ADVANCE
PRODUCTS & SYSTEMS, LLC

APOGEE AERO
ROLLER CASING SPACERS

APOGEEAERO®
ANTI-CORKSCREWING ROLLER CASING SPACERS

***Patented

Manufactured Exclusively for Casing Spacers

- REDUCED COEFFICIENT OF FRICTION
- REDUCED SIZE OF EQUIPMENT
- REDUCED INSTALLATION TIME
- REDUCED COST OF PROJECT





Made in USA

CASING SPACERS WITH ROLLER BENEFITS

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CASING SPACERS ROLLERS OPTIONS

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ISO 9001:2015 CERTIFIED COMPANY - FM537405

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ApogeeAero® Rollers Manufactured Exclusively for Casing Spacers

Cost & Performance Benefits of Rollers vs. Runners

APS has now developed a new line of anti-corkscrewing rollers specifically designed for its Casing Spacers that fits into a smaller annular space while withstanding higher load strengths than any other isolation roller offered on the market. These new ApogeeAero® Roller Casing Spacers are cost competitive to traditional Casing Spacers with runners while still isolating the carrier pipe from the casing pipe. Not only are they cost competitive, but they can carry heavy loads while reducing the coefficient of friction from .2 to .06 which is 70% less, thus increasing the average installation speeds from 3-5 ft. per minute to 15+ ft. per minute. Unlike traditional casing spacers, the design of the anti-corkscrewing ApogeeAero® Casing Spacers eliminates the need for a guide or greasing of the casing pipe I.D., and decreases installation time, size of equipment, and overall cost of the project.

- ***Low-profile*** allows for a smaller Casing to be used for any given carrier pipe, reducing the cost of the casing pipe.
- ***Higher load strength*** allows for fewer rollers needed for a given load, therefore reducing the cost of each Casing Spacer.
- ***Reduced Push/Pull Force Requirements*** allow for smaller, less expensive equipment to be used during installation.
- ***Increased installation speed*** allows for quicker installation time of the carrier pipe, saving money on hourly rental fees and workers' wages.



50 lb. 8-year-old pushes a 16 in., 20 ft. long steel pipe weighing 1250 lbs. without any assistance or extra equipment needed. ApogeeAero® Roller Casing Spacers makes installation so easy, even a child can do it.

ApogeeAero® Rollers vs Traditional Rollers

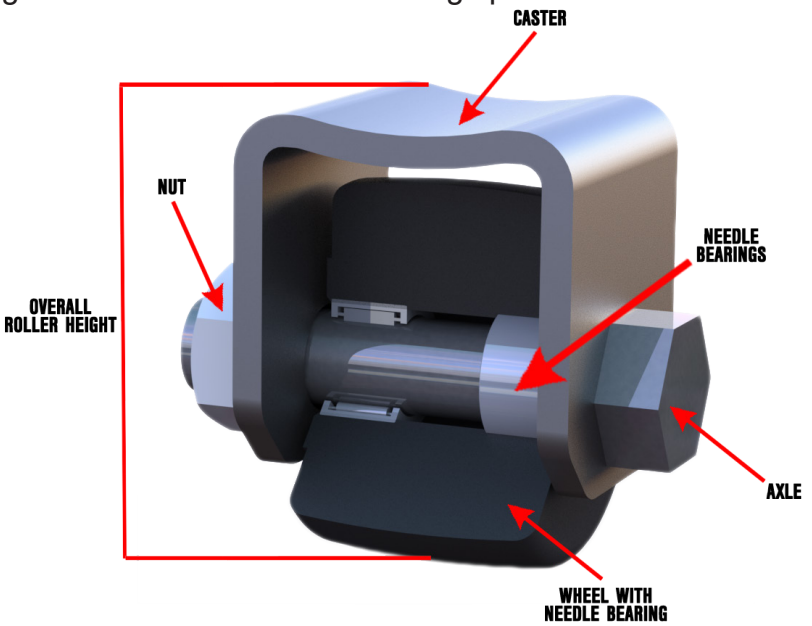
SIZE	HEIGHT	STATIC LOAD	DYNAMIC LOAD	HEIGHT	STATIC LOAD	DYNAMIC LOAD
SMALL	1.625"	2,000 lbs	1,000 lbs	2.5"	375 lbs	125 lbs
MEDIUM	2.625"	6,000 lbs	2,750 lbs	4.25"	1,800 lbs	600 lbs
LARGE	3.25"	9,000 lbs	3,750 lbs	5.625"	2,400 lbs	800 lbs
XLARGE	3.63"	12,500 lbs	6,000 lbs	6.5"	3,000 lbs	1000 lbs

***APS Casing Spacers are designed for straight casing applications. ApogeeAero® anti-corkscrew feature is not for use with cluster or grade elevation spacers. For any casing that involves a change in angle or direction (curved, bent, or considerable misalignment), please consult APS.

MADE IN THE USA

ROLLER DESIGN OVERVIEW:

APS has engineered the only ApogeeAero® roller manufactured specifically for casing spacer applications. This roller features an engineered, hardened bearing, axle and caster, while providing cathodic isolation & strength capabilities of glass filled nylon polymer. Incorporating this roller design with APS proprietary anti-corkscrewing technology eliminates any corkscrewing or spiraling of the casing spacer during installation without the use of a guide or other aid; thus making this the most innovative casing spacer ever to be introduced to the market.





***Disclaimer: ApogeeAero® anti-corkscrew feature may not be applicable to all designs and is not for use with cluster or grade elevation spacers. Please consult APS for applications.

ROLLER ASSEMBLY MATERIAL SPECIFICATIONS

Wheel
Glass-filled Nylon
Flexural Strength - 40,000 psi
Deflection Temp. under load 264 psi - 470° F

Axle (Steel)
Zinc-plated carbon steel

Nut (Steel)
Zinc-plated carbon steel

Axle (Stainless Steel)
304 Stainless Steel

Nut (Stainless Steel)
304 Stainless Steel

Fusion-Coated Caster (Steel)
Small – 10 GA Hot rolled, pickled & oiled
Med, Lg, & XL – 7 GA Hot rolled, pickled & oiled

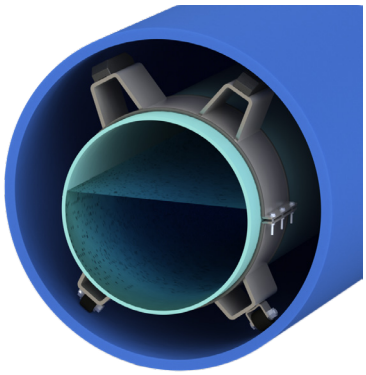
Caster (Stainless Steel)
T-304 Stainless Steel
Small – 10 GA
Med, Lg, & XL – 7 GA

Hardened-Coated Needle Bearings
Type - drawn cup needle roller bearings

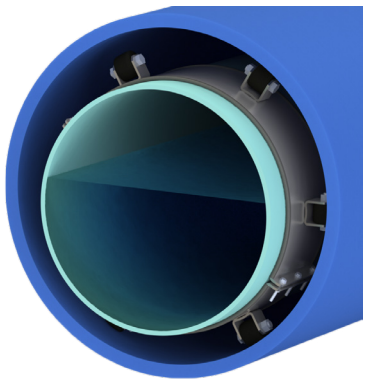
Temperature Rating
-40°F to +150°F static

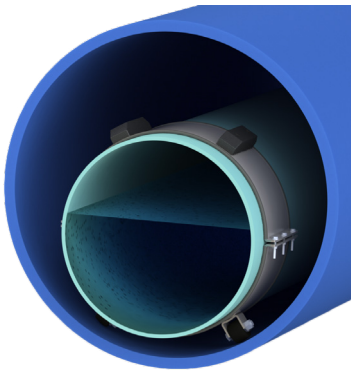
ApogeeAero® Roller Casing Spacer Options











Band and Risers
Band - 14 Gauge, T-304 Stainless Steel or Fusion-Coated Carbon Steel - Width: 8" & 12"
Riser - 10 Gauge, T-304 Stainless Steel or Fusion-Coated Carbon Steel

Liner
PVC
- Temperature Rating - -40°F to +140°F
- Dielectric Strength - {1/8" (3.18 mm) thick} - 60,000 V min.
- Thickness - .090"+/- .010"
- Hardness - 80 Duro +/- 5

EPDM
- Temperature Rating - -40°F to +250°F
- Dielectric Strength - {1/8" (3.18 mm) thick} - 50,000 V min.
- Thickness - .090" (2.29mm) min.
- Hardness - Durometer "A" 85-90
- Water Absorption - 1% max.
- Overlaps Edges

Bolts, Nuts and Washers
T-304 Stainless or Zinc-plated Steel –
5/16" – 2" long bolts

Runners/Risers
1" or 2" wide glass filled polymer plastic
Temperature Rating - -40°F to +180°F

Sizes of Runners/Riser Available:
Length - 7" & 11" (17.8, 27.9 cm)
Effective Heights for 7" Length -
1", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 4 1/2", 5", 5 1/2" and 6"
Effective Heights for 11" Length - 1", 1 1/2"

Runner/Roller Material Specifications:
Rockwell Hardness (M) - (ASTM D785) - 101
Tensile Strength - (ASTM D638) - 27,000 psi
Flexural Strength - (ASTM D790) - 40,000 psi
Deflection Temp. @ 264 psi - (ASTM D648) - 480 ˚F (249 ˚C)
Deformation Under Load @ 72 ˚F (22 ˚C) - 3500 lb. Load (ASTM D648) - 1%

Coating Specifications for Carbon Steel Spacers
Thermoplastice Powder Coating Specifications
Durometer - Shore A2 (10 Sec.)
(ASTM D1706-61T) - 50-55
Max. Temperature - 150 °F (65 °C)
Electrical Properties (ASTM D149-61)
Coating Thickness 8-16 mil.

APS Manufactures Spacers for Specific Customer Requirements

While casing spacers are available in a number of sizes, APS is also capable of manufacturing ApogeeAero® Roller Casing Spacers for specific customer requirements. The APS engineering staff has experience with:

- Designing multiple carriers within one casing
- Positioning thermally insulated pipe without damage to insulation
- Centering small carriers within large casings
- Positioning gravity sewer to on-grade requirements
- Casing spacers for all types and sizes of pipe

Heavy duty two-piece metal bands serve practically every piping application. APS metal band casing spacers are available in two models: the SSI8 model, which is 8" in width and recommended for carrier pipe 4" to 36"; and the SSI12 model, which is 12" in width and is recommended for pipe 36" to 120" and larger. Metal band spacers are recommended for every 6 to 8 feet of pipeline.

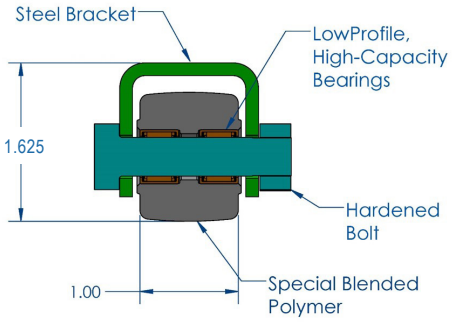
The bands are constructed of 14 gauge stainless steel or carbon steel with a standard 0.090" PVC liner. Stainless steel spacers are available in grade 304 or 316L.

Carbon steel spacers are available with a thermoplastic powder coating for extra corrosion protection. APS believes that fusion-bonded coatings provide the most complete and effective corrosion protection available.

ApogeeAero® Roller Casing Spacers can be manufactured with modular runners, riser runners or rollers on the top. Rollers can also be placed every 60° around the carrier pipe allowing the pipe to maintain a constant grade even if it corkscrews inside the casing during installation.

ApogeeAero® Roller Sizes

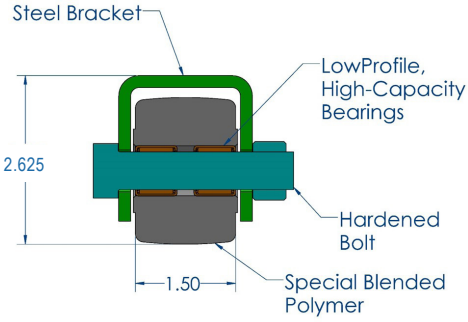
Small Roller



Height:	**1.625”**
Width:	**1.000”**
Static Load Cap:	**2,000 lbs.**
Dynamic Load Cap:	**1,000 lbs.**



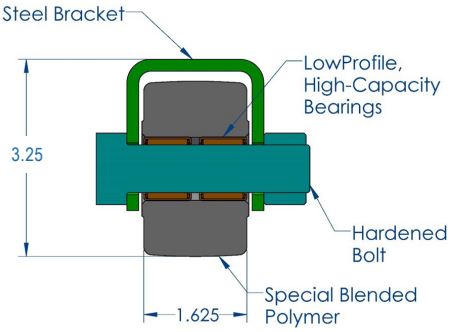
Medium Roller



Height:	**2.625”**
Width:	**1.500”**
Static Load Cap:	**6,000 lbs.**
Dynamic Load Cap:	**2,750 lbs.**



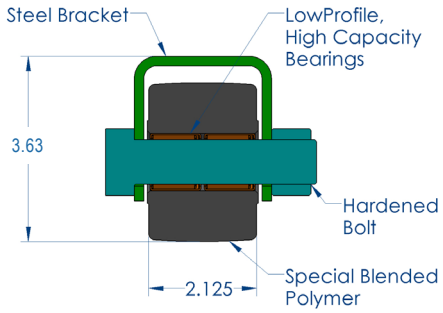
Large Roller



Height:	**3.25”**
Width:	**1.625”**
Static Load Cap:	**9,000 lbs.**
Dynamic Load Cap:	**3,750 lbs.**



XL Roller



Height:	**3.63”**
Width:	**2.125”**
Static Load Cap:	**12,500 lbs.**
Dynamic Load Cap:	**6,000 lbs.**



ORDER INSTRUCTIONS

Please Indicate the following:

- Project reference and location

Metal Insulators:

- Model number: SI (steel) or SSI (stainless steel)
- Carrier Pipe O.D. including coating thickness
- O.D. of bell of mechanical joint
- Riser runners, mods or rollers on top
- Type & schedule or weight per foot of carrier pipe
- Casing I.D. or Casing O.D. and Wall Thickness
- Configuration: Clear Bell, Centered and Restrained, or Non-centered and Restrained

End Seals:

- Model: AC (pull-on), AW (wrap-around), AZ (zipper), AM (molded), AMCE (moded cone), APC (cluster)
- Carrier Pipe O.D. including coating thickness
- Casing O.D.
- Configuration: Centered or Non-centered

OTHER PRODUCTS AVAILABLE

- Flange Isolating Gasket Kits
- Integra® Series Gaskets
- Kleerband® Flange Band Protectors
- Kleergel® Corrosion Inhibiting Grease
- Radolid® Nut & Bolt Protection Caps
- Casing Spacers & End Seals
- Bore & Duct Bank Spacers
- Innerlynx® Modular Mechanical Seals
- Wall Sleeves
- Foreman Nite Caps
- UBolt-Cote® & Atlas Pipe Support® Pads
- IsoJoint® Monolithic Isolating Joints
- Safety Spray Shields

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