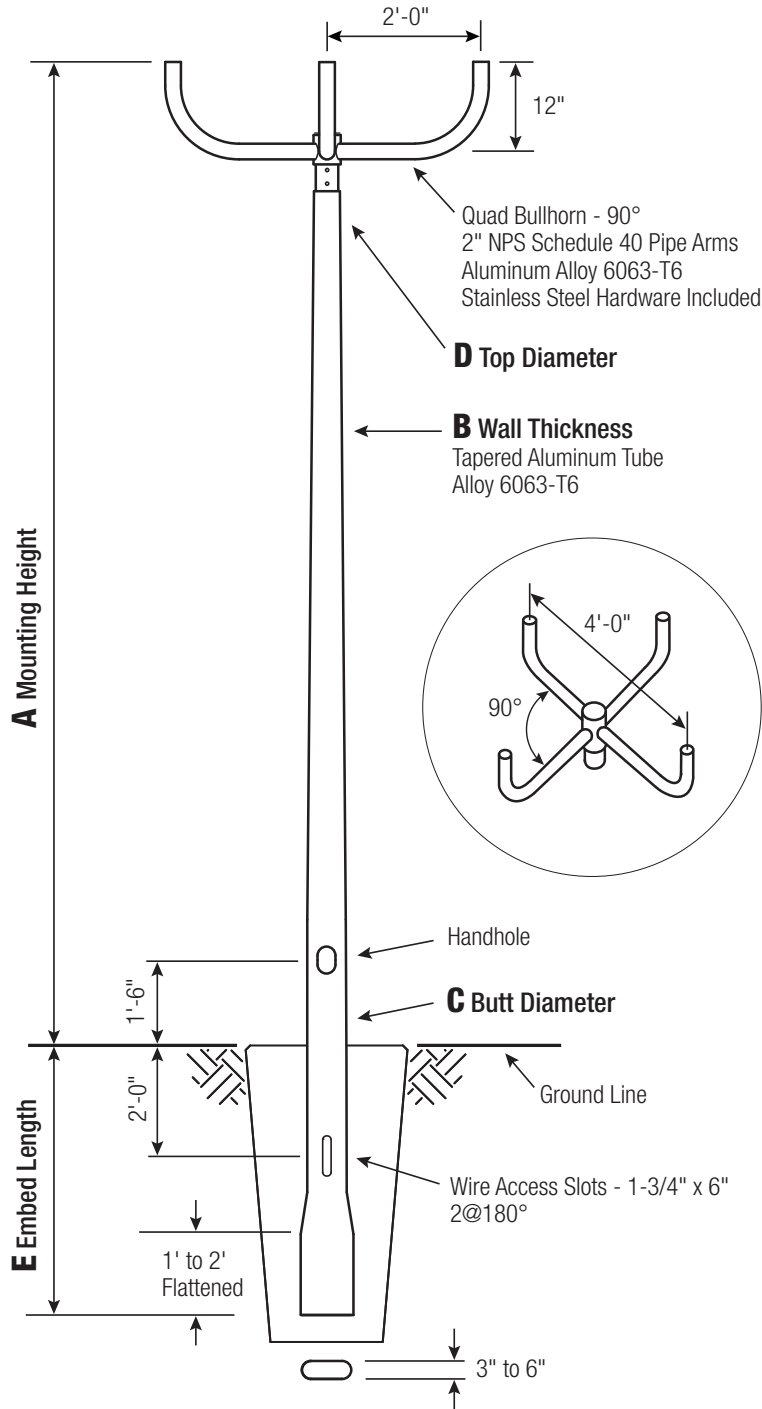


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Bullhorn 90° — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
6	4.5	4'
7	4.5	5'
8	4.5	5'
10	6	6'

C and D Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

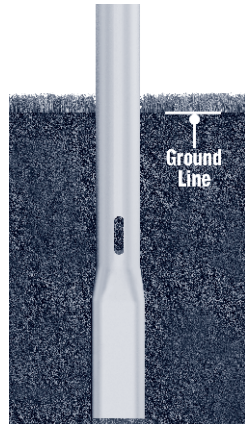
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.



Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	LUM. WEIGHT	MAXIMUM EPA PER ARM					CATALOG NUMBER
				90	100	110	120	130	
20	0.156"	6	25	2.0	1.2	-	-	-	RTA20C6BEED0-**
20	0.188"	6	35	2.8	1.8	1.6	-	-	RTA20D6BEED0-**
20	0.156"	7	35	3.8	2.6	2.2	1.6	-	RTA20C7BEED0-**
20	0.188"	7	25	5.2	3.6	3.2	2.4	1.8	RTA20D7BEED0-**
20	0.188"	8	55	7.6	5.6	5.0	3.8	3.0	RTA20D8BEED0-**
25	0.188"	6	25	1.2	-	-	-	-	RTA25D6BEED0-**
25	0.156"	7	25	2.0	1.0	-	-	-	RTA25C7BEED0-**
25	0.188"	7	35	3.0	1.8	1.6	-	-	RTA25D7BEED0-**
25	0.156"	8	30	3.4	2.4	2.0	1.4	-	RTA25C8BEED0-**
25	0.188"	8	35	4.8	3.4	3.0	2.2	1.6	RTA25D8BEED0-**
25	0.219"	8	35	6.2	4.4	4.0	3.0	2.2	RTA25E8BEED0-**
25	0.250"	8	50	7.2	5.4	4.8	3.6	2.8	RTA25F8BEED0-**
30	0.188"	7	30	1.4	-	-	-	-	RTA30D7BEED0-**
30	0.156"	8	25	2.0	1.0	-	-	-	RTA30C8BEED0-**
30	0.188"	8	35	3.0	1.8	1.6	-	-	RTA30D8BEED0-**
30	0.219"	8	35	4.0	2.6	2.4	1.6	-	RTA30E8BEED0-**
30	0.250"	8	35	5.0	3.4	3.0	2.2	1.6	RTA30F8BEED0-**
30	0.188"	10	45	6.8	5.0	4.6	3.4	2.6	RTA30D1CEED0-**
30	0.219"	10	60	8.4	6.4	5.8	4.4	3.4	RTA30E1CEED0-**
30	0.250"	10	80	9.8	7.6	6.8	5.4	4.2	RTA30F1CEED0-**
35	0.188"	8	35	1.4	-	-	-	-	RTA35D8BEED0-**
35	0.219"	8	25	2.4	1.4	1.2	-	-	RTA35E8BEED0-**
35	0.250"	8	40	3.2	2.0	1.6	-	-	RTA35F8BEED0-**
35	0.188"	10	35	4.8	3.4	3.0	2.2	1.4	RTA35D1CEED0-**
35	0.219"	10	35	6.2	4.4	4.0	3.0	2.2	RTA35E1CEED0-**
35	0.250"	10	50	7.4	5.4	5.0	3.8	2.8	RTA35F1CEED0-**
40	0.219"	8	25	1.2	-	-	-	-	RTA40E8BEED0-**
40	0.250"	8	40	1.8	-	-	-	-	RTA40F8BEED0-**
40	0.188"	10	25	3.2	2.2	1.8	1.2	-	RTA40D1CEED0-**
40	0.219"	10	25	4.4	3.0	2.8	1.8	1.2	RTA40E1CEED0-**
40	0.250"	10	25	5.6	4.0	3.6	2.6	1.8	RTA40F1CEED0-**
40	0.312"	10	50	7.6	5.6	5.0	3.8	3.0	RTA40G1CEED0-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E B D 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Bullhorn Arm, Quad - 90°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 6 = 6"
- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- E = Direct Buried

Arm Style

- B = Bullhorn Arm

Arm Quantity

- D = Quad - 90°

Arm Length

- 0 = Standard Length

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

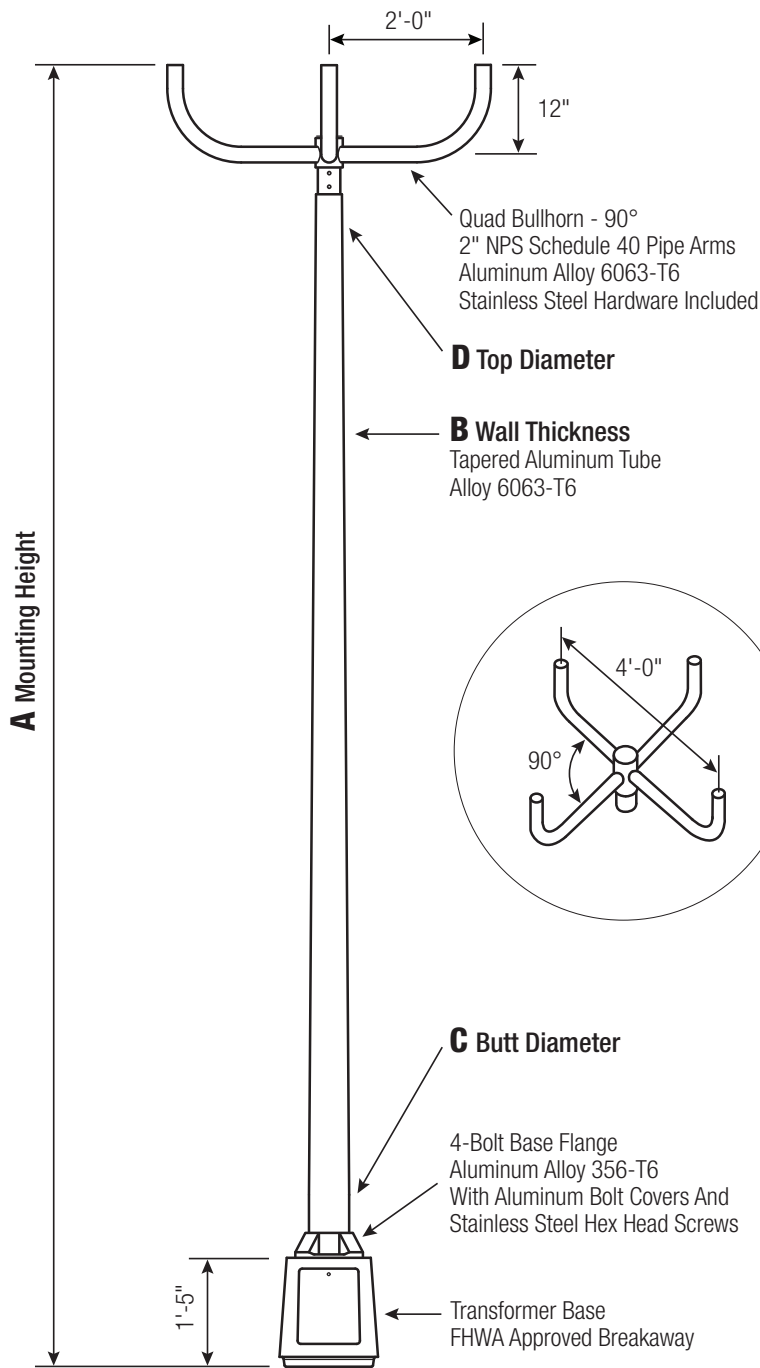


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RTA

Round Tapered Aluminum Pole with Arms Quad Bullhorn 90° — Breakaway T-Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
7	4.5	12	13.0625	3.5	1 x 36 x 4
8	4.5	15	15.375	3.5	1 x 36 x 4
10 Up To .250"	6	15	15.375	3.5	1 x 48 x 4
10 .312"	6	17.25	17.4375	3.5	1 x 48 x 4

Dimensions in Inches

Pole

Shaft and arm will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

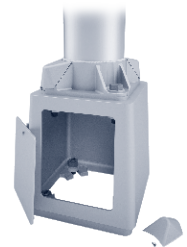
Base Style

Cast Aluminum Transformer Base (T-Base) of Alloy 356-T6 with Aluminum Door and Stainless Steel Hex Head Screw. FHWA Approved Breakaway.



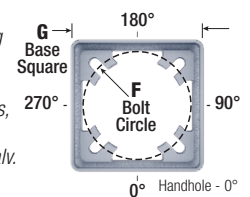
Handhole

7"-10" Butt Diameters - Tapered Door Opening (9-3/4" W Base x 9-1/4" W Top x 11-3/4" H) with Flush Mount Aluminum Cover and Stainless Steel Hex Head Screw. Grounding Provisions tapped 1/4"-20NC and 1/2"-13NC are provided.

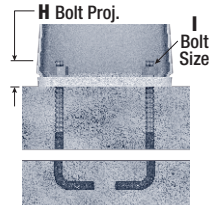


Anchorage

Base Anchorage includes four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, four (4) each Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). Ten inches (10") of threaded end will be galvanized per ASTM A153.



Top Connecting Hardware includes four (4) each 1"-8NC x 3-3/4" Hex Head Bolts, Flat Washers, Heavy-Duty Flat Washers, Lock Washers, and Hex Nuts (all components Galv. Steel). A bolt circle template will be provided.



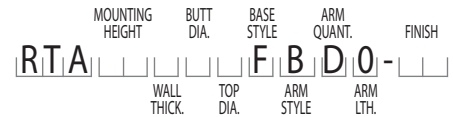
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Lum. Weight	MAXIMUM EPA PER TENON					CATALOG NUMBER
				90	100	110	120	130	
20	0.188"	7	25	4.0	2.8	2.4	1.8	1.2	RTA20D7BFBD0-**
20	0.188"	8	40	6.0	4.4	4.0	3.0	2.2	RTA20D8BFBD0-**
25	0.188"	7	25	2.2	1.2	-	-	-	RTA25D7BFBD0-**
25	0.188"	8	35	3.8	2.6	2.2	1.6	-	RTA25D8BFBD0-**
25	0.219"	8	35	4.8	3.4	3.0	2.2	1.6	RTA25E8BFBD0-**
25	0.250"	8	35	5.8	4.2	3.8	2.8	2.0	RTA25F8BFBD0-**
30	0.188"	8	25	2.2	1.2	-	-	-	RTA30D8BFBD0-**
30	0.219"	8	35	3.0	2.0	1.6	-	-	RTA30E8BFBD0-**
30	0.250"	8	35	3.8	2.6	2.2	1.4	-	RTA30F8BFBD0-**
30	0.188"	10	30	5.4	4.0	3.6	2.6	1.8	RTA30D1CFBD0-**
30	0.219"	10	45	6.8	5.0	4.6	3.4	2.6	RTA30E1CFBD0-**
30	0.250"	10	60	8.0	6.0	5.4	4.2	3.2	RTA30F1CFBD0-**
35	0.219"	8	35	1.6	-	-	-	-	RTA35E8BFBD0-**
35	0.250"	8	25	2.4	1.4	1.0	-	-	RTA35F8BFBD0-**
35	0.188"	10	30	3.6	2.6	2.2	1.4	-	RTA35D1CFBD0-**
35	0.219"	10	35	4.8	3.4	3.0	2.2	1.4	RTA35E1CFBD0-**
35	0.250"	10	35	5.8	4.4	3.8	2.8	2.0	RTA35F1CFBD0-**
40	0.250"	8	25	1.2	-	-	-	-	RTA40F8BFBD0-**
40	0.188"	10	25	2.4	1.4	1.2	-	-	RTA40D1CFBD0-**
40	0.219"	10	25	3.2	2.2	1.8	1.2	-	RTA40E1CFBD0-**
40	0.250"	10	25	4.2	3.0	2.6	1.8	1.2	RTA40F1CFBD0-**
40	0.312"	10	35	6.0	4.4	4.0	3.0	2.2	RTA40G1CFBD0-**
45	0.188"	10	25	1.2	-	-	-	-	RTA45D1CFBD0-**
45	0.219"	10	25	2.0	1.2	-	-	-	RTA45E1CFBD0-**
45	0.250"	10	35	2.8	1.8	1.4	-	-	RTA45F1CFBD0-**
45	0.312"	10	25	4.4	3.0	2.8	1.8	1.2	RTA45G1CFBD0-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B F B D 0 - 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Breakaway T-Base, Bullhorn Arm, Quad - 90°, Standard Arm Length, Satin Aluminum Finish.

Wall Thickness

- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 7 = 7"
- 8 = 8"
- 1 = 10"

Top Diameter

- B = 4.5"
- C = 6"

Base Style

- F = Breakaway T-Base

Arm Style

- B = Bullhorn Arm

Arm Quantity

- D = Quad - 90°

Arm Length

- 0 = Standard Length

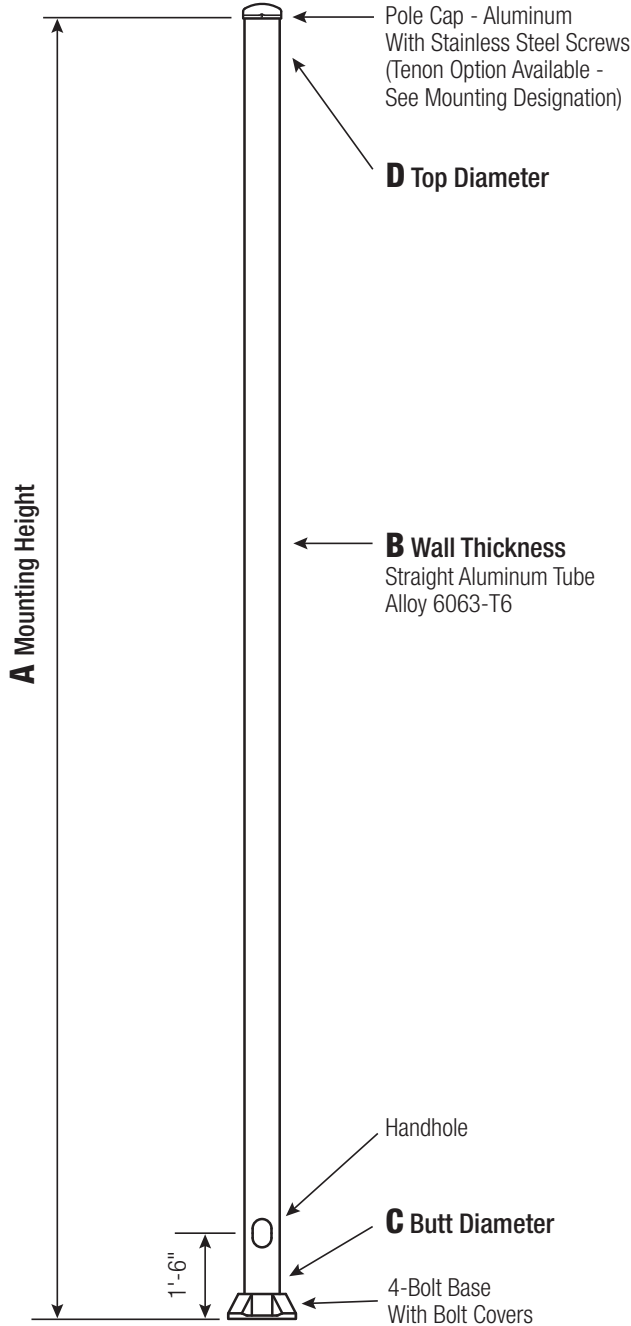
Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish



EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
4	4	6.5 - 8	7.5	2	.75 x 17 x 3
5	5	7.5 - 8	7.5	2	.75 x 17 x 3
6	6	9 - 10	9.75	2.75	.75 x 30 x 3*
7	7	10 - 11	10.5	2.75	1 x 36 x 4
8	8	11 - 12	11.25	2.75	1 x 36 x 4
9	9	12.5 - 14	12.75	2.75	1 x 36 x 4
10 Up To .250"	10	14 - 15	14	3.25	1 x 48 x 4
10 .312"	10	14 - 15	14	3.25	1.25 x 48 x 6

*1" x 36" x 4" Anchor Bolts can be specified for 6" butt diameter poles.

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.



Handhole

4"-5" Butt Diameters - 2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC hole is provided opposite the Handhole.

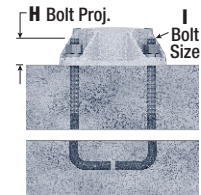
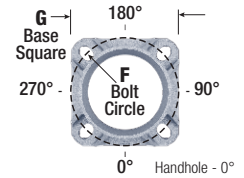
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.

Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153.

Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



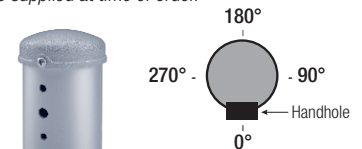
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).

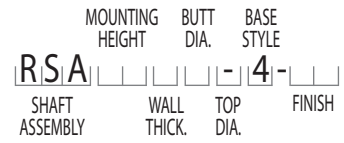


WARNING: Do not install light pole without luminaire.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL Lum. WEIGHT	MAXIMUM EPA					OLD Cat. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
08	0.125"	4	100	11.4	9.0	8.3	6.8	5.6	78-002	RSA08B4-4-**
10	0.125"	4	100	8.1	6.2	5.7	4.6	3.7	78-003	RSA10B4-4-**
10	0.125"	5	100	15.8	12.4	11.6	9.6	8.2	78-012	RSA10B5-4-**
12	0.125"	4	70	6.0	4.4	4.0	3.1	2.3	78-004	RSA12B4-4-**
12	0.125"	5	100	12.0	9.4	8.6	7.2	6.0	78-009	RSA12B5-4-**
12	0.156"	5	100	15.4	12.0	11.2	9.2	7.8		RSA12C5-4-**
12	0.188"	5	100	18.6	14.6	13.6	11.2	9.5		RSA12D5-4-**
14	0.125"	4	40	4.4	3.1	2.7	1.9	1.3	78-005	RSA14B4-4-**
14	0.125"	5	100	9.2	7.0	6.4	5.2	4.4	78-010	RSA14B5-4-**
14	0.156"	5	100	12.0	9.2	8.6	7.0	5.8		RSA14C5-4-**
14	0.188"	5	100	14.8	11.4	10.6	8.8	7.4		RSA14D5-4-**
16	0.125"	4	40	3.1	2.0	1.7	1.0	-	78-006	RSA16B4-4-**
16	0.125"	5	100	7.1	5.1	4.7	3.8	3.1	78-011	RSA16B5-4-**
16	0.156"	5	100	9.4	7.0	6.5	5.3	4.4	78-029	RSA16C5-4-**
16	0.188"	5	100	11.8	9.0	8.2	6.8	5.6	78-030	RSA16D5-4-**
16	0.156"	6	100	19.2	15.4	14.4	11.8	10.0		RSA16C6-4-**
16	0.188"	6	100	23.8	19.0	17.6	14.6	12.4		RSA16D6-4-**
18	0.125"	5	60	5.4	3.6	3.3	2.6	2.0	78-007	RSA18B5-4-**
18	0.156"	5	100	7.2	5.2	4.8	3.8	3.1	78-031	RSA18C5-4-**
18	0.188"	5	100	9.2	6.8	6.2	5.1	4.2	78-032	RSA18D5-4-**
18	0.188"	6	100	19.6	15.6	14.6	12.0	10.0		RSA18D6-4-**
20	0.125"	5	40	3.8	2.3	2.1	1.5	1.1	78-008	RSA20B5-4-**
20	0.156"	5	60	5.6	3.7	3.4	2.6	2.1	78-033	RSA20C5-4-**
20	0.188"	5	95	7.2	5.0	4.6	3.7	3.0	78-034	RSA20D5-4-**
20	0.125"	6	100	9.4	7.4	6.8	5.6	4.6	55-001	RSA20B6-4-**
20	0.156"	6	100	12.8	10.2	9.4	7.6	6.4	55-002	RSA20C6-4-**
20	0.188"	6	100	16.2	12.8	12.0	9.8	8.2	55-003	RSA20D6-4-**
20	0.156"	7	100	20.0	15.8	14.8	12.2	10.2	55-004	RSA20C7-4-**
20	0.188"	7	100	24.6	19.6	18.4	15.2	12.8	55-005	RSA20D7-4-**
20	0.156"	8	100	28.2	22.4	21.0	17.4	14.6	55-006	RSA20C8-4-**
20	0.188"	8	100	34.4	27.6	25.6	21.4	18.0	55-007	RSA20D8-4-**
25	0.156"	6	100	7.4	5.6	5.2	4.1	3.3	55-062	RSA25C6-4-**
25	0.188"	6	100	10.0	7.6	7.1	5.7	4.6	55-063	RSA25D6-4-**
25	0.156"	7	100	13.0	10.2	9.4	7.6	6.3	55-064	RSA25C7-4-**
25	0.188"	7	100	16.4	13.0	12.0	9.8	8.2	55-065	RSA25D7-4-**
25	0.156"	8	100	19.2	15.2	14.2	11.6	9.8	55-066	RSA25C8-4-**
25	0.188"	8	100	24.0	19.0	17.8	14.6	12.2	55-067	RSA25D8-4-**
25	0.219"	8	100	28.6	22.8	21.2	17.6	14.8	55-068	RSA25E8-4-**
25	0.250"	8	100	33.0	26.4	24.4	20.4	17.2	55-069	RSA25F8-4-**
30	0.188"	6	60	5.6	4.2	3.8	2.9	2.2	55-123	RSA30D6-4-**
30	0.156"	7	100	8.0	6.0	5.6	4.4	3.5	55-124	RSA30C7-4-**
30	0.188"	7	100	10.8	8.4	7.7	6.2	5.0	55-125	RSA30D7-4-**
30	0.156"	8	100	13.2	10.2	9.4	7.6	6.3	55-126	RSA30C8-4-**
30	0.188"	8	100	17.0	13.4	12.4	10.0	8.4	55-127	RSA30D8-4-**
30	0.219"	8	100	20.6	16.2	15.0	12.4	10.4	55-128	RSA30E8-4-**
30	0.250"	8	100	24.0	19.0	17.8	14.6	12.2	55-129	RSA30F8-4-**
30	0.188"	9	100	23.8	18.8	17.6	14.4	11.6	55-131	RSA30D9-4-**
30	0.250"	9	100	33.0	26.2	24.4	20.2	16.4	55-133	RSA30F9-4-**
30	0.188"	10	100	31.4	25.2	23.2	18.6	15.0	55-139	RSA30D1-4-**
35	0.156"	8	100	8.6	6.4	6.0	4.7	3.8	55-186	RSA35C8-4-**
35	0.188"	8	100	11.8	9.0	8.4	6.6	5.4	55-187	RSA35D8-4-**
35	0.219"	8	100	14.6	11.4	10.6	8.6	7.0	55-188	RSA35E8-4-**
35	0.250"	8	100	17.6	13.8	12.8	10.4	8.6	55-189	RSA35F8-4-**
35	0.188"	9	100	17.4	13.6	12.6	10.2	7.8	55-191	RSA35D9-4-**
35	0.250"	9	100	25.0	19.8	18.4	15.0	12.0	55-193	RSA35F9-4-**
35	0.188"	10	100	24.0	19.0	17.4	13.6	10.6	55-199	RSA35D1-4-**
35	0.219"	10	100	28.8	22.8	21.0	16.6	13.2	55-200	RSA35E1-4-**
35	0.250"	10	100	33.6	26.8	24.4	19.6	15.8	55-201	RSA35F1-4-**
35	0.312"	10	100	37.0	29.6	27.2	22.0	17.8	55-202	RSA35G1-4-**
40	0.188"	8	80	7.6	5.8	5.2	4.0	3.1	55-247	RSA40D8-4-**
40	0.219"	8	100	10.0	7.6	7.0	5.6	4.4	55-248	RSA40E8-4-**
40	0.250"	8	100	12.6	9.6	8.8	7.0	5.8	55-249	RSA40F8-4-**
40	0.188"	9	100	12.6	9.6	9.0	7.0	5.0	55-251	RSA40D9-4-**
40	0.250"	9	100	19.0	14.8	13.8	11.0	8.4	55-253	RSA40F9-4-**
40	0.188"	10	100	18.2	14.2	12.8	9.6	7.2	55-259	RSA40D1-4-**
40	0.219"	10	100	22.2	17.4	16.0	12.2	9.4	55-260	RSA40E1-4-**
40	0.250"	10	100	26.2	20.8	19.0	14.8	11.6	55-261	RSA40F1-4-**
40	0.312"	10	100	29.4	23.4	21.4	16.8	13.4	55-262	RSA40G1-4-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RSA 30 D 8 - 4 - 01

Round Straight Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, No Taper, 4-Bolt Base, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 4 = 4"
- 5 = 5"
- 6 = 6"
- 7 = 7"
- 8 = 8"
- 9 = 9"
- 1 = 10"

Top Diameter

- = No Taper

Base Style

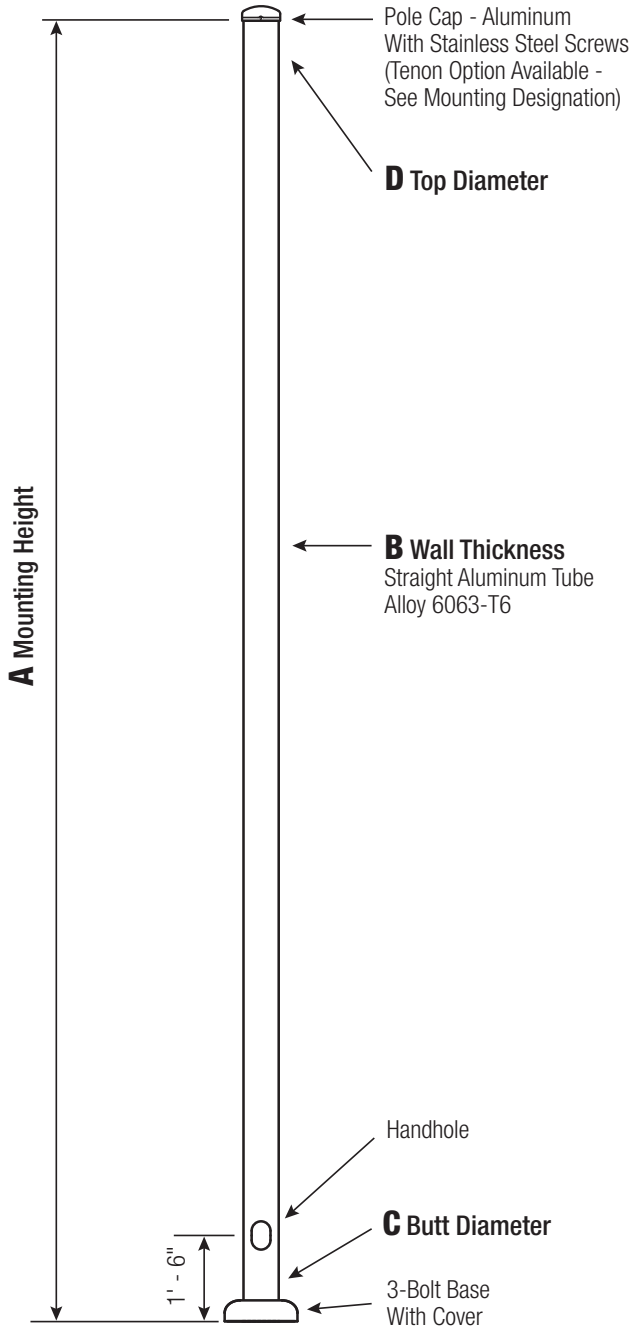
4 = 4-Bolt Base

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G COVER DIA.	H BOLT PROJ.	I BOLT SIZE
4	4	7	9.0625	2	.75 x 17 x 3
5	5	8	10.375	2	.75 x 17 x 3

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

3-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Spun Aluminum Base Cover and Stainless Steel Hex Head Attaching Screw.



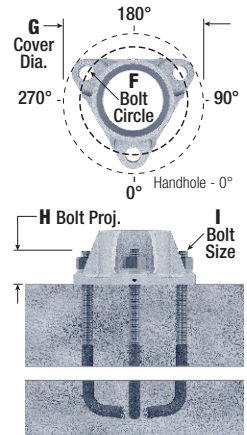
Handhole

4"-5" Butt Diameters - 2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC hole is provided opposite the Handhole.



Anchorage

Anchorage Kit will include three (3) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of Threaded End will be Galvanized per ASTM A153. Kits will contain three (3) Hex Nuts, three (3) Lock Washers, and three (3) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



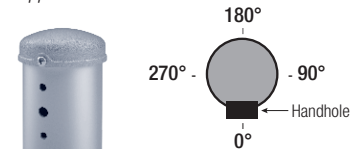
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

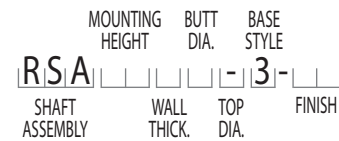
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).



A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
06	0.125"	4	100	15.6	12.4	11.6	9.6	8.0	76S-001	RSA06B4-3-**-
08	0.125"	4	100	10.6	8.4	7.7	6.3	5.1	76S-002	RSA08B4-3-**-
10	0.125"	4	100	7.6	5.8	5.3	4.2	3.3	76S-003	RSA10B4-3-**-
10	0.125"	5	100	15.0	11.8	11.0	9.0	7.6	76S-017	RSA10B5-3-**-
12	0.125"	4	60	5.6	4.2	3.7	2.8	2.1	76S-004	RSA12B4-3-**-
12	0.125"	5	100	11.4	8.8	8.2	6.7	5.6	76S-009	RSA12B5-3-**-
12	0.156"	5	100	14.6	11.4	10.6	8.8	7.4		RSA12C5-3-**-
12	0.188"	5	100	17.8	13.8	12.8	10.7	9.0		RSA12D5-3-**-
14	0.125"	4	40	4.1	2.9	2.5	1.7	1.1	76S-005	RSA14B4-3-**-
14	0.125"	5	100	8.8	6.6	6.0	4.9	4.1	76S-010	RSA14B5-3-**-
14	0.156"	5	100	11.4	8.8	8.0	6.6	5.5		RSA14C5-3-**-
14	0.188"	5	100	14.2	10.8	10.0	8.4	7.0		RSA14D5-3-**-
16	0.125"	4	55	2.8	1.7	1.4	-	-	76S-006	RSA16B4-3-**-
16	0.125"	5	95	6.8	4.8	4.4	3.5	2.9	76S-011	RSA16B5-3-**-
16	0.156"	5	100	9.0	6.6	6.2	5.0	4.1	76S-029	RSA16C5-3-**-
16	0.188"	5	100	11.4	8.6	7.8	6.4	5.4	76S-030	RSA16D5-3-**-
18	0.125"	5	55	5.0	3.4	3.0	2.4	1.9	76S-007	RSA18B5-3-**-
18	0.156"	5	95	6.9	4.9	4.4	3.6	2.9	76S-031	RSA18C5-3-**-
18	0.188"	5	100	8.8	6.4	6.0	4.8	3.9	76S-032	RSA18D5-3-**-
20	0.125"	5	40	3.6	2.1	1.9	1.3	0.9	76S-008	RSA20B5-3-**-
20	0.156"	5	55	5.3	3.5	3.1	2.4	1.9	76S-033	RSA20C5-3-**-
20	0.188"	5	85	6.9	4.8	4.4	3.4	2.8	76S-034	RSA20D5-3-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RSA 20 D 5 - 3 - 01

Round Straight Aluminum, 20' Mounting Height, .188" Wall Thickness, 5" Butt Diameter, No Taper, 3-Bolt Base, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"

Butt Diameter

- 4 = 4"
- 5 = 5"

Top Diameter

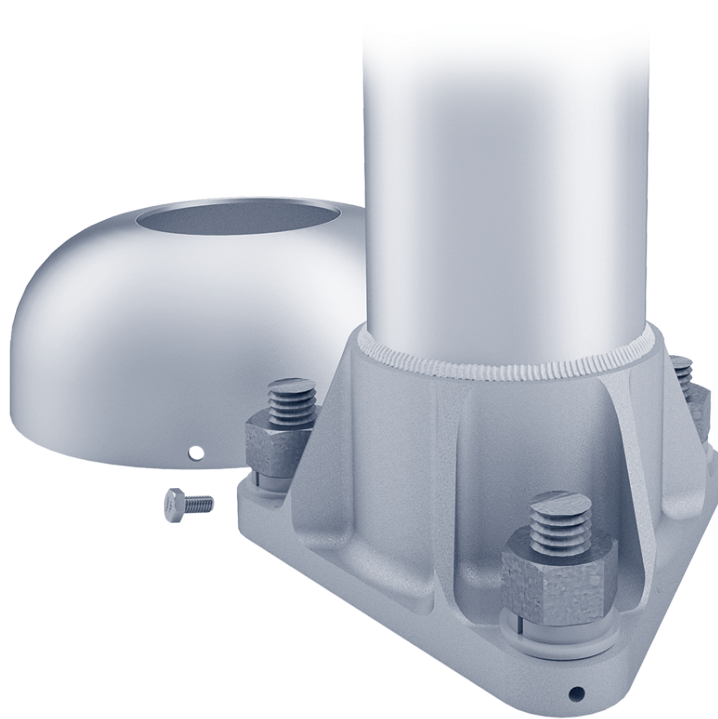
- = No Taper

Base Style

- 3 = 3-Bolt Base

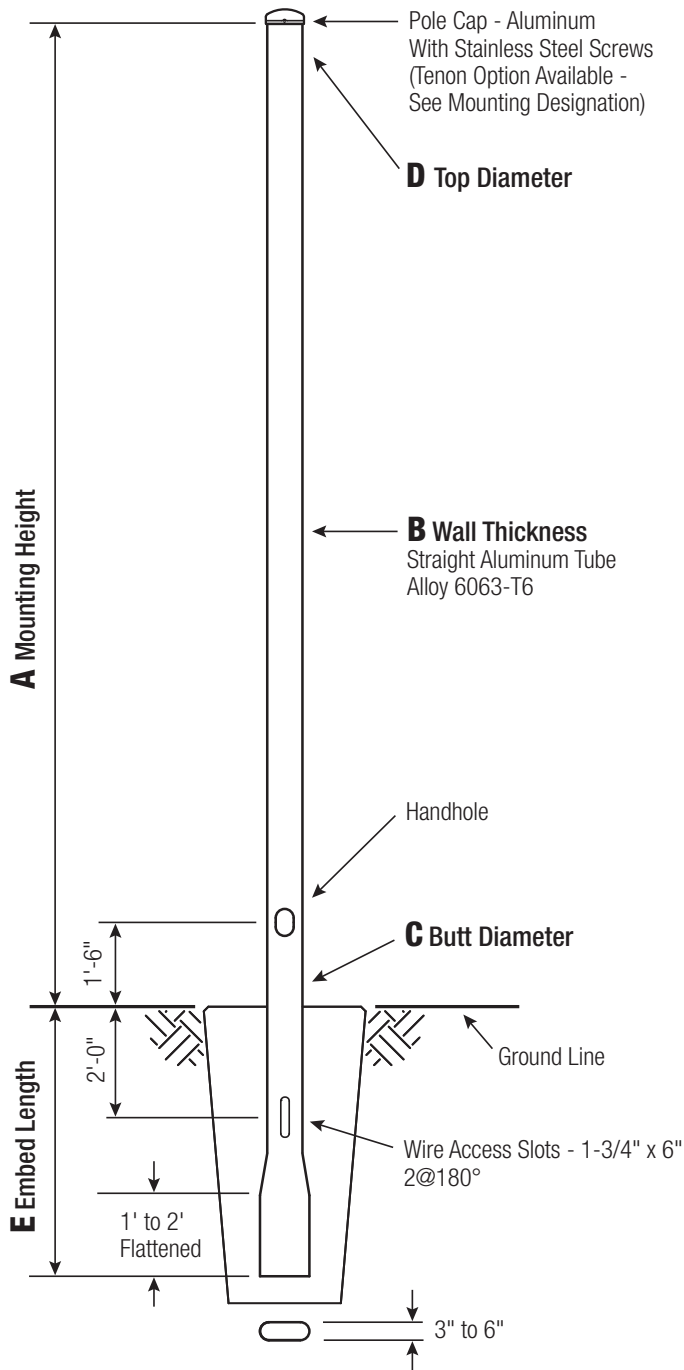
Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish



EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	E EMBED
4	4	3'
5	5	3'
6	6	4'
7	7	5'
8	8	5'
9	9	6'
10	10	6'

C and D Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

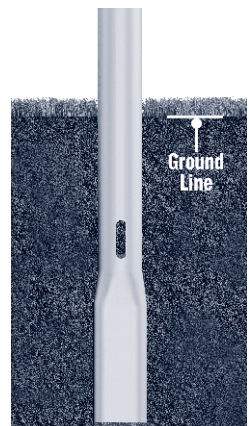
4"-5" Butt Diameter - 2-1/2" x 5" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision is provided as part of the handhole.

6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.

Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



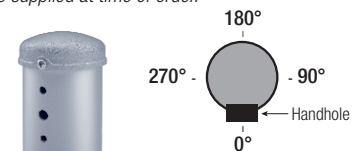
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

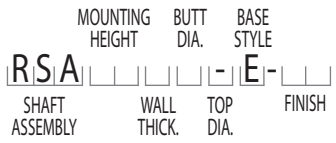
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).



A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL Lum. WEIGHT	MAXIMUM EPA					CATALOG NUMBER
				90	100	110	120	130	
08	0.125"	4	100	11.4	9.0	8.3	6.8	5.6	RSA08B4-E-**
10	0.125"	4	100	8.1	6.2	5.7	4.6	3.7	RSA10B4-E-**
10	0.125"	5	100	15.8	12.4	11.6	9.6	8.2	RSA10B5-E-**
12	0.125"	4	70	6.0	4.4	4.0	3.1	2.3	RSA12B4-E-**
12	0.125"	5	100	12.0	9.3	8.6	7.2	6.0	RSA12B5-E-**
12	0.156"	5	100	15.4	12.0	11.2	9.2	7.8	RSA12C5-E-**
12	0.188"	5	100	18.6	14.6	13.6	11.2	9.5	RSA12D5-E-**
14	0.125"	4	40	4.4	3.1	2.7	1.9	1.3	RSA14B4-E-**
14	0.125"	5	100	9.2	7.0	6.4	5.2	4.4	RSA14B5-E-**
14	0.156"	5	100	12.0	9.2	8.5	7.0	5.8	RSA14C5-E-**
14	0.188"	5	100	14.8	11.4	10.6	8.8	7.4	RSA14D5-E-**
16	0.125"	4	40	3.1	2.0	1.7	0.9	-	RSA16B4-E-**
16	0.125"	5	100	7.1	5.1	4.7	3.8	3.1	RSA16B5-E-**
16	0.156"	5	100	9.4	7.0	6.5	5.3	4.4	RSA16C5-E-**
16	0.188"	5	100	11.8	9.0	8.2	6.8	5.6	RSA16D5-E-**
16	0.156"	6	100	22.8	18.2	17.0	14.0	11.8	RSA16C6-E-**
16	0.188"	6	100	25.8	20.6	19.2	16.0	13.4	RSA16D6-E-**
18	0.125"	5	60	5.4	3.6	3.3	2.6	2.0	RSA18B5-E-**
18	0.156"	5	100	7.2	5.2	4.8	3.8	3.1	RSA18C5-E-**
18	0.188"	5	100	9.2	6.8	6.2	5.1	4.2	RSA18D5-E-**
18	0.188"	6	100	21.6	17.2	16.0	13.2	11.2	RSA18D6-E-**
20	0.125"	5	40	3.8	2.3	2.1	1.5	1.1	RSA20B5-E-**
20	0.156"	5	60	5.6	3.7	3.4	2.6	2.1	RSA20C5-E-**
20	0.188"	5	95	7.2	5.0	4.6	3.7	2.9	RSA20D5-E-**
20	0.125"	6	100	11.6	9.2	8.4	6.9	5.7	RSA20B6-E-**
20	0.156"	6	100	15.6	12.4	11.4	9.4	7.8	RSA20C6-E-**
20	0.188"	6	100	18.0	14.4	13.2	11.0	9.2	RSA20D6-E-**
20	0.156"	7	100	23.8	19.0	17.6	14.6	12.2	RSA20C7-E-**
20	0.188"	7	100	26.6	21.2	19.8	16.4	13.8	RSA20D7-E-**
20	0.156"	8	100	33.2	26.6	24.6	20.6	17.4	RSA20C8-E-**
20	0.188"	8	100	36.4	29.4	27.2	22.8	19.2	RSA20D8-E-**
25	0.156"	6	100	9.4	7.2	6.8	5.4	4.4	RSA25C6-E-**
25	0.188"	6	100	11.6	9.0	8.4	6.8	5.4	RSA25D6-E-**
25	0.156"	7	100	15.8	12.4	11.6	9.4	7.8	RSA25C7-E-**
25	0.188"	7	100	18.2	14.4	13.4	11.0	9.2	RSA25D7-E-**
25	0.156"	8	100	23.0	18.4	17.0	14.0	11.8	RSA25C8-E-**
25	0.188"	8	100	25.8	20.6	19.2	15.8	13.2	RSA25D8-E-**
25	0.219"	8	100	25.8	20.6	19.2	15.8	13.2	RSA25E8-E-**
25	0.250"	8	100	25.8	20.6	19.2	15.8	13.2	RSA25F8-E-**
30	0.188"	6	40	7.0	5.2	4.8	3.8	2.8	RSA30D6-E-**
30	0.156"	7	100	10.4	8.0	7.4	5.8	4.8	RSA30C7-E-**
30	0.188"	7	100	12.4	9.6	9.0	7.2	5.8	RSA30D7-E-**
30	0.156"	8	100	16.2	12.8	11.8	9.6	8.0	RSA30C8-E-**
30	0.188"	8	100	18.6	14.6	13.6	11.2	9.2	RSA30D8-E-**
30	0.219"	8	100	18.6	14.6	13.6	11.2	9.2	RSA30E8-E-**
30	0.250"	8	100	18.6	14.6	13.6	11.2	9.2	RSA30F8-E-**
30	0.188"	9	100	25.6	20.4	18.8	15.4	12.4	RSA30D9-E-**
30	0.250"	9	100	25.6	20.4	18.8	15.4	12.4	RSA30F9-E-**
30	0.188"	10	100	33.4	26.6	24.4	19.8	16.0	RSA30D1-E-**
35	0.156"	8	100	11.2	8.6	7.8	6.3	5.1	RSA35C8-E-**
35	0.188"	8	100	13.4	10.4	9.6	7.6	6.2	RSA35D8-E-**
35	0.219"	8	100	13.4	10.4	9.6	7.6	6.2	RSA35E8-E-**
35	0.250"	8	100	13.4	10.4	9.6	7.6	6.2	RSA35F8-E-**
35	0.188"	9	100	19.2	15.0	14.0	11.2	8.8	RSA35D9-E-**
35	0.250"	9	100	19.2	15.0	14.0	11.2	8.8	RSA35F9-E-**
35	0.188"	10	100	25.6	20.4	18.6	14.6	11.6	RSA35D1-E-**
35	0.219"	10	100	25.6	20.4	18.6	14.6	11.6	RSA35E1-E-**
35	0.250"	10	100	25.6	20.4	18.6	14.6	11.6	RSA35F1-E-**
35	0.312"	10	100	25.6	20.4	18.6	14.6	11.6	RSA35G1-E-**
40	0.188"	8	100	9.2	7.0	6.4	5.0	4.0	RSA40D8-E-**
40	0.219"	8	100	9.2	7.0	6.4	5.0	4.0	RSA40E8-E-**
40	0.250"	8	100	9.2	7.0	6.4	5.0	4.0	RSA40F8-E-**
40	0.188"	9	100	14.2	11.0	10.2	8.0	6.0	RSA40D9-E-**
40	0.250"	9	100	14.2	11.0	10.2	8.0	6.0	RSA40F9-E-**
40	0.188"	10	100	19.8	15.6	14.0	10.8	8.2	RSA40D1-E-**
40	0.219"	10	100	19.8	15.6	14.0	10.8	8.2	RSA40E1-E-**
40	0.250"	10	100	19.8	15.6	14.0	10.8	8.2	RSA40F1-E-**
40	0.312"	10	100	19.8	15.6	14.0	10.8	8.2	RSA40G1-E-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RSA 30 D 8 - E - 01

Round Straight Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, No Taper, Direct Buried, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"
- E = .219"
- F = .250"
- G = .312"

Butt Diameter

- 4 = 4"
- 5 = 5"
- 6 = 6"
- 7 = 7"
- 8 = 8"
- 9 = 9"
- 1 = 10"

Top Diameter

- = No Taper

Base Style

E = Direct Buried

Finish

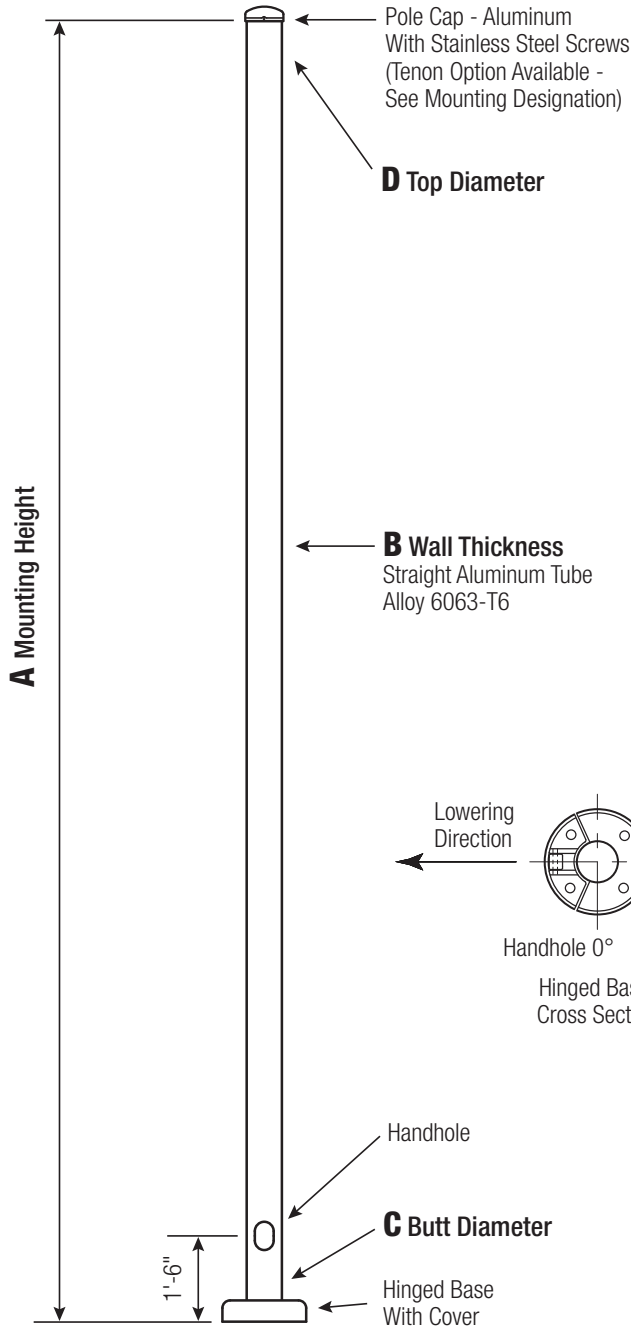
- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

RSA

Round Straight Aluminum Pole No Arm — Hinged Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G COVER DIA.	H BOLT PROJ.	I BOLT SIZE
4	4	7	9.75	2	.75 x 17 x 3
5	5	8.5	11.25	2	.75 x 17 x 3

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

Hinged Cast Aluminum Base Flange of Alloy 356-T6 with 2-Piece Cast Aluminum Base Cover and Stainless Steel Tamper-Resistant Attaching Screws.



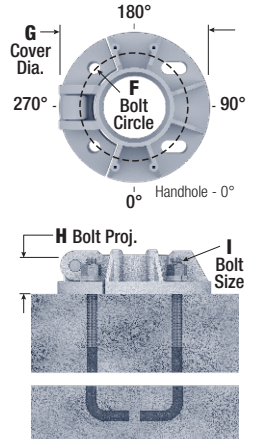
Handhole

4"-5" Butt Diameters - 2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1 1/4"-20NC hole is provided opposite the Handhole.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of Threaded End will be Galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



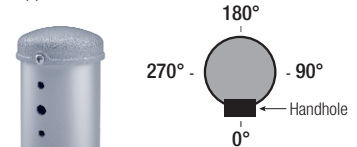
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).

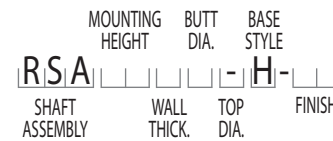


WARNING: Do not install light pole without luminaire.

A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
06	0.125"	4	100	15.6	12.4	11.6	9.6	8.0	73145-001	RSA06B4-H-**
06	0.156"	4	100	19.2	15.4	14.2	11.8	10.0		RSA06C4-H-**
06	0.188"	4	100	22.6	18.2	16.8	14.0	11.8		RSA06D4-H-**
08	0.125"	4	100	10.6	8.4	7.7	6.3	5.1	73145-002	RSA08B4-H-**
08	0.156"	4	100	13.2	10.4	9.6	7.9	6.6		RSA08C4-H-**
08	0.188"	4	100	15.6	12.4	11.6	9.5	7.9		RSA08D4-H-**
10	0.125"	4	100	7.6	5.8	5.3	4.2	3.3	73145-003	RSA10B4-H-**
10	0.156"	4	100	9.6	7.4	6.8	5.5	4.4		RSA10C4-H-**
10	0.188"	4	100	11.6	9.0	8.4	6.8	5.5		RSA10D4-H-**
10	0.125"	5	100	15.0	11.8	11.0	9.0	7.6		RSA10B5-H-**
10	0.156"	5	100	18.8	14.8	13.8	11.6	9.8		RSA10C5-H-**
12	0.125"	4	60	5.6	4.2	3.7	2.8	2.1	73145-004	RSA12B4-H-**
12	0.156"	4	95	7.2	5.4	4.9	3.8	2.9		RSA12C4-H-**
12	0.188"	4	100	8.8	6.7	6.1	4.8	3.8		RSA12D4-H-**
12	0.125"	5	100	11.4	8.8	8.2	6.7	5.6	73145-006	RSA12B5-H-**
12	0.156"	5	100	14.6	11.4	10.6	8.8	7.4		RSA12C5-H-**
14	0.125"	4	40	4.1	2.9	2.5	1.7	1.1	73145-005	RSA14B4-H-**
14	0.156"	4	55	5.4	4.0	3.5	2.6	1.9		RSA14C4-H-**
14	0.188"	4	80	6.8	5.0	4.5	3.4	2.5		RSA14D4-H-**
14	0.125"	5	100	8.8	6.6	6.0	4.9	4.1	73145-007	RSA14B5-H-**
14	0.156"	5	100	11.4	8.8	8.0	6.6	5.5		RSA14C5-H-**
16	0.125"	4	55	2.8	1.7	1.4	-	-		RSA16B4-H-**
16	0.156"	4	55	4.0	2.7	2.3	1.5	-		RSA16C4-H-**
16	0.188"	4	45	5.2	3.7	3.3	2.3	1.5		RSA16D4-H-**
16	0.125"	5	95	6.8	4.8	4.4	3.5	2.9	73145-008	RSA16B5-H-**
16	0.156"	5	100	9.0	6.6	6.2	5.0	4.1		RSA16C5-H-**
18	0.125"	5	55	5.0	3.4	3.0	2.4	1.9	73145-009	RSA18B5-H-**
18	0.156"	5	95	6.9	4.9	4.4	3.6	2.9		RSA18C5-H-**
20	0.125"	5	40	3.6	2.1	1.9	1.3	0.9	73145-010	RSA20B5-H-**
20	0.156"	5	55	5.3	3.5	3.1	2.4	1.9		RSA20C5-H-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RSA 20 C 5 - H - 01

Round Straight Aluminum, 20' Mounting Height, .156" Wall Thickness, 5" Butt Diameter, No Taper, Hinged Base, Satin Aluminum Finish.

Wall Thickness

- B = .125"
- C = .156"
- D = .188"

Butt Diameter

- 4 = 4"
- 5 = 5"

Top Diameter

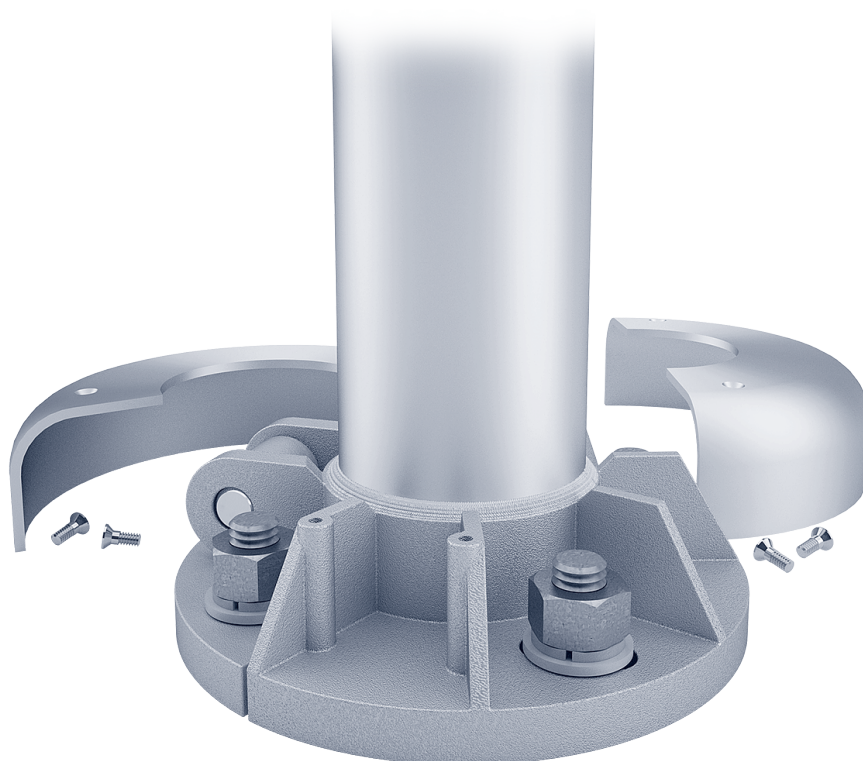
- = No Taper

Base Style

- H = Hinged Base

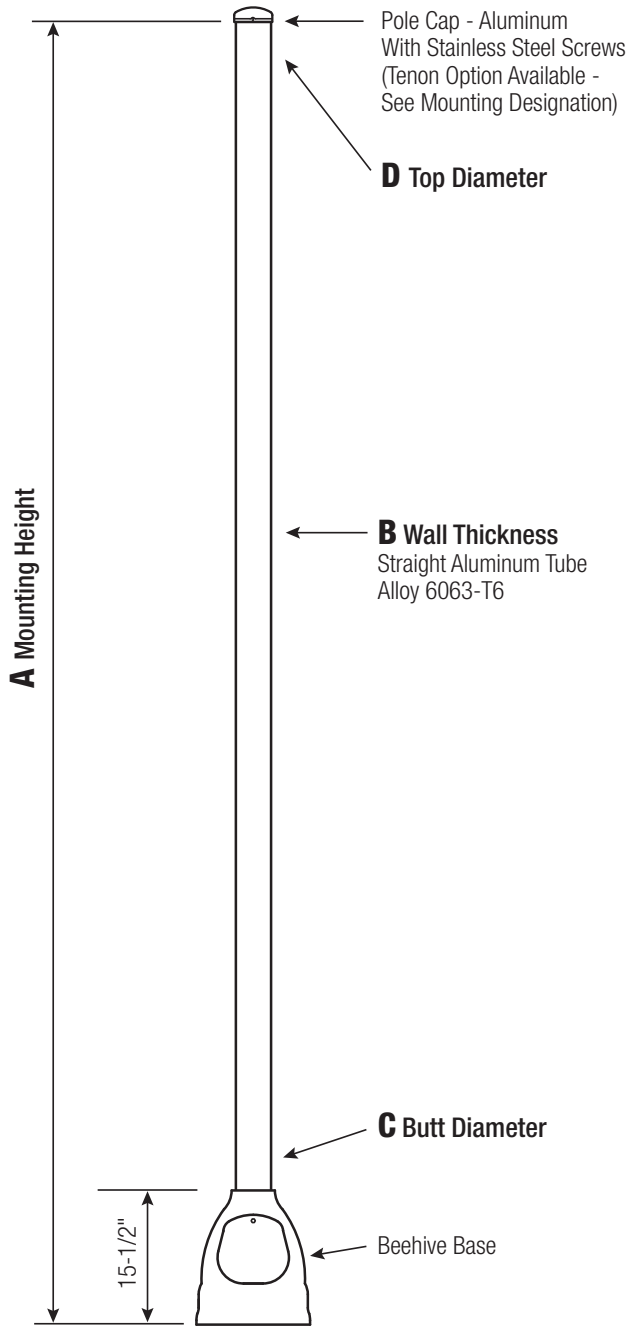
Finish

- O1 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish



EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT DIA.	D TOP DIA.	F BOLT CIR. DIA.	G BASE DIA.	H BOLT PROJ.	I BOLT SIZE
4	4	9	13.125	1.75	.75 x 17 x 3
5	5	9	13.125	1.75	.75 x 17 x 3

Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

Bee Hive Cast Aluminum Transformer Base of Alloy 356-T6 with Aluminum Door and Stainless Steel Attaching Screw.



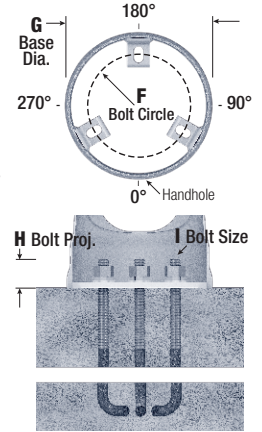
Handhole

4"-5" Butt Diameters - Contoured 7-1/2" W x 7-1/4" H Door Opening with Flush Mount Aluminum Door (Alloy 43F) and Stainless Steel Hex Head Screw. A Grounding Provision incorporating a 3/8" diameter hole is provided.



Anchorage

Anchorage Kit will include three (3) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of Threaded End will be Galvanized per ASTM A153. Kits will contain three (3) Hex Nuts, three (3) Lock Washers, and three (3) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



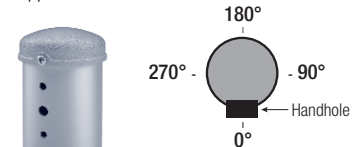
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

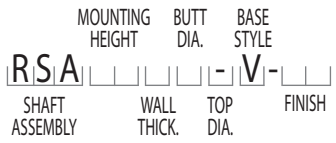
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).



A MTG. HGT.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
06	0.125"	4	100	20.2	16.2	15.2	12.6	10.6	77S-001	RSA06B4-V-**-
08	0.125"	4	100	14.8	11.8	11.0	9.0	7.6	77S-002	RSA08B4-V-**-
10	0.125"	4	100	11.2	8.8	8.2	6.7	5.5	77S-003	RSA10B4-V-**-
10	0.125"	5	100	18.6	14.8	13.8	11.4	9.6	77S-017	RSA10B5-V-**-
12	0.125"	4	100	8.8	6.8	6.2	4.9	3.9	77S-004	RSA12B4-V-**-
12	0.125"	5	100	14.8	11.6	10.7	8.9	7.5	77S-011	RSA12B5-V-**-
14	0.125"	4	85	6.8	5.2	4.7	3.6	2.8	77S-005	RSA14B4-V-**-
14	0.125"	5	100	11.8	9.0	8.4	7.0	5.8	77S-012	RSA14B5-V-**-
14	0.188"	5	100	18.4	14.4	13.4	11.2	9.4	77S-012	RSA14D5-V-**-
16	0.125"	5	100	9.4	7.0	6.5	5.3	4.4	77S-013	RSA16B5-V-**-
16	0.188"	5	100	15.2	11.6	10.8	9.0	7.5	77S-013	RSA16D5-V-**-
18	0.125"	5	100	7.3	5.3	4.8	3.9	3.2	77S-007	RSA18B5-V-**-
20	0.125"	5	70	5.7	3.9	3.6	2.8	2.2	77S-008	RSA20B5-V-**-
20	0.188"	5	100	10.0	7.4	6.8	5.5	4.5	77S-034	RSA20D5-V-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RSA 20 D 5 - V - 01

Round Straight Aluminum, 20' Mounting Height, .188" Wall Thickness, 5" Butt Diameter, No Taper, Beehive Base, Satin Aluminum Finish.

Wall Thickness

B = .125"
D = .188"

Butt Diameter

4 = 4"
5 = 5"

Top Diameter

- = No Taper

Base Style

V = Beehive Base

Finish

- 01 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

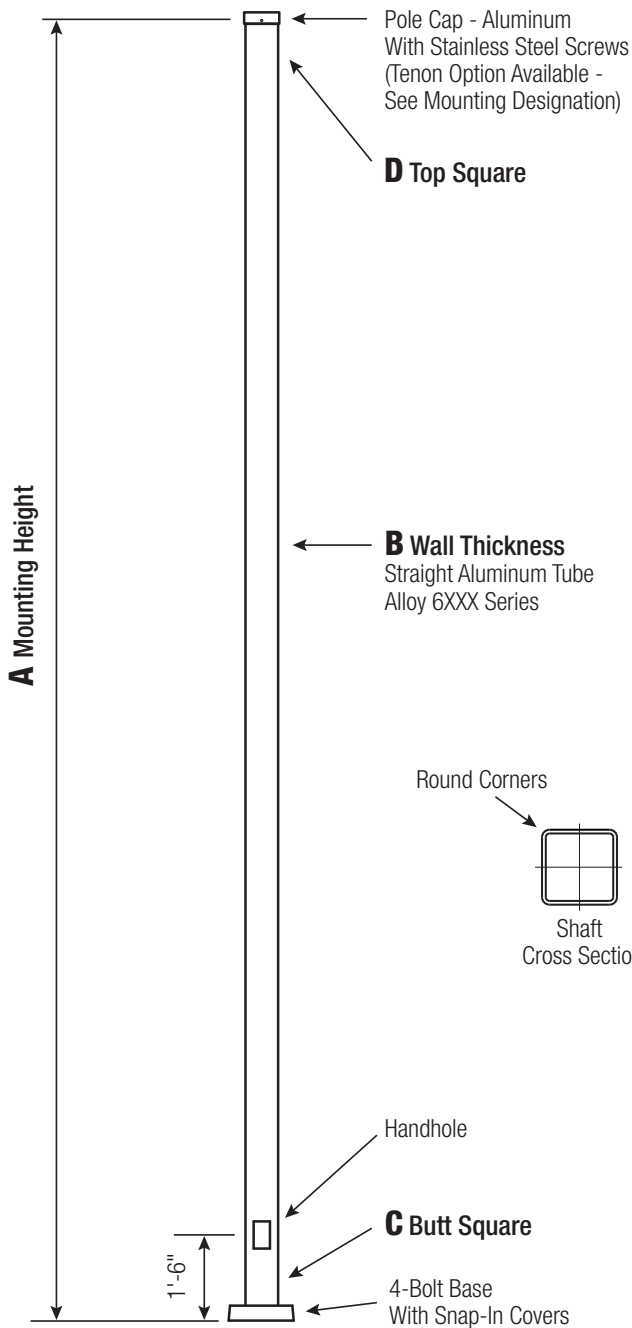


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

SSA

Square Straight Aluminum Pole No Arm — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT SQ.	D TOP SQ.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
4	4	8.5 - 9.5	9.875	1.5	.75 x 17 x 3
5	5	10.5 - 11.5	11.125	2	.75 x 30 x 3
6	6	12 - 13	12.75	2.25	1 x 36 x 4
6.625	6.625	13 - 14	13.5	2.25	1 x 36 x 4

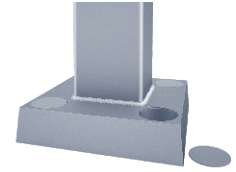
Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6XXX Series Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Snap-In Bolt Covers.



Handhole

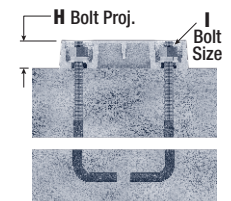
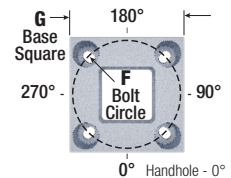
4"-5" Butt Squares -
2" x 4" Handhole with square Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC Grounding Provision is provided opposite the Handhole.



6"+ Butt Square -
3" x 5" Handhole with square Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC Grounding Provision is provided opposite the Handhole.

Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



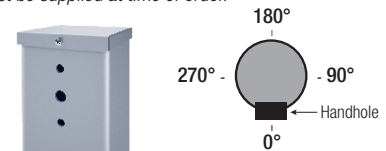
Vibration Damper

If determined necessary by Hapco, a top-mount, field installed First Mode Vibration Damper will be provided. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

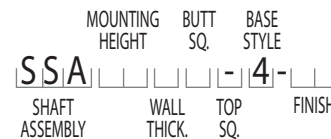
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).



A Mtg. Hgt.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
08	0.125"	4	100	23.2	18.4	17.2	14.2	11.8	11-043	SSA08B4-4-**-
10	0.125"	4	100	17.6	13.8	12.8	10.4	8.6	11-063	SSA10B4-4-**-
10	0.188"	4	100	26.2	20.8	19.4	16.0	13.2	11-064	SSA10D4-4-**-
12	0.125"	4	100	13.8	10.6	9.8	7.8	6.2	11-083	SSA12B4-4-**-
12	0.188"	4	100	21.0	16.4	15.2	12.4	10.2	11-084	SSA12D4-4-**-
12	0.188"	5	100	35.0	27.6	25.6	20.8	17.2	11-087	SSA12D5-4-**-
14	0.125"	4	85	10.8	8.2	7.6	5.8	4.6	11-103	SSA14B4-4-**-
14	0.188"	4	100	17.0	13.2	12.0	9.6	7.8	11-104	SSA14D4-4-**-
14	0.188"	5	100	28.6	22.4	20.6	16.6	13.6	11-107	SSA14D5-4-**-
15	0.125"	4	70	9.8	7.2	6.6	5.0	3.8	11-123	SSA15B4-4-**-
15	0.188"	4	100	15.4	11.8	10.8	8.6	6.8	11-124	SSA15D4-4-**-
15	0.188"	5	100	26.0	20.2	18.6	15.0	12.0	11-127	SSA15D5-4-**-
16	0.125"	4	55	8.8	6.4	5.8	4.4	3.2	11-143	SSA16B4-4-**-
16	0.188"	4	100	13.8	10.6	9.6	7.6	6.0	11-144	SSA16D4-4-**-
16	0.188"	5	100	23.8	18.4	16.8	13.4	10.8	11-147	SSA16D5-4-**-
18	0.125"	4	25	6.8	4.8	4.2	3.0	2.0	11-163	SSA18B4-4-**-
18	0.188"	4	80	11.2	8.4	7.6	5.8	4.4	11-164	SSA18D4-4-**-
18	0.250"	4	100	15.2	11.6	10.6	8.4	6.6	11-165	SSA18F4-4-**-
18	0.188"	5	100	19.4	14.8	13.4	10.4	8.2	11-167	SSA18D5-4-**-
20	0.125"	4	40	5.0	3.4	2.8	1.8	-	11-183	SSA20B4-4-**-
20	0.188"	4	50	9.0	6.6	5.8	4.2	3.0	11-184	SSA20D4-4-**-
20	0.250"	4	90	12.4	9.4	8.4	6.4	4.8	11-185	SSA20F4-4-**-
20	0.188"	5	100	15.8	11.8	10.6	8.0	6.0	11-187	SSA20D5-4-**-
20	0.250"	5	100	22.0	16.8	15.2	11.8	9.2	11-188	SSA20F5-4-**-
20	0.188"	6	100	24.8	18.8	17.0	13.2	10.2	11-190	SSA20D6-4-**-
20	0.250"	6	100	34.2	26.4	24.2	19.0	15.2	11-191	SSA20F6-4-**-
25	0.188"	5	45	9.4	6.2	5.4	3.4	1.8	11-247	SSA25D5-4-**-
25	0.250"	5	65	14.0	10.0	8.8	6.2	4.4	11-248	SSA25F5-4-**-
25	0.188"	6	60	15.4	10.8	9.4	6.6	4.2	11-250	SSA25D6-4-**-
25	0.250"	6	100	22.4	16.4	14.8	11.0	8.0	11-251	SSA25F6-4-**-
25	0.250"	6.625	100	28.8	21.4	19.2	14.6	11.0	11-254	SSA25FJ-4-**-
30	0.188"	6	40	8.8	5.0	4.0	1.6	-	11-290	SSA30D6-4-**-
30	0.250"	6	25	14.4	9.6	8.4	5.2	3.0	11-291	SSA30F6-4-**-
30	0.250"	6.625	55	19.0	13.0	11.4	7.6	4.6	11-294	SSA30FJ-4-**-
35	0.250"	6	70	8.0	4.0	3.0	-	-	11-331	SSA35F6-4-**-
35	0.250"	6.625	50	11.4	6.6	5.2	2.0	-	11-334	SSA35FJ-4-**-

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

SSA 20 D 5 - 4 - BA

Square Straight Aluminum, 20' Mounting Height, .188" Wall Thickness, 5" Butt Square, No Taper, 4-Bolt Base, Black Powder Coat Finish.

Wall Thickness

- B = .125"
- D = .188"
- F = .250"

Butt Square

- 4 = 4"
- 5 = 5"
- 6 = 6"
- J = 6-5/8"

Top Square

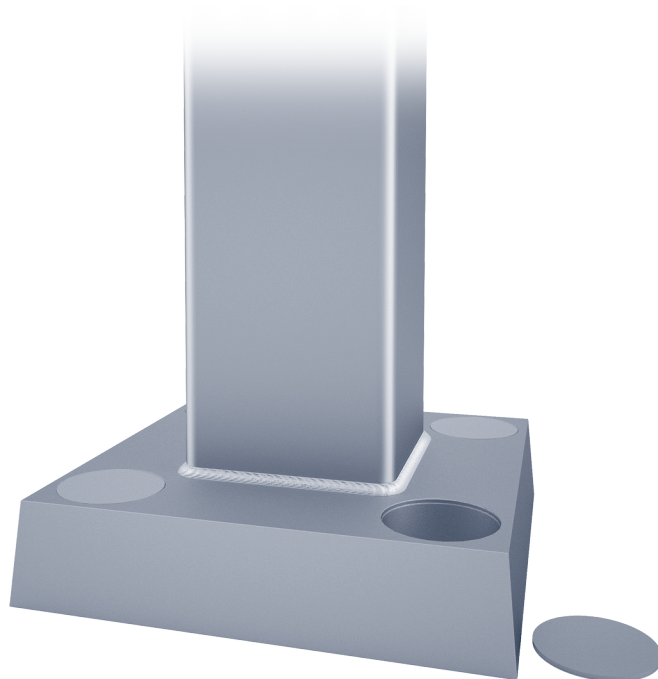
- = No Taper

Base Style

- 4 = 4-Bolt Base

Finish

- O2 = Satin Aluminum
- BA = Black Powder Coat
- BH = White Powder Coat
- BM = Dark Bronze Powder Coat
- BV = Dark Green Powder Coat
- GC = Gray Powder Coat
- ** = Specify Finish

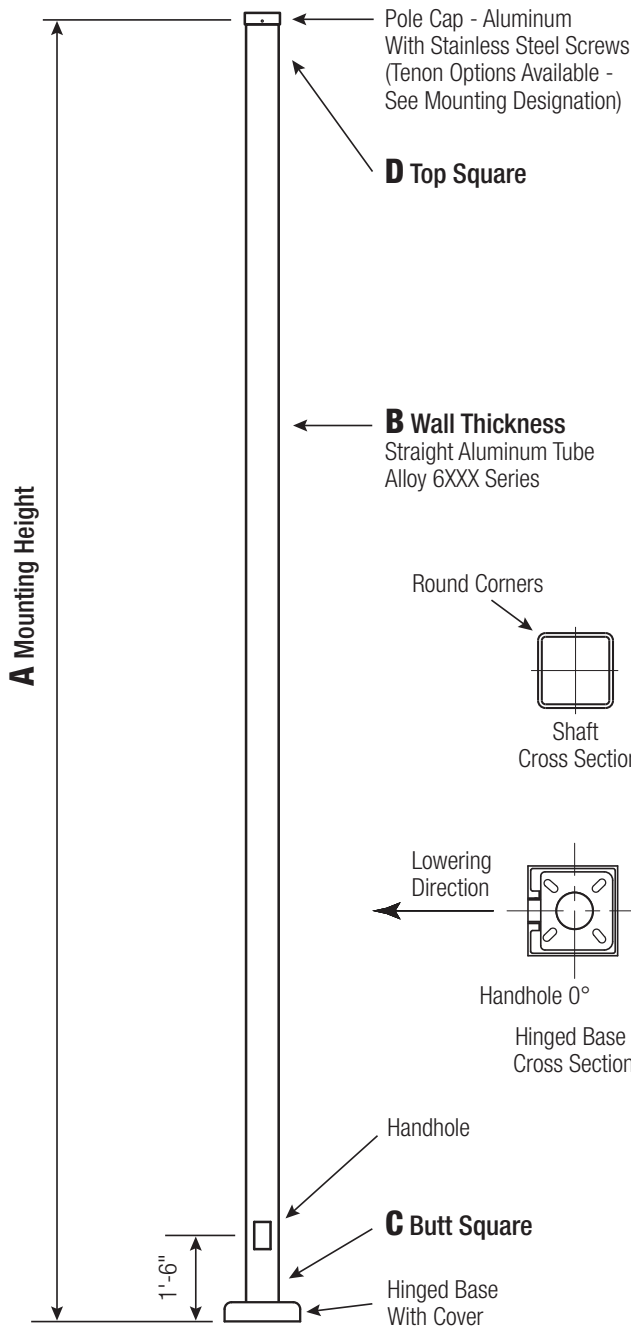


EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

SSA

Square Straight Aluminum Pole No Arm — Hinged Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C BUTT SQ.	D TOP SQ.	F BOLT CIR. DIA.	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE
4	4	7.5 - 9	10.75	2	.75 x 17 x 3
5	5	9	10.75	2	.75 x 30 x 3

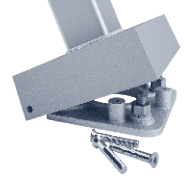
Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6XXX Series Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with three (3) Stainless Steel Tamper-Resistant Attaching Screws.



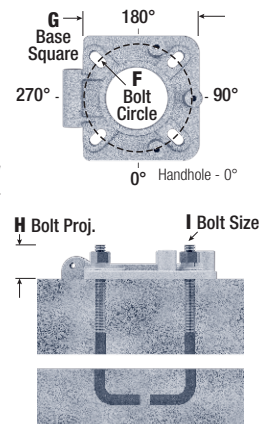
Handhole

4"-5" Butt Squares - 2" x 4" Handhole with square Lap Style Aluminum Door and two (2) Stainless Steel Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC Grounding Provision is provided.



Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



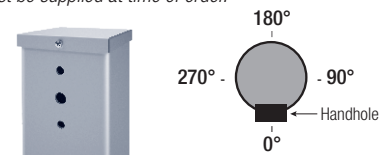
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount

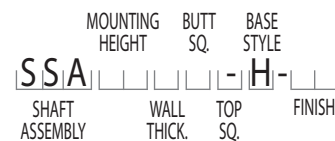
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).



A MTG. HGT.	B WALL THICKNESS	C BUTT DIAMETER	TOTAL LUM. WEIGHT	MAXIMUM EPA					OLD CAT. NUMBER	CATALOG NUMBER
				90	100	110	120	130		
08	0.125"	4	100	19.9	15.8	14.6	12.0	10.0	1397-001	SSA08B4-H-**
10	0.125"	4	100	15.2	11.9	11.0	8.8	7.2	1397-002	SSA10B4-H-**
10	0.188"	5	100	26.0	20.5	19.0	15.4	12.7	1397-003	SSA10D5-H-**
12	0.125"	4	100	11.8	9.1	8.4	6.6	5.2	1397-004	SSA12B4-H-**
12	0.188"	5	100	20.6	16.0	14.7	11.8	9.5	1397-005	SSA12D5-H-**
14	0.125"	4	70	9.4	7.0	6.4	4.9	3.7	1397-006	SSA14B4-H-**
14	0.188"	5	100	16.6	12.6	11.5	9.0	7.0	1397-007	SSA14D5-H-**
15	0.125"	4	55	8.4	6.2	5.6	4.2	3.0	1397-008	SSA15B4-H-**
15	0.188"	5	100	14.9	11.2	10.2	7.8	6.0	1397-009	SSA15D5-H-**
16	0.125"	4	40	7.4	5.4	4.8	3.5	2.4	1397-010	SSA16B4-H-**
16	0.188"	4	100	7.4	5.4	4.8	3.5	2.4		SSA16D4-H-**
16	0.188"	5	100	13.4	10.0	9.0	6.8	5.1	1397-011	SSA16D5-H-**
18	0.125"	4	35	5.7	3.9	3.4	2.2	1.4	1397-012	SSA18B4-H-**
18	0.188"	4	100	5.7	3.9	3.4	2.2	1.4		SSA18D4-H-**
18	0.188"	5	100	10.6	7.6	6.7	4.8	3.4	1397-013	SSA18D5-H-**
20	0.188"	5	100	8.2	5.6	4.8	3.2	1.8	1397-014	SSA20D5-H-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

SSA 20 D 5 - H - BA

Square Straight Aluminum, 20' Mounting Height, .188" Wall Thickness, 5" Butt Square, No Taper, Hinged Base, Black Powder Coat Finish.

Wall Thickness

B = .125"
D = .188"

Butt Square

4 = 4"
5 = 5"

Top Square

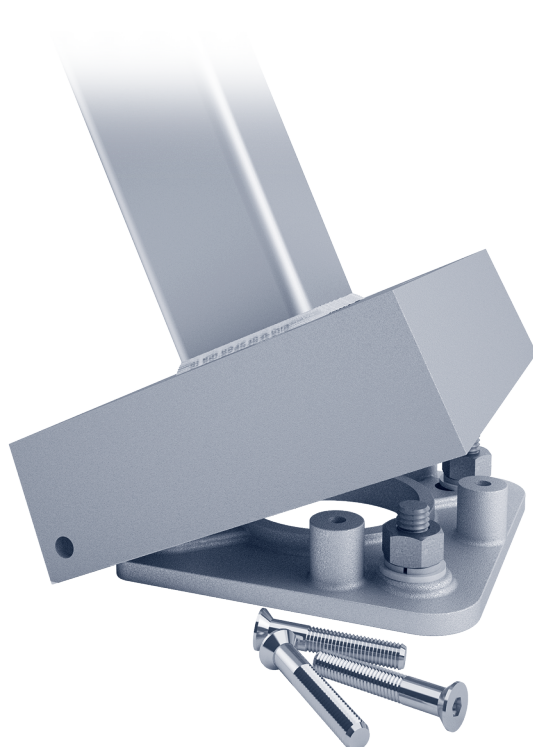
- = No Taper

Base Style

H = Hinged Base

Finish

O2 = Satin Aluminum
BA = Black Powder Coat
BH = White Powder Coat
BM = Dark Bronze Powder Coat
BV = Dark Green Powder Coat
GC = Gray Powder Coat
** = Specify Finish



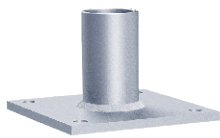
EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory.

Cross Arms

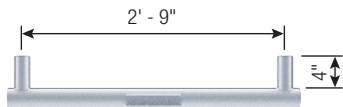
Cross Arms are engineered and manufactured of Aluminum Alloy 6063 components and are heat-treated after weld to a T6 temper. Stainless Steel Mounting Hardware is included. Standard Cross Arms are constructed of 2" NPS (2-3/8" O.D.) Schedule 40 Pipe. Custom designs including varying Pipe Arm diameters and Arm dimensions are available. Please contact Hapco for more information.

For Hapco's extensive offering of Pole and Cross Arm Assemblies, see Pages 64-99.



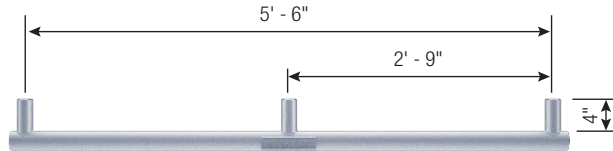
63-002

Single Cross Arm (Bolt-On Tenon 4" Tall)



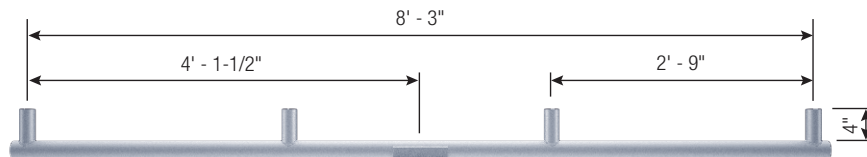
63-004

Double Cross Arm – 180°



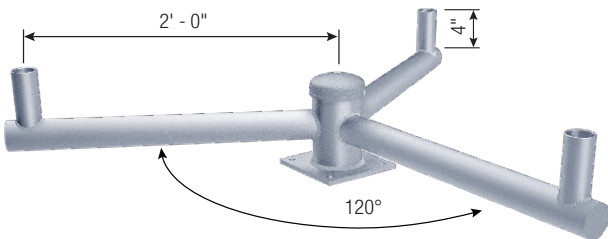
63-006

Triple Cross Arm – 180°



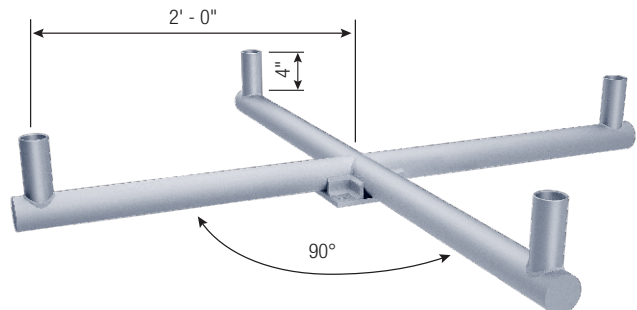
63-008

Quad Cross Arm – 180°



63-010

Triple Cross Arm – 120°



63-012

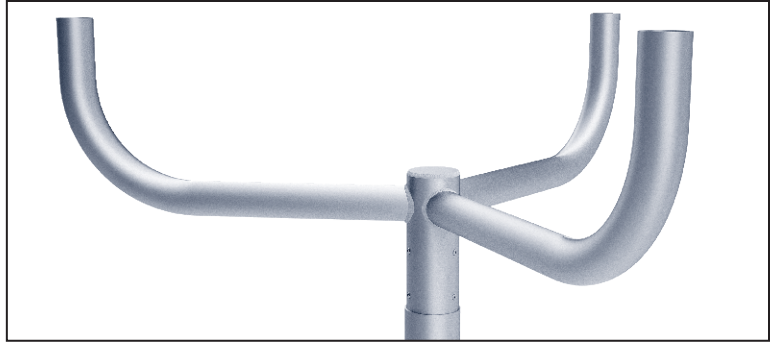
Quad Cross Arm – 90°

CATALOG NUMBER	DESCRIPTION	PIPE ARM DIAMETER	BRACKET EPA
63-002	Single Cross Arm	2" NPS (2.375" O.D.)	
63-004	Double Cross Arm - 180°	2" NPS (2.375" O.D.)	0.65 ft ²
63-006	Triple Cross Arm - 180°	2" NPS (2.375" O.D.)	1.25 ft ²
63-008	Quad Cross Arm - 180°	2" NPS (2.375" O.D.)	1.85 ft ²
63-010	Triple Cross Arm - 120°	2" NPS (2.375" O.D.)	1.25 ft ² (Shielded)
63-012	Quad Cross Arm - 90°	2" NPS (2.375" O.D.)	1.40 ft ² (Shielded)

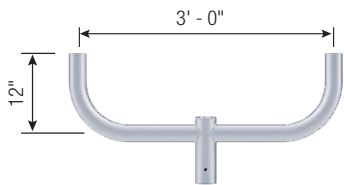
Bullhorn Arms

Bullhorn Arms are engineered and manufactured of Aluminum Alloy 6063 components and are heat-treated after weld to a T6 temper. Stainless Steel Mounting Hardware is included. Standard Bullhorns are constructed of 2" NPS (2-3/8" O.D.) Schedule 40 Pipe. Center Hub information is noted. Custom designs including varying Pipe Arm diameters, Arm dimensions, and Center Hub sizes to accommodate varying Tenons are available. Please contact Hapco for more information.

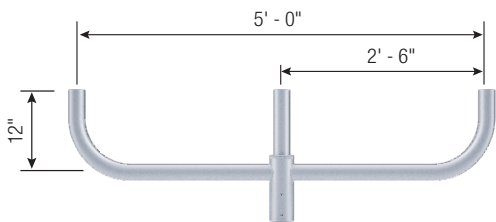
For Hapco's extensive offering of Pole and Bullhorn Arm Assemblies, see Pages 100-129.



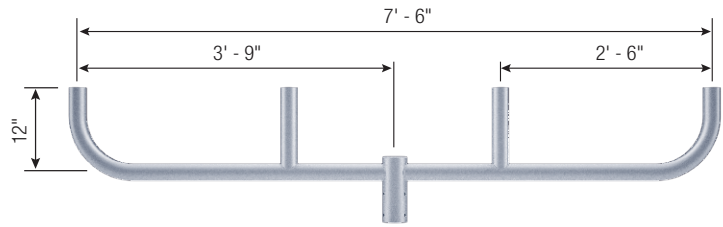
CATALOG NUMBER	DESCRIPTION	PIPE ARM DIAMETER	USE WITH TENON SIZE	BRACKET EPA
77255	Double Bullhorn - 180°	2" NPS (2.375" O.D.)	2" NPS (2.375" O.D.)	0.90 ft ²
77282	Triple Bullhorn - 180°	2" NPS (2.375" O.D.)	2" NPS (2.375" O.D.)	1.60 ft ²
77283	Quad Bullhorn - 180°	2" NPS (2.375" O.D.)	2.5" NPS (2.875" O.D.)	2.14 ft ²
77280	Triple Bullhorn - 120°	2" NPS (2.375" O.D.)	2.5" NPS (2.875" O.D.)	1.55 ft ² (Shielded)
77281	Quad Bullhorn - 90°	2" NPS (2.375" O.D.)	2.5" NPS (2.875" O.D.)	2.04 ft ² (Shielded)



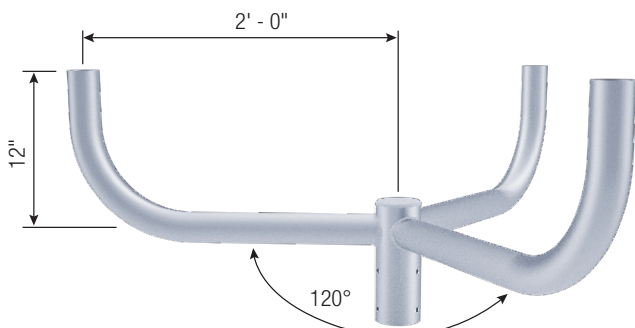
77255
Double Bullhorn Arm – 180°



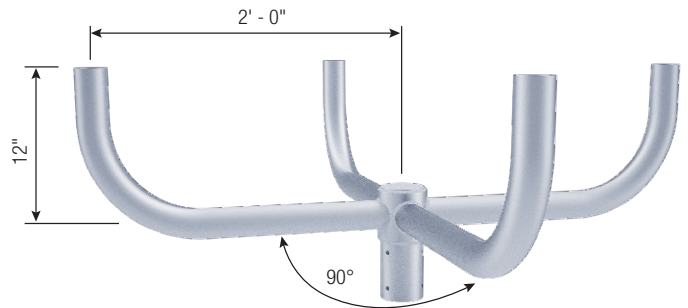
77282
Triple Bullhorn Arm – 180°



77283
Quad Bullhorn Arm – 180°



77280
Triple Bullhorn Arm – 120°



77281
Quad Bullhorn Arm – 90°

Banner Arms

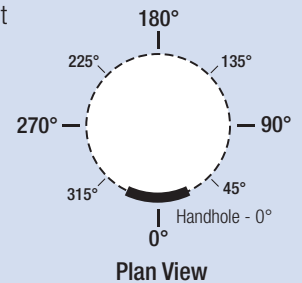
Hapco offers a variety of Banner Arms in both standard and breakaway designs for use in both single and double sided applications. We have the Engineering expertise to design the safest and most efficient pole/banner arm combinations to match your project requirements.

Standard options are listed below (*Single Side Option Shown*). Contact Hapco for technical information and custom banner arm options.



Accessory Design Orientation

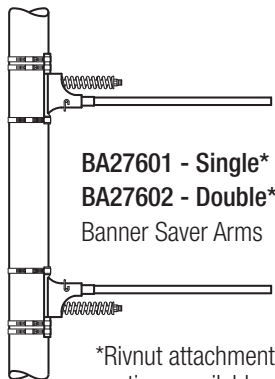
When specifying Pole Accessories, it is important to provide Hapco the correct design orientation. This diagram provides the degree specification of accessories located at various positions on the pole relative to the pole door.



Adjustable Banner Arms

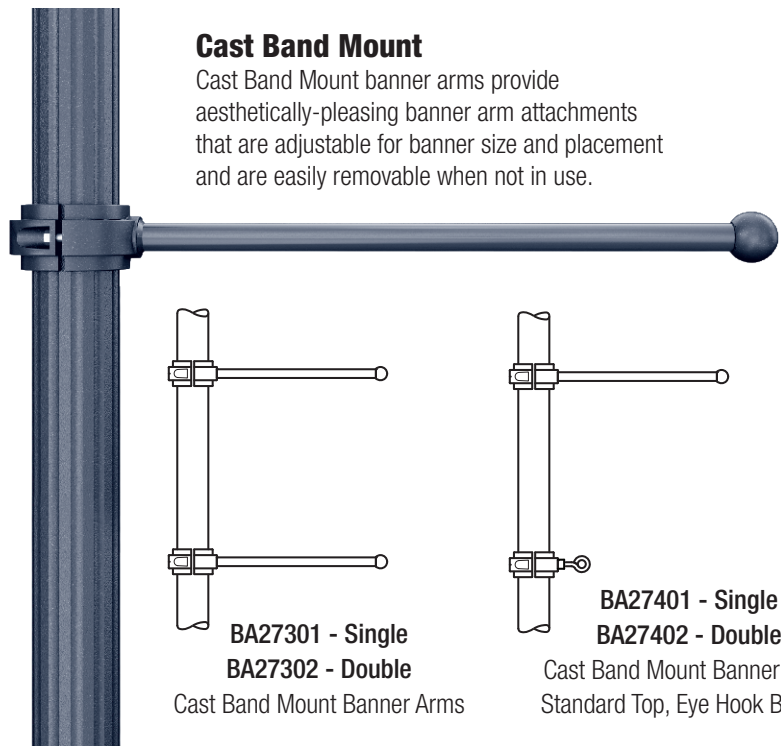
BannerSaver™

BannerSaver™ banner arms are designed with spring-loaded technology that reduces stress on both banners and poles. Wind tunnel tested to reduce 87% of windload, the use of BannerSaver™ arms allow more cost efficient pole designs while increasing the life of the banner.

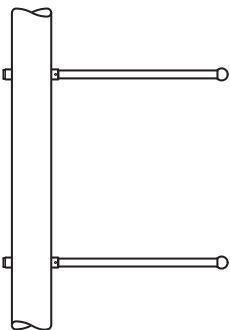


Cast Band Mount

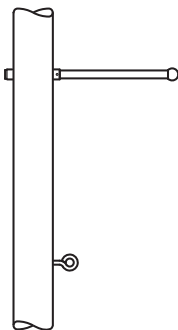
Cast Band Mount banner arms provide aesthetically-pleasing banner arm attachments that are adjustable for banner size and placement and are easily removable when not in use.



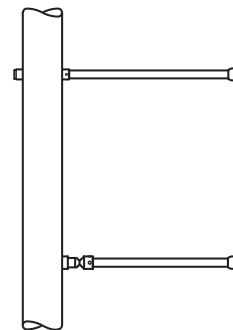
Fixed Banner Arms



BA27001 - Single
BA27002 - Double
Banner Arms



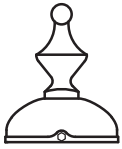
BA27101 - Single
BA27102 - Double
Banner Arms
Standard Top - Eye Hook Bottom



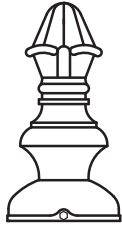
BA27201 - Single
BA27202 - Double
Banner Arms
Standard Top - Breakaway Bottom

Accessories

Finials



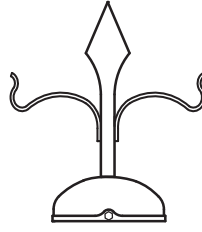
F0001
Finial



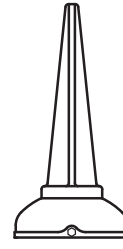
F0002
Finial



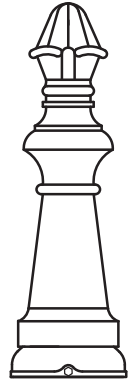
F0004
Finial



F0005
Finial

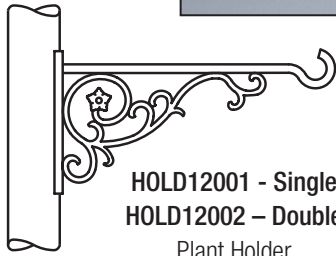


F0007
Finial

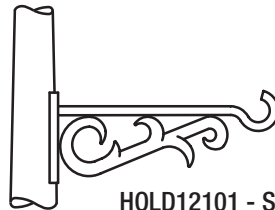


F0010
Finial

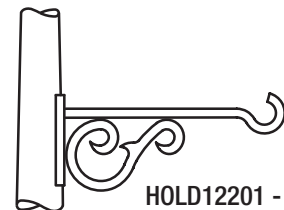
Plant Holders



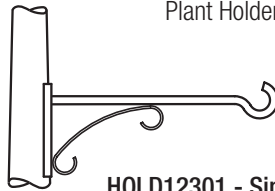
HOLD12001 - Single
HOLD12002 - Double
Plant Holder



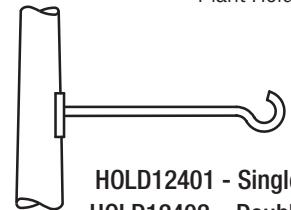
HOLD12101 - Single
HOLD12102 - Double
Plant Holder



HOLD12201 - Single
HOLD12202 - Double
Plant Holder

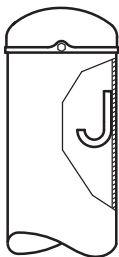


HOLD12301 - Single
HOLD12302 - Double
Plant Holder

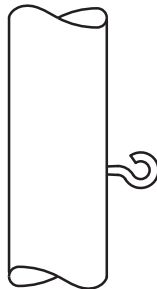


HOLD12401 - Single
HOLD12402 - Double
Plant Holder

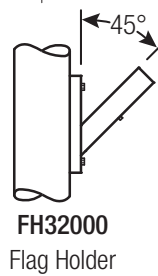
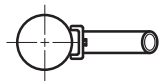
Miscellaneous



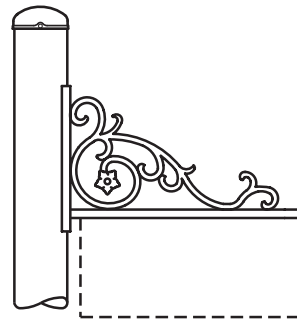
JH24000
J-Hook



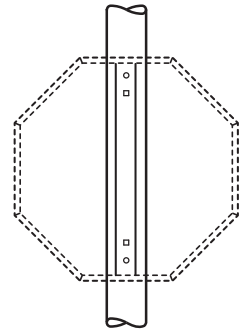
H31000
Hooks



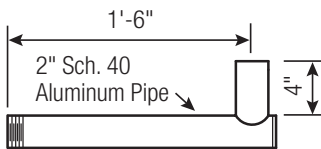
FH32000
Flag Holder



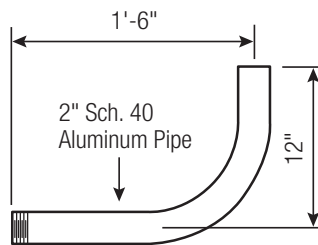
SS33000
Street Sign Bracket



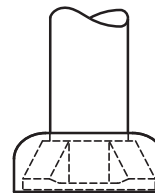
SB34000
Sign Bracket



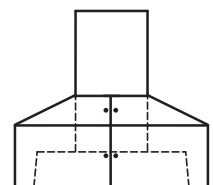
52925
Pipe Arm



85826
Floodlight Bracket



SBC25001 - One Piece (Shown)
SBC25002 - Two Piece
Spun Base Cover - Round Poles



SBC26002 - Two Piece
Base Cover - Square Poles

Standard Pole Modifications

Handholes

Standard handhole modifications are detailed below. Custom handhole options may be available (*contact Hapco for additional information*).

Modification No. 151 4" x 6" Reinforced Handhole

This industry-standard handhole size is included as a standard in many of the poles in this catalog. The opening is oval in shape and measures 4" x 6", with the major dimension along the vertical axis. The hole in the shaft wall is reinforced with a frame of aluminum alloy 356-T6, which projects slightly through the wall and is completely joined to the shaft with a fillet weld, the minimum size of which is 5/16". The opening is protected by a snug-fitting cover attached by means of two (2) Stainless Steel hex head screws. The external contour of the reinforcing frame and cover, although projecting slightly for sound welding, is curved to conform to the roundness of the shaft. The cover has a surface finish which is identical to that of the shaft. The standard location of the handhole is centered 18" above the bottom of the shaft and will be located 90 degrees clockwise from the plane of the bracket, as viewed from above.



Modification No. 152 4" x 8" Reinforced Handhole

Except for the size, the specifications are the same as the above. Note: This size handhole cannot be furnished with poles having a shaft diameter less than 7".



Modification No. 153 3" x 5" Reinforced Handhole

This modification is used on 6" butt diameter poles only. Except for the dimensions and the fact that the frame is fastened to the shaft by two fillet welds, the specifications are the same as Modification No. 151.



Modification No. 154 3" X 5" Unreinforced Handhole

This is an oval hole, 3" x 5", cut in the pole shaft. It is provided with a curved cover to fit the exterior surface of the pole. The cover is attached with two self-tapping stainless steel Phillips-head screws. It is used in applications where strength requirements permit, such as in pedestal poles. The center of the handhole is usually 18" above the ground line.



Modification No. 155 2" x 4" Unreinforced Handhole -

Except for the size, the specifications are the same as Modification No. 154.

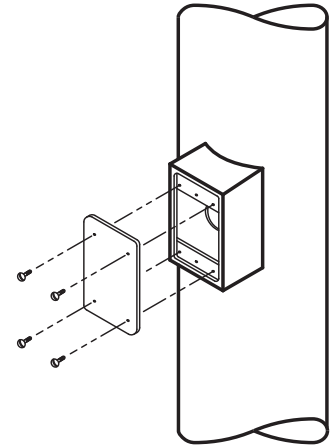


Receptacle Outlet Boxes

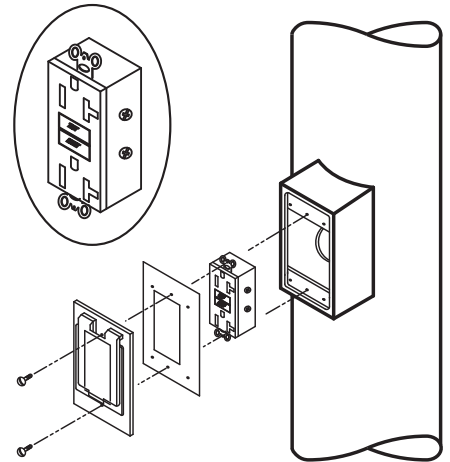
Receptacle Outlet Boxes are available with and without receptacles to provide current for external circuits.

The Receptacle Outlet is an assembly similar in size and dimension to the standard "FS" outlet box. It is made of cast-aluminum Alloy 43 and is completely welded to the shaft around the perimeter of the box. When ordered without the receptacle, the Modification No. 183 box is furnished with a blank cover attached with four machine screws.

Modification No. 185 contains a gasketed cover attached to the box with two machine screws. It incorporates a spring-actuated access door and a double three-wire, G.F.C.I. receptacle rated at 20 amperes, 125 volts, weather resistant (*WR*) rated and UL approved.



Modification No. 183
Receptacle Outlet Box Only
Without Receptacle



Modification No. 185
Receptacle Outlet Box
With Duplex G.F.C.I. Receptacle

Slipfitter Tenon (for Brackets)

Tenons are available for luminaires which cannot be used with the standard Hapco 2" pipe-size tenon. The 1 1/4" pipe-size tenon is 6" long and is welded into the end of the bracket arm with a circumferential weld. Custom tenon options are available (*contact Hapco for additional information*).



Modification No. 140
1-1/4" Pipe-Size Slipfitter Tenon

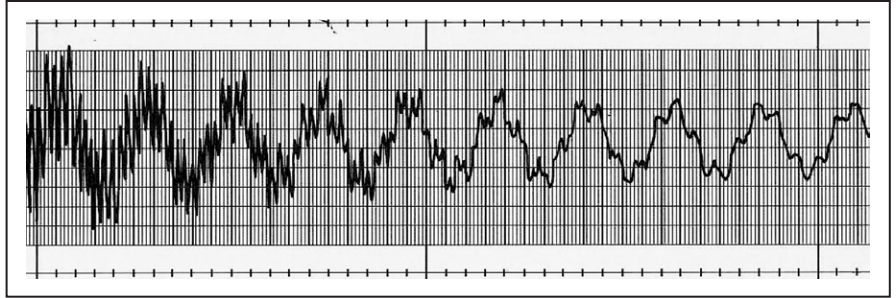
Vibration Isolating Arm

Vibration Isolating Arm

Traffic crossing bridges and overpasses can set up vibrations that can literally shake apart lighting fixtures mounted on these structures. Premature lamp failure is the most common result. Fixtures or brackets can also tear loose and, in some cases, light fixtures can fall off their bracket. Early replacement of these kinds of lighting systems before their expected life-cycle can quickly add up to significant expenditures.

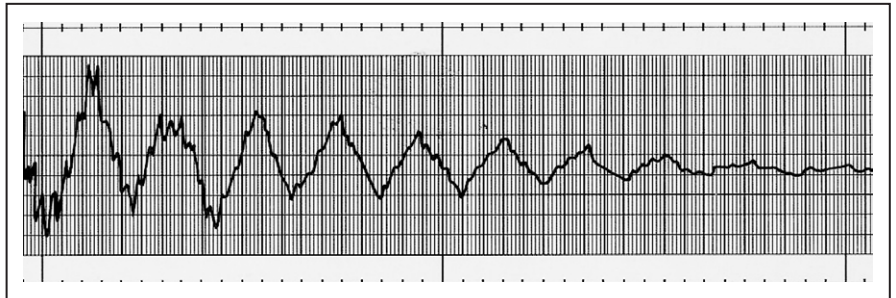
At Hapco, we have responded to this challenge by developing a patented spring suspension and friction damping system that isolates the luminaire from the vertical vibration of the pole. In tests, our damped arm significantly reduces free vibration - from 110 cycles for a standard, non-damping arm to 10 cycles for the damped system.

Other lab and field tests support these results, including findings from a specific installation site that has been monitored from December of 1994. For a report on these findings or any additional information about the Vibration Isolating Arm, please contact Hapco.



Free Vibration With Standard Arm

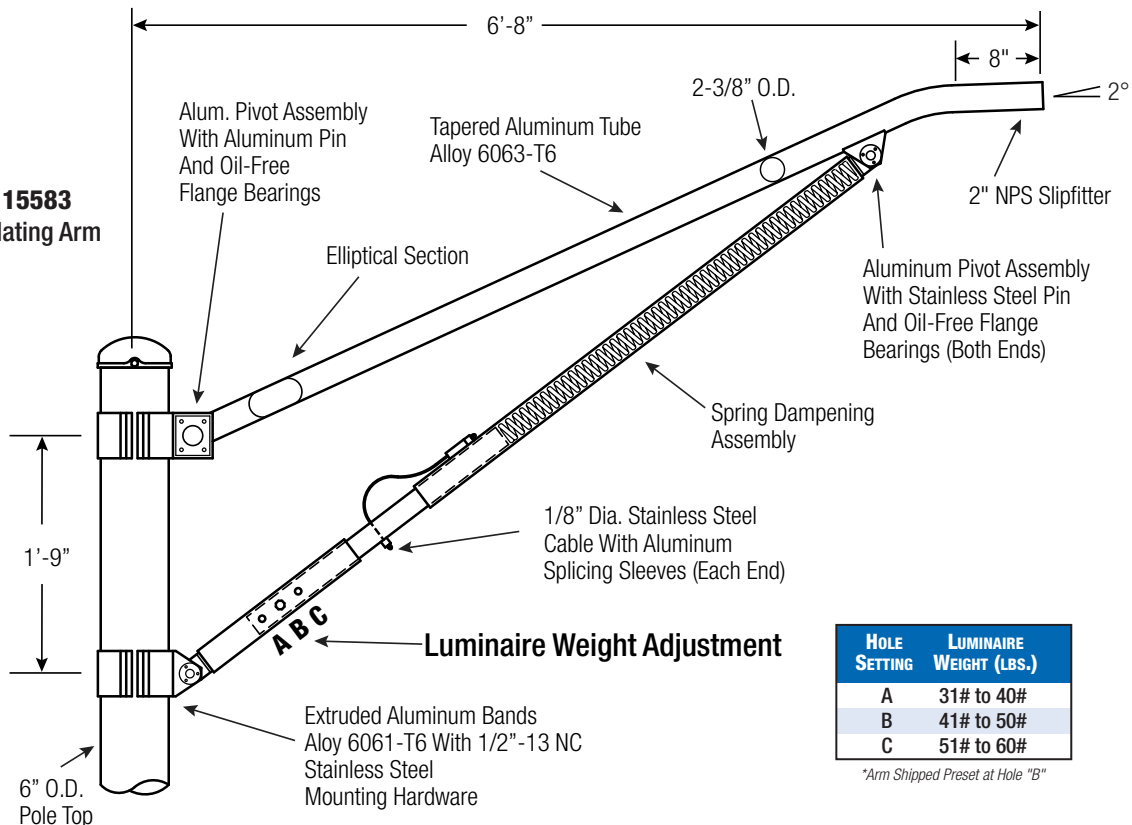
The Vibration Isolating Arm support system's natural frequency is below the range of frequencies that result in damage to the light fixture.



Free Vibration With Hapco's Vibration Isolating Arm

U.S. Patent No. 5601274

Catalog No. 15583 Vibration Isolating Arm



HOLE SETTING	LUMINAIRE WEIGHT (LBS.)
A	31# to 40#
B	41# to 50#
C	51# to 60#

*Arm Shipped Preset at Hole "B"

Wind-Induced Vibration

Wind-Induced Vibration

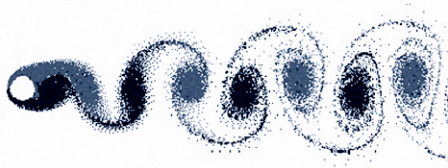
There are two common types of wind-induced vibration observed in poles... **First Mode Vibration** and **Second Mode Vibration**.

First Mode Vibration

In first mode vibration, sometimes referred to as sway, the maximum deflection occurs at the top of the pole. First mode oscillation typically occurs at a low frequency of approximately one cycle per second. Normal deflection of this shape usually is not harmful to the pole or luminaire, but first mode oscillating vibration will cause damage and failure.

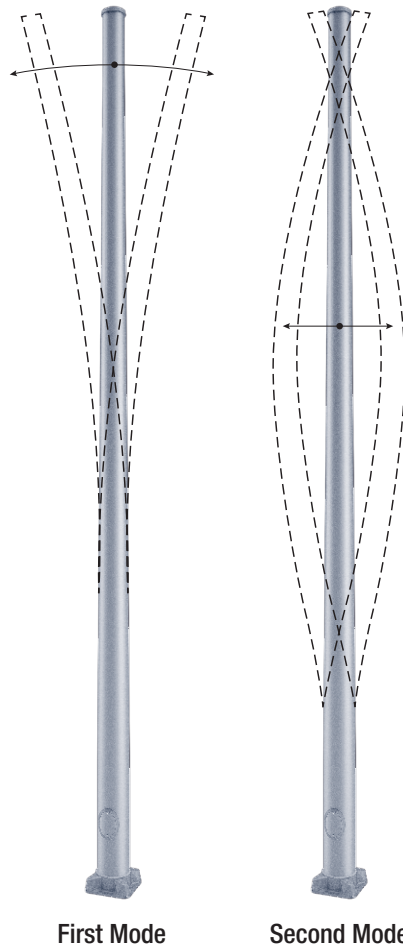
Second Mode Vibration

Second mode vibration can be the most damaging form of vibration. It occurs approximately at the midpoint of the pole with the deflection off center equal from *side-to-side*. It occurs at a higher frequency, typically three to six cycles per second. Second mode vibration occurs when the wind synchronizes with the pole's natural frequency of vibration. This is known as resonance. As the steady low level wind moves past the pole, vortices are shed alternately from either side of the structural shaft causing displacement oscillations in a direction perpendicular to that of the wind. Vortices are a swirling motion or pattern of the wind. The most serious situation arises when the vortex-shedding frequency synchronizes with the natural period of vibration in the pole, which can ultimately fatigue the pole to structural failure.



Vortex Shedding

Wind induced vibration can be caused by steady, relatively low-speed wind (10-30 mph), by topography and by the structure to which the pole is mounted or nearby structures. Destructive vibration is not an indication of substandard material, workmanship or design of pole.



First Mode

Second Mode

Light Pole Design

Pole design requires consideration of field conditions such as wind speed (*sustained/gusts*), pole height, appendages and local conditions. Wind induced vibration is a local, site-specific condition that may be overlooked by those selecting a pole because it is difficult to predict accurately. Poles which perform satisfactory in many installations all across the country may experience destructive vibration at a select location for no apparent reason. Typically, poles are designed or selected based on AASHTO (*American Association of State Highway and Transportation Officials*) criteria. The standards and codes take into account direct wind pressures on the pole and luminaire, the associated bending, shear, axial and torsional stresses on the pole, secondary moment effects (*the pole and fixture being off center of the pole base when the wind deflects the pole*) and the effect of heat on the base material in the area adjacent to the weld.

Variables

Each job site has different variables that may contribute to structural fatigue vibration. These pole variables should be taken into consideration, along with environmental and structural factors, to determine if the potential for vibration exists.

- **Total Load (EPA) and Shaft Length** – Light loading, less than 2.0 EPA, and shaft lengths at or above 25 feet can significantly increase the probability of destructive vibration.
- **Shape** – Straight Square Poles historically experience more effects of destructive first mode vibration. Round poles historically experience more effects of destructive second mode vibration. However, no shape is exempt.
- **Installation Procedures** – Poles are designed to carry a load, and a pole cannot be installed before the luminaire is mounted. Never install a pole without the intended luminaire in place.
- **Parking Deck Installation** – Influences from surrounding structures and transferred vibration generated by moving vehicles.
- **Near or at Airports** – Little or no objects to break the wind currents and the presence of turbulence created by aircraft.
- **Bridge Installation** – Little or no objects to break the wind currents and the transfer of vibration generated by moving vehicles.
- **Mountain Foothill Areas** – Air currents traveling from the higher elevations can create steady damaging winds.
- **Large Expanse of Flat Ground or Water** – In tandem with little or no structures, the wind currents will not be disrupted which sets up the possibility for low steady winds and destructive vibration.
- **Steady Low Level Winds** – The upper Midwest and Plains States have shown this trend.

This is not a complete list. Other factors can influence the effects of wind.

Vibration Dampers

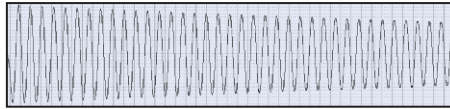
Hapco is the industry-recognized pioneer on the research of wind induced vibration in aluminum poles. Our decades of research and testing has led to several patents in this category, giving Hapco Engineers the knowledge and background to assure our customers the safest, longest lasting pole designs.

We have learned from experience that poles supporting certain types of post-top mounted fixtures are more susceptible to first and second mode vibration. The rectangular or "shoebox" shaped luminaires, for example, seem to encourage second mode vibration, while more aerodynamic lightweight fixtures encourage first mode vibration. Any oscillation should be dealt with as soon as it becomes apparent to prevent damage to the pole or luminaire.

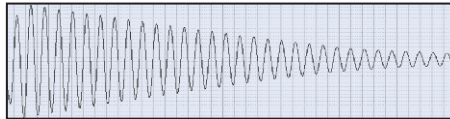
Hapco Damper Solutions

To minimize the effects of first or second mode vibration, Hapco has developed dampers which very effectively quell wind induced vibration of lighting poles.

Free Vibration Test Curves



Free Vibration of Test Pole with No Added Damping



Free Vibration of Test Pole with Impact Damper

First Mode Damper

Hapco's patented First Mode Vibration Damper is field installed at the top of square poles. This damper very effectively reduces first mode vibration of square lighting poles. Due to potential vibration fatigue issues that can be associated with moderate wind conditions, First Mode Dampers are recommended for square poles with mounting heights greater than 25' and for square poles with light loading fixtures less than 2.0 EPA. Fatigue related pole failures are not an indication of substandard material, workmanship or design of the pole and is not covered under Hapco's standard warranty.

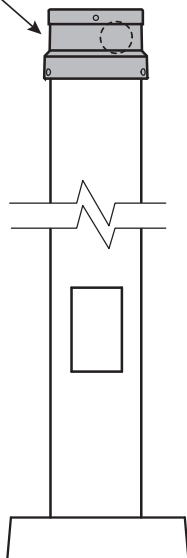
Second Mode Damper

The Hapco Second Mode Damper was awarded the industry's first patent in the vibration damping category in 1972. It is attached to the pole at approximately the midpoint of the pole, and can be factory bolted inside the pole or field mounted on the inside or outside of an existing pole.

Based on past experience, some Hapco poles include factory-installed Second Mode Vibration Dampers as a standard component. If the poles you intend to order are to be bridge mounted, used as camera poles, or may be subject to unusual site conditions, wide open terrain, steady or high energy prevailing winds, or other site conditions as mentioned, please make Hapco aware of these conditions. Or, if your installed poles are exhibiting oscillation, contact Hapco to pursue a damping solution that may include installing a Hapco Second Mode Damper on the poles.

Locations with high average wind speeds are more prone to pole vibration problems than locations with high maximum wind speeds. Areas of high average wind speeds can be identified on the U.S. Department of Energy Residential Scale 30 Meter Wind Map which can be accessed at the U.S. Department of Energy website (http://apps2.eere.energy.gov/wind/windexchange/windmaps/residential_scale.asp).

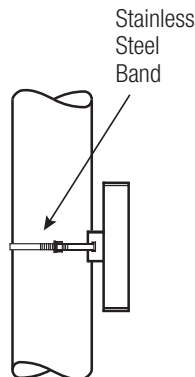
First Mode Damper For Square Poles (Field Installed)



First Mode
U.S. Patent No. 7871186

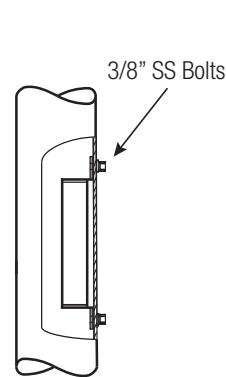
BASE Sq. (IN.)	CATALOG No.
4	17264
5	17265
6	17266
6.625	17267

*Contact factory for First Mode Dampers for use on round poles.



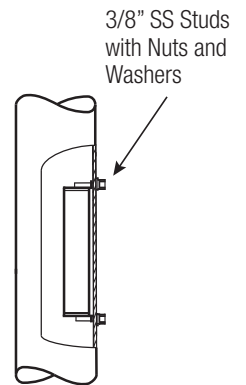
Catalog No. 53185
Banded to Shaft
(Field Mounted)

Second Mode



Catalog No. 53373
Bolted Inside Shaft
(Factory Bolted)

Second Mode



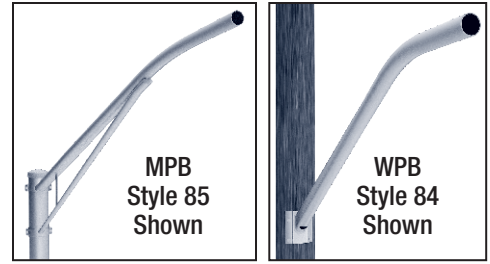
Catalog No. 53884
Bolted Inside Shaft
(Field Mounted)

Second Mode

Aluminum Brackets - Metal Poles - Concrete Poles

Hapco's standard offering of Aluminum Brackets include options for use with Wood, Metal and Concrete poles. Expertly engineered to Hapco's exacting specifications, these brackets are manufactured using the highest quality Aluminum Alloy 6063-T6, guaranteeing our customers the longest lasting, most aesthetic brackets in the industry.

Customized designs of luminaire brackets are also available. Our Engineering and Manufacturing expertise can provide you with prompt, competitive service on custom luminaire bracket designs for projects with special requirements. For more information, consult your local sales representative or contact Hapco customer service.



Metal Pole - Style 84

CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
MPB84-001	4	30	3	8
MPB84-003	6	30	3	11
MPB84-004	6	30	3.5	12
MPB84-006	8	30	3.5	14
MPB84-007	8	30	4	15
MPB84-009	10	30	4	19
MPB84-010	10	30	4.5	21

Extruded Bands for Metal Poles available in 4.5", 6", 6.625", 8", 9" and 10" I.D.

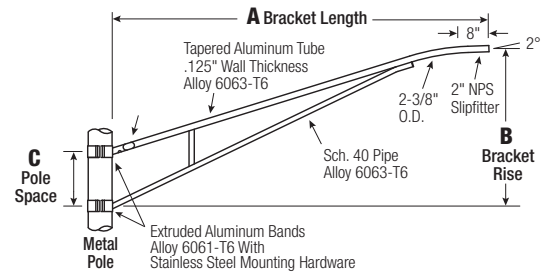
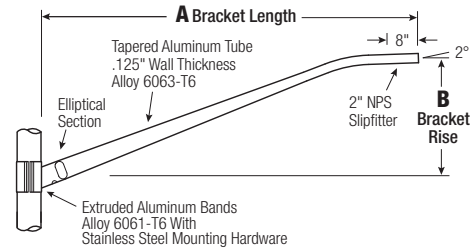
*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

Metal Pole - Style 85

CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	C POLE SPACE (IN.)	UPPER MEMBER SIZE (IN.)	LOWER MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
MPB85-001	8	39	21	3	1.5	20
MPB85-004	10	39	21	3	1.5	25
MPB85-007	12	39	21	3.5	1.5	33
MPB85-011	15	39	21	4	2	41

Extruded Bands for Metal Poles available in 4.5", 6", 6.625", 8", 9" and 10" I.D.

*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.



Concrete Pole - Style 84

CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
CPB84-001	4	30	3	8
CPB84-003	6	30	3	11
CPB84-004	6	30	3.5	12
CPB84-006	8	30	3.5	14
CPB84-007	8	30	4	15
CPB84-009	10	30	4	19
CPB84-010	10	30	4.5	21

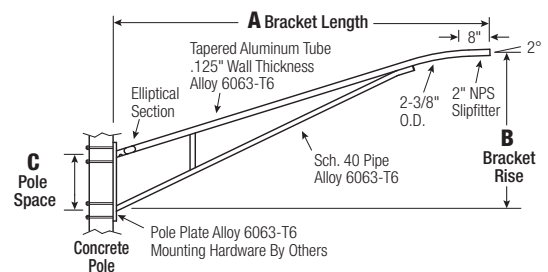
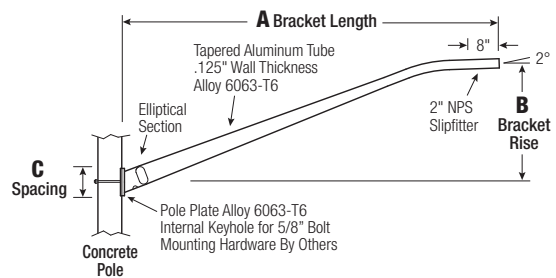
*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

Concrete Pole - Style 85

CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	C POLE SPACE (IN.)	UPPER MEMBER SIZE (IN.)	LOWER MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
CPB85-001	8	39	21	3	1.5	20
CPB85-004	10	39	21	3	1.5	25
CPB85-007	12	39	21	3.5	1.5	33
CPB85-011	15	39	21	4	2	41

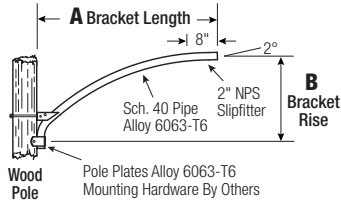
6.25" Octagonal Pole Bands and other mounting options are available. Contact Hapco for more information.

*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.



Aluminum Brackets - Wood Poles

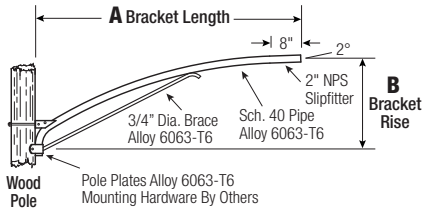
Wood Pole - Style 81



CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
81-001	2.5	17	1.25	3
81-002	4	23	1.25	4
81-003	4	22	1.25	6
81-004	6	28	1.25	7
81-005	4	22	2	8
81-006	6	28	2	11
81-007	8	30	2	13

*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

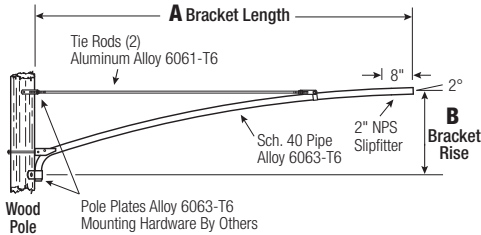
Wood Pole - Style 82



CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
82-001	6	28	1.25	8
82-002	8	30	1.25	11
82-003	6	28	2	12
82-004	8	30	2	15

*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

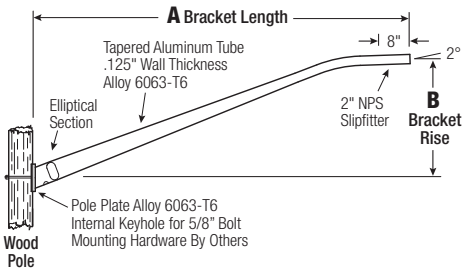
Wood Pole - Style 83



CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
83-001	8	30	1.25	13
83-002	10	30	1.25	15
83-003	12	30	1.25	17
83-004	14	30	1.25	19
83-005	16	30	1.25	21
83-006	8	30	2	18
83-007	10	30	2	22
83-008	12	30	2	26
83-009	14	30	2	29
83-010	16	30	2	33

*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

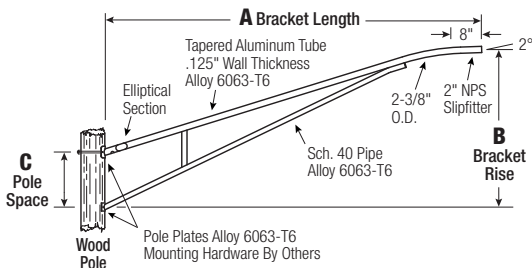
Wood Pole - Style 84



CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
84-001	4	30	3	8
84-003	6	30	3	11
84-004	6	30	3.5	12
84-006	8	30	3.5	14
84-007	8	30	4	15
84-009	10	30	4	19
84-010	10	30	4.5	21

*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

Wood Pole - Style 85



CATALOG NUMBER	A BRACKET LENGTH (FT.)	B BRACKET RISE (IN.)	C POLE SPACE (IN.)	UPPER MEMBER SIZE (IN.)	LOWER MEMBER SIZE (IN.)	BRACKET WEIGHT (LBS.)
85-001	8	39	21	3	1.5	20
85-004	10	39	21	3	1.5	25
85-007	12	39	21	3.5	1.5	33
85-011	15	39	21	4	2	41

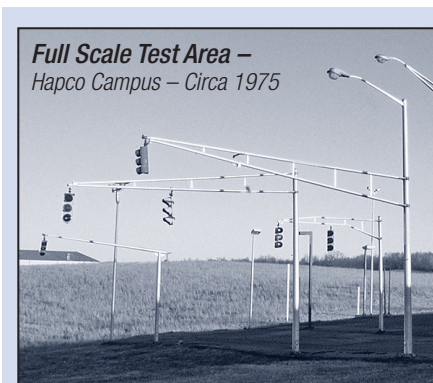
*Maximum Effective Projected Area (EPA) of fixture in square feet based on luminaire weight shown.

Traffic Signal Arms



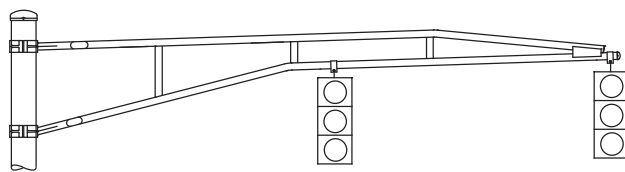
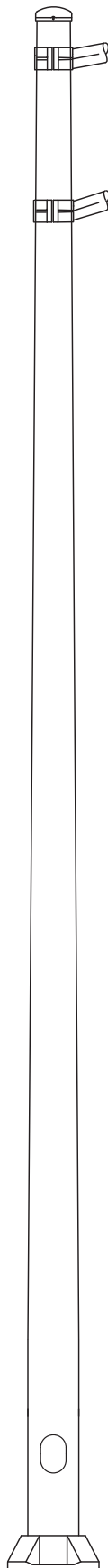
Hapco offers a variety of Aluminum Bracket option for use with Wood, Metal and Concrete poles (example categories shown at right). Expertly engineered to Hapco's exacting specifications, our brackets are manufactured using the highest quality Aluminum Alloy 6063-T6, guaranteeing our customers the longest lasting, safest and most aesthetic brackets in the industry.

Customized designs of luminaire brackets are also available. Our Engineering and Manufacturing expertise can provide you with prompt, competitive service on custom luminaire bracket designs for projects with special requirements. For more information, consult your local sales representative or contact Hapco customer service.

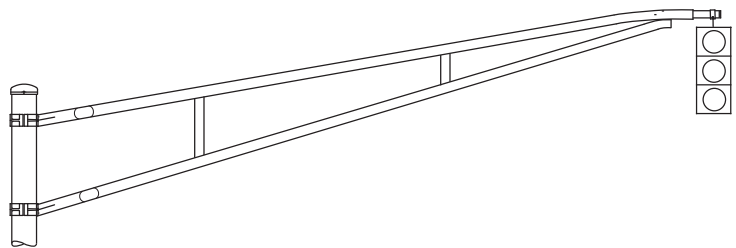


Full Scale Test Area –
Hapco Campus – Circa 1975

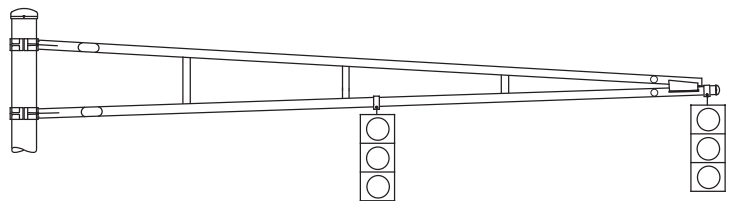
Hapco was an early pioneer in Traffic Signal Pole and Arm Design. In cooperation with a traffic signal manufacturer, we initiated the first wind tunnel tests on elliptical arm shapes to insure more efficient designs and have conducted decades of testing in our on-site R&D labs.



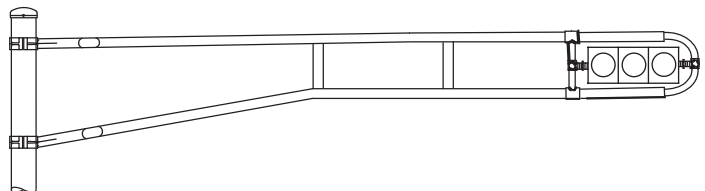
Praying Mantis Style



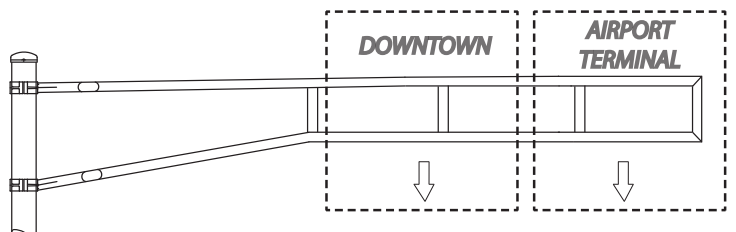
Truss Style



Inverted Truss Style



Trombone Style

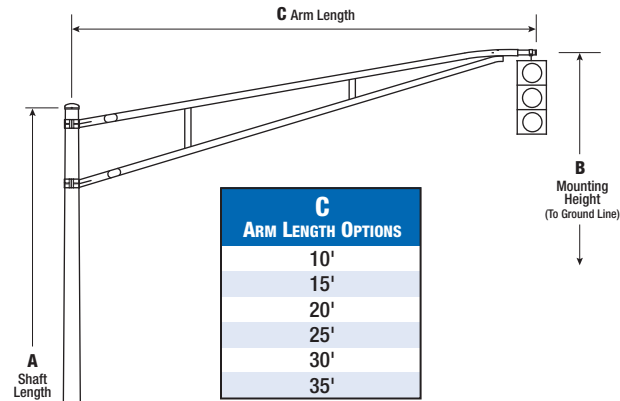


Sign Trombone Style

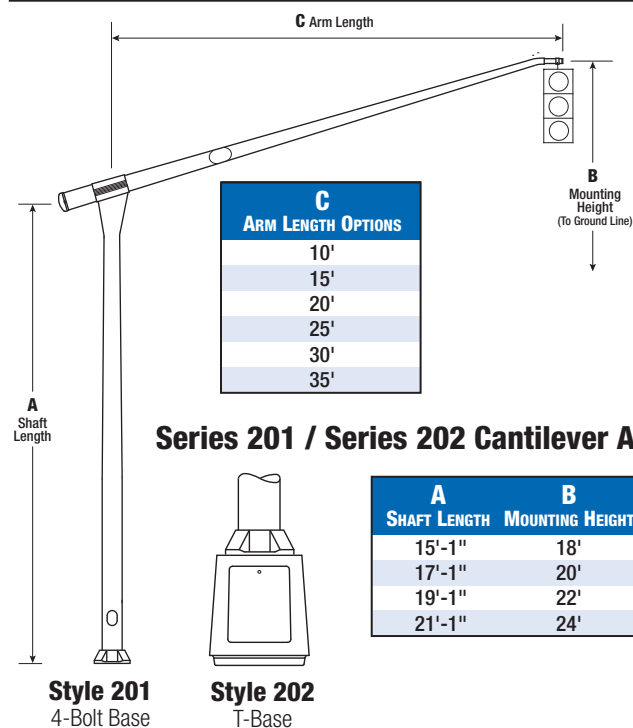
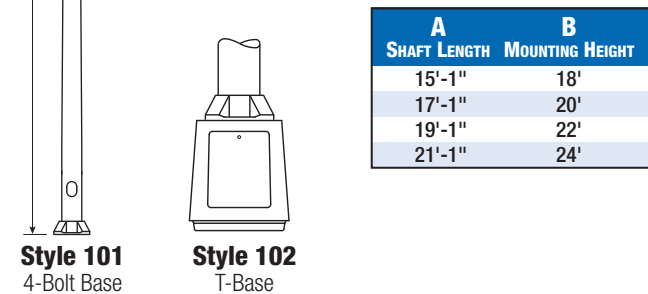
Traffic Series

Traffic Signal Poles

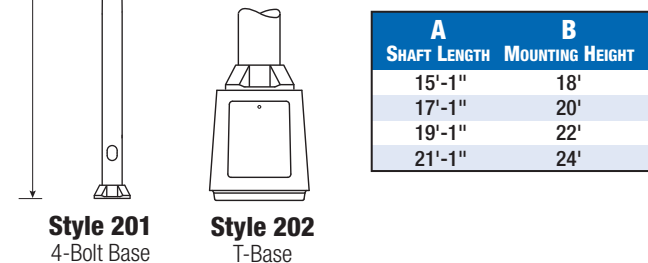
Hapco Traffic Signal Poles and Arms are designed to meet your specific job requirements. Design specifications are determined as a result of the arm length, size and type of signal specified for the project along with the potential wind gust velocities in your geographic location. The experience possessed by Hapco allows us to design a pole and traffic control arm that is exact for your needs. Our Traffic Series products provide our customers all of the advantages of aluminum coupled with the safety and peace of mind afforded by a Hapco design.



Series 101 / Series 102 Truss Arm



Series 201 / Series 202 Cantilever Arm



Traffic Pedestal Poles

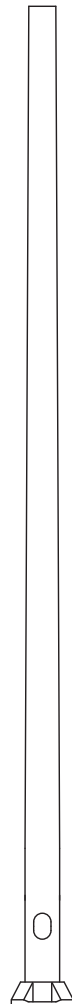
Hapco's standard Traffic Pedestal Poles are presented below. Custom Pedestal designs for projects with special requirements are available. For more information, consult your local sales representative or contact Hapco customer service.

Style 121 - 4-Bolt Base

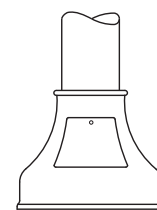
CATALOG NUMBER	NOMINAL MOUNTING HEIGHT (FT.)	BUTT DIA. (IN.)	TOP DIA. (IN.)	WALL THICKNESS (IN.)	BOLT CIRCLE (IN.)
RTA121-001	8	6	4.5	0.125	9 - 10
RTA121-002	10	6	4.5	0.125	9 - 10
RTA121-003	12	6	4.5	0.125	9 - 10
RTA121-004	14	6	4.5	0.125	9 - 10

Style 122 - T-Base

CATALOG NUMBER	NOMINAL MOUNTING HEIGHT (FT.)	BUTT DIA. (IN.)	TOP DIA. (IN.)	WALL THICKNESS (IN.)	BOLT CIRCLE (IN.)
SRB122-001	8	6	4.5	0.125	10
SRB122-002	10	6	4.5	0.125	10
SRB122-003	12	6	4.5	0.125	10
SRB122-004	14	6	4.5	0.125	10



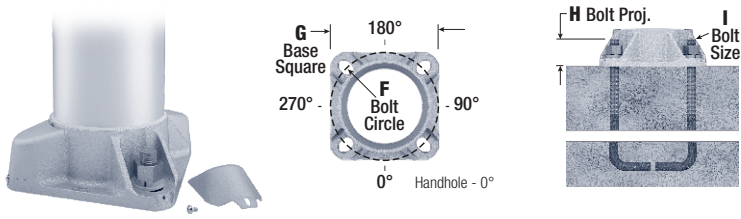
Style 121
4-Bolt Base



Style 122
Decorative Base

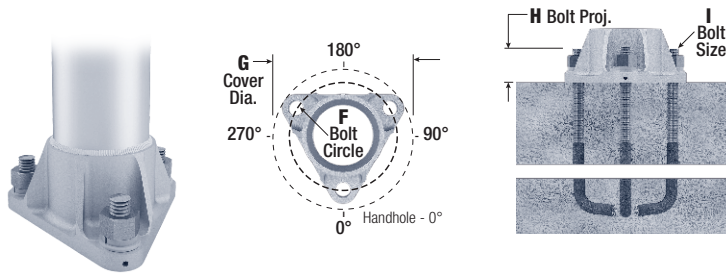
Base and Anchorage Details

4-Bolt Base — Round Poles



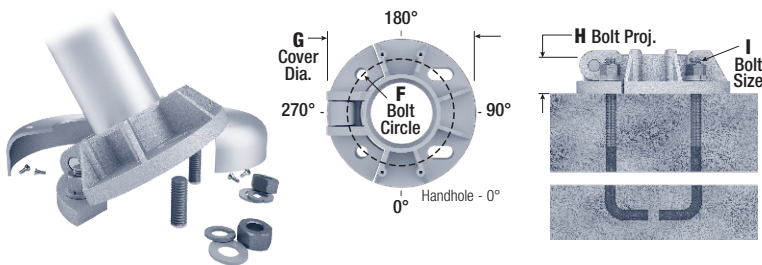
BASE DETAILS			ANCHOR BOLT DETAILS		
BUTT DIA.	F BOLT CIRCLE	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE	BOLT SET CATALOG #
4	6.5 - 8	7.5	2	.75 x 17 x 3	273-001
5	7.5 - 8	7.5	2	.75 x 17 x 3	273-001
6 (.75" Bolt)	9 - 10	9.75	2.75	.75 x 30 x 3	78242
6 (1" Bolt)	9 - 10	9.75	2.75	1 x 36 x 4	271-001
7	10 - 11	10.5	2.75	1 x 36 x 4	271-001
8	11 - 12	11.25	2.75	1 x 36 x 4	271-001
9	12.5 - 14	12.75	2.75	1 x 36 x 4	271-001
10 Up to .250"	14 - 15	14	3.25	1 x 48 x 4	272-001
10 .312" & Larger	14 - 15	14	3.25	1.25 x 48 x 6	276-001
12	16 - 18	17	3.75	1.25 x 48 x 6	276-001

3-Bolt Base — Round Poles



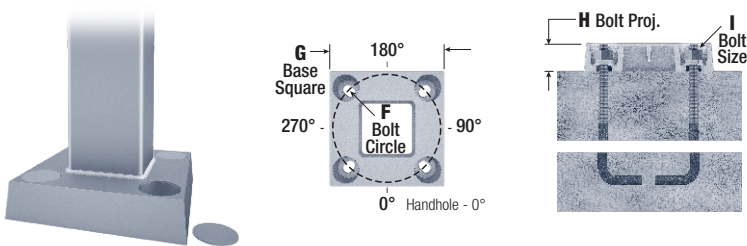
BASE DETAILS			ANCHOR BOLT DETAILS		
BUTT DIA.	F BOLT CIRCLE	G COVER DIA.	H BOLT PROJ.	I BOLT SIZE	BOLT SET CATALOG #
4	7	9.0625	2	.75 x 17 x 3	274-001
5	8	10.375	2	.75 x 17 x 3	274-001

Hinged Base — Round Poles



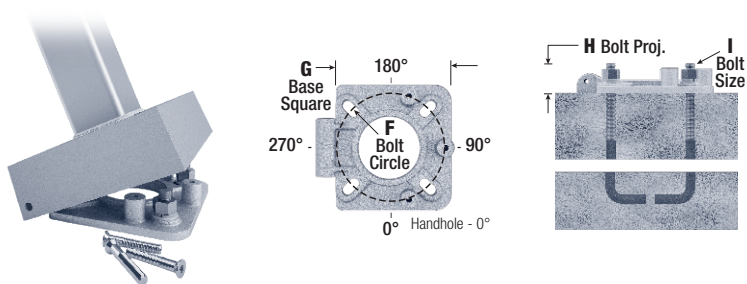
BASE DETAILS			ANCHOR BOLT DETAILS		
BUTT DIA.	F BOLT CIRCLE	G COVER DIA.	H BOLT PROJ.	I BOLT SIZE	BOLT SET CATALOG #
4	7	9.75	2	.75 x 17 x 3	273-001
5	8.5	11.25	2	.75 x 17 x 3	273-001

4-Bolt Base — Square Poles



BASE DETAILS			ANCHOR BOLT DETAILS		
BUTT SQ.	F BOLT CIRCLE	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE	BOLT SET CATALOG #
4	8.5 - 9.5	9.875	1.5	.75 x 17 x 3	273-001
5	10.5 - 11.5	11.25	2	.75 x 30 x 3	78242
6	12 - 13	12.75	2.25	1 x 36 x 4	271-001
6.625	13 - 14	13.5	2.25	1 x 36 x 4	271-001

Hinged Base — Square Poles



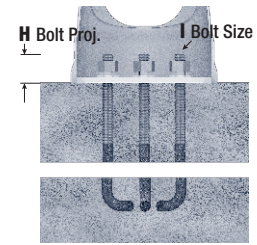
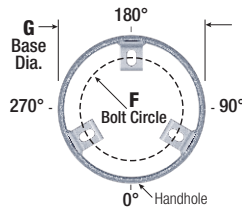
BASE DETAILS			ANCHOR BOLT DETAILS		
BUTT SQ.	F BOLT CIRCLE	G BASE SQ.	H BOLT PROJ.	I BOLT SIZE	BOLT SET CATALOG #
4	7.5 - 9	10.75	2	.75 x 17 x 3	273-001
5	7.5 - 9	10.75	2	.75 x 30 x 3	78242

Base and Anchorage Details

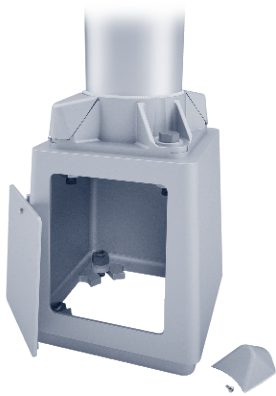
Beehive — Round Poles



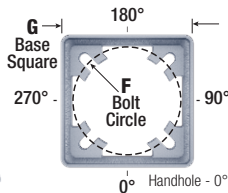
BASE DETAILS				ANCHOR BOLT DETAILS			
F	G	AA		H	I	BOLT SET	
BUTT DIA.	BOLT CIRCLE	BASE SQ.	HEIGHT	BOLT PROJ.	BOLT SIZE	CATALOG #	
4 and 5	9	13.125	15.5	3	1.75	.75 x 17 x 3 274-001	



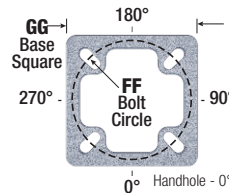
Breakaway Transformer Base



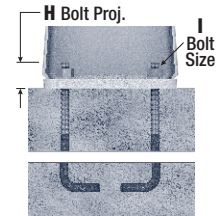
CATALOG NUMBER	AA HEIGHT	BOTTOM DETAILS		TOP DETAILS		ANCHOR BOLT DETAILS			
		F BOLT CIR.	G BASE SQ.	FF TOP BOLT CIR.	GG TOP BASE SQ.	BOLT QTY.	H BOLT PROJ.	I BOLT SIZE	BOLT SET CATALOG NO.
TB1-17 (70501)	17	15	15.375	10.5 - 13.5	13.125	4	3.5	1 X 36 X 4	271-001
TB2-17 (70511)	17	12	13.0625	10 - 12	12	4	3.5	1 X 36 X 4	271-001
TB3-17 (70521)	17	17.25	17.4375	13 - 15.12	15	4	3.5	1 X 48 X 4	272-001
TB5-9 (79235)	9	15	15.375	14.5 - 15	14.75	4	3.5	1 X 36 X 4	271-001
TB6-9 (78481)	9	12	12.75	10.5 - 12	12.25	4	3.5	1 X 36 X 4	271-001



Bottom Detail

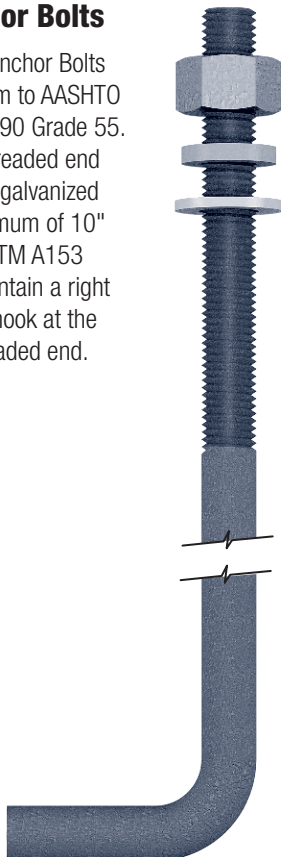


Top Detail



Anchor Bolts

Steel Anchor Bolts conform to AASHTO M314-90 Grade 55. The threaded end will be galvanized a minimum of 10" per ASTM A153 and contain a right angle hook at the unthreaded end.



CATALOG NUMBER	BOLTS IN SET	DIAMETER	LENGTH	HOOK	THREAD SIZE	THREAD LENGTH	GALVANIZED LENGTH	WEIGHT PER SET
3/4" ANCHOR BOLTS								
273-001	4	.75	17	3	3/4" - 10NC	3.5	10 (+2/-0)	10 lbs.
274-001	3	.75	17	3	3/4" - 10NC	3.5	10 (+2/-0)	8 lbs.
78242	4	.75	30	3	3/4" - 10NC	3.5	10 (+2/-0)	17 lbs.
1" ANCHOR BOLTS								
271-001	4	1	36	4	1" - 8NC	6	10 (+2/-0)	32 lbs.
272-001	4	1	48	4	1" - 8NC	6	10 (+2/-0)	44 lbs.
1-1/4" ANCHOR BOLT								
276-001	4	1.25	48	6	1-1/4" - 7NC	6	10 (+2/-0)	68 lbs.

Notes:

- Each catalog number refers to a complete set of bolts. Each bolt will include one nut, one lockwasher, and one flatwasher (*all hardware components of galvanized steel*).
- To use two nuts per bolt for leveling, change the suffix to "-002" (*Example 271-002*). "-002" Kits will contain two nuts, two flatwashers, and one lockwasher per bolt. If leveling nuts are used, the pole base should be directly supported in full contact by a high quality, structural, non-shrink grout with a minimum 28 day compressive strength of 8,000 psi. All bolt projections shown in this catalog are for single nut applications. Different amounts of bolt projection will be required for use with leveling nuts. NOTE: Hapco does not recommend double nut installations (*See #4*), and stiling the pole base with leveling nuts should never be used with breakaway devices. Leveling nuts interfere with the device's proper performance, and if so mounted, Hapco will void certification that these devices meet AASHTO breakaway requirements.
- For Double Nut Kits (**Hardware Only, No Bolt**), specify "DN" (*Example 271-001DN*).
- Hapco recommends leveling shims in lieu of leveling nuts. No grouting is required with leveling shims. Order Part # 51432-001 (*3-1/8"W x 3-1/2"L x 1/16"H*).
- Contact Hapco Customer Service for information on Anchor Bolt options (*SS - Stainless Steel, FG - Fully Galvanized, etc.*).

Aluminum Light Pole Specifications

Pole Shaft

The shaft shall be constructed of seamless extruded tube of Aluminum Alloy 6063 (*round shafts*) or Aluminum Alloy 6XXX (*square shafts*) per the requirements of ASTM B221 of sufficient nominal thickness to meet the design requirements without the use of internal reinforcing sleeves. No longitudinal shaft welds shall be allowed. The shaft shall be full-length heat treated after welding to produce a T6 temper in round shafts and a T5 temper in square shafts. The heat-treating oven used shall be certified to meet the requirements of ASTM B597 and Mil-H-6088 specifications. An aluminum pole cap utilizing stainless steel attaching screws will be provided when required.

Pole Arms

The pole arms will be constructed of seamless extruded tube of Aluminum Alloy 6063 per the requirements of ASTM B221. Arms shall be full-length heat treated after welding to produce a T6 temper. Attachment pole plates shall be of Aluminum Alloy of T6 temper with stainless steel attaching hardware.

Anchor Base – Round Shafts

4-Bolt Base

The 4-Bolt base flange for attachment to the foundation or to the transformer base shall be of cast Aluminum Alloy 356-T6. Base flange shall be joined to pole shaft by means of complete circumferential welds; externally at the top of flange and internally at bottom of shaft tube. Four anchor bolt covers of cast Aluminum Alloy 356-F with stainless steel hex head attaching screws shall be provided.

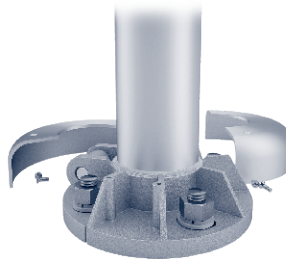


3-Bolt-Base

The 3-Bolt base flange shall be of cast Aluminum Alloy 356-T6 with spun aluminum base cover and stainless steel hex head attaching screws. Base flange shall be joined to pole shaft by means of complete circumferential welds; externally at the top of flange and internally at bottom of shaft tube.

Hinged Base

Hinged cast aluminum base flange of Alloy 356-T6 with 2-piece cast aluminum base cover and stainless steel hex head attaching screws. Base flange shall be joined to pole shaft by means of complete circumferential welds; externally at the top of flange and internally at bottom of shaft tube. The hinge mechanism is engaged by removal of the 2-piece cover and two front anchor bolt nuts.



Beehive Base

The Beehive cast aluminum transformer base shall be of Alloy 356-T6 with an aluminum door and stainless steel attaching screws. Base shall be joined to pole shaft by means of complete circumferential weld.

Direct Buried

Direct Buried aluminum poles are designed for embed installations. Poles with butt diameters of 6" and larger shall be provided with an anti-rotational device by means of partial flattening the butt of the pole into an oval cross-section. A wiring provision will be provided 24" below ground line. Soil conditions vary by site, therefore foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.

Transformer Base (T-Base)

The T-Base shall be a casting of Aluminum Alloy 356-T6 with removable access door held in place with one stainless steel screw. The base shall be 17" tall with an access door 11-3/4" high, 9-1/4" wide at the top and 9-3/4" wide at the bottom. It shall connect to 1" diameter anchorage. Three bases with bolt circles ranging from 10" to 17-1/4" can be used with shafts in size from 6" to 10" diameter (*dependent on their proper application and specific loading restrictions*). The bases shall meet 2009 AASHTO breakaway requirements. Four (4) 1" diameter galvanized steel hex-head machine bolts with nuts and washers shall be supplied to attach the transformer bases to the base flange of the pole shaft. Eight (8) 1/2" thick x 2-3/4" diameter galvanized steel heavy washers shall be provided to properly distribute the bolt forces in the top and bottom flanges of the transformer base.

Anchor Base – Square Shafts

4-Bolt Base

The 4-Bolt cast aluminum base flange shall be constructed of Alloy 356-T6 with aluminum snap-in bolt covers.

Hinged Base

The Hinged cast aluminum base flange shall be constructed of Alloy 356-T6 with three (3) stainless steel screws. Base flange shall be joined to pole shaft by means of complete circumferential welds; externally at the top of flange and internally at bottom of shaft tube. The Hinge mechanism is engaged by removal of the three (3) securing screws.

Handhole – Round Shafts

4"-5" Butt Diameters

4"-5" butt diameter poles shall feature a 2" x 4" handhole with curved lap style aluminum door and two (2) stainless steel self-tapping attaching screws. A grounding provision incorporating a tapped 1/4"-20NC hole is provided opposite the handhole.

6" Butt Diameter

6" butt diameter poles shall feature a reinforced, 3" x 5" curved cast aluminum frame (*Alloy 356-T6*) with aluminum door and two (2) stainless steel hex head screws. A grounding provision incorporating a 3/8" diameter hole is provided opposite the handhole.

7"+ Butt Diameters

7" and larger butt diameter poles shall feature a reinforced, 4" x 6" curved cast aluminum frame (*Alloy 356-T6*) with aluminum door and two (2) stainless steel hex head screws. Reinforced frame will contain a tapped 3/8"-16NC grounding provision.



Aluminum Light Pole Specifications

Handhole – Square Shafts

4"-5" Base Squares

4"-5" square poles shall feature a 2" x 4" handhole with square lap style aluminum door and two (2) Stainless Steel self-tapping attaching screws. A 1/4"-20NC grounding provision is provided opposite the handhole.

6"+ Base Squares

6" and larger square poles shall feature a 3" x 5" handhole with square lap style aluminum door and two (2) Stainless Steel self-tapping attaching screws. A 1/4"-20NC grounding provision is provided opposite the handhole.



Handhole – Poles with Arms

Poles with single arms will contain a handhole that is located 90 degrees clockwise from the plane of the bracket arm as viewed from the top of the pole. Twin arm poles will contain a handhole that is located 90 degrees from the plane of both bracket arms.

Anchorage

Each anchor base pole shall be supplied with anchor bolts. Steel bolts conforming to AASHTO M314-90 Grade 55 with the threaded end galvanized a minimum of 10" per ASTM A153 and a right angle hook at the unthreaded end. Each bolt shall include one (1) hex nut, lock washer, and flat washer, with all components being of galvanized steel. A bolt circle template will be provided.

Miscellaneous Hardware

Excluding anchorage hardware, all nuts, bolts, and washers used in the fabrication of the pole shall be Grade 18-8 stainless steel.

Grounding

Each pole shaft shall contain an internal ground provision for the purpose of attaching a grounding connector.



Welding

All welding is performed by gas metal arc welding in accordance with American Welding Society (AWS) Specification D1.2, Structural Welding Code – Aluminum, or Canadian Standards Association (CSA) W47.2 Certification of Companies for Fusion Welding of Aluminum.

Inspection and Packaging

Each coated part shall be inspected for appearance uniformity and appropriate coating mil thickness. Coated product shall be spiral wrapped with cross woven textile, polyethylene film or burlap material of sufficient tensile and elongation that exceed required characteristics to ensure protection during handling and shipping. The product shall be bundled with sufficient dunnage and strapping to prevent damage during shipment.

Satin Finish

Pole shafts specified with the -01 and -02 Satin finish designations shall be provided a uniform brushed aluminum natural finish achieved by utilizing specially formulated abrasives in a multi-pass, rotary sanding operation. Davit Arms shall match the shaft finish. Mast, Truss, Bullhorn, and Cross Arms shall be provided with a satin etched finish. All materials shall be cleaned and free from dents and unsightly scratches.

Powder Coat –

SURFACE PREPARATION

Pole shafts shall be satin ground, chemically etched, sanded or shot blasted to ensure proper powder coat surface adhesion. To ensure that the prepared parts are kept clean and not exposed to dirt, dust, grease or oil and to ensure maximum powder coat adhesion, the product shall proceed continuously and immediately to the powder coating process within the same facility where the poles and arms are manufactured.

Powder Coating

Powder coating material shall be a thermosetting polyester powder. A minimum coating thickness of 2.0 mils shall be maintained for aluminum. Application of powder shall be electrostatically applied by a closed loop automated powder coating system featuring twelve automatic spray guns with computerized controls and positioners to assure mil thickness conformance. The powder coating system shall employ a powder recovery system utilizing closed loop quick-change technology to achieve efficient and contamination free color changes. The powder shall be applied only when both the ambient and part temperatures are 50 degrees F. or above. Once powder coated, the product shall proceed through a curing oven operating at 400 degrees Fahrenheit that has been surveyed and certified for temperature uniformity. The product shall move continuously through the oven from beginning to end and shall attain the appropriate time at temperature to cure the finish in accordance with the paint manufacturer's recommendations. Once oven cured, the product shall move immediately to and continuously through a forced air cooling tunnel designed to restore the product to acceptable packaging temperature prior to inspection and packaging. Upon exiting the cooling tunnel the product shall be immediately inspected and packaged.

Note:

These specifications are intended for general information only. To facilitate our commitment to continuous improvement and providing industry-leading products, Hapco reserves the right to change materials and designs without prior notice.

Hapco Terms and Conditions of Sale

Conditions

All orders or contracts are accepted with the understanding that they are subject to Hapco's ability to obtain the necessary raw materials, and all orders or contracts as well as shipments applicable thereto are subject to Hapco's current manufacturing schedules, and government regulations, orders, directives and restrictions that may be in effect from time to time.

Quotations

Written quotations automatically expire thirty (30) calendar days from the date issued unless otherwise stated on the face of the quotation. Quotes are subject to termination by notice within that period. Quotations are subject to correction in the event of stenographic or clerical errors. Prices quoted are for specific quantities shown, released for manufacture and shipment at one time to one destination unless otherwise stated. Any change in the quantity of an order and/or split shipments are subject to price revision. Quotations are subject to change in the event complete specifications or requirements are not provided.

Purchase Order

If a quotation is accepted and Buyer's order form is used for the purpose, it is expressly understood and agreed that the terms and conditions herein set forth shall prevail insofar as the same may in any way conflict with the terms and conditions set forth in such order form, and the issuance of such order by Buyer shall be deemed to note Buyer's assent to the foregoing.

Prices

Prices are subject to change without notice and orders calling for future shipment will be billed according to the price in effect at the time of shipment, unless otherwise specified.

Taxes

Prices on the specified products are exclusive of all city, state and federal excise taxes, including without limitation, taxes on manufacture, sales, receipts, gross income, occupation, use and similar taxes. Wherever applicable, any tax or taxes will be added to the invoice as a separate charge to be paid by the Buyer.

Shipment

All prices are F.O.B. Hapco's factory (*Abingdon, Virginia*), unless otherwise stated. Method and route of shipment are at Hapco's discretion, unless the Buyer supplies explicit shipping instructions. When Buyer specifies method of shipment, any additional shipping expense will be charged to Buyer. Shipping charges are not intended to guarantee the delivery at or to destination. Identification of goods to the contract shall occur as each shipment is placed in the hands of the carrier. Anchor Bolts shipped in advance of poles will be charged freight.

Deliveries

Deliveries shall be subject to, and contingent upon, strikes, labor difficulties, civil unrest, war, fire, delay or defaults of common carriers, failure or curtailment in Hapco's usual sources of supply, governmental decrees or orders, or without limiting the foregoing, any other delays beyond Hapco's reasonable control, and Hapco shall not be liable for any loss or damage arising therefrom. Hapco shall have the additional right, in the event of the happening of any of the above contingencies, at its option, to cancel this contract or any part thereof, without any resulting liability. Shipments made within twenty (20) days after specified date of delivery shall constitute a good delivery. Any delivery not in dispute shall be paid for regardless of other controversies relating to other delivered or undelivered merchandise.

Packaging

Unless otherwise stated on the face of the quotation, all packaging will be in accordance with Hapco's standard practices for domestic shipments.

Hapco's Right of Possession

Hapco shall have the right, in addition to all others it may possess, at any time, for credit reasons or because of Buyer's default or defaults, to withhold shipments, in whole or in part, and to recall goods in transit, retake same, and repossess all good which may be stored with Hapco for Buyer's account, without the necessity of taking any other proceedings, and Buyer consents that all the merchandise is so recalled, retaken or repossessed shall become Hapco's absolute property, provided that the Buyer is given full credit therefor. The foregoing shall not be construed as limiting, in any manner, any of the rights

or remedies available to Hapco because of any default of Buyer under the Uniform Commercial Code as in force and effect in the Commonwealth of Virginia on the date of signing this agreement.

Payment Terms

Net amount of invoice is due and payable in full within thirty (30) days of invoice date. If in Hapco's opinion, the financial condition of the Buyer at any time does not justify continuance of production or shipment on the terms of payment specified, Hapco may require full or partial payment in advance of manufacture or shipment. Any indebtedness owing to Hapco for a period longer than thirty (30) days shall bear interest until paid at the current prime rate published in the Wall Street Journal. If Hapco finds it necessary to place any indebtedness hereunder in the hands of an attorney for collection, the Buyer shall pay all expenses and costs of collection, including reasonable attorney's fees.

Liability

Hapco shall not be liable for loss or damage of any kind resulting from delay or inability to deliver on account of fire, labor troubles, accident, acts of civil or military authorities, or from any other cause beyond Hapco's control.

Cancellation

An order once placed and accepted by Hapco can be canceled only with Hapco's consent and upon terms that will indemnify Hapco against loss.

Returned Material / Shortages

In no case are goods to be returned without prior written consent. Only unused material as currently manufactured, which has been invoiced to Buyer, within ninety (90) days, will be considered for return. Material accepted for credit is subject to a minimum service charge of twenty-five percent (25%) plus all transportation charges. Material built to order is not subject to return for credit under any circumstances. Goods must be securely packaged to reach Hapco without damage. All claims for shortages must be made in writing within 30 days of receipt of shipment.

Warranty – Aluminum Pole Assemblies

Hapco warrants its aluminum pole assemblies for their lifetime to be free of defects in material and workmanship and to be free from corrosion, except those items normally consumed in service. This warranty does not cover failures or corrosion due to:

- Improper installation.
- Misapplication – product used outside of specified use.
- Damage from handling, transportation, installation, vehicular impact, abuse, or vandalism.
- Site specific wind induced or other vibration.
- Installation in soils with a pH under 5 or over 9.
- Improper grounding.

Hapco will, at its sole option, repair, replace, or credit Buyer's account for any product that does not conform to this warranty.

HAPCO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HAPCO SHALL NOT BE LIABLE FOR ANY OTHER LOSS OR DAMAGE, INCLUDING BUT NOT LIMITED TO CONSEQUENTIAL DAMAGES, LIQUIDATED DAMAGES AND BACK CHARGES.

This warranty does not include reimbursement for the expense of installation or removal of equipment, transportation, or any other expenses which may be incurred. This warranty applies to the pole assembly only and does not include anchor bolts, connecting hardware, or foundation. Authorization must be obtained from Hapco before any material is returned. This warranty excludes finishes such as powder coating, anodizing, and satin. "Lifetime" is defined as the lifetime of the products intended use. The foregoing states the Buyer's sole remedy for any breach of warranty by Hapco.

This warranty applies only to Hapco aluminum pole assemblies shipped on or after January 1st, 2011.

Warranty – Hardware and Accessories

In addition to the lifetime warranty on its aluminum pole assemblies, all additional equipment, apparatus, and parts are warranted against defects in materials and workmanship for a period of one (1) year from the date of shipment, excepting those items normally consumed in service, unless failure is due to improper installation or misapplication.

Hapco will, at its sole option, repair replace or credit Buyer's account for any equipment or part which proves defective under its warranty provided that the Buyer notifies Hapco in writing of such defect within the appropriate warranty period.

HAPCO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HAPCO SHALL NOT BE LIABLE FOR ANY OTHER LOSS OR DAMAGE, INCLUDING BUT NOT LIMITED TO CONSEQUENTIAL DAMAGES, LIQUIDATED DAMAGES AND BACK CHARGES.

This warranty does not include reimbursement for the expense of installation, removal of equipment, transportation or any other expenses that may be incurred. Authorization must be obtained from Hapco before any material is returned. The foregoing states the Buyer's sole remedy for any breach of warranty by Hapco.

Warranty – Powder Coat Finish Warranty

HAPCO warrants its factory-applied powder coatings on Aluminum Poles will not fail or substantially deteriorate when the coated product is properly utilized and subjected to normal climatic exposure for a period of five years from the date of shipment ("Warranty Period"). If during the Warranty Period, the aluminum pole exterior coating exhibits any cracking, peeling or excessive fading, Hapco will repair or replace the defective coating, at its option, at no charge to the Purchaser, if the Purchaser promptly notifies Hapco in writing and furnishes proof of purchase when such failure or deterioration becomes evident.

Damage to the finish coating caused by improper handling during shipment and placement in service, or damage or failure caused by acts of God, falling objects, external forces, explosion, fire, riots, civil disturbance, acts of war, radiation, misuse or abuse in application or any other such occurrences beyond Hapco's control, is excluded.

The liability of Hapco under this warranty, or for any loss or damage arising out of or connected with the design, application, sale or use of the exterior coating, whether the claim is based on contract or negligence, shall not exceed the price allocable to the value of the original factory applied powder coating which gives rise to the claim and upon expiration of the Warranty Period all such liability shall terminate. Hapco shall not be liable for any special or consequential damages including, but not limited to, loss of profits or revenue, loss of use of equipment, substitute equipment cost or labor charged to remove or reinstall defective product, nor any product transportation expenses to and from Hapco's process plant if factory replacement of the defective coating is necessary. Authorization must be obtained from Hapco before any product is returned.

The foregoing states the Buyer's sole remedy for any breach of warranty by Hapco.

Controlling Provisions

These terms and conditions shall supersede any provisions, terms and conditions contained on any confirmation order, or other writing Buyer may give or receive, and the rights of the parties shall be governed exclusively by the provisions, terms and conditions hereof. Hapco makes no representations or warranties concerning this order except such as are expressly contained herein, and this order may not be changed or modified orally.

General

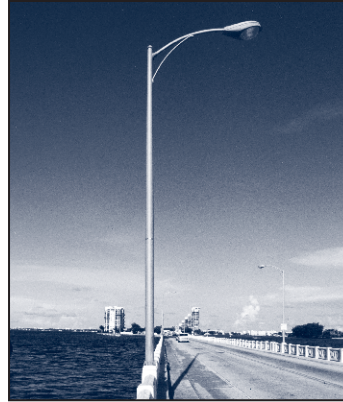
The provisions on the face hereof and these Terms and Conditions constitute the entire agreement among the parties and supersede the provisions of any purchase order, other communication between the parties or any statement or representation not included herein. This agreement may not be modified or amended except in a writing signed by the party intended to be bound thereby. This agreement shall be governed by the laws of the Commonwealth of Virginia.

Proven Performance

Hapco standard and decorative aluminum products

are used in various applications in the Commercial, Utility, Municipality, and Department of Transportation markets. For over 60 years, Hapco has been considered a leader in the light pole industry and has products in every state of the US, Puerto Rico, and several international countries. Our history of proven performance, coupled with our exclusive Lifetime Warranty on aluminum pole assemblies, make Hapco the trusted industry source.

A partial listing of our customers is shown below:



*Venetian Causeway
Miami, FL
Installed Circa 1951*

Utility

Alabama Power
Alliant Energy
American Electric Power
Austin Energy
Baltimore Gas & Electric
Bristol Tennessee Essential Services
Bristol Virginia Utilities
Brownstown Electric
Chattanooga Power Board
Colorado Springs Utility
Consumers Energy
Dayton Power & Light
Detroit Edison
Dominion Power
Duke Energy
Electric Services
Entergy
Excel
First Energy
Harrisonburg Electric Commission
Huntsville Utilities
Indiana Power & Light
Indianapolis Power & Light
Jackson Electric Authority
Johnson City Power Board
Kentucky Utilities
Knoxville Utility Board
Louisville Gas & Electric
Mississippi Power Company
Nashville Electric Commission
National Grid
Niagara Mohawk
Northeast Utilities
Ocala Utilities Board
Orlando Utilities Commission
Pacific Gas & Electric
Progress Energy
PSE & G
Public Services of New Mexico
Puget Sound Energy
South Carolina Electric & Gas
Southern Company
Tampa Electric Company
Virginia Tech Electric

Light Fixture Manufacturers

Cooper
GE Lighting
Holophane
Hubbell
Lithonia

Department of Transportation

Alabama
Arizona
California
Colorado
Connecticut
Florida
Georgia
Hawaii
Illinois
Indiana
Kansas
Kentucky
Louisiana
Maine
Massachusetts
Michigan
Minnesota
Mississippi
Nevada
New Jersey
New Mexico
New York
North Carolina
Ohio
Oregon
Pennsylvania
Rhode Island
South Carolina
Tennessee
Texas
Virginia
Wisconsin

Municipalities

Albuquerque, New Mexico
Atlanta, Georgia
Austin, Texas
Baltimore, Maryland
Birmingham, Alabama
Champagne, Illinois
Charleston, South Carolina
Chattanooga, Tennessee
Chicago, Illinois
College Station, Texas
Colorado Springs, Colorado
Columbus, Ohio
Dayton, Ohio
Des Moines, Iowa
Eau Claire, Wisconsin
Fargo, North Dakota
Fort Wayne, Indiana
Grand Forks, North Dakota
Greenville, South Carolina
Gulfport, Mississippi
Huntsville, Alabama
Indianapolis, Indiana
Jacksonville, Florida
Kansas City, Kansas/Missouri
Knoxville, Tennessee
Las Cruces, New Mexico
Lexington, Kentucky
Louisville, Kentucky
Madison, Wisconsin
Milwaukee, Wisconsin
Minneapolis, Minnesota
Mobile, Alabama
Nashville, Tennessee
New York, New York
Ocala, Florida
Ogden, Utah
Orlando, Florida
Park City, Utah
Pensacola, Florida
Philadelphia, Pennsylvania
Savannah, Georgia
Seattle, Washington
Tacoma, Washington
Tampa, Florida
Numerous Co-Ops and
Metered Municipalities

Military Bases

Brookley AFB
Camp Lejeune
Elgin AFB
Fort Benning
Fort Bliss
Fort Bragg
Fort Campbell
Fort Carson
Fort Drum
Fort Gordon
Fort Huachuca
Fort Jackson
Fort Lee
Fort Riley
Fort Rucker
Fort Sill
Fort Stewart
Grand Forks AFB
Kings Bay Naval Base
MacDill AFB
White Sands Missile Base



***Hapco Aluminum, a sustainable material
for now and the future!***

Hapco Aluminum - The Green Choice

Hapco Aluminum provides an environmentally responsible choice of material and approach with the burgeoning green movement, allowing specifiers to aggressively pursue a design based upon sustainable principles.

Hapco Aluminum resists the ravages of time, temperature, corrosion, humidity, and warping, creating an incredibly long life cycle when compared to alternative materials. This results in a far lower environmental impact through reduced material replacement energy.

Our products are engineered to be efficiently and durably built using materials and processes that are kind to our environment. Aluminum production, unlike the galvanization process of steel which emits zinc chloride and ammonium chloride into the atmosphere, has a low impact on the environment, making it especially appealing when both environmental and economic criteria are considered.

The longevity and durability of aluminum pole products manufactured by Hapco can be validated by our industry-leading **Lifetime Warranty on Aluminum Pole Assemblies**, making Hapco Aluminum **"The Green Choice"** for today's environmentally-conscience designer.

- *Aluminum is 100% recyclable. In fact, 70% of aluminum produced since the year 1886 is still in use today.*
- *Recycling aluminum saves 95% of the energy it would take to produce new material from Bauxite Ore.*
- *Every ton of recycled aluminum saves 4 tons of the raw Bauxite required to produce new aluminum.*
- *Using recycled aluminum in place of raw materials reduces air pollution by 95% and water consumption by 97%.*
- *Aluminum is naturally corrosion-resistant, eliminating the use of toxic chemicals to maintain its appearance.*
- *Aluminum recycling benefits present and future generations by conserving energy and other natural resources.*



ALUMINUM

POLE PRODUCTS



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Proudly Supporting Our Industry...

American Welding Society
AWS D1.2 Committee

American Association of State Highway
and Transportation Officials
AASHTO NCHRP

National Electrical Manufacturers Society
NEMA ANSI C136
Accredited Standards Committee