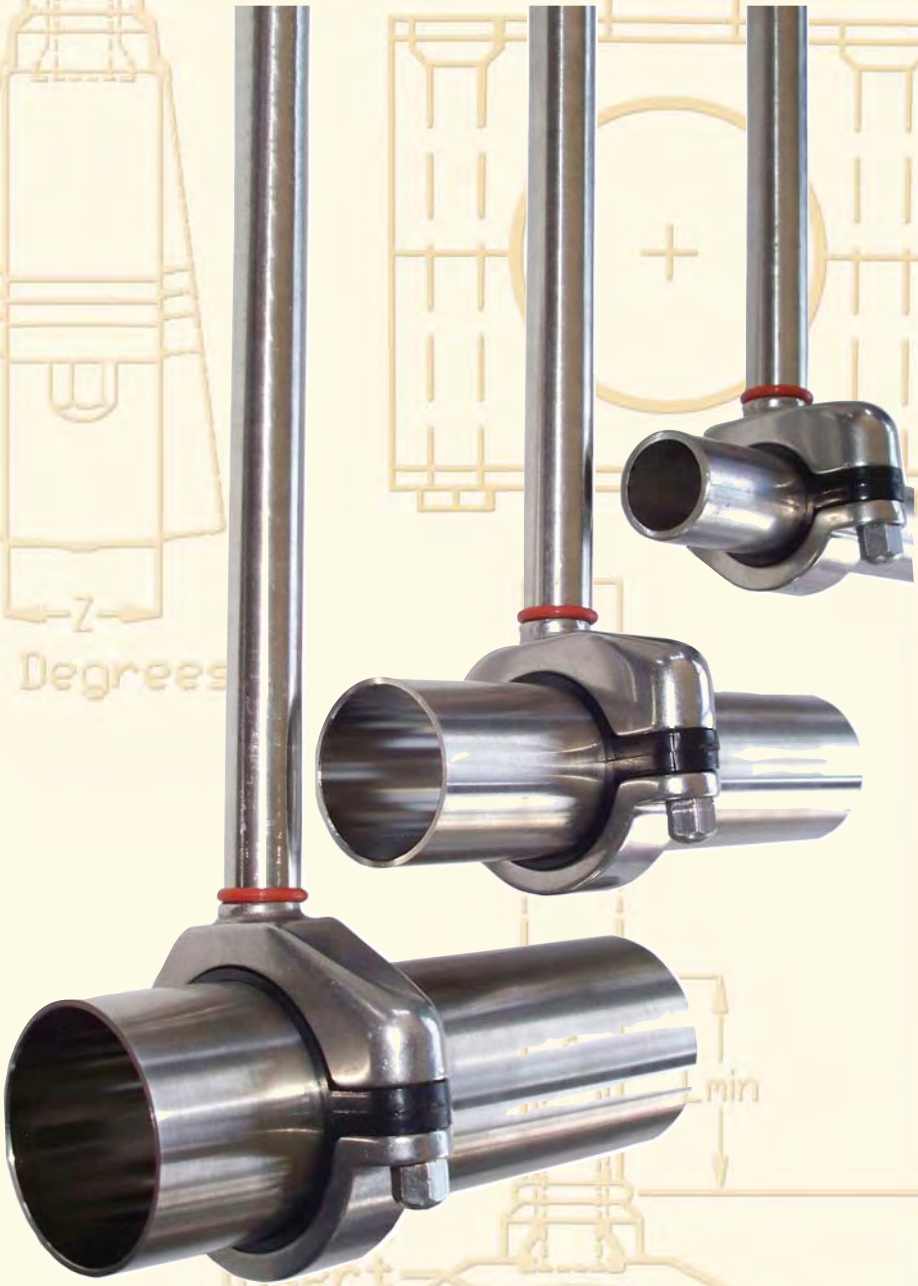
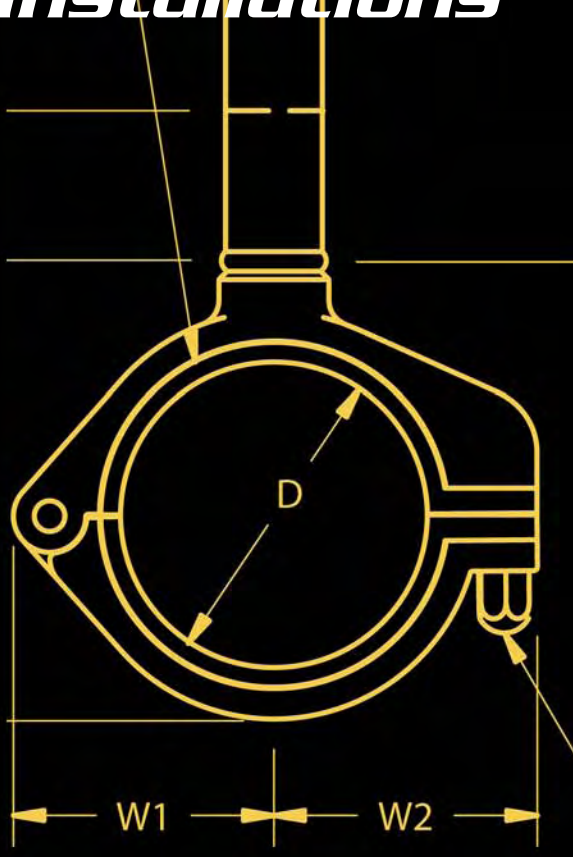
BEHRINGER®

The Best Solution For Process Piping Installations





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Forward

Introduction

Thank you for choosing Behringer, the world's leading manufacturer of Pipe and Tube supports. Behringer has been manufacturing pipe clamps and support systems for over 30 years, and has developed a reputation in the industrial and sanitary markets that is second to none. We have made developments and product improvements over the years both strengthening and broadening our product offering. This is evident in the breadth of our line and ability to accommodate new applications and designs. You can count on Behringer for all your clamping and support requirements.

Product

Behringer Hygienic Tube Supports are designed to meet the high demands of process piping in hygienic service applications. The automatic slope adjustment feature of the CH Series Dynamic hanger will promote drainability of the piping without imparting unnecessary stress into the piping. Drainability is a critical design feature in hygienic process piping. Behringer Sanitary Pipe and Tube Supports are available in a wide range of sizes and configurations and are offered with both an anchor or guide insert to meet the needs of any application.

Behringer offers many different series and within each series there are many different configurations available. We offer options for mounting such as welding, bolting, rail and strut mounting, double, and group mounting, etc. Behringer always welcomes a challenge, and would be happy to work with you to design a product that is custom-tailored to your application. This is where many of our developments are first generated, and helps to further progress the complexity of our product. Challenge us with your requirements.

Guarantee

Behringer Corporation, hereinafter called the "MANUFACTURER", guarantees that this product shall be free from defects in workmanship and materials. THIS GUARANTEE IS IN LIEU OF ALL OTHER GUARANTEES EITHER EXPRESSED OR IMPLIED, INCLUDING GUARANTEES FOR FITNESSFOR PURPOSE INTENDED. The MANUFACTURER'S liability is limited to the replacement of any materials which, after inspection by the MANUFACTURER at it's sole option, are found to be defective. The MANUFACTURER will honor only those claims that are presented to it within one hundred eighty (180) days of the delivery of the materials to the purchaser. The MANUFACTURER SPECIFICALLY DISCLAIMS ANY AND ALL LIABILITY FOR CONSEQUENTIAL DAMAGES. The MANUFACTURER shall not be liable for any damages which arise out of the misuse or abuse of the products.

Applications

Behringer clamps are used in may different types of applications ranging from low pressure lubrication and water systems to high pressure hydraulic and process systems. Anywhere that there are pipes, tubes, or hoses is a viable application for Behringer clamps. Behringer clamps are used in the following markets and applications most frequently:

Mobile Equipment
Mining Equipment
Offshore and Marine Applications
Shipbuilding
Instrumentation
Nuclear
General Construction
Electrical / Mechanical Contracting
Process Piping
Pharmaceutical / Biotechnology
Food and Dairy
Beverage
Power Generation
Pulp and Paper
Industrial Hydraulics
Power Units
Agricultural Equipment
OEM Machinery

Assistance

Behringer Corporation has a competent and highly skilled staff of inside sales and customer service personnel available to assist you with any of your needs. Behringer can be reached in the following ways:

Post Mail: Behringer Corporation
17 Ridge Road
Branchville, NJ 07826
Telephone: +1 (973) 948-0226
Fax: +1 (973) 948-2562
Email: cserv@behringersystems.com

Our regular business hours are Monday through Friday, 8AM - 5 PM Eastern Time. For after-hours service, please contact your regional sales manager.

Please Read

The information contained in this document is provided as an aid in properly selecting products and/or options. It is intended to be used by technically experienced users for general reference only. The supplier assumes no responsibility or liability for the accuracy or completeness of this document, as well as results obtained by the use of this information. Due to the variety of possible operating conditions, it is highly recommended that the user make their own tests to determine the safety and suitability of all products and combinations thereof. The user is solely responsible for final determination of such conditions.

CH SERIES HAS ALL YOUR ANGLES COVERED...

Compact Hygienic CH Series Hangers

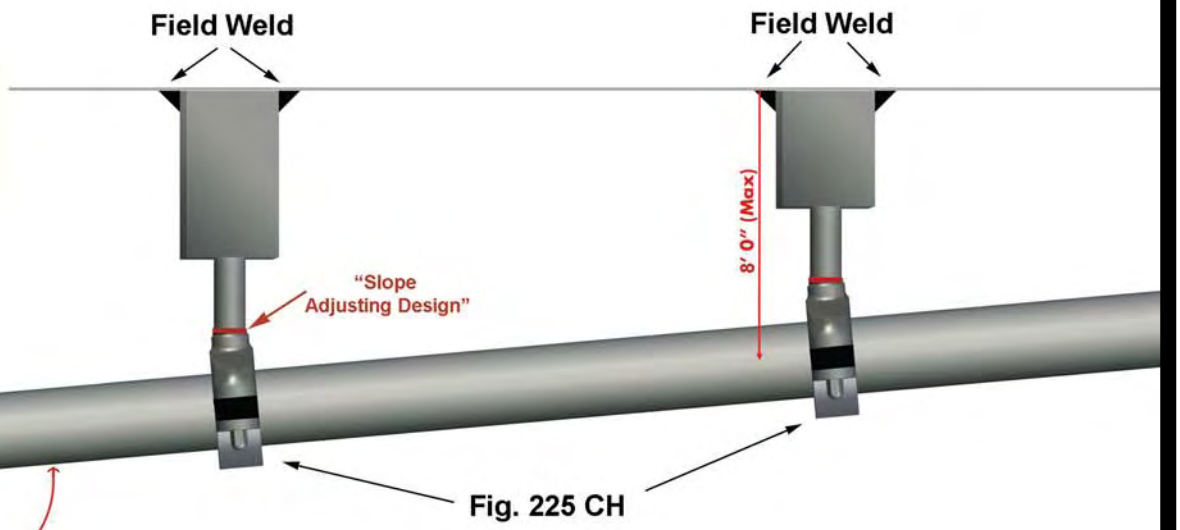

Fig. 225 CH

The innovative CH Series hangers design was developed with the input of engineers, contractors, end users and Behringer's strong understanding of hygienic tube and pipe applications. These compact High Purity hangers answer industry concerns, while incorporating several contractor time-saving benefits. The tension ring connection on the Dynamic Hanger allows the clamp bodies to self adjust, independent of the hanging rod, to the tube's slope. This attribute reduces internal stress on the tube, as well as, eliminating an entire step during slope adjustment. The ability to make these adjustments, while the hanger is secured to the tubing, eliminates the step of retesting the slope after the hangers have been mounted. The combined use of the CH, CHT, CHR & CHW supports along with the telescoping stanchions permits line adjustment in the x, y and z axis's. What could prove to be biggest saver is these are packaged and installed as a one piece unit. No loose parts and wasted time gathering pieces and assembling components on ladders and space restricted areas. These benefits ultimately create a quality job.

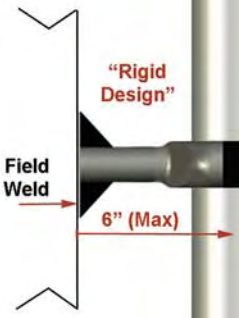

Fig. 221 CHR

Fig. 226 CH

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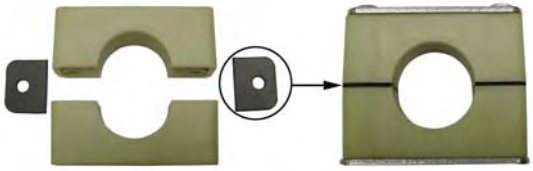
New Items & Accessories

Height Adjustment Coupling

Polysulfone Inserts for Smooth Bore Series

Ball Swivel Joint - SWVJ

Fig. 207 Thermal Expansion Guide (TEG) for Plastic Inserts



Wing Bolt - CWBT

Fig. 65 Ceiling Mounting Plate

5/16" x 3/8" Adapter

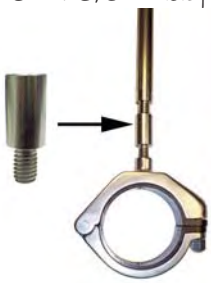
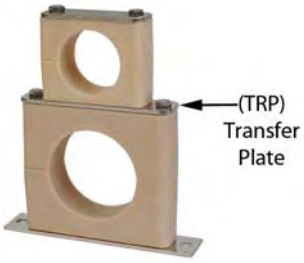


Fig. 205 Transfer Plate Assembly



Convenient T-Handle Nut Driver

Slope Line Lock for Fig. 203 (RAL-1)

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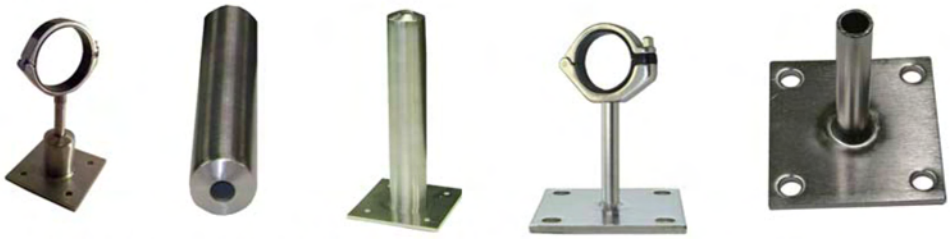
CH Series



Stanchions

Smooth Bore Series

Miscellaneous

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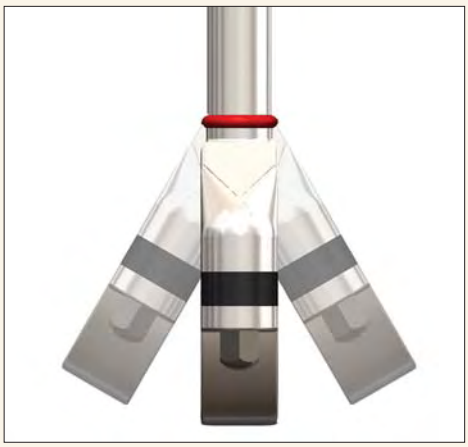
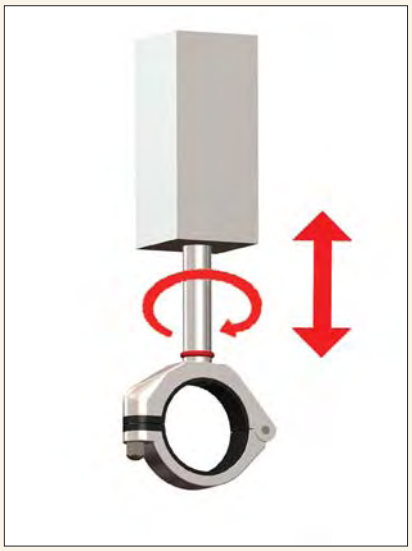


Automatic Slope Adjustment

Tension Ring connection allows hanger body to adjust 7° to tube slope and rotate 360° to relieve all unnecessary stresses between tube and "CH" support



Telescopic - Elevation Adjustment

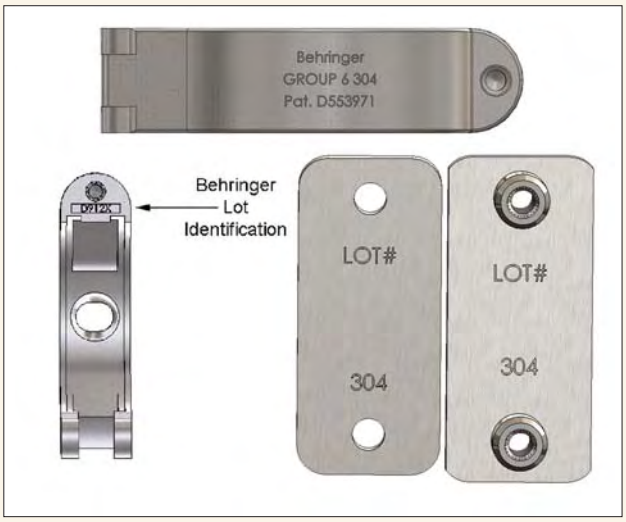
CH Series with Stanchion allows for quick x, y and z axis adjustment for ease in locating tube's direction, elevation and slope.

One Piece unit

Assembled as a one piece unit. No loose parts, quick identification and swift installation. Acorn bolt and plastics are captive to the "CH" Housing. (except in Group 9)

Lot Traceabiity

Behringer has lot traceability and material identification for all stainless steel products.
(exact locations will vary)



Example Ordering Guide

CH Part # Configurator

CHR -PS -150 -T -06

Mounting Configuration
Dynamic = CH
Rigid = CHR
Weld Plate = CHW
Threaded = CHT

Insert Material
Anchor (Black) = PS
Guide (Grey) = PG

Tube or Pipe Size
1.5" Tube = 150
1" Pipe = 132
2" Pipe = 238

Hardware Material
T = 304 Stainless Steel
X = 316 Stainless Steel

Rod Length (CH & CHR Only)
06 = 6" OAL
12 = 12" OAL
24 = 24" OAL
36 = 36" OAL

Smooth Bore Part # Configurator

H SB T 3 100 -SP

Mounting Configuration
Weld Mount = (omit)
Hang Mount = H
Base Plate = B
Stacking Kit = SK

Smooth Bore Block Style

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel = Z

Group #
3 = Group 3
6 = Group 6
7 = Group 7
7A = Group 7A
8 = Group 8 (where available)
9 = Group 9 (where available)

Tube or Pipe Size
100 = 1" Tube
084 = 1/2" Pipe

Insert Material
SP = Santoprene (tan)
PP = Polypropylene (blue)
PS = Polysulfone (black)
NN = HDPE (white)
HT = High Temp Nylon (black)

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FIG. 221 CH — DYNAMIC MOUNT HANGER

Housing with Black inserts are "Anchor" supports

Dynamic "Anchor or Guide" Slope Adjusting Hanger / Rod Mount Unit

One piece unit with attached dynamic rod. Hanger rods are available in lengths ranging from min of 1.26" to 96". Standard length is 6".

Features: A dynamic union between the hanger rod and hanger housing allows for the housing to self adjust to the tube's slope for drainability as well as a 360^{O} swivel. A 6" rod is the standard length with other lengths available. Fig 221 CH can also be used in combination with the figure 223, 225 or 226 stanchions. This combination will allow the support to be adjusted telescopically to the tube or pipe elevation. Call customer service for the price and availability of special rod lengths.

Size Range: 0.24" diameters through 6.00" diameter covering imperial tube, pipe and copper sizes. ISO and DIN standards, and special diameters available upon request.

Hardware: 304 Stainless Steel (Standard), 316 Stainless Steel

Finish: Stainless Steel at a 25 RA

Plastic: Polysulfone (Black = Anchor and Gray = Guide)

Shearing: Anchors - Refer to shear force diagram in technical section (page 29)
Guides - Allows free axial movement for thermal expansion of tube or pipe

Housing with Gray inserts are "Guide" supports

Fig. 221CH Compact Dynamic Hanger - Part Number Configurator

CH- PS- 079- T- 06

Housing Type
Compact Hygienic = CH

Plastic Insert Material & Feature
Anchor - Black = PS
Guide - Gray = PG

Tube, Pipe or Guide Size
Anchor "D" Dimension
For sizing refer to "D" column on dimensional chart "Round Part Number to the Hundredth 0" 0.79 = 079

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X

Dynamic Rod Length
minimum length of 1.4" = 1.4
Standard Length 6" = 06
12" = 12
18" = 18
24" = 24
36" = 36
48" = 48
96" = 96

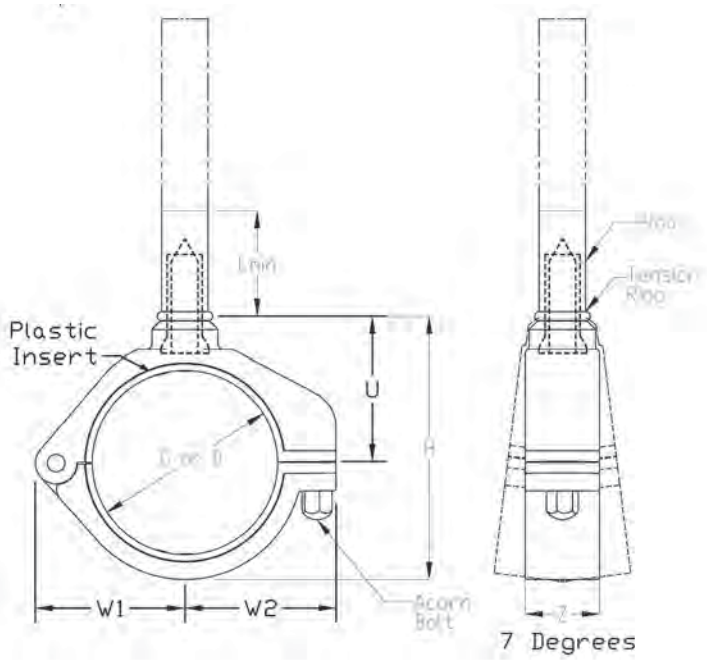


FIG. 221 CH

DYNAMIC MOUNT HANGER

Group No.	Stainless Tube	Pipe	Copper Tube	221 CH Part Number (-PS- as displayed is an Anchor & -PG- would make a Guide)	UNIVERSAL DIMENSIONS AMONG HOUSINGS "D" Anchor Plastic	"G" Guide Plastic	221 CH Dimension, in. (mm) W1	W2	Z	L, min	U	H	Rod Diameter	Weight, lb (kg)
1	6 mm			CH-PS-024-T-??	0.24	0.27	0.93 (24)	1.02 (26)	0.75 (19)	1.26 (32)	0.95 (24)	1.54 (39)	0.63 (16)	0.76 (0.34)
	1/4"			CH-PS-025-T-??	0.25	0.29								
	3/8"			CH-PS-038-T-??	0.38	0.40								
	1/2"			CH-PS-050-T-??	0.50	0.54								
2		1/4"		CH-PS-054-T-??	0.54	0.58	1.06 (27)	1.15 (29)	0.75 (19)	1.26 (32)	1.07 (27)	1.77 (45)	0.63 (16)	0.79 (0.36)
			1/2"	CH-PS-063-T-??	0.63	0.67								
	3/4"			CH-PS-075-T-??	0.75	0.79								
3	20 mm			CH-PS-079-T-??	0.79	0.82	1.20 (31)	1.28 (33)	0.75 (19)	1.26 (32)	1.20 (30)	2.04 (52)	0.63 (16)	0.82 (0.37)
		1/2"		CH-PS-084-T-??	0.84	0.88								
			3/4"	CH-PS-088-T-??	0.88	0.91								
	1"			CH-PS-100-T-??	1.00	1.04								
4		3/4"		CH-PS-105-T-??	1.05	1.09	1.45 (37)	1.56 (40)	0.75 (19)	1.26 (32)	1.45 (39)	2.53 (65)	0.63 (16)	0.86 (0.39)
			1"	CH-PS-113-T-??	1.13	1.16								
		1"		CH-PS-132-T-??	1.32	1.35								
	1 1/2"			CH-PS-150-T-??	1.50	1.54								
5	40 mm			CH-PS-158-T-??	1.58	1.61	1.74 (44)	1.79 (46)	0.75 (19)	1.26 (32)	1.70 (43)	3.03 (77)	0.63 (16)	0.97 (0.44)
			1 1/2"	CH-PS-163-T-??	1.63	1.66								
		1 1/2"		CH-PS-190-T-??	1.90	1.94								
	2"			CH-PS-200-T-??	2.00	2.04								
6	52 mm			CH-PS-205-T-??	2.05	2.10	2.02 (51)	2.04 (52)	1.00 (25)	1.36 (35)	2.04 (52)	3.63 (92)	0.75 (19)	1.37 (0.62)
			2"	CH-PS-213-T-??	2.13	2.18								
		2"		CH-PS-238-T-??	2.38	2.43								
	2 1/2"			CH-PS-250-T-??	2.50	2.55								
7	70 mm			CH-PS-276-T-??	2.76	2.81	2.27 (58)	2.29 (58)	1.00 (25)	1.36 (35)	2.29 (58)	4.13 (105)	0.75 (19)	1.42 (0.64)
		2 1/2"		CH-PS-288-T-??	2.88	2.93								
	3"			CH-PS-300-T-??	3.00	3.05								
8			3"	CH-PS-313-T-??	3.13	3.18	2.76 (70)	2.79 (71)	1.00 (25)	1.36 (35)	2.79 (71)	5.13 (131)	0.75 (19)	1.62 (0.73)
		3"		CH-PS-350-T-??	3.50	3.55								
	4"			CH-PS-400-T-??	4.00	4.05								
8A	104 mm			CH-PS-409-T-??	4.09	4.14	3.00 (76)	3.09 (78)	1.00 (25)	1.36 (35)	3.04 (77)	5.63 (143)	0.75 (19)	1.72 (0.78)
			4"	CH-PS-413-T-??	4.13	4.18								
		4"		CH-PS-450-T-??	4.50	4.55								
9	129 mm			CH-PS-508-T-??	5.08	5.13	3.98 (101)	4.46 (113)	1.50 (38)	1.78 (45)	4.16 (106)	7.74 (197)	1.00 (25)	5.33 (2.42)
	6"			CH-PS-600-T-??	6.00	6.05								

All standard sizes shown, special diameters available upon request

Rigid "Anchor or Guide" Hanger / Rod Mount Unit

Housing with Black inserts are "Anchor" supports

One piece unit with rod welded to the hanger housing. Hanger rods are available in lengths up to 96". Standard rod length is 6"

Features: The rigid hanger is ideal for supporting vertical runs and reducing vibrations. This type rod connection does not offer the dynamic slope adjustment. 6" rod is the standard length with other lengths available. Fig 221 CHR can also be used in combination with the figure 223, 225 or 226 stanchions. This combination will allow the support to be adjusted telescopically to the tube or pipe elevation. Call customer service for the price and availability of special rod lengths.

Size Range: 0.24" diameters through 6.00" diameter covering imperial tube, pipe and copper sizes. ISO and DIN standards, and special diameters available upon request.

Housing with Gray inserts are "Guide" supports

Hardware: 304 Stainless Steel (Standard), 316 Stainless Steel

Finish: Stainless steel at a 25 RA

Plastic: Polysulfone (Black = Anchor and Gray = Guide)

Shearing: Anchors - Refer to shear force diagram in technical section (page 29)

Guides - Allows free axial movement for thermal expansion of tube or pipe

Fig. 221 CHR Compact Rigid Hanger - Part Number Configurator

CHR- PG- 105 T- 06

Housing Type
Compact Hygienic Rigid = CHR

Plastic Insert Material & Feature
Anchor - Black = PS
Guide - Gray = PG

Tube, Pipe or Guide Size
Anchor "D" Dimension
For sizing refer to "D" column on dimensional chart
Round Part Number to the Hundredth 1.05 = 105

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X

Rigid Rod Length
Standard Length 6" = 06
12" = 12
18" = 18
24" = 24
Special lengths are available Upon Request

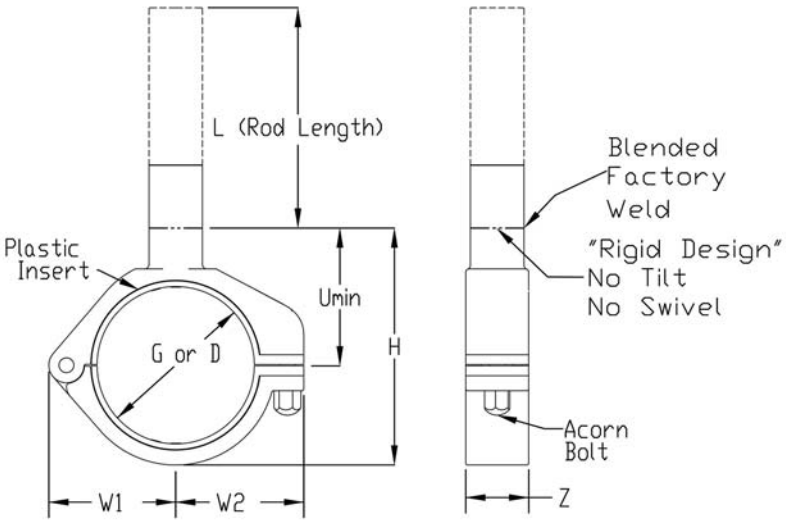


FIG. 221 CHR

RIGID MOUNT HANGER

Group No.	Stainless Tube	Pipe	Copper Tube	221 CHR	UNIVERSAL DIMENSIONS AMONG HOUSINGS		221 CHR							
				Part Number (-PS- as displayed is an Anchor & -PG- would make a Guide)	"D" Anchor Plastic	"G" Guide Plastic	Dimension, in. (mm)							Weights lb (kg)
							W1	W2	Z	U (min)	H	L	Rod Diameter	
1	6 mm			CHR-PS-024-T-??	0.24	0.27	0.93 (24)	1.02 (26)	0.75 (19)	1.08 (28)	1.67 (42)	??	1/2" (12)	0.58 (0.26)
	1/4"			CHR-PS-025-T-??	0.25	0.29								
	3/8"			CHR-PS-038-T-??	0.38	0.40								
	1/2"			CHR-PS-050-T-??	0.50	0.54								
2		1/4"		CHR-PS-054-T-??	0.54	0.58	1.06 (27)	1.15 (29)	0.75 (19)	1.23 (31)	1.93 (49)	??	1/2" (12)	0.60 (0.27)
			1/2"	CHR-PS-063-T-??	0.63	0.67								
	3/4"			CHR-PS-075-T-??	0.75	0.79								
3	20 mm			CHR-PS-079-T-??	0.79	0.82	1.20 (31)	1.28 (33)	0.75 (19)	1.35 (34)	2.19 (56)	??	1/2" (12)	0.66 (0.30)
		1/2"		CHR-PS-084-T-??	0.84	0.88								
			3/4"	CHR-PS-088-T-??	0.88	0.91								
	1"			CHR-PS-100-T-??	1.00	1.04								
4		3/4"		CHR-PS-105-T-??	1.05	1.09	1.45 (37)	1.56 (40)	0.75 (19)	1.66 (42)	2.74 (69)	??	1/2" (12)	0.72 (0.33)
			1"	CHR-PS-113-T-??	1.13	1.16								
		1"		CHR-PS-132-T-??	1.32	1.35								
	1 1/2"			CHR-PS-150-T-??	1.50	1.54								
5	40 mm			CHR-PS-158-T-??	1.58	1.61	1.74 (44)	1.79 (46)	0.75 (19)	1.85 (47)	3.18 (81)	??	1/2" (12)	0.80 (0.36)
			1 1/2"	CHR-PS-163-T-??	1.63	1.66								
		1 1/2"		CHR-PS-190-T-??	1.90	1.94								
	2"			CHR-PS-200-T-??	2.00	2.04								
6	52 mm			CHR-PS-205-T-??	2.05	2.10	2.02 (51)	2.04 (52)	1.00 (25)	2.18 (55)	3.77 (96)	??	5/8" (19)	1.61 (0.73)
			2"	CHR-PS-213-T-??	2.13	2.18								
		2"		CHR-PS-238-T-??	2.38	2.43								
	2 1/2"			CHR-PS-250-T-??	2.50	2.55								
7	70 mm			CHR-PS-276-T-??	2.76	2.81	2.27 (58)	2.29 (58)	1.00 (25)	2.34 (59)	4.18 (106)	??	5/8" (19)	1.67 (0.73)
		2 1/2"		CHR-PS-288-T-??	2.88	2.93								
	3"			CHR-PS-300-T-??	3.00	3.05								
8			3"	CHR-PS-313-T-??	3.13	3.18	2.76 (70)	2.79 (71)	1.00 (25)	3.08 (78)	5.42 (137)	??	3/4" (19)	1.86 (0.84)
		3"		CHR-PS-350-T-??	3.50	3.55								
	4"			CHR-PS-400-T-??	4.00	4.05								
8A	104 mm			CHR-PS-409-T-??	4.09	4.14	3.01 (76)	3.09 (78)	1.00 (25)	3.28 (83)	5.87 (149)	??	3/4" (19)	1.88 (0.85)
			4"	CHR-PS-413-T-??	4.13	4.18								
		4"		CHR-PS-450-T-??	4.50	4.55								
9	129 mm			CHR-PS-508-T-??	5.08	5.13	3.98 (101)	4.46 (113)	1.50 (38)	4.45 (113)	8.03 (204)	??	1" (25)	6.21 (2.81)
	6"			CHR-PS-600-T-??	6.00	6.05								

All standard sizes shown, special diameters available upon request

Rigid "Anchor or Guide" Support with Weld Plate

One piece unit with weld plate attached to hanger housing.

Housing with Black inserts are "Anchor" supports

Features: Compact housing is mounted on a weld plate. This type of mounting configuration does not offer the dynamic slope adjustment feature. The CHW hanger is ideal for supporting vertical runs and reducing vibrations.

Size Range: 0.24" diameters through 6.00" diameter covering imperial tube, pipe and copper sizes. ISO and DIN standards and special diameters available upon request.

Housing with Gray inserts are "Guide" supports

Hardware: 304 Stainless Steel (Standard), 316 Stainless Steel

Finish: Stainless Steel at a 25 RA

Plastic: Polysulfone (Black = Anchor and Gray = Guide)

Shearing: Anchors - Refer to shear force diagram in technical section (page 29)

Guides - Allows free axial movement for thermal expansion of tube or pipe

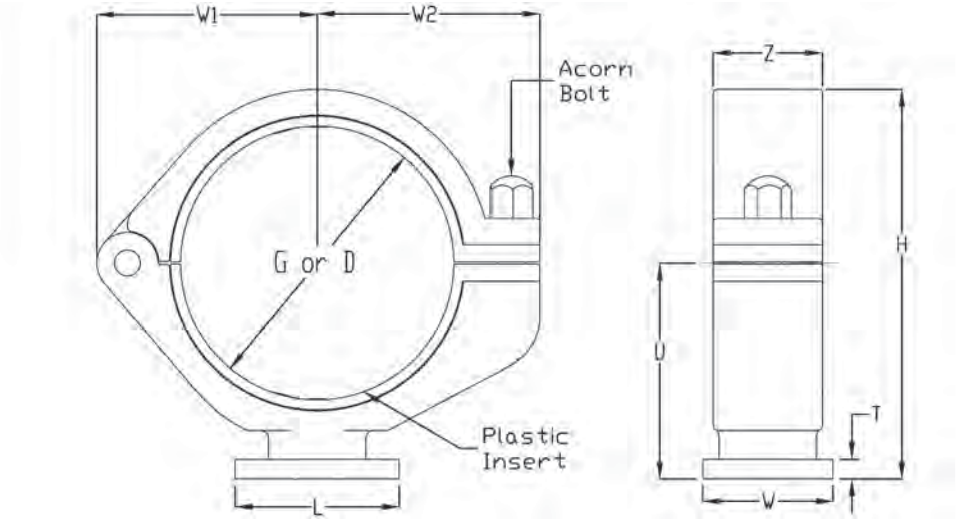


Fig. 221 CHW Weld Plate Mount Support - Part Number Configurator

CHW- PS- 413- T

Housing Type
Compact Hygienic Weld Plate Mounted = CHW

Plastic Insert Material & Feature
Anchor Black = PS
Guide Gray = PG

Tube, Pipe or Guide Size
Anchor "D" Dimension
For sizing refer to "D" column on dimensional chart
Round part number to the Hundredth 4.13 = 413

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X

FIG. 221CHW

WELD PLATE MOUNT SUPPORT

Group No.	Stainless Tube	Pipe	Copper Tube	221 CHW	UNIVERSAL DIMENSIONS AMONG HOUSINGS		221 CHW							
				Part Number (-PS- as displayed is an Anchor & -PG- would make a Guide)	"D" Anchor Plastic	"G" Guide Plastic	Dimension, in. (mm)							Weights, lb (kg)
							W1	W2	Z	U	H	T	L	W	
1	6 mm			CHW-PS-024-T	0.24	0.27	0.93 (24)	1.02 (26)	0.75 (19)	1.17 (30)	1.76 (45)	3/16" (4.7)	1.50 (38)	1.50 (38)	0.37 (0.17)
	1/4"			CHW-PS-025-T	0.25	0.29									
	3/8"			CHW-PS-038-T	0.38	0.40									
	1/2"			CHW-PS-050-T	0.50	0.54									
2		1/4"		CHW-PS-054-T	0.54	0.58	1.06 (27)	1.15 (29)	0.75 (19)	1.32 (33)	2.02 (51)	3/16" (4.7)	1.50 (38)	1.50 (38)	0.39 (0.18)
			1/2"	CHW-PS-063-T	0.63	0.67									
	3/4"			CHW-PS-075-T	0.75	0.79									
3	20 mm			CHW-PS-079-T	0.79	0.82	1.20 (31)	1.28 (33)	0.75 (19)	1.44 (37)	2.28 (58)	3/16" (4.7)	1.50 (38)	1.50 (38)	0.44 (0.20)
		1/2"		CHW-PS-084-T	0.84	0.88									
			3/4"	CHW-PS-088-T	0.88	0.91									
	1"			CHW-PS-100-T	1.00	1.04									
4		3/4"		CHW-PS-105-T	1.05	1.09	1.45 (37)	1.56 (39)	0.75 (19)	1.75 (44)	2.83 (72)	3/16" (4.7)	1.75 (44)	1.75 (44)	0.56 (0.25)
			1"	CHW-PS-113-T	1.13	1.16									
		1"		CHW-PS-132-T	1.32	1.35									
	1 1/2"			CHW-PS-150-T	1.50	1.54									
5	40 mm			CHW-PS-158-T	1.58	1.61	1.74 (44)	1.79 (46)	0.75 (19)	1.94 (49)	3.27 (83)	3/16" (4.7)	1.75 (44)	1.75 (44)	0.63 (0.28)
			1 1/2"	CHW-PS-163-T	1.63	1.66									
		1 1/2"		CHW-PS-190-T	1.90	1.94									
	2"			CHW-PS-200-T	2.00	2.04									
6	52 mm			CHW-PS-205-T	2.05	2.10	2.02 (51)	2.04 (52)	1.00 (25)	2.27 (58)	3.86 (98)	3/16" (4.7)	2.50 (64)	1.75 (44)	0.90 (0.41)
			2"	CHW-PS-213-T	2.13	2.18									
		2"		CHW-PS-238-T	2.38	2.43									
	2 1/2"			CHW-PS-250-T	2.50	2.55									
7	70 mm			CHW-PS-276-T	2.76	2.81	2.27 (58)	2.29 (58)	1.00 (25)	2.43 (62)	4.27 (108)	3/16" (4.7)	2.50 (64)	1.75 (44)	0.96 (0.43)
		2 1/2"		CHW-PS-288-T	2.88	2.93									
	3"			CHW-PS-300-T	3.00	3.05									
8			3"	CHW-PS-313-T	3.13	3.18	2.76 (70)	2.79 (71)	1.00 (25)	3.17 (81)	5.51 (140)	3/16" (4.7)	2.50 (64)	1.75 (44)	1.15 (0.52)
		3"		CHW-PS-350-T	3.50	3.55									
	4"			CHW-PS-400-T	4.00	4.05									
8A	104 mm			CHW-PS-409-T	4.09	4.14	3.00 (76)	3.09 (78)	1.00 (25.4)	3.37 (86)	5.96 (151)	3/16" (4.7)	2.50 (64)	1.75 (44)	1.17 (0.53)
			4"	CHW-PS-413-T	4.13	4.18									
		4"		CHW-PS-450-T	4.50	4.55									
9	129 mm			CHW-PS-508-T	5.08	5.13	3.98 (101)	4.46 (113)	1.50 (38)	4.54 (115)	8.12 (206)	1/4" (6.4)	4.00 (108)	1.75 (44)	4.67 (2.12)
	6"			CHW-PS-600-T	6.00	6.05									

All standard sizes shown, special diameters available upon request

Threaded Anchor or Guide Hanger

One piece unit with threaded adaptor. **Rod is sold separately.**

Housing with Black inserts are "Anchor" supports

Features: The threaded mounting section, on top of housing, doubles as a threaded rod connecter and a welding platform. This type rod connection does not offer the dynamic slope adjustment feature. Figure 221 CHT, with a rod, can also be used in combination with the figure 223, 225 or 226 stanchions. This combination will allow the support to be adjusted telescopically to the tube or pipe elevation. Call customer service for the price and availability of special rod lengths.

Housing with Gray inserts are "Guide" supports

Size Range: 0.24" diameters through 6.00" diameter covering imperial tube, pipe and copper sizes. ISO and DIN standards, and special diameters available upon request.

Hardware: 304 Stainless Steel (Standard), 316 Stainless Steel

Finish: Stainless steel at a 25 RA

Plastic: Polysulfone (Black = Anchor and Gray = Guide)

Shearing: Anchors - Refer to shear force diagram in technical section (page 29)

Guides - Allows free axial movement for thermal expansion of tube or pipe

Fig. 221 CHT Compact Threaded Mount Hanger - Part Number Configurator

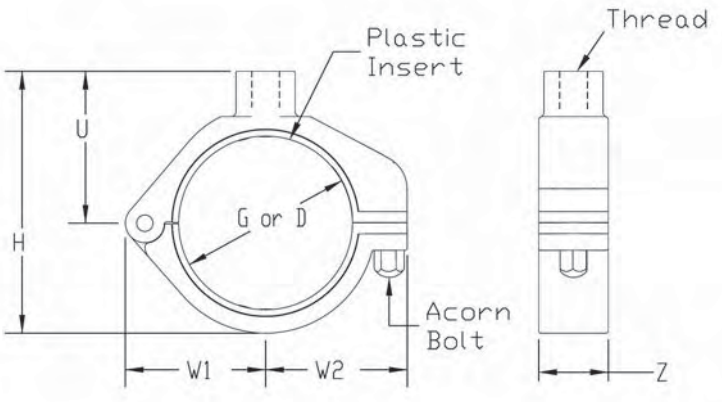
CHT- PG- 150 T

Housing Type
Compact Hygienic Threaded = CHT

Plastic Insert Material & Feature
Anchor - Black = PS
Guide - Gray = PG

Tube, Pipe or Guide Size
Anchor "D" Dimension
For sizing refer to "D" column on dimensional chart
Round Part Number to the Hundredth 1.50 = 150

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X



See Figure 245 to Order Threaded Rod Separately

FIG. 221 CHT

THREADED MOUNT HANGER

Group No.	Stainless Tube	Pipe	Copper Tube	221 CHT Part Number (-PS- as displayed is an Anchor & -PG- would make a Guide)	UNIVERSAL DIMENSIONS AMONG HOUSINGS "D" Anchor Plastic	UNIVERSAL DIMENSIONS AMONG HOUSINGS "G" Guide Plastic	221 CHT Dimension, in. (mm) W1	W2	Z	U	H	Thread	Rod Diameter (Sold Separtely)	Weights lb (kg)
1	6 mm			CHT-PS-024-T	0.24	0.27	0.93 (24)	1.02 (26)	0.75 (19)	1.08 (28)	1.67 (42)	5/16"-18 (10)	1/2" (12) B	0.26 (0.12)
	1/4"			CHT-PS-025-T	0.25	0.29								
	3/8"			CHT-PS-038-T	0.38	0.40								
	1/2"			CHT-PS-050-T	0.50	0.54								
2		1/4"		CHT-PS-054-T	0.54	0.58	1.06 (27)	1.15 (29)	0.75 (19)	1.23 (31)	1.93 (49)	5/16"-18 (10)	1/2" (12) B	0.28 (0.13)
			1/2"	CHT-PS-063-T	0.63	0.67								
	3/4"			CHT-PS-075-T	0.75	0.79								
3	20 mm			CHT-PS-079-T	0.79	0.82	1.20 (31)	1.28 (33)	0.75 (19)	1.35 (34)	2.19 (56)	5/16"-18 (10)	1/2" (12) B	0.33 (0.15)
		1/2"		CHT-PS-084-T	0.84	0.88								
			3/4"	CHT-PS-088-T	0.88	0.91								
	1"			CHT-PS-100-T	1.00	1.04								
4		3/4"		CHT-PS-105-T	1.05	1.09	1.46 (37)	1.56 (40)	0.75 (19)	1.66 (42)	2.74 (69)	5/16"-18 (10)	1/2" (12) B	0.40 (0.18)
			1"	CHT-PS-113-T	1.13	1.16								
		1"		CHT-PS-132-T	1.32	1.35								
	1 1/2"			CHT-PS-150-T	1.50	1.54								
5	40 mm			CHT-PS-158-T	1.58	1.61	1.74 (44)	1.79 (46)	0.75 (19)	1.85 (47)	3.18 (81)	5/16"-18 (10)	1/2" (12) B	0.48 (0.22)
			1 1/2"	CHT-PS-163-T	1.63	1.66								
		1 1/2"		CHT-PS-190-T	1.90	1.94								
	2"			CHT-PS-200-T	2.00	2.04								
6	52 mm			CHT-PS-205-T	2.05	2.10	2.02 (51)	2.04 (52)	1.00 (25)	2.18 (55)	3.77 (96)	3/8"-16 (10)	5/8" (19) C	0.70 (0.32)
			2"	CHT-PS-213-T	2.13	2.18								
		2"		CHT-PS-238-T	2.38	2.93								
	2 1/2"			CHT-PS-250-T	2.50	2.55								
7	70 mm			CHT-PS-276-T	2.76	2.81	2.27 (58)	2.29 (58)	1.00 (25)	2.34 (59)	4.18 (106)	3/8"-16 (10)	5/8" (19) C	0.76 (0.34)
		2 1/2"		CHT-PS-288-T	2.88	2.93								
	3"			CHT-PS-300-T	3.00	3.05								
8			3"	CHT-PS-313-T	3.13	3.18	2.76 (70)	2.79 (71)	1.00 (25)	3.08 (78)	5.42 (137)	1/2"-13 (16)	3/4" (19) D	0.95 (0.43)
		3"		CHT-PS-350-T	3.50	3.55								
	4"			CHT-PS-400-T	4.00	4.05								
8A	104 mm			CHT-PS-409-T	4.09	4.14	3.00 (76)	3.09 (78)	1.00 (25.4)	3.28 (83)	5.87 (149)	1/2"-13 (16)	3/4" (19) D	0.97 (0.44)
			4"	CHT-PS-413-T	4.13	4.18								
		4"		CHT-PS-450-T	4.50	4.55								
9	129 mm			CHT-PS-508-T	5.08	5.13	3.98 (101)	4.46 (113)	1.50 (38)	4.46 (113)	8.04 (204)	3/4"-10 (20)	1" (25) E	4.20 (1.90)
	6"			CHT-PS-600-T	6.00	6.05								

All standard sizes shown, special diameters available upon request

FIG. 245 THREADED SUPPORT ROD

Size Range: 3/8" outside diameter to 1" outside diameter with different rod lengths and connection threads avialable.

Hardware: 304 Stainless Steel or 316 Stainless Steel; Carbon or Electro-Zinc Plated Carbon Steel

Finish: 25 Ra (for 304/316); Other available upon request

Ordering: To identify the proper thread refer to the "T" column on Fig. 221CHT or the Hang Nut column on Fig. 201. Then use the Fig 245 part number configuator located at the bottom of this page.

Installations: Thread the rod into housing. Cut the rod in the field to proper length. Field weld the rod to support structure. The rod can also be used in combination with the figure 223, 225 or 226 stanchions. This combination will allow the support to be adjusted telescopically to the tube or pipe elevation.

CH Series		SB or Block Style	
Fig. 221CHT		Fig. 201	
OD	Thread	OD	Thread
0.24" to 2.00"	5/16"- 18 (031)	0.25 to 4.5	3/8"-16 (038)
2.05" to 3.00"	3/8"- 16 (038)	N/A	N/A
3.13" to 4.50"	1/2"- 13 (050)	6.00" to 6.625"	5/8"-11 (063)
5.08" to 6.00"	3/4" - 10 (075)	N/A	N/A

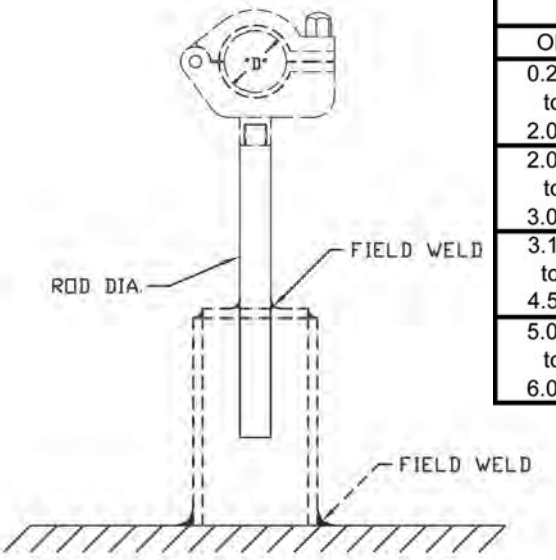


Fig. 225 Telescopic Rod Adjustment to the tubes elevation

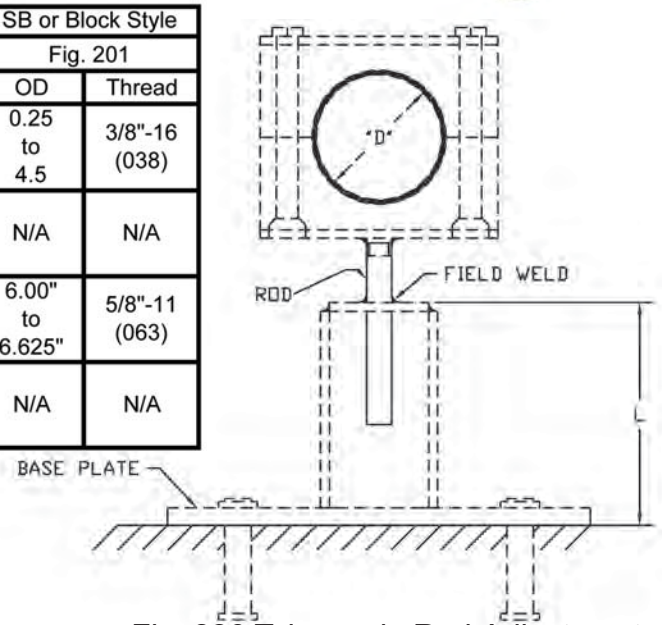


Fig. 226 Telescopic Rod Adjustment to the tubes elevation

Fig. 245 Threaded Support Rod - Part Number Configurator

ROD -38 -T -B -25 -06

Style
Hanger Rod = ROD

Hanger Rod Thread
5/16-18 = 031
3/8-16 = 038
1/2-13 = 050
5/8-11 = 063
3/4-10 = 075

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Carbon Steel = C
Electro-Zinc Plated Carbon Steel = Z

Rod Length (unthreaded section)
03 = 3"
06 = 6"
12 = 12"
24 = 24"
36 = 36"
48 = 48"
96 = 96"

Finish
25 = 25Ra

Rod Diameter
A = 3/8"
B = 1/2"
C = 5/8"
D = 3/4"
E = 1"

Note: Adapter available (5/16" x 3/8") Part # CHT-ADP-031-038-X

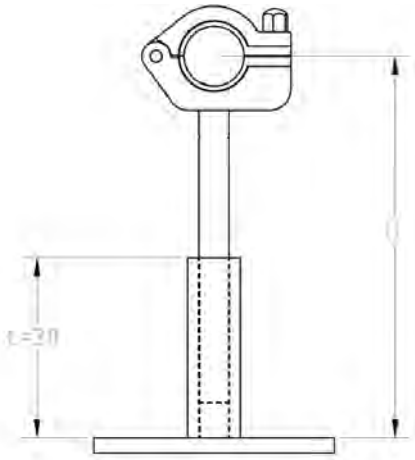
FIG. 223 TELESCOPIC ADJUSTING ROUND FLOOR MOUNT STAND

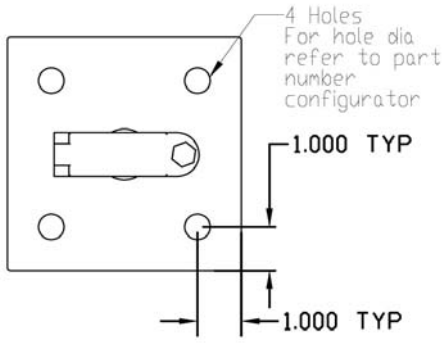
The Telescopic Adjusting Round Floor Mount Stand allows the housing's rod elevation to be adjusted up to 2" from the base plate's surface. The rod attached to the housing slides inside the base plate's elevation adjustment tube (.560 ID x .750 OD). This fine tune adjustment allows the installer to quickly change the support's elevation to match the tube's distance from the floor. The base plate can be supplied with or without anchor bolt holes. Anchor bolts not supplied by Behringer.

Base Plate Sizing: RSP1 & RSP2 - 0.25" to 2.00" OD tube & pipe sizes
RSP3 & RSP4 - 2.05" to 4.50" OD tube & pipe sizes
RSP5 & RSP6 - 5.08" to 6.00" OD tube & pipe sizes

Hardware: 304 Stainless Steel, 316 Stainless Steel, Carbon Steel & Electro-Zinc Plated Carbon Steel

Finish: MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and weld are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
Special finishes and painted stands are available, call Behringer Customer Service for price and availability.





Clamp & Rod Sold Separately

Fig. 223 Telescopic Adjusting Round Floor Mount Stand

TBS- X- B- RSP1- MILL

Telescopic Base Stand

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel = Z
Carbon Steel = C
Painted "to end users specification" = P

Support Rod OD
3/8" = A
1/2" = B
5/8" = C
3/4" = D
1" = E

Finish
MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and weld are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
SPL = Special finishes available, call Behringer

Rod Stand Plate Sizes
RSP1 = 4" x 4" x 1/4" base plate with four 7/16" anchor bolt holes
RSP2 = 4" x 4" x 1/4" base plate without anchor bolt holes
RSP3 = 6" x 4" x 1/4" base plate with four 7/16" anchor bolt holes
RSP4 = 6" x 4" x 1/4" base plate without anchor bolt holes
RSP5 = 8" x 6" x 3/8" base plate with four 9/16" anchor bolt holes
RSP6 = 8" x 6" x 3/8" base plate without anchor bolt holes

FIG. 224 CH SERIES ROD STAND PLATE

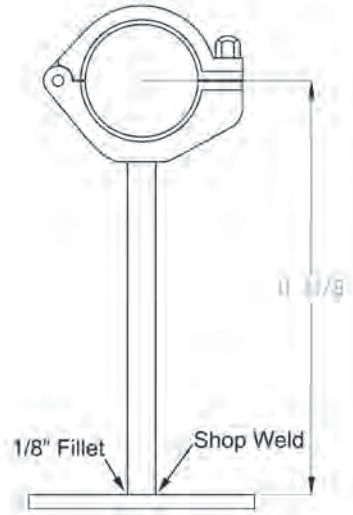
One piece CH Series Rod Stand Plate with rod cut to specified length. The rod is welded to the base plate, which can be supplied with or without anchor bolt-holes. Anchor bolts not supplied by Behringer.

The height is calculated from the top of the plate to centerline of tube or pipe. Please refer to "U" min column in catalog for minimum height of the required RH series product.

Base Plate Sizing: RSP1 & RSP2 - 0.25" to 2.00" OD tube & pipe sizes
RSP3 & RSP4 - 2.05" to 4.50" OD tube & pipe sizes
RSP5 & RSP6 - 5.08" to 6.00" OD tube & pipe sizes

Hardware: 304 Stainless Steel, 316 Stainless Steel

Finish: MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and weld are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
Special finishes and painted stands are available, call Behringer Customer Service for price and availability.



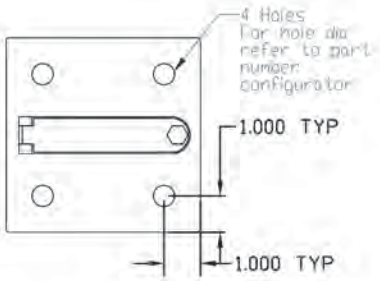


Fig. 224 CH Series Rod Stand Plate - Part Number Configurator

CHR- PS- 100- X- 06- RSP1- BLND

Housing Type
Compact Hygienic Dynamic = CH
Compact Hygienic Threaded = CHT
Compact Hygienic Rigid = CHR

Plastic Insert Feature
Anchor - Black = PS
Guide - Gray = PG

Tube or Pipe as an Achor or Guide
Anchor sizing refer to "D" Dimension
Guide sizing refer to "G" Dimension
Refer to any CH Series dimensional chart

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Painted to end users specification = P

Finish
MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and weld are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
SPL = Special finishes available, call Behringer

Rod Stand Plate Sizes
RSP1 = 4" x 4" x 1/4" base plate with four 7/16" anchor bolt holes
RSP2 = 4" x 4" x 1/4" base plate without anchor bolt holes
RSP3 = 6" x 4" x 1/4" base plate with four 7/16" anchor bolt holes
RSP4 = 6" x 4" x 1/4" base plate without anchor bolt holes
RSP5 = 8" x 6" x 3/8" base plate with four 9/16" anchor bolt holes
RSP6 = 8" x 6" x 3/8" base plate without anchor bolt holes

Height "U" Dimension (measured from top of plate to tube or pipe centerline)
02.33 = 2.33" top of plate to center line
06 = 6" top of plate to center line
12.5 = 12.5" top of plate to center line

FIG. 225 TELESCOPIC ADJUSTING STANCHION - HANG MOUNT

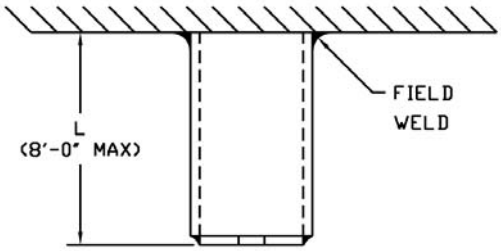
Hanger Stanchion with square or round tube cut to specified length. One end of the tube has a capped end with a rod hole. The rod hole is used for telescopic adjustment of the hanger rod. Specify the steel finish and the finish on the weld.

Features: Hole in capped end of tube allows the hanger rod to be manually adjusted for telescopic location of the tube or pipe.

Hardware: 304 Stainless Steel; 316 Stainless Steel, Carbon Steel & Electro-Zinc Plated Carbon Steel

Finish: MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and welds are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
Special finishes and painted stanchions are available, call Behringer Customer Service for price and availability.

Square Stanchion Hang Mount



Round Stanchion Hang Mount

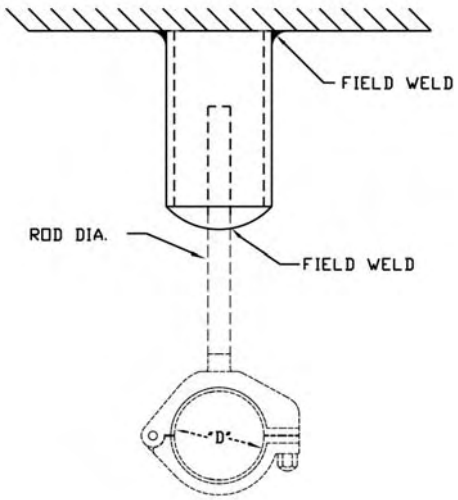


Fig 225 Telescopic Hang Mount Stanchion - Part Number Configurator

S12 B -SW1 -XXX -T -MILL

Stanchion Length
6" = S06
12" = S12
18" = S18
24" = S24
36" = S36
48" = S48
96" = S96

Rod Hole Diameter
Capped end with 3/8" rod hole = A
Capped end with 1/2" rod hole = B
Capped end with 5/8" rod hole = C
Capped end with 3/4" rod hole = D
Capped end with 1" rod hole = E
Capped end with no rod hole = F

Square Tube Size
1-1/2" x 1-1/2" x 1/8" sq. tube = SW1
2" x 2" x 1/8" sq. tube = SW2
3" x 3" x 3/16" sq. tube = SW3

<either or>

Round Tube Size
RW1 = 1-1/2" SCH 40 Round Pipe
RW2 = 2" SCH 40 Round Pipe
RW3 = 3" SCH 40 Round Pipe

Finish
MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and weld are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
SPL = Special finishes available, call Behringer

Hardware
T = 304 Stainless Steel
X = 316 Stainless Steel
Z = Electro-Zinc plated carbon
C = Carbon Steel
P = Painted to end users specification

XXX = no base plate

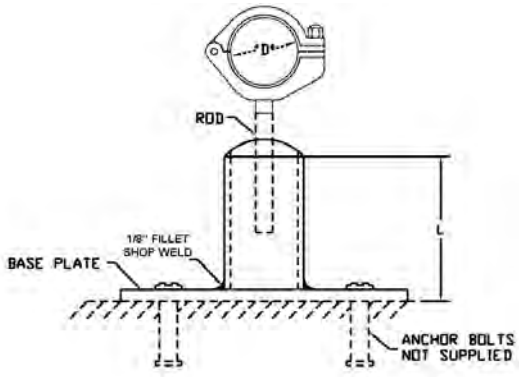
FIG. 226 TELESCOPIC ADJUSTING STANCHION - FLOOR MOUNT

One piece Floor Stand with square or round tube cut to specified length. One end of the tube has a capped end with a rod hole. The rod hole is used for telescopic adjustment of the hanger rod. The open end of the tube is welded to a base plate which can be supplied with or without anchor bolt holes. Specify the steel finish and the finish on the weld.

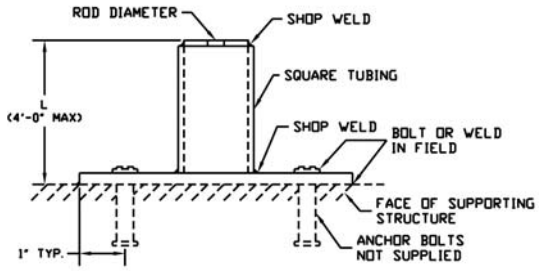
Features: Hole in capped end of tube allows the hanger rod to be manually adjusted for telescopic location of the tube or pipe.

Hardware: 304 Stainless Steel; 316 Stainless Steel, Carbon Steel & Electro-Zinc Plated Carbon Steel

Finish: MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and welds are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
Special finishes and painted stanchions are available, call Behringer Customer Service for price and availability.



Round Stanchion Floor Mount



Square Stanchion Floor Mount

Base plate can be supplied without mounting holes

Fig. 226 Telescopic Floor Stand Stanchion - Part Number Configurator

S12 B -SW1 -BP1 -T -MILL

Stanchion Length
6" = S06
12" = S12
18" = S18
24" = S24
36" = S36
48" = S48
96" = S96

Rod Hole Diameter
Capped end with 3/8" rod hole = A
Capped end with 1/2" rod hole = B
Capped end with 5/8" rod hole = C
Capped end with 3/4" rod hole = D
Capped end with 1" rod hole = E
Capped end with no rod hole = F

Square Tube Size
1-1/2" x 1-1/2" x 1/8" sq. tube = SW1
2" x 2" x 1/8" sq. tube = SW2
3" x 3" x 3/16" sq. tube = SW3

<either or>

Round Tube Size
RW1 = 1-1/2" SCH 40 Round Pipe
RW2 = 2" SCH 40 Round Pipe
RW3 = 3" SCH 40 Round Pipe

Base Plate Width
BP1 = 6" x 6" x 3/8" base plate with four 7/16" anchor bolt holes
BP2 = 6" x 6" x 3/8" base plate without anchor bolt holes
BP3 = 8" x 8" x 1/2" base plate with four 9/16"anchor bolt holes
BP4 = 8" x 8" x 1/2" base plate without anchor bolt holes

Hardware
T = 304 Stainless Steel
X = 316 Stainless Steel
Z = Electro-Zinc plated carbon
C = Carbon Steel
P = Painted "to end users specification"

Finish
MILL = Fabricated steel and welds are a mill finish
BUFF = Fabricated steel and weld are buffed to remove splatter
BLND = Fabricated steel is polished and welds are blended
SPL = Special finishes available, call Behringer

PIPE CLAMP SELECTION

Mounting / Hardware Configuration

Behringer offers an array of mounting configurations and arrangement styles for the Sanitary Smooth Bore Series supports. They can be mounted to the support structure by either welding, bolting, hanging, rail mount, strut mount or via stanchions. In addition, they can be stacked on top of each other to save on space. Please check the ordering code for available assemblies with the configuration you desire. Here are some examples of the mounting options.

Weld Mounting [STW]

Clamps are supplied with a weld plate (STW) for welding directly to the support structure. This is the most commonly used style and includes a cover plate (COP) and hex bolts (HEX).

Hang Mounting [HAP]

Clamps are supplied with a hang plate (HAP) that allows the support block to be installed at a distance from the structural member from which it is mounted. They are hung from threaded rod to the desired elevation.

Bolt Mounting [BAP]

Clamps are supplied with a Base Plate (BAP) for applications where the clamp cannot be welded into position. This is commonly used to mount to non-metallic surfaces, such as wood or drywall.

Rail Mounting [RCN, RAL]

Rail mounting makes installations of multiple lines of different group sizes an easy task. All clamps within one series can be mounted directly to a single channel using Rail Nuts (RCN) or Weld Plates (STW) in conjunction with Behringer's proprietary Mounting Rail (RAL-1).

Strut Mounting [UCN]

Clamps are supplied with Unistrut Clip Nuts (UCN) for mounting to standard Unistrut channel. The nuts adapt to any strut channel that is 1 5/8" wide. The depth of the channel is not important as the UCN clips attach with spring loaded tension to the top of the channel.

Stacking Kits [SKSB]

Stacking kits consist of a set of Clamp Halves (CLH), Stacking Bolts (STB) and a Safety Plate (SAF). A stacking kit is everything needed to take an existing clamp and add an additional level. Start by simply using the hardware from the existing clamp, remove the cover plate, clamp halves, and hex bolts and insert the stacking kit onto the bottom plate and then replace the original hardware on top. Multiple stacking kits can be added to increase the number of clamps stacked in a series.

Figure 200
Weld Plate Mount

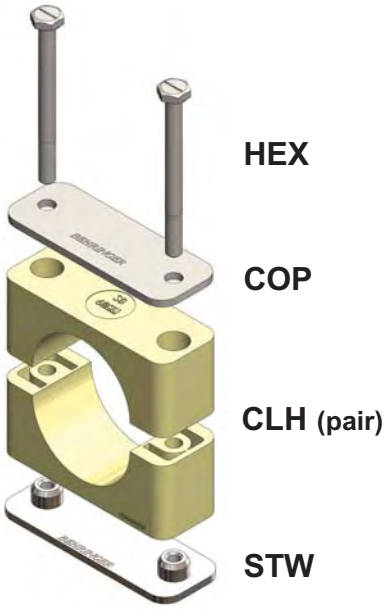


Figure 202
Base Plate Mount

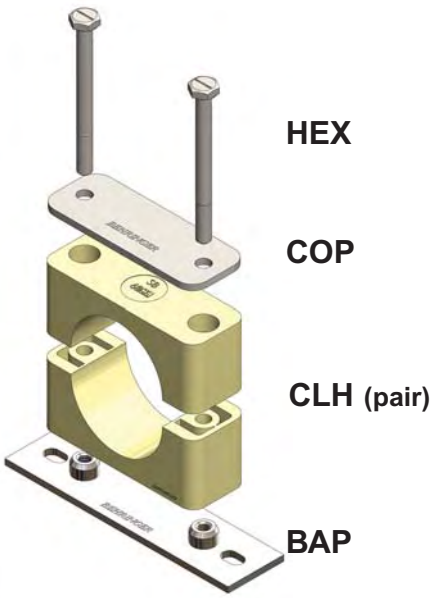


Figure 211
Unistrut Mount

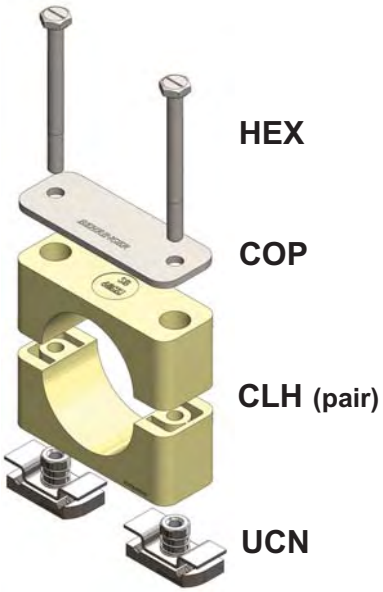
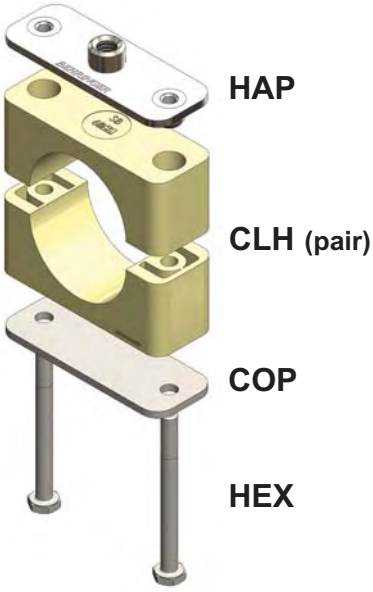


Figure 201
Hang Plate Mount



Rail Mount

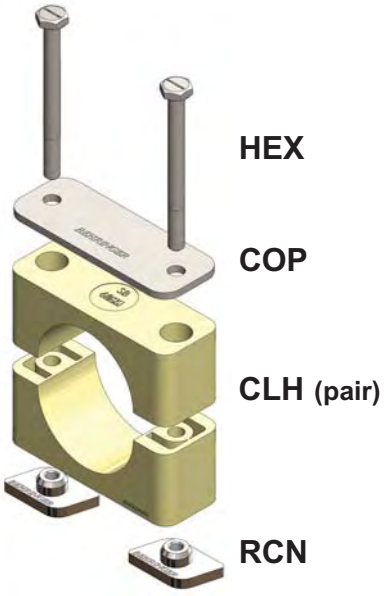
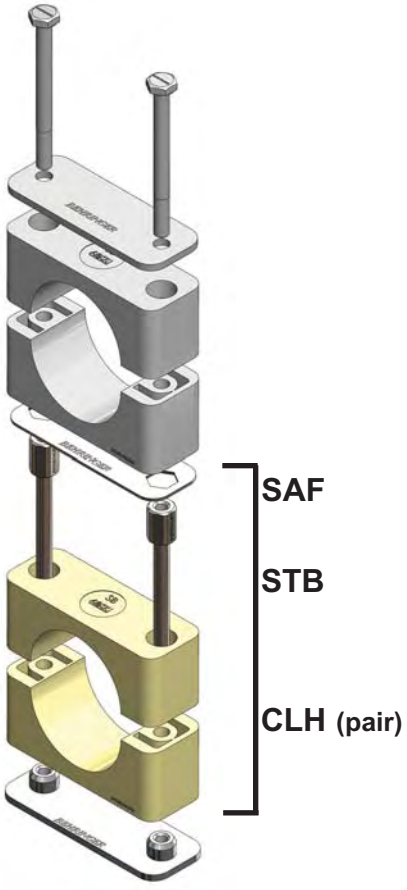


Figure 204
Stacking Kit



Key:

BAP - Base Plate	SAF - Safety Plate
CLH - Clamp Half (pair)	STB - Stacking Bolt
COP - Cover Plate	STW- Standard Weld Plate
HAP - Hang Plate	UCN- Unistrut Clip Nut
HEX - Hex Bolt	RCN- Rail Nut

FIG. 200 BLOCK STYLE — WELD PLATE MOUNT

Size Range: 1/4" outside diameter through 8.625" outside diameter

Hardware: 304 Stainless Steel, 316 Stainless Steel, or Electro-Zinc Plated Carbon Steel

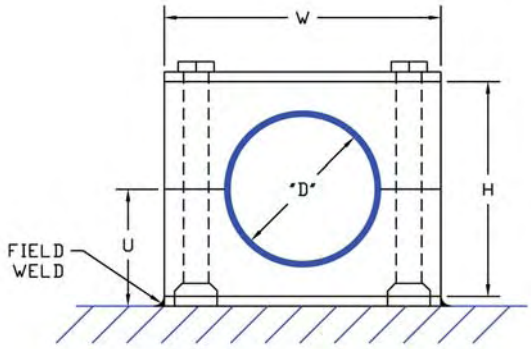
Plastic Inserts: Polypropylene (blue)
Santoprene (beige)
Polysulfone (black)
HDPE (white)
High Temp Nylon (black)
*See page 28 for temperature ratings

Installations: Weld bottom plate to structure or supporting member, let cool before mounting plastic blocks.

Thermal Expansion Guide: (Optional) Provides for axial expansion of the tube or pipe due to thermal expansion. One set of two per clamp (See Fig. 207 in accessories)

Thermal Expansion Guide Material: Santoprene, 1/16" insert, Black for service identification

GRP NO.	TUBE OR PIPE SIZE	"D" INCHES	W	H	Z	U	BOLT SIZE	LBS.
3	1/4 T	0.250	1.88" (48 mm)	1.38" (35 mm)	1.19" (30 mm)	0.81" (20 mm)	1/4-20	0.4 (0.18 kg)
	3/8 T	0.375						
	1/2 T	0.500						
	3/4 T	0.750						
	1/2 P	0.840						
	1 T	1.000						
6	1/4 T	0.250	3.34" (85 mm)	2.63" (67 mm)	1.19" (30 mm)	1.44" (37 mm)	1/4-20	0.6 (0.27 kg)
	3/8 T	0.375						
	1/2 T	0.500						
	5/8 T	0.625						
	3/4 T	0.750						
	1/2 P	0.840						
	7/8 T	0.875						
	1 T	1.000						
	3/4 P	1.050						
	1-1/4 T	1.250						
	1 P	1.315						
	1-1/2 T	1.500						
	1-1/4 P	1.660						
	1-1/2 P	1.900						
	2 T	2.000						
7	2 T	2.000	5.00" (127 mm)	4.38" (111 mm)	1.19" (30 mm)	2.31" (59 mm)	1/4-20	1.1 (0.50 kg)
	2 P	2.375						
	2-1/2 T	2.500						
	2-1/2 P	2.875						
	3 T	3.000						
	3-1/2 T -3 P	3.500						
7A	4 T	4.000	5.77" (147 mm)	4.8" (122 mm)	1.19" (33 mm)	2.54" (65 mm)	1/4-20	1.5 (0.68 kg)
8	6 T	6.000	8.88" (226 mm)	7.65" (194 mm)	1.50" (38 mm)	4.01" (102 mm)	3/8-16	4.4 (1.99 kg)
	6P	6.625						
9	8T	8.000	12.5" (318 mm)	10" (254 mm)	1.75" (44 mm)	5.38" (137 mm)	5/8 - 11	12.5 (5.7 kg)
	8P	8.625						



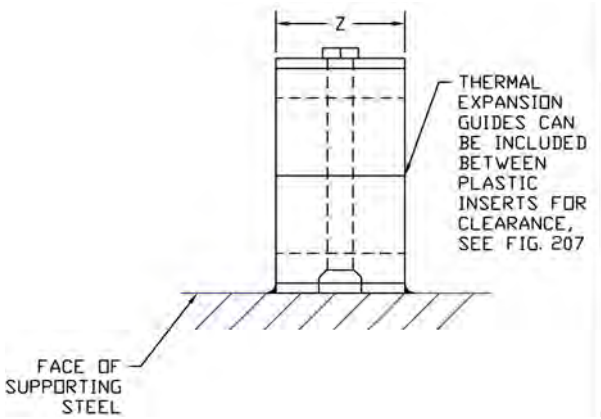


Fig 200 Smooth Bore Weld Plate Mount - Part Number Configurator

SB T 7 2375 -PP

Weld Plate Mount
Weld Mount Fig 200 = Blank

Style
Smooth Bore Block Style = SB

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel = Z

Hardware Group Size
Group 3 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 1" = 3
Group 6 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 2" = 6
Group 7 Hardware Size Tube OD and Pipe sizes ranging from 2" to 3.50" = 7
Group 7A Hardware Size 4" Tube OD = 7A
Group 8 Hardware Size Tube OD and Pipe sizes ranging from 6" to 6.625" = 8
Group 9 Hardware Size Tube OD sizes from 8" to 8.625" = 9

Plastic Insert Material
PP = Polypropylene, Blue (available in Groups 3-7A)
SP = Santoprene, Beige (available in Group 3-8)
PS = Polysulfone, Black (available in Groups 6-8)
NN = HDPE, White (available in Groups 8 & 9)
HT = High Temp Nylon, Black (available in Group 8 & 9)

Tube or Pipe Size
"D" Dimension
For sizing refer to "D" column on dimensional chart apply the number in column without the decimal

Examples of column "D" translation:
1/4" Tube = 025
3/4" Pipe = 1050
1" Pipe = 1315
2" Pipe = 2375
4" Tube = 400

FIG. 201 HANG PLATE MOUNT

Size Range: 1/4" outside diameter through 6.625" diameter

Hardware: 304 Stainless Steel, 316 Stainless Steel, or Electro-Zinc Plated Carbon Steel

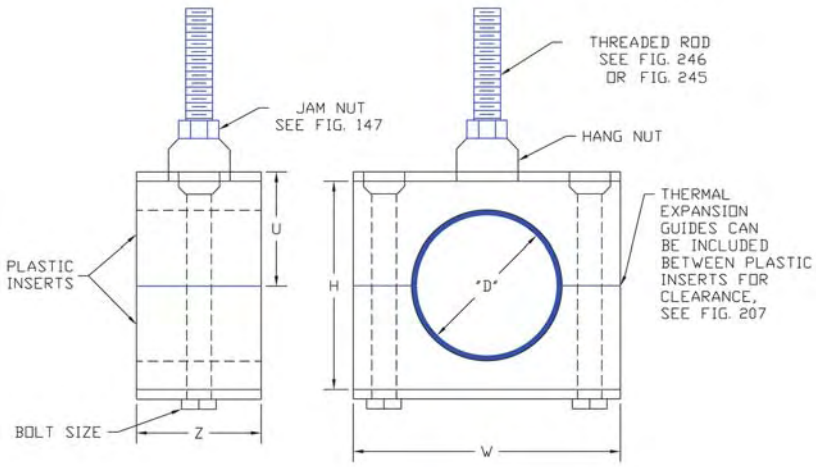
Plastic Inserts: Polypropylene (blue)
Santoprene (beige)
Polysulfone (black)
HDPE (white)
High Temp Nylon (black)
*See page 28 for temperature ratings

Installations: Hang from threaded rod to desired elevation

Thermal Expansion Guide: (Optional) Provides for axial expansion of the tube or pipe due to thermal expansion. One set of two per clamp (See Fig. 207 in accessories)

Thermal Expansion Guide Material: Santoprene, 1/16" insert, Black for service identification

GRP NO.	TUBE OR PIPE SIZE	"D" INCHES	W	H	Z	U	BOLT SIZE	HANG NUT	LBS.
3	1/4 T	0.250	1.88" (48 mm)	1.38" (35 mm)	1.19" (30 mm)	0.81" (20 mm)	1/4-20	3/8-16	0.3 (0.14 kg)
	3/8 T	0.375							
	1/2 T	0.500							
	3/4 T	0.750							
	1/2 P	0.840							
	1 T	1.000							
6	1/4 T	0.250	3.34" (85 mm)	2.63" (67 mm)	1.19" (30 mm)	1.44" (37 mm)	1/4-20	3/8-16	0.5 (0.23 kg)
	3/8 T	0.375							
	1/2 T	0.500							
	5/8 T	0.625							
	3/4 T	0.750							
	1/2 P	0.840							
	7/8 T	0.875							
	1 T	1.000							
	3/4 P	1.050							
	1-1/4 T	1.250							
	1 P	1.315							
	1-1/2 T	1.500							
	1-1/4 P	1.660							
	1-1/2 P	1.900							
	2 T	2.000							
7	2 T	2.000	5.00" (127 mm)	4.38" (111 mm)	1.19" (30 mm)	2.31" (59 mm)	1/4-20	3/8-16	1.00 (0.45 kg)
	2 P	2.375							
	2-1/2 T	2.500							
	2-1/2 P	2.875							
	3 T	3.000							
	3-1/2 T -3 P	3.500							
7A	4 T	4.000	5.77" (147 mm)	4.8" (122 mm)	1.19" (33 mm)	2.54" (65 mm)	1/4-20	3/8-16*	1.30 (0.59 kg)
8	6 T	6.000	8.88" (226 mm)	7.65" (194 mm)	1.50" (38 mm)	4.01" (102 mm)	3/8 - 16	5/8-11	4.00 (1.8 kg)
	6P	6.625							



* Also available with a 1/2 - 13 thread

Fig 201 Smooth Bore Hang Mount - Part Number Configurator

H SB T 6 200 - SP

Hang Plate Mount
Hang Plate Mount Fig. 201 = H

Style
Smooth Bore Block Style = SB

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel= Z

Hardware Group Size
Group 3 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 1" = 3
Group 6 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 2" = 6
Group 7 Hardware Size Tube OD and Pipe sizes ranging from 2" to 3.50" = 7
Group 7A Hardware Size 4" Tube OD = 7A
Group 8 Hardware Size Tube OD and Pipe sizes ranging from 6" to 6.625" = 8

Plastic Insert Material
PP = Polypropylene, Blue (available in Groups 3-7A)
SP = Santoprene, Beige (available in Group 3-8)
PS = Polysulfone, Black (available in Groups 6-8)
NN = HDPE, White (available in Groups 8 & 9)
HT = High Temp Nylon, Black (available in Group 8 & 9)

Tube or Pipe Size
"D" Dimension
For sizing refer to "D" column on dimensional chart apply the number in column without the decimal

Examples of column "D" translation:
1/4" Tube = 025
3/4" Pipe = 1050
1" Pipe = 1315
2" Pipe = 2375
4" Tube = 400

FIG. 202 BASE PLATE MOUNT

Size Range: 1/4" outside diameter through 6.625" outside diameter

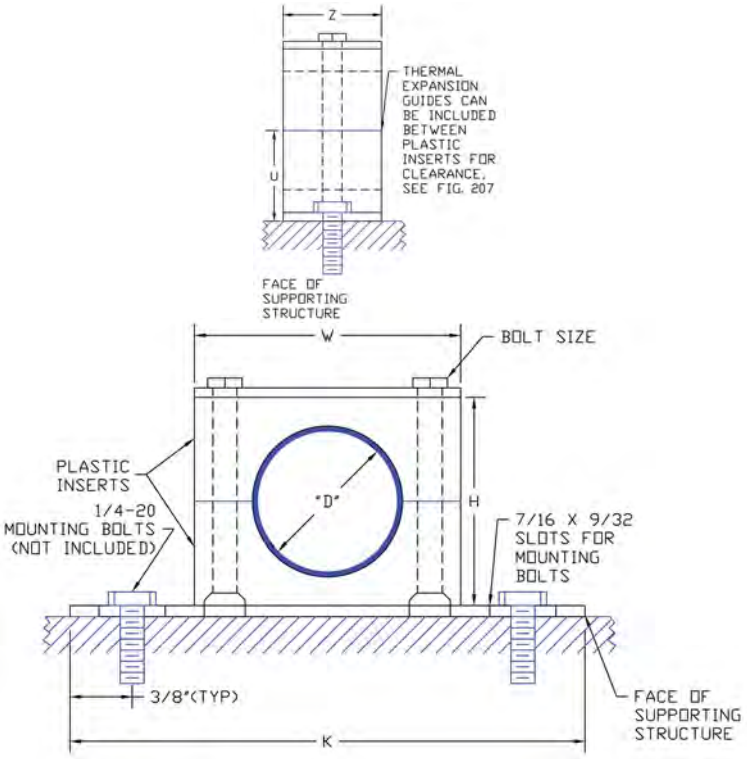
Hardware: 304 Stainless Steel, 316 Stainless Steel, or Electro-Zinc Plated Carbon Steel

Plastic Insert: Polypropylene (blue)
Santoprene (beige)
Polysulfone (black)
HDPE (white)
High Temp Nylon (black)
*See page 28 for temperature ratings

Installation: Locate bolt holes in mounting structure and either tap into structure or use 1/4-20 bolt and nut to secure

Thermal Expansion Guide: (Optional) Provides for axial expansion of the tube or pipe due to thermal expansion. One set of two per clamp (See Fig. 207 in accessories)

Thermal Expansion Guide Material: Santoprene, 1/16" insert, Black for service identification



GROUP NO.	TUBE OR PIPE SIZE	"D" INCHES	INCHES W	H	Z	U	K	BOLT SIZE	LBS.
3	1/4 T	0.250	1.88" (48 mm)	1.38" (35 mm)	1.19" (30 mm)	0.81" (20 mm)	3.50" (89 mm)	1/4-20	0.4 (0.18 kg)
	3/8 T	0.375							
	1/2 T	0.500							
	3/4 T	0.750							
	1/2 P	0.840							
	1 T	1.000							
6	1/4 T	0.250	3.34" (85 mm)	2.63" (67 mm)	1.19" (30 mm)	1.44" (37 mm)	4.50" (114 mm)	1/4-20	0.6 (0.27 kg)
	3/8 T	0.375							
	1/2 T	0.500							
	5/8 T	0.625							
	3/4 T	0.750							
	1/2 P	0.840							
	7/8 T	0.875							
	1 T	1.000							
	3/4 P	1.050							
	1-1/4 T	1.250							
	1 P	1.315							
	1-1/2 T	1.500							
	1-1/4 P	1.660							
	1-1/2 P	1.900							
	2 T	2.000							
7	2 T	2.000	5.00" (127 mm)	4.38" (111 mm)	1.19" (30 mm)	2.31" (59 mm)	6.50" (165 mm)	1/4-20	1.1 (0.50 kg)
	2 P	2.375							
	2-1/2 T	2.500							
	2-1/2 P	2.875							
	3 T	3.000							
	3-1/2 T - 3 P	3.500							
7A	4 T	4.000	5.77" (147 mm)	4.8" (122 mm)	1.19" (33 mm)	2.54" (65 mm)	7.20" (183 mm)	1/4-20	1.5 (0.68 kg)
8	6 T	6.000	8.88" (226 mm)	7.65" (194 mm)	1.50" (38 mm)	4.01" (102 mm)	11.25" (286 mm)	3/8-16	4.4 (1.97 kg)
	6P	6.625							

Fig 202 Smooth Bore Base Plate Mount - Part Number Configurator

B SB X 3 100 -SP

Base Plate Mount Plate
Base Plate Mount Fig 202 = B

Style
Smooth Bore Block Style = SB

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel = Z

Hardware Group Size
Group 3 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 1" = 3
Group 6 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 2" = 6
Group 7 Hardware Size Tube OD and Pipe sizes ranging from 2" to 3.50" = 7
Group 7A Hardware Size 4" Tube OD size = 7A
Group 8 Hardware Size Tube OD and Pipe sizes ranging from 6" to 6.625" = 8

Plastic Insert Material
PP = Polypropylene, Blue (available in Groups 3-7A)
SP = Santoprene, Beige (available in Group 3-8)
PS = Polysulfone, Black (available in Groups 6-8)
NN = HDPE, White (available in Groups 8 & 9)
HT = High Temp Nylon, Black (available in Group 8 & 9)

Tube or Pipe Size
"D" Dimension
For sizing refer to "D" column on dimensional chart apply the number in column without the decimal

Examples of column "D" translation:
1/4" Tube = 025
3/4" Pipe = 1050
1" Pipe = 1315
2" Pipe = 2375
4" Tube = 400

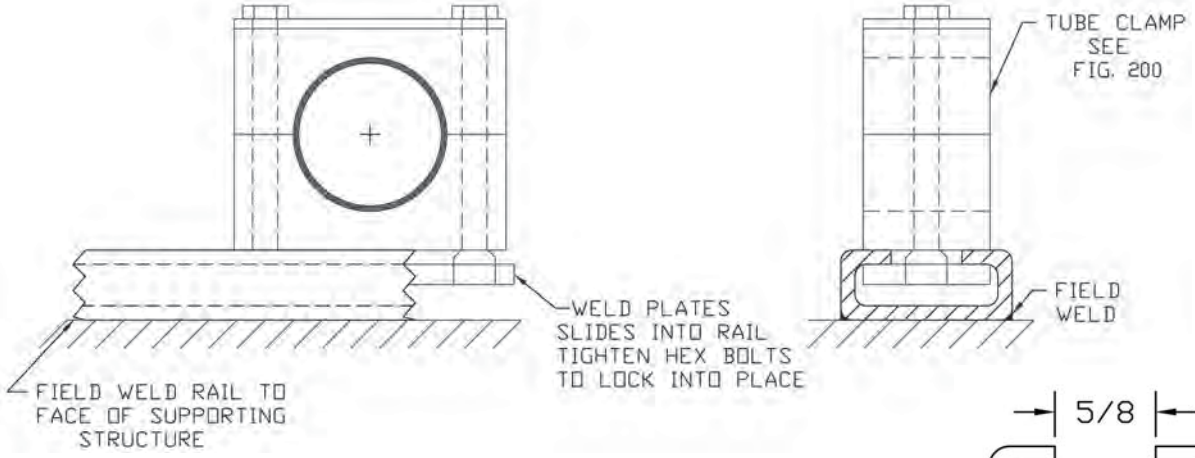
FIG. 203 — RAL-1 RAIL MOUNTING

Size Range: Rail Accomodates Clamps from 1/4" through 4" tube

Hardware: 304 Stainless Steel; 316 Stainless Steel; Electro-Zinc Plated Carbon Steel

Installations: Weld Rail (RAL-1) to structure or supporting member. Slide clamp weld plate into rail, locate proper position and assemble clamp. Tightening hex bolts of clamp will lock clamp into position.

***See Alternate Mounting Option below**



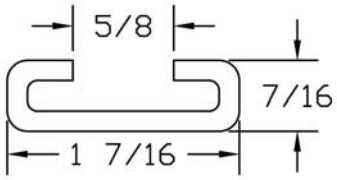


Fig 203 Rail Mounting (RAL-1) - Part Number Configurator

ST -RA1 -99 -T -6FT

Standard Rail 1
ST

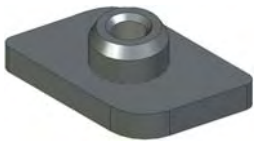
Rail Size
Rail-1

Universal Group Size
99

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel= Z
Carbon Steel = C

Rail Length
(Standard Length) 72" = 6FT
48" = 4FT
24" = 2FT
16" = 16"

*Alternate Mounting Option



RCN-1
Rail Nut (RCN-1) may also be used when mounting to Behringer's proprietary mounting rail (RAL-1)

FIG. 204 — STACKING KIT

Size Range: Any double combination of sizes 1/4” outside diameter through 3.5” outside diameter

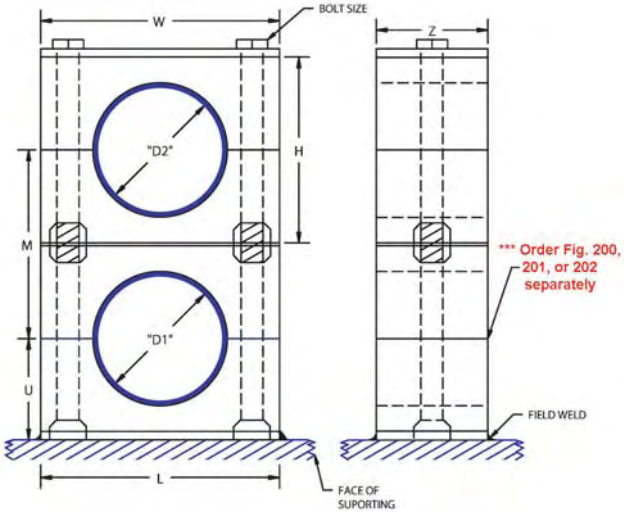
Hardware: 304 Stainless Steel, 316 Stainless Steel, or Electro-Zinc Plated Carbon Steel

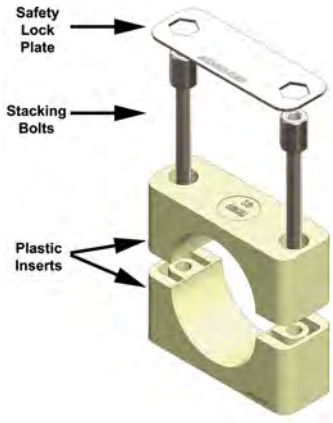
Plastic Inserts: Polypropylene (blue)
Santoprene (beige)
Polysulfone (black)
*See page 28 for temperature ratings

Thermal Expansion Guide: (Optional) Provides for axial expansion of the tube or pipe due to thermal expansion. One set of two per clamp (See Fig. 207 in accessories).

Thermal Expansion Guide Material: Santoprene, 1/16" insert, Black for service identification

*****NOTE:** This is sold as a modular component ONLY. Must order Fig. 200, 201 or 202 as a bottom assembly in addition to each stacking kit.





GRP NO.	TUBE OR PIPE SIZE	"D" INCHES	W	H	Z	U	L	M	BOLT SIZE
3	1/4 T	0.250	1.88 (48 mm)	1.38" (35 mm)	1.19" (30 mm)	0.81" (20 mm)	1.91 (49 mm)	1.44" (37 mm)	1/4-20
	3/8 T	0.375							
	1/2 T	0.500							
	3/4 T	0.750							
	1/2 P	0.840							
	1 T	1.000							
6	1/4 T	0.250	3.34" (85 mm)	2.63" (67 mm)	1.19" (30 mm)	1.44" (37 mm)	3.37 (86 mm)	2.69 (68 mm)	1/4-20
	3/8 T	0.375							
	1/2 T	0.500							
	5/8 T	0.625							
	3/4 T	0.750							
	1/2 P	0.840							
	7/8 T	0.875							
	1 T	1.000							
	3/4 P	1.050							
	1-1/4 T	1.250							
	1 P	1.315							
	1-1/2 T	1.500							
	1-1/4 P	1.660							
	1-1/2 P	1.900							
	2 T	2.000							
7	2 T	2.000	5.00" (127 mm)	4.38" (111 mm)	1.19" (30 mm)	2.31" (59 mm)	4.41" (112 mm)	4.44" (113 mm)	1/4-20
	2 P	2.375							
	2-1/2 T	2.500							
	2-1/2 P	2.875							
	3 T	3.000							
	3-1/2 T -3 P	3.500							

Fig 204 Smooth Bore Stacking Kit - Part Number Configurator

SK SB Z 3 75 -PP

Stacking Kit
Stacking Kit Components Fig 204 = SK

Style
Smooth Bore Block Style = SB

Hardware Material
304 Stainless Steel = T
Stainless Steel = X
Electro-Zinc Plated Carbon Steel= Z

Hardware Group Size
Group 3 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 1" = 3
Group 6 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 2" = 6
Group 7 Hardware Size Tube OD and Pipe sizes ranging from 2" to 3.50" = 7

Plastic Insert Material
PP = Polypropylene, Blue (available in Groups 3-7A)
SP = Santoprene, Beige (available in Group 3-8)
PS = Polysulfone, Black (available in Groups 6-8)

Tube or Pipe Size
"D" Dimension
For sizing refer to "D" column on dimensional chart apply the number in column without the decimal

Examples of column "D" translation:
1/4" Tube = 025
3/4" Pipe = 1050
1" Pipe = 1315
2" Pipe = 2375

FIG. 211 UNISTRUT MOUNT CLAMP

Size Range: 1/4" outside diameter through 4" outside diameter.

Hardware: 304 Stainless Steel, 316 Stainless Steel, or Electro-Zinc Plated Carbon Steel

Plastic Inserts: Polypropylene (blue)
Santoprene (tan)
Polysulfone (black)
*See page 28 for temperature ratings

Installations: After unistrut rail position has been established, position 2 unistrut rail nuts in channel where desired to accept plastic inserts. Place pipe or tube in clamp perpendicular to unistrut channel. Torque down on clamp bolts to lock assembly in place.

Thermal Expansion Guide: (Optional) Provides for axial expansion of the tube or pipe due to thermal expansion. One set of two per clamp (See Fig. 207 in accessories).

Thermal Expansion Guide Material: Santoprene, 1/16" insert, Black for service identification

GROUP NO.	TUBE OR PIPE SIZE	"D" INCHES	INCHES W	H	Z	U	LBS.
3	1/4 T	0.250	1.88 (48 mm)	1.38 (35 mm)	1.19 (30 mm)	.75 (19 mm)	0.4 (0.18 kg)
	3/8 T	0.375					
	1/2 T	0.500					
	3/4 T	0.750					
	1/2 P	0.840					
	1 T	1.000					
6	1/4 T	0.250	3.34 (85 mm)	2.63 (67 mm)	1.19 (30 mm)	1.38 (35 mm)	0.6 (0.27 kg)
	3/8 T	0.375					
	1/2 T	0.500					
	5/8 T	0.625					
	3/4 T	0.750					
	1/2 P	0.840					
	7/8 T	0.875					
	1 T	1.000					
	3/4 P	1.050					
	1-1/4 T	1.250					
	1 P	1.315					
	1-1/2 T	1.500					
	1-1/4 P	1.660					
	1-1/2 P	1.900					
	2 T	2.000					
7	2 T	2.000	5.00 (127 mm)	4.38 (111 mm)	1.19 (30 mm)	2.25 (57 mm)	1.1 (0.50 kg)
	2 P	2.375					
	2-1/2 T	2.500					
	2-1/2 P	2.875					
	3 T	3.000					
	3-1/2 T - 3 P	3.500					
7A	4 T	4.000	5.77 (147 mm)	4.8 (122 mm)	1.19 (30 mm)	2.48 (62 mm)	1.5 (0.68 kg)

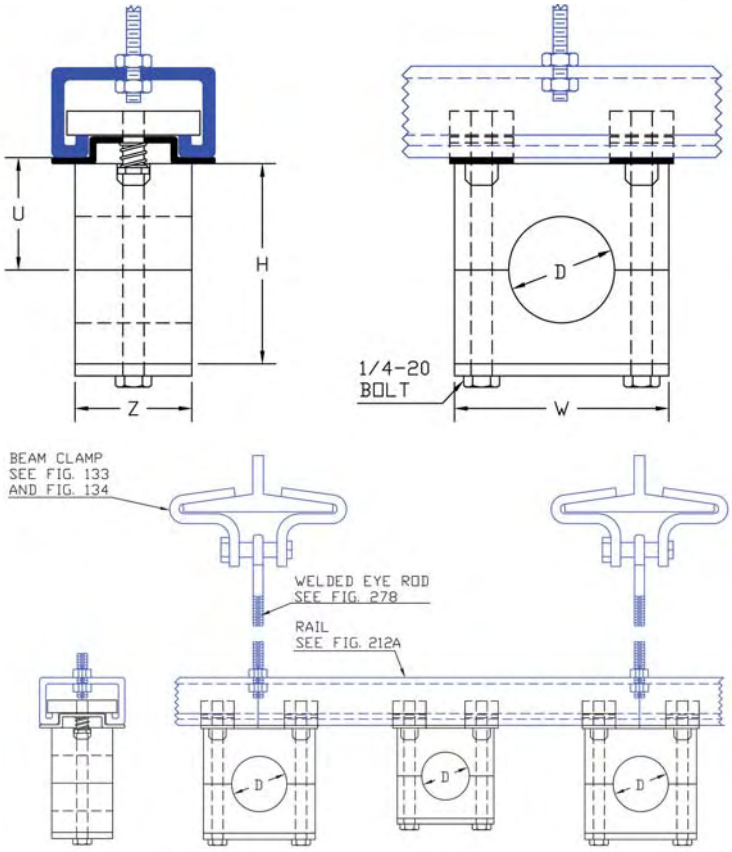


Fig 211 Smooth Bore Unistrut Mount - Part Number Configurator

U SB T 6 200 -SP

Unistrut Mount
Unistrut Mount Fig 211 = U

Style
Smooth Bore Block Style = SB

Hardware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel = Z

Hardware Group Size
Group 3 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 1" = 3
Group 6 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 2" = 6
Group 7 Hardware Size Tube OD and Pipe sizes ranging from 2" to 3.50" = 7
Group 7A Hardware Size 4" Tube OD = 7A

Plastic Insert Material
PP = Polypropylene, Blue (available in Groups 3-7A)
SP = Santoprene, Beige (available in Group 3-8)
PS = Polysulfone, Black (available in Groups 6-8)

Tube or Pipe Size
"D" Dimension
For sizing refer to "D" column on dimensional chart apply the number in column without the decimal

Examples of column "D" translation:
1/4" Tube = 025
3/4" Pipe = 1050
1" Pipe = 1315
2" Pipe = 2375
4" Tube = 400

FIG. 221 — ROD MOUNT

Size Range: 1/4" outside diameter through 6.625" outside diameter

Hardware: 304 Stainless Steel, 316 Stainless Steel, or Electro-Zinc Plated Carbon Steel

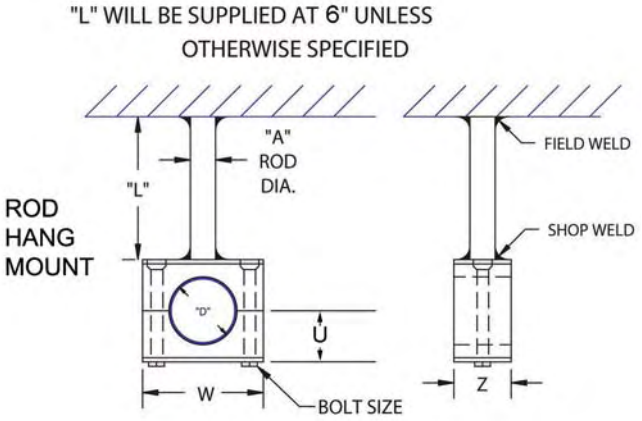
Plastic Inserts: Polypropylene (blue)
Santoprene (beige)
Polysulfone (black)
HDPE (white)
High Temp Nylon (black)
*See page 28 for temperature ratings

Installations: Cut bar in field to proper length. Field weld hang or floor mount bar to support structure. Fig 221 can also be used in combination with the figure 225 or 226 stanchions. This combination will allow the support to be adjusted telescopically to the tube or pipe elevation. Call customer service for the price and availability of special rod lengths.

Thermal Expansion Guide: (Optional) Provides for axial expansion of the tube or pipe due to thermal expansion. One set of two per clamp. (See Fig. 207 in accessories).

Thermal Expansion Guide Material: Santoprene, 1/16" insert, Black for service identification

GRP NO.	TUBE OR PIPE SIZE	"D" INCHES	W	Z	U	BOLT SIZE	"A" ROD DIA
3	1/4 T	0.250	1.88" (48 mm)	1.19" (30 mm)	0.81" (20 mm)	1/4-20	0.5" (12.7 mm)
	3/8 T	0.375					
	1/2 T	0.500					
	3/4 T	0.750					
	1/2 P	0.840					
	1 T	1.000					
6	1/4 T	0.250	3.34" (85 mm)	1.19" (30 mm)	1.44" (37 mm)	1/4-20	0.5" (12.7 mm)
	3/8 T	0.375					
	1/2 T	0.500					
	5/8 T	0.625					
	3/4 T	0.750					
	1/2 P	0.840					
	7/8 T	0.875					
	1 T	1.000					
	3/4 P	1.050					
	1-1/4 T	1.250					
	1 P	1.315					
	1-1/2 T	1.500					
	1-1/4 P	1.660					
	1-1/2 P	1.900					
	2 T	2.000					
7	2 T	2.000	5.00" (127 mm)	1.19" (30 mm)	2.31" (59 mm)	1/4-20	0.75" (19 mm)
	2 P	2.375					
	2-1/2 T	2.500					
	2-1/2 P	2.875					
	3 T	3.000					
	3-1/2 T -3 P	3.500					
7A	4 T	4.000	5.77" (147 mm)	1.19" (33 mm)	2.54" (65 mm)	1/4-20	0.75" (19 mm)
8	6 T	6.000	8.88" (226 mm)	1.50" (38 mm)	4.01" (102 mm)	3/8-16	1.00" (25.4 mm)
	6 P	6.625					



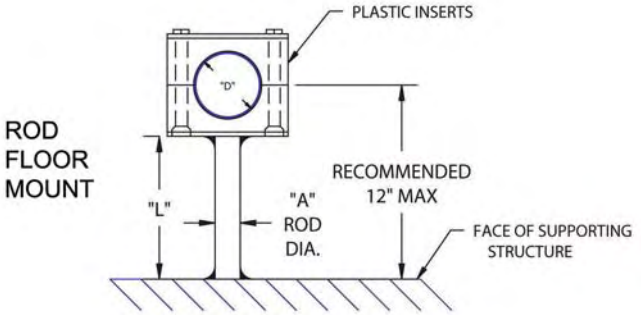


Fig 221 Smooth Bore Rod Mount - Part Number Configurator

R SB Z 6 1050 -PP -06

Rod Mount
Rod Mount Fig. 221 = R

Style
Smooth Bore Block Style = SB

Harware Material
304 Stainless Steel = T
316 Stainless Steel = X
Electro-Zinc Plated Carbon Steel= Z

Hardware Group Size
Group 3 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 1" = 3
Group 6 Hardware Size Tube OD and Pipe sizes ranging from 0.25" to 2" = 6
Group 7 Hardware Size Tube OD and Pipe sizes ranging from 2" to 3.50" = 7
Group 7A Hardware Size 4" Tube OD = 7A
Group 8 Hardware Size Tube OD and Pipe sizes ranging from 6" to 6.625" = 8

Rod Length
6" = 06
12" = 12
18" = 18
24" = 24
Special Lengths are available

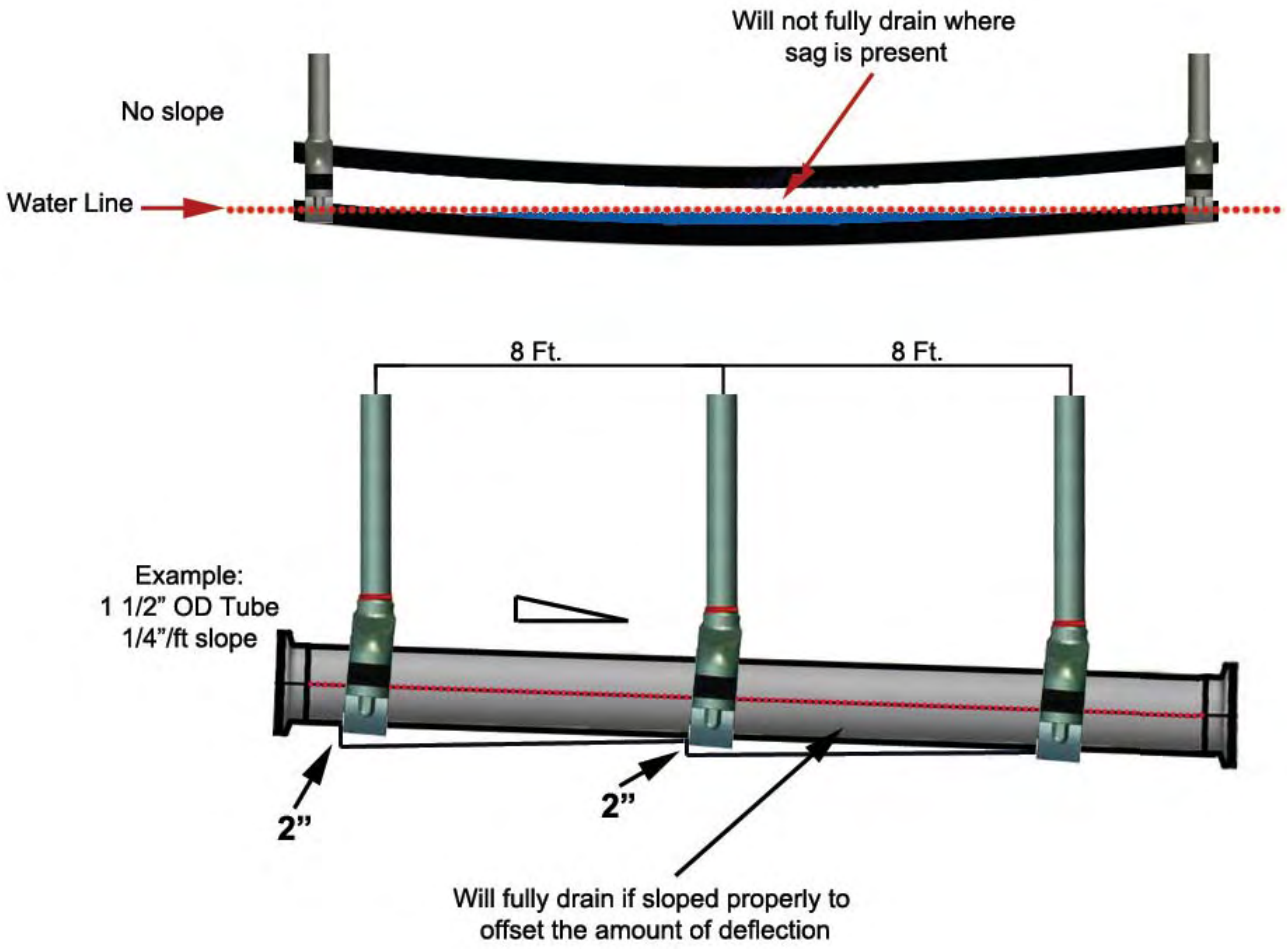
Plastic Insert Material
PP = Polypropylene, Blue (available in Groups 3-7A)
SP = Santoprene, Beige (available in Group 3-8)
PS = Polysulfone, Black (available in Groups 6-8)
NN = HDPE, White (available in Groups 8 & 9)
HT = High Temp Nylon, Black (available in Group 8 & 9)

Tube or Pipe Size
"D" Dimension
For sizing refer to "D" column on dimensional chart apply the number in column without the decimal

Proper Slope for Drainability

Process piping must be installed to achieve:

- Continuous slope for drainability-offset any deflection present with slope.
- Adequate spacing of supports to avoid pooling of liquids
- Minimum slope per ASME BPE Standard:
  - Table SD-2.4.3.1-1 Slope Designations for Gravity-Drained Lines
    - GSD1 1/16"/ft. minimum (5mm/m)
    - GSD2 1/8"/ft. minimum (10mm/m)
      - (min. recommended by ASME for product-contact lines)
    - GSD3 1/4"/ft. minimum (20mm/m)
    - GSD0 Line slope not required
- Slope measurements should be taken with a calibrated digital level or protractor per ASME BPE Non-Mandatory Appendix C
- Added support in proximity to any concentrated loads
- Supports at each change of direction
- Corrosion resistance
- Materials compatible with the chemical, thermal, and physical performance requirements of each application

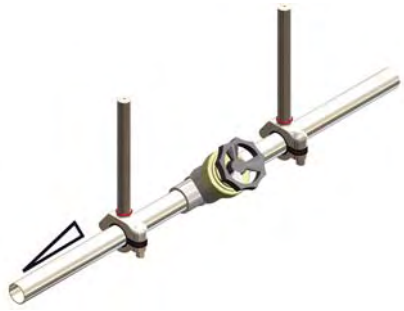


Recommended Mounting Practices

Bends

Behringer recommends that supports and hangers be installed in close proximity to each change in direction of piping, with consideration of pipe movement due to thermal expansion and use of anchor and guide inserts to facilitate intended pipe movements.

Concentrated Loads



Behringer recommends that supports and hangers be installed as close as possible to any concentrated loads, such as valves, instrumentation, and other process components. It may be necessary to install on both sides of certain loads to reduce deflection and ensure proper continuous slope for drainability.

Thermal Expansion

- Anchoring systems should be designed to accommodate piping motion including thermal expansion.
- Proper selection and positioning of anchors and guides to facilitate thermal cycling of the piping with out causing structural damage or cause process components to misalign at mechanical joints.
- Anchor - An anchor is a rigid device used to prevent all pipe displacement at the point of application. Anchors are used to fix selected points on a piping system in order to control forces, moments, and movement in each section of the total pipe run.
- Guide - A guide is a device used to permit pipe movement in a predetermined direction while preventing undesirable movement in other directions. Guides are used to control piping movement, provide lateral pipe stability, control sway, and ensure proper alignment at expansion joints and loops. The guide allows free axial movement of the pipe/tube while maintaining proper alignment and elevation for drainability.
- Enlarging the ID dimension of the CH Series Polysulfone insert by .040” (Groups 1-5) and 0.050” (Groups 6-9) turns a gripping support “Anchor” into a “Guide”. Behringer stocks both anchor and guide inserts for OD tube, pipe, and copper tube sizes. See part number configuration for more information. Guide inserts are also available for the Smooth Bore Series (See Fig. 207 in accessories)

Smooth Bore Inserts

General Information			Thermal Properties	
Plastic Insert Material	Part # Code	Color	Intermittent Exposure	Continuous Exposure
Polypropylene	PP	Blue	-22° to + 212°F (-30° to + 102°C)	-22° to + 194°F (-30° to + 90° C)
Santoprene	SP	Beige	-40° to + 302°F (-40° to + 150° C)	-40° to + 275°F (-40° to + 135°C)
Polysulfone	PS	Black	-50° to + 320°F (-45° to + 160°C)	-50° to + 320°F (-45° to + 160°C)
Zeotherm	ZT	Black	-40° to + 350°F (-40° to + 175°C)	-40° to + 300°F (-40° to + 150°C)
High Density Polyethylene*	NN	White	-58° to + 180°F (-50° to + 82°C)	-58° to + 175°F (-50° to + 79°C)
High Temp Nylon*	HT	Black	-40° to + 350°F (-40° to + 177°C)	-40° to + 260°F (-40° to + 127°C)

* NN & HT inserts available in group 8 & 9 sizes only

CH Series Inserts

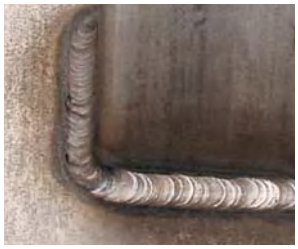
General Information			Thermal Properties	
Plastic Insert Material	Part # Code	Color	Intermittent Exposure	Continuous Exposure
Polysulfone	PS	Black	-50° to + 320°F (-45° to + 160°C)	-50° to + 320°F (-45° to + 160°C)
Polysulfone	PG	Grey	-50° to + 320°F (-45° to + 160°C)	-50° to + 320°F (-45° to + 160°C)

Chemical Properties	**Resistant to a wide range of chemicals.**
Mechanical Properties	**Please contact Behringer for Product Data Sheets.**

Metal Parts

- Surface finishing

In addition to the standard surface finish, alternative finishes are available on request



Mill Finish

Brushed

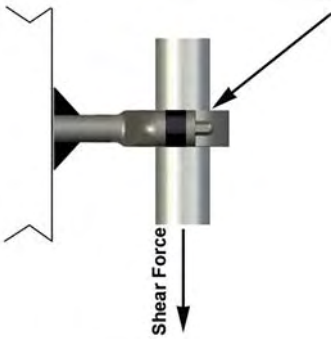
Blended Weld

Slope Conversion Chart, Shear Force Diagram

Table 1 - Slope by Percentage (%) (most accurate)		
Percent (%)	Degrees (°)	inches/foot
0.1	0.057	0.012
0.2	0.115	0.024
0.3	0.172	0.036
0.4	0.229	0.048
0.5	0.286	0.060
0.6	0.344	0.072
0.7	0.401	0.084
0.8	0.458	0.096
0.9	0.516	0.108
1.0	0.573	0.120
1.1	0.630	0.132
1.2	0.688	0.144
1.3	0.745	0.156
1.4	0.802	0.168
1.5	0.859	0.108
1.6	0.917	0.192
1.7	0.974	0.204
1.8	1.031	0.216
1.9	1.088	0.228
2.0	1.146	0.240

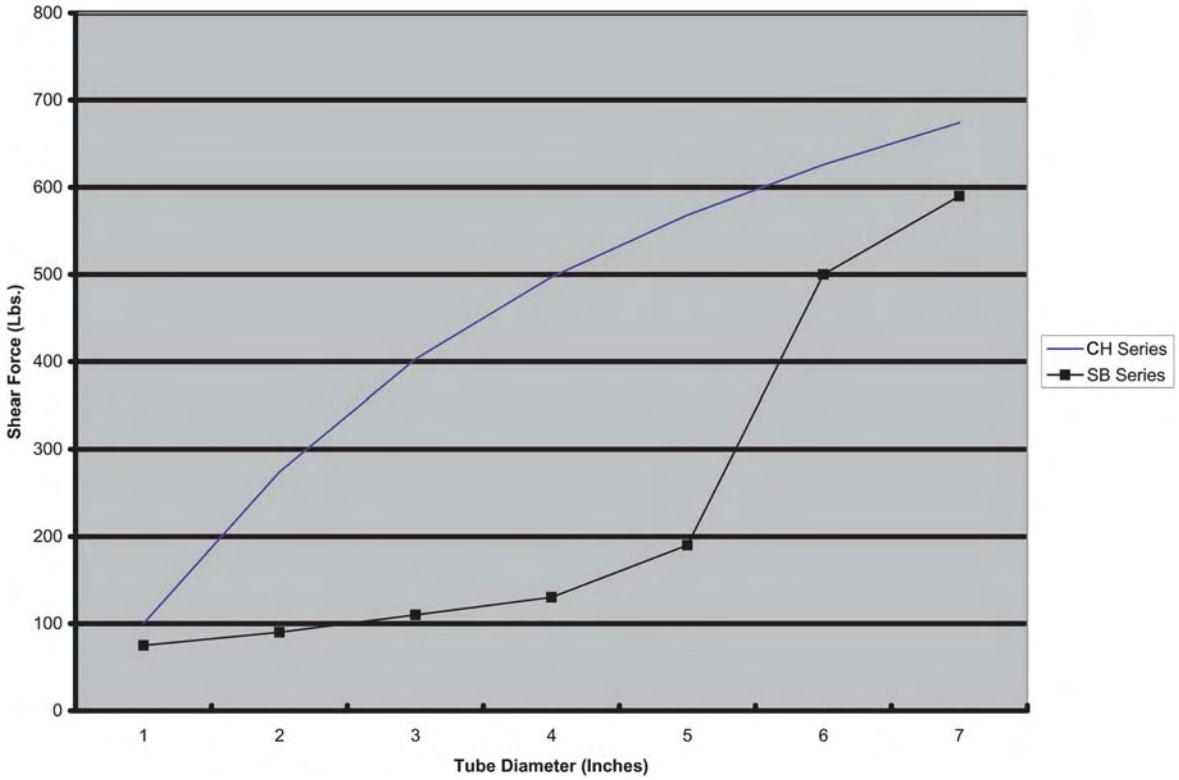
Table 2 - Slope by Degrees (°) (second accurate)		
Degrees (°)	Percent (%)	inches/foot
0.1	0.175	0.021
0.2	0.349	0.042
0.3	0.524	0.063
0.4	0.698	0.084
0.5	0.873	0.105
0.6	1.047	0.126
0.7	1.222	0.147
0.8	1.396	0.168
0.9	1.571	0.189
1.0	1.746	0.209
1.1	1.925	0.231
1.2	2.100	0.252
1.3	2.275	0.273
1.4	2.450	0.294
1.5	2.625	0.315
1.6	2.800	0.336
1.7	2.975	0.357
1.8	3.150	0.378
1.9	3.325	0.399
2.0	3.492	0.419

Table 3 - Slope by inches/foot (least accurate)			
inches/foot	decimal eq	Percent (%)	Degrees (°)
1/64	0.016	0.130	0.075
1/32	0.031	0.260	0.149
3/64	0.047	0.391	0.224
1/16	0.063	0.521	0.298
5/64	0.078	0.651	0.373
3/32	0.094	0.781	0.448
7/64	0.109	0.911	0.522
1/8	0.125	1.042	0.597
9/64	0.141	1.172	0.671
5/32	0.156	1.302	0.746
11/64	0.172	1.432	0.821
3/16	0.188	1.563	0.895
13/64	0.203	1.693	0.970
7/32	0.219	1.823	1.044
15/64	0.234	1.953	1.119
1/4	0.250	2.083	1.193
5/16	0.313	2.604	1.492
3/8	0.375	3.125	1.790
7/16	0.438	3.646	2.088
1/2	0.500	4.167	2.386



(- Without Thermal Expansion Guide
- Acorn Bolt Torque 7 Foot - Pounds)

Note: Shear Force Testing was conducted under controlled conditions and with manufacturers recommended bolt torque. Actual Shear Forces may vary due to specific process conditions such as temperature, tube surface roughness, uneven load conditions and presence of line shock and/or vibration.



SPACING OF HANGERS

Hangers and/or supports shall be spaced as far apart as economically possible, with due consideration to assure that the sag of the pipe between supports is within limits that will permit drainage and also avoid excessive bending stresses from concentrated loads such as valves and in-line equipment. Contractor shall use the maximum recommended spacing between pipe support specified below. Spacing indicated below may differ from that listed in MSS SP- 69. Additional hangers may be necessary to adequately support concentrated loads such as valves, flanges, or instruments.

STEEL PIPE HANGER SPACING:

PIPE SIZE (IN)	MAXIMUM SPACING (FT)
1/2" & 3/4"	6
1" & 1-1/4"	8
1-1/2" & 2"	10
3"	12
4" -16"	16

COPPER TUBING HANGER SPACING (includes schedule 10 pipe):

TUBING SIZE (IN)	MAXIMUM SPACING (FT)
3/8" - 3/4"	6
1" - 1-1/4"	8
1- 1/2" - 3"	10
4" - 8"	12

STAINLESS STEEL SANITARY TUBING HANGER SPACING:

TUBING SIZE (IN)	MAXIMUM SPACING (FT)
1/2" - 3/4"	6
1" - 1-1/2"	8
2" - 3"	10
4" - 6"	12

PLASTIC PIPING:

Support in accordance with manufacturer's recommendations.

Also available from Behringer Corporation
Industrial Pipe Clamps

Standard Series Pipe Clamps

Range: ¼" OD to 4" OD
Pressure: 2,000 psi max.

Heavy Series Pipe Clamps

Range: ¼" OD to 8" Pipe
Pressure: 5,000 psi max. (Single plate)
10,000 psi max. (Double plate)

Twin Series Pipe Clamps

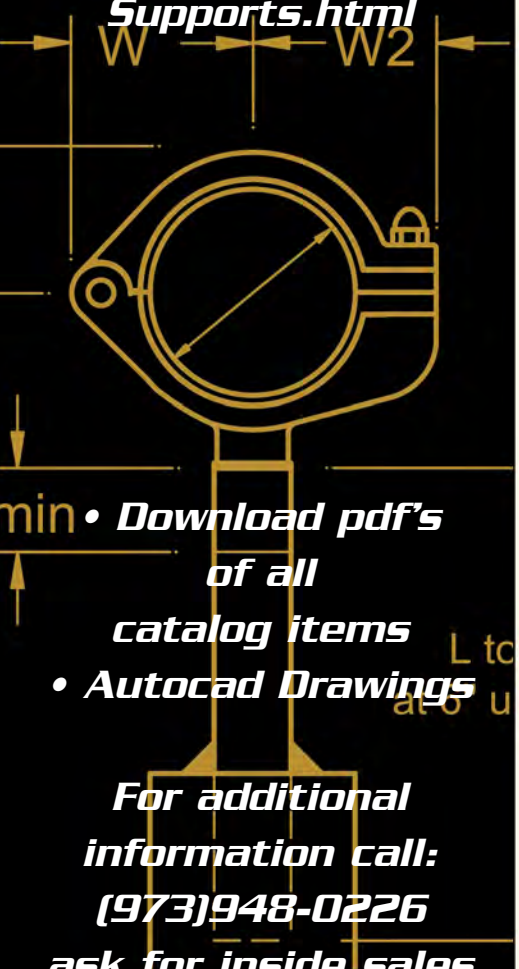
Range: ¼" OD to 1.66" OD
Pressure: 1,500 psi max.

Heavy 4 Series Pipe Clamps

Range: 8" Pipe to 30" Pipe
Pressure: 5,000 psi max. (Single plate)
10,000 psi max. (Double plate)

BEHRINGER®

For additional information visit our Sanitary Section on our website: www.behringersystems.com/HygienicTubeHangers-Supports.html



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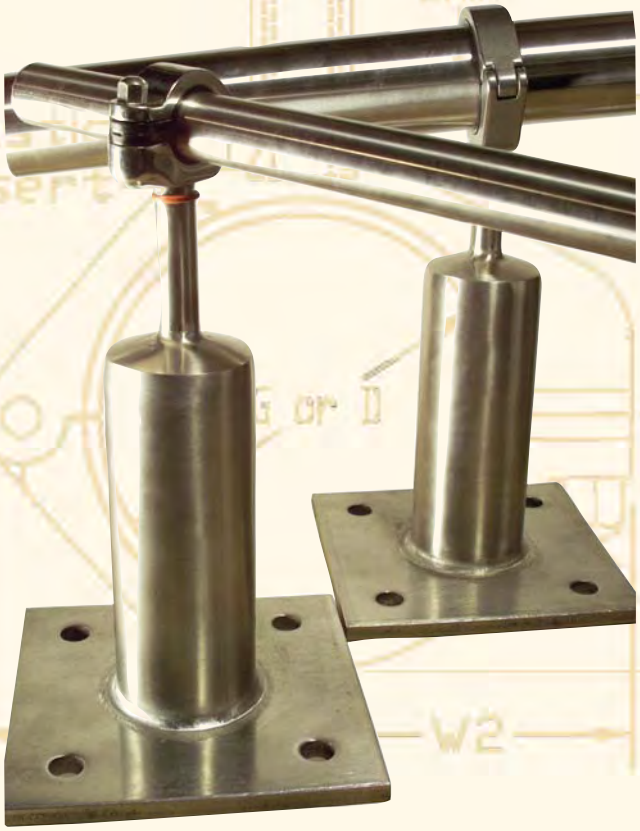

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