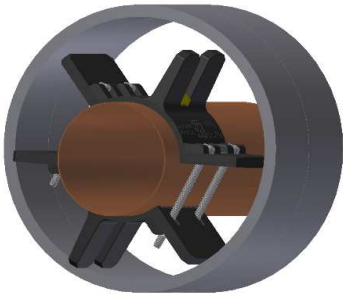


# CASING SPACERS - PHOENIX SILVER SERIES

## CASCADE PHOENIX SILVER SERIES ASSEMBLY



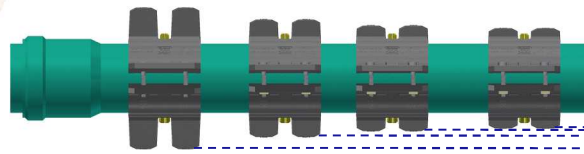
- Quick assembly with non-conductive bolts
  - > 10-32 Fillister Phillips head bolt
  - > works with a standard #1 or #2 Philips driver
- Many size configurations possible with two basic segments
- Patented gripping technology with the molded TPR (Thermoplastic Rubber) Button
- Available runner heights of 0.63, 0.75, 1.00, 1.50 inches
- Variety of load capabilities



CCSP4  
(4" Arc Length)



CCSP3  
(3" Arc Length)



Choose runner height to clear bell or restrainer and provide clearance inside casing pipe.

0.63 0.75 1.00 1.50

### HOW TO ORDER

Use the corresponding segment sizes and quantities for the Pipe O.D. sizes shown below.

NOM. SIZE	CARRIER PIPE O.D. (inches [mm])	# OF SEG.	TYPE OF SEGMENTS	LAYOUT OF SEGMENTS	CASING SPACER PART NUMBER
1-1/2"	1.90 [48]	2	CCSP3	CCSP3  CCSP3	CCSPL-0190-063 CCSPL-0190-075 CCSPL-0190-100 CCSPL-0190-150
2"	2.13 [54]	2	CCSP3	CCSP3  CCSP3	CCSPL-0213-063 CCSPL-0213-075 CCSPL-0213-100 CCSPL-0213-150
2"	2.38 [60]	1 / 1	CCSP3 / CCSP4	CCSP3  CCSP4	CCSPL-0238-063 CCSPL-0238-075 CCSPL-0238-100 CCSPL-0238-150
2-1/2"	2.63 [67]	2	CCSP4	CCSP4  CCSP4	CCSPL-0263-063 CCSPL-0263-075 CCSPL-0263-100 CCSPL-0263-150
2-1/2"	2.88 [73]	2	CCSP4	CCSP4  CCSP4	CCSPL-0288-063 CCSPL-0288-075 CCSPL-0288-100 CCSPL-0288-150
3"	3.13 [80]	3	CCSP3	CCSP3  CCSP3	CCSPL-0313-063 CCSPL-0313-075 CCSPL-0313-100 CCSPL-0313-150
3"	3.50 [89]	2 / 1	CCSP3 / CCSP4	CCSP3  CCSP4	CCSPL-0350-063 CCSPL-0350-075 CCSPL-0350-100 CCSPL-0350-150

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## BASIC INSTALLATION PROCEDURES

- 1) Determine your carrier pipe's OD to select the correct spacer needed for your application.
- 2) For ease of installation, pre-assemble the segments except for one joint.
- 3) Wrap pre-assembled segments around the carrier pipe and install remaining two bolts to complete assembly.
- 4) Using a #1 or #2 tipped Phillips driver, torque all bolts to 3 in.-lbs.  $\pm$  1 in.-lbs., leaving approximately the same gap between all segments. (Complete button compression shown when no more gap is between the Casing Spacer and pipe.)
- 5) Continue the previous steps until all the **Phoenix Series Spacers** are installed in accordance with the manufacturer's recommended spacing intervals.
- 6) Trim excess bolt off with side cutters, leaving between 1/8" - 1/4" of thread above the nut. (While the nuts and bolts are non-metallic, some adjustments may need to be made to prevent the fasteners from contacting the Casing Pipe.)



### SAFETY WARNINGS:

- Keep hands and fingers clear of pinch points.
- Wear eye protection while installing spacers.

The use of a cordless drill will help speed up the installation process. Most cordless drills have a clutch to keep from over-torquing the screw. Please set the clutch to the lowest setting and adjust up as needed to obtain the proper torque. (Tools not supplied by Cascade.)

## PHYSICAL CHARACTERISTICS FOR PLASTIC CASING SPACERS

Yield Strength	ASTM D 638	3900 PSI
Tensile Strength	ASTM D 638 - D 651	3600 PSI
Hardness - Shore D	ASTM D 2240	65
Minimum/Maximum Working Temp.		-60°F/180°F
Dielectric Strength	ASTM D 149	460 V/mil
Flexural Strength/Modulus	ASTM D 790	151000 PSI
Compressive Strength	ASTM D 695 (%=Strain)	3360 PSI @ 5% 4210 PSI @ 10% 4740 PSI @ 15%
Water Absorption	ASTM D 570	0.03%
Notched Impact Strength	ASTM D 256	1 ft.-lbs./in.2
Min.-Max. Torque Requirements		3 in.-lbs. $\pm$ 1 in.-lbs./fastener
Maximum Compression Load on One Runner		750 lbs.

## WARRANTY

**Cascade Waterworks Mfg. Co.** warrants this product for one year from the date of purchase to be free of defects in material or workmanship. Cascade will repair or replace this product if it is found to be defective within the above stated one year warranty period provided that the buyer submits his claim in writing and delivers the original claimed defective product in its entirety, freight prepaid to Cascade Waterworks Mfg. Co., 1213 Badger Street, Yorkville IL, 60560 for inspection within 30 days. Written notice or products sent to Mfg. Reps or any other agents prior to our review will void all warranties. Cascade will not be liable or responsible for any loss, damage or injury to any person(s) or property directly or indirectly arising from the use or inability to use this product. The user shall determine the suitability of the product for its intended use prior to any application and said user assumes all risks in connection with the use of this product. No claims for any resultant labor or damage will be allowed. The forgoing warranties and remedies are exclusive and in lieu of all others, whether written, oral or implied. There is no warranty on the merchandise for fitness in a specific use of this product. Upon this product's purchase from **Cascade Waterworks Mfg. Co.** or any of its Agents, the purchaser agrees to all the above terms of warranty.