

HYDAC INTERNATIONAL

HOSE, TUBE, AND PIPE CLAMPS

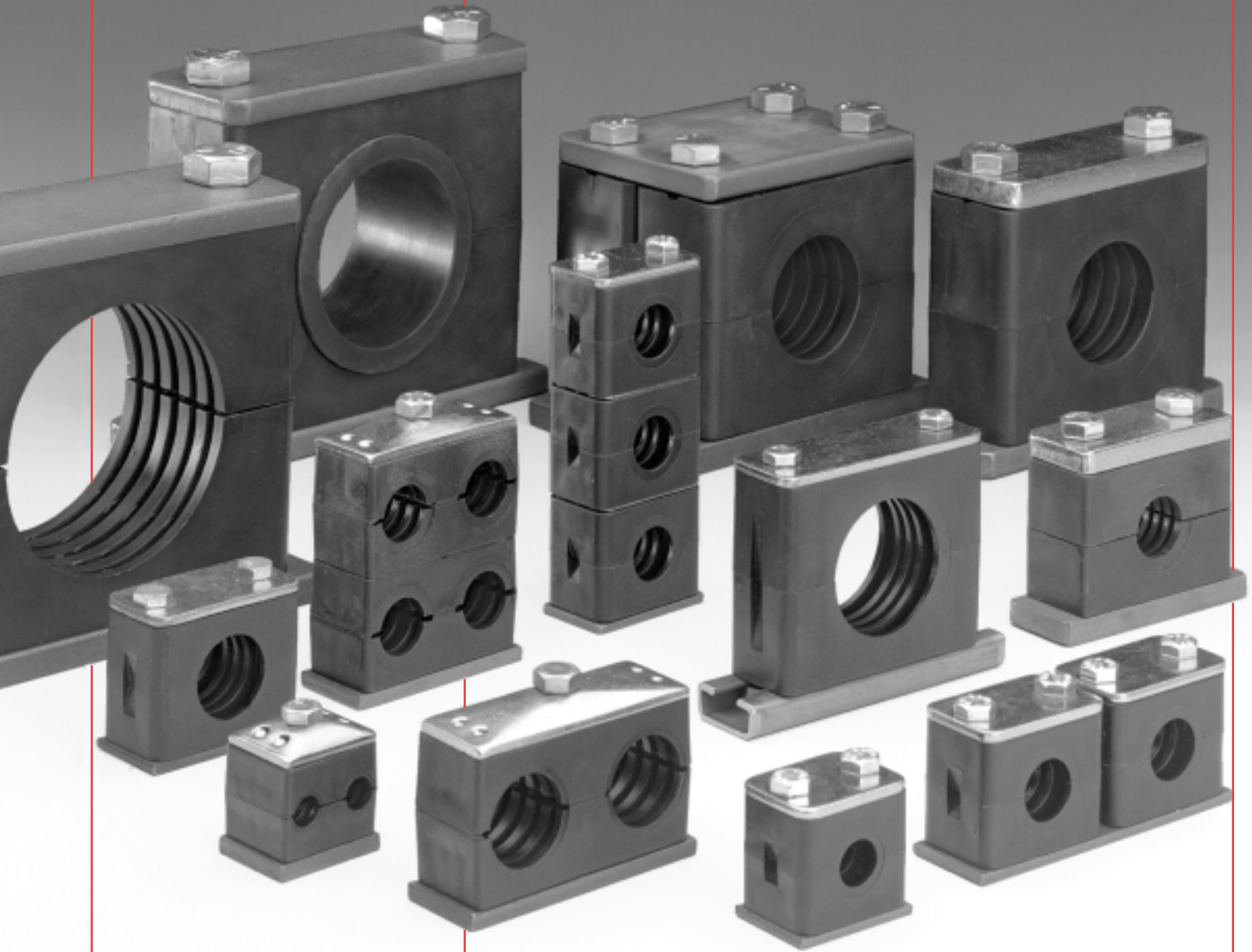


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INTRODUCTION

Our clamps and mounting systems are designed and manufactured by our ISO 9001 Certified **HY-ROS** division.

HYDAC clamps assure a simple, reliable dampening support for tubes, pipes, hoses, and conduits in industrial hydraulic systems, mobile hydraulic systems, process industries, and electrical construction. **HYDAC** clamps absorb shock, dampen vibration, and reduce noise in hydraulic systems.

HYDAC design Engineers have extensive experience in working closely with customers, in evaluating their requirements, and developing custom clamp arrangements to satisfy the most demanding applications.

Whether standard or custom **HYDAC** products, we are ready to address your requirements.

CONSTRUCTION

HYDAC clamps are available in a wide range of sizes and materials. Polypropylene (PP) is used for standard clamps and Polyamide (PA) or Aluminum (AL) for special applications. The **HYDAC** type HRE clamps have rubber inserts for soft gripping of hose, pipe, and tubing. HRE clamps are designed as hose and tube supports for high cyclic pressure applications.

Weld plates are phosphate coated. All standard duty top plates and heavy twin duty sizes 1 to 4 top plates are zinc plated. Heavy duty sizes 5 to 8 top plates are phosphate coated. All heavy duty double top plates (DDP) are phosphate coated. Stainless steel hardware is also available.

APPLICATION

Standard Duty Clamps (HRL)

- Available to 2" tube outside diameter.
- Recommended for systems with less than 1500 PSI operating pressure and no dynamic loads.

Heavy Duty Series (HRS)

- Available to 16" nominal pipe size
 - Recommended for systems with greater than 1500 PSI operating pressure, operations with pressure surges and applications with wide temperature fluctuations.
- Note: Combinations of pressure surges and temperature fluctuations require double clamps, see page 6.

Twin Clamps (HRZ)

- Available to 1-1/4" nominal pipe size.
- Recommended for systems with less than 1500 PSI operating pressure and no dynamic loads.

Rubber Insert Clamps (HRE)

- Standard duty available to 1-1/4" bore diameter.
- Heavy duty available to 5-1/4" bore diameter.
- Recommended for soft gripping of hose.

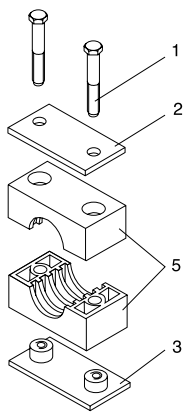
MOUNTING

Proper clamp location is necessary for reliable mounting of piping systems. Clamps should be mounted as follows:

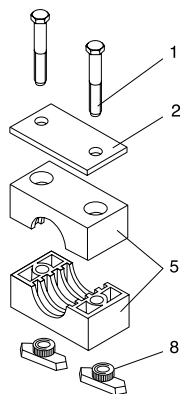
- The first clamp should be located directly after a threaded connection or coupling to protect against vibration.
- Bends in a pipe should be clamped on each side.
- A clamp should be located on each side of an inline valve.
- Refer to table on page 19 for recommended distance between clamps.



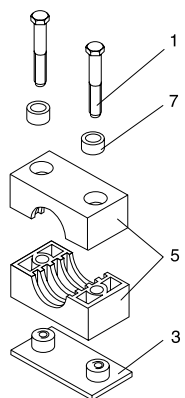
Standard Duty Clamps: Arrangements



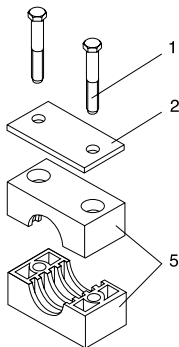
A
Single Clamp with
Weld Plate



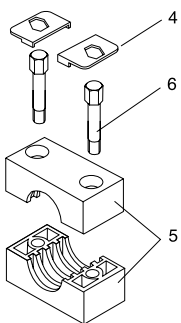
A1TM
Single Clamp for
C-Rail Mounting
(order C-Rail separately)



B
Single Clamp without
Top Plate

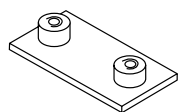


A1
Single Clamp Stacking Kit



D
Single Clamp Stacking Module
(not available for size 0)

Note: 3 max. stacking
modules recommended



Weld Plate
order separately

Parts Legend

- | | |
|-----------------|-----------------|
| 1 Hex Head Bolt | 5 Clamp Pair |
| 2 Top Plate | 6 Stacking Bolt |
| 3 Weld Plate | 7 Insert |
| 4 Safety Plate | 8 C-Rail Nut |

Note: To order parts, refer to page 14

Model Code:

HRL 2 A

Series

Size

0 to 6 (refer to table A)

Arrangement

- A - Single clamp with top plate and weld plate
- B - Single clamp without top plate
- D - Single clamp stacking module (not available for size 0)
- A1 - Single clamp stacking kit
- A1TM - C-Rail mounted clamp

12.7

PP

UNC

Thread Type

Metal Component Material

- omit - Carbon Steel
- A4 - Stainless Steel 316

Clamp Material

- PP - Polypropylene
- PA - Polyamide
- AL - Aluminum
- (not available for size 0)

Bore Size (in mm)
(refer to table A)

Standard Duty Clamps: Dimensions

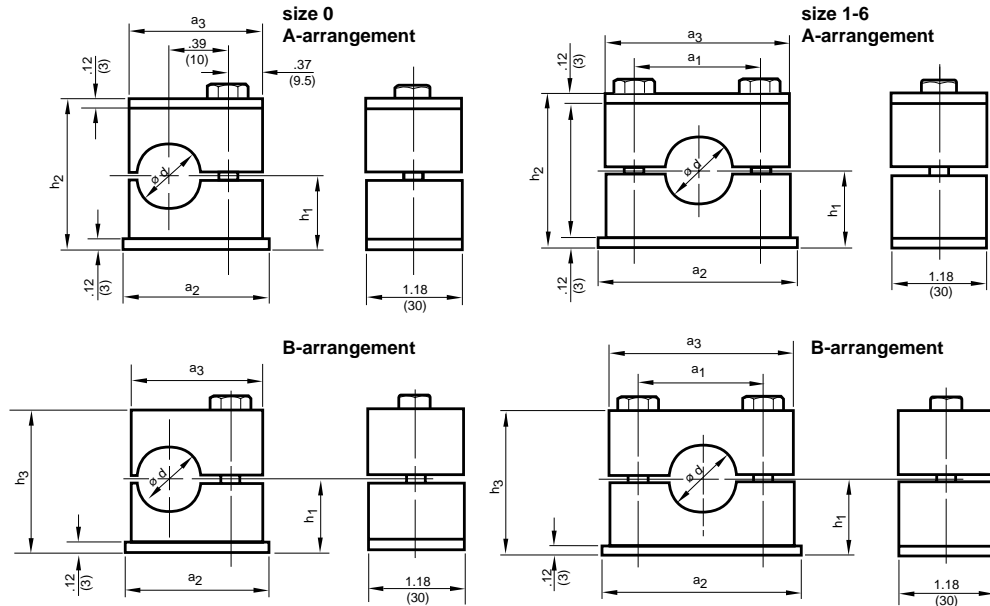


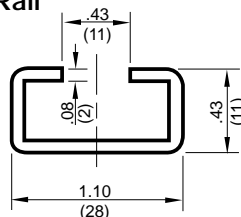
Table A

Note: Dimensions are shown in inches (millimeters).

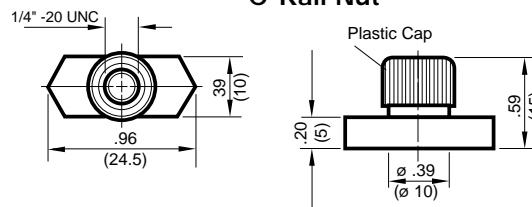
Size	Ød		Recommended Nominal Size		a1 in. (mm)	a2 in. (mm)	a3 in. (mm)	h1 in. (mm)	h2 in. (mm)	h3 in. (mm)	Bolt Size Arrangement A/B in.	Weight lbs. (kg)			
	in	mm	Tube O.D.	Pipe								A	B		
0	0.25	6.4	1/4"	-	N/A	1.18 (30)	1.10 (28)	0.63 (16)	1.26 (32)	1.14 (29)	1/4-20 x 1-1/4	A	B	0.14 (0.06)	0.12 (0.05)
	0.31	8.0	5/16"	-											
	0.37	9.5	3/8"	-											
	0.39	10.0	-	1/8"											
	0.47	12.0	-	-											
1	0.25	6.4	1/4"	-	0.79 (20)	1.42 (36)	1.34 (34)	0.63 (16)	1.26 (32)	1.14 (29)	1/4-20 x 1-1/4	A	B	0.18 (0.08)	0.13 (0.06)
	0.31	8.0	5/16"	-											
	0.37	9.5	3/8"	-											
	0.39	10.0	-	1/8"											
	0.47	12.0	-	-											
2	0.50	12.7	1/2"	-	1.02 (26)	1.65 (42)	1.57 (40)	0.77 (19.5)	1.53 (39)	1.42 (36)	1/4-20 x 1-1/2	A	B	0.27 (0.12)	0.16 (0.07)
	0.55	14.0	-	-											
	0.63	16.0	5/8"	-											
	0.67	17.1	-	3/8"											
3	0.75	19.0	3/4"	-	1.30 (33)	1.97 (50)	1.89 (48)	0.85 (21.5)	1.69 (43)	1.57 (40)	1/4-20 x 1-1/2	A & B		0.31 (0.14)	0.22 (0.10)
	0.84	21.3	-	1/2"											
	0.87	22.0	-	-											
	1.00	25.4	1"	-											
4	1.05	26.6	-	3/4"	1.57 (40)	2.32 (59)	2.24 (57)	0.94 (24)	1.89 (48)	1.77 (45)	1/4-20 x 1-3/4	A & B		0.33 (0.15)	0.27 (0.12)
5	1.26	32.0	1-1/4"	-	2.05 (52)	2.83 (72)	2.75 (70)	1.26 (32)	2.52 (64)	2.40 (61)	1/4-20 x 2-1/2	A & B		0.42 (0.19)	0.31 (0.14)
	1.33	33.7	-	1"											
	1.50	38.0	1-1/2"	-											
	1.65	42.0	-	1-1/4"											
6	1.75	44.5	1-3/4"	-	2.60 (66)	3.46 (88)	3.38 (86)	1.42 (36)	2.83 (72)	2.72 (69)	1/4-20 x 2-3/4	A	B	0.53 (0.24)	0.40 (0.18)
	1.90	48.3	-	1-1/2"											
	2.00	50.8	2"	-											

C-Rail and C-Rail Nut Dimensions

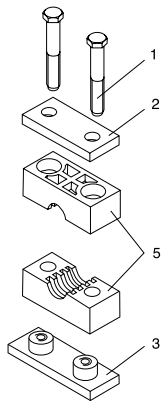
C-Rail



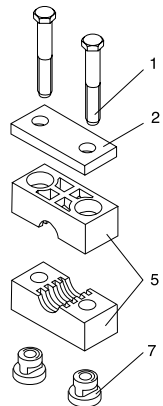
C-Rail Nut



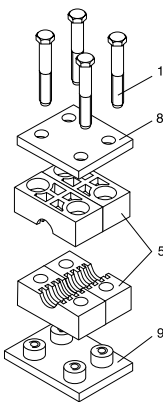
Heavy Duty Clamps: Arrangements



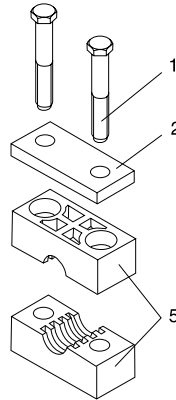
S
Single Clamp with
Weld Plate



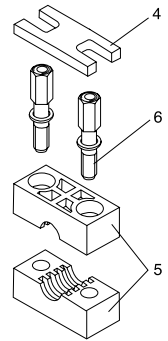
S1TM
Single Clamp for
C-Rail Mounting
(sizes 1-4 only, order
C-Rail separately)



D
Double Clamp

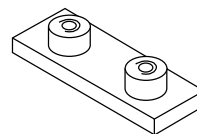


S1
Single Clamp Stacking Kit
(sizes 1-5 only)



A
Single Clamp Stacking Module
(sizes 1-5 only)

Note: 3 max. stacking
modules recommended



Weld Plate
order separately

Parts Legend

- | | |
|-----------------|---------------------------|
| 1 Hex Head Bolt | 6 Stacking Bolt w/ Washer |
| 2 Top Plate | 7 C-Rail Nut |
| 3 Weld Plate | 8 Double Top Plate |
| 4 Safety Plate | 9 Double Weld Plate |
| 5 Clamp Pair | |

Note: To order parts, refer to page 15

Model Code:

HRS **1** **S**

Series _____

Size _____
0 to 10 (refer to table B)

Arrangement _____

12.7 **PP** **UNC**

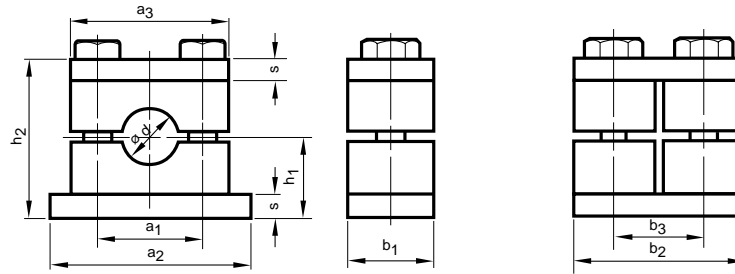
_____ Thread Type

_____ Clamp Material
PP - Polypropylene
PA - Polyamide
AL - Aluminum

_____ Bore Size (in mm)
(refer to table B)

- S - Single clamp with top plate & weld plate
- D - Double clamp with weld plate
- S1 - Single clamp stacking kit (sizes 1-5 only)
- S1TM - C-Rail mounted clamp (sizes 1-4 only)
- A - Single clamp stacking module (sizes 1-5 only)

Heavy Duty Clamps: Dimensions



single

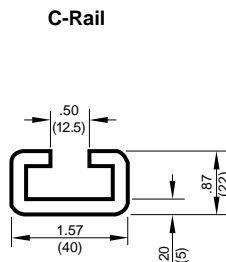
double

Table B

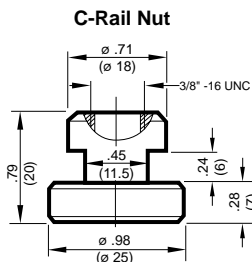
Note: Dimensions are shown in inches (millimeters).

Size	Ød Bore Size		Recommended Nominal Size		a1 in (mm)	a2 in (mm)	a3 in (mm)	b1 in (mm)	b2 in (mm)	b3 in (mm)	h1 in (mm)	h2 in (mm)	s in (mm)	Bolt Size in	Weight lbs (kg)	
	in	mm	Tube O.D.	Pipe											A	B
1	0.25	6.4	1/4"	-	1.30 (33)	2.87 (73)	2.17 (55)	1.18 (30)	2.36 (60)	1.22 (31)	0.94 (24)	1.89 (48)	0.31 (8)	3/8-16x1-3/4	0.81 (0.37)	0.66 (0.30)
	0.37	9.5	3/8"	-												
	0.41	10.3	-	1/8"												
	0.50	12.7	1/2"	-												
	0.54	13.7	-	1/4"												
	0.63	16	5/8"	-												
0.67	17.1	-	3/8"													
2	0.75	19	3/4"	-	1.77 (45)	3.35 (85)	2.76 (70)	1.18 (30)	2.36 (60)	1.22 (31)	1.26 (32)	2.52 (64)	0.31 (8)	3/8-16x2-1/4	1.05 (0.48)	0.97 (0.44)
	0.84	21.3	-	1/2"												
	0.87	22	7/8"	-												
	1.00	25.4	1"	-												
	1.05	26.7	-	3/4"												
3	1.26	32	1-1/4"	-	2.36 (60)	3.94 (100)	3.35 (85)	1.18 (30)	2.36 (60)	1.22 (31)	1.50 (38)	2.99 (76)	0.31 (8)	3/8-16x2-3/4	1.28 (0.58)	1.26 (0.57)
	1.33	33.7	-	1"												
	1.50	38	1-1/2"	-												
	1.65	42	-	1-1/4"												
4	1.75	44.5	1-3/4"	-	3.56 (90.5)	5.51 (140)	4.52 (115)	1.77 (45)	3.54 (90)	1.81 (46)	2.17 (55)	4.33 (110)	0.39 (10)	7/16-14 x 4	3.1 (1.41)	3.3 (1.50)
	1.90	48.3	-	1-1/2"												
	2.00	50.8	2"	-												
	2.24	57	2-1/4"	-												
	2.37	60.3	-	2"												
	2.56	65	2-1/2"	-												
2.75	70	2-3/4"	-													
5	2.87	73	-	2-1/2"	4.80 (122)	7.09 (180)	5.98 (152)	2.36 (60)	4.72 (120)	2.40 (61)	2.76 (70)	5.51 (140)	0.39 (10)	5/8-11x5-1/2	5.7 (2.59)	6.3 (2.86)
	3.00	76.1	3"	-												
	3.50	88.9	-	3"												
6	4.00	101.6	4"	3-1/2"	6.61 (168)	8.86 (225)	8.07 (205)	3.15 (80)	6.30 (160)	3.19 (81)	3.94 (100)	7.87 (200)	0.59 (15)	3/4-10x7-1/2	15.9 (7.23)	14.9 (6.77)
	4.50	114.3	4-1/2"	4"												
7	5.50	139.7	-	5"	8.07 (205)	10.63 (270)	9.92 (252)	3.54 (90)	7.09 (180)	3.98 (91)	4.53 (115)	9.06 (230)	0.59 (15)	7/8-9x8-1/2	20 (9.09)	14 (6.36)
	6.61	168	-	6"												
8	7.63	193.7	7-5/8"	7"	10.43 (265)	13.39 (340)	12.60 (320)	4.72 (120)	9.45 (240)	4.76 (121)	6.30 (160)	12.60 (320)	0.98 (25)	M30 x 300	51 (23.18)	54 (24.50)
	8.62	219.1	-	8"												
9	10.75	273	-	10"	15.55 (395)	20.47 (520)	18.35 (466)	6.30 (160)	12.60 (320)	6.35 (161)	9.25 (235)	18.50 (470)	1.18 (30)	M30 x 450	132 (60)	-
	12.75	323.9	-	12"												
10	14.00	355.6	-	14"	21.06 (535)	26.77 (680)	24.80 (630)	7.09 (180)	14.17 (360)	7.12 (182)	11.61 (295)	23.23 (590)	1.18 (30)	M30 x 560	298 (135)	-
	16.00	406.4	-	16"												

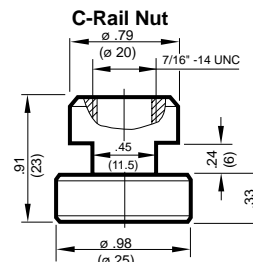
C-Rail and C-Rail Nut Dimensions



sizes 1-4

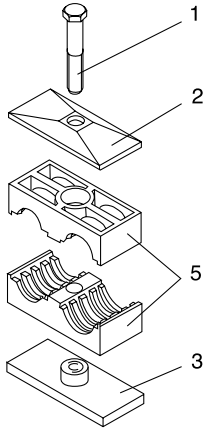


sizes 1-3

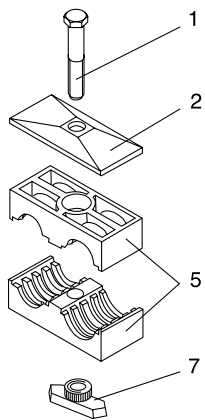


size 4

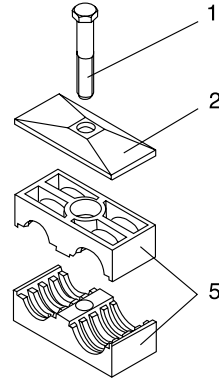
Twin Clamps: Arrangements



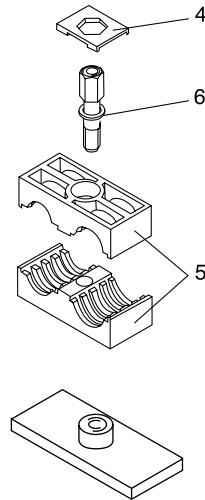
A
Twin Clamp with Weld Plate



A1TM
Twin Clamp for C-Rail Mounting
(order C-Rail separately)



A1
Twin Clamp Stacking Kit



D
Twin Clamp Stacking Module

Note: 3 max. stacking modules recommended

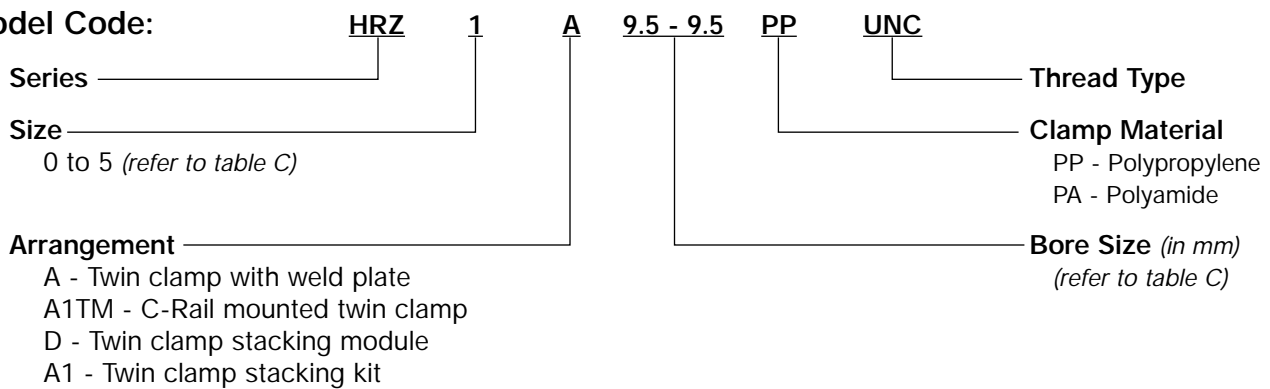
Weld Plate
order separately

Parts Legend

- | | |
|-----------------|---------------------------|
| 1 Hex Head Bolt | 5 Clamp Pair |
| 2 Top Plate | 6 Stacking Bolt w/ Washer |
| 3 Weld Plate | 7 C-Rail Nut |
| 4 Safety Plate | |

Note: To order parts, refer to page 16

Model Code:



Twin Clamps: Dimensions

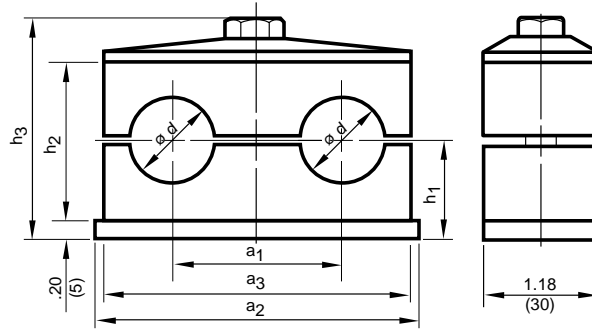
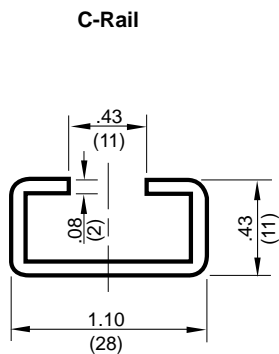


Table C

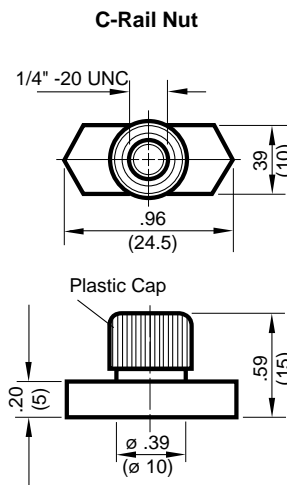
Note: Dimensions are shown in inches (millimeters).

Size	Ød Bore Size		Recommended Nominal Size		a1 in (mm)	a2 in (mm)	a3 in (mm)	h1 in (mm)	h2 in (mm)	h3 in (mm)	Bolt Size in	Weight lbs (kg)
	in	mm	Tube OD.	Pipe								
1	0.25	6.4	1/4"	-	.79 (20)	1.46 (37)	1.42 (36)	0.73 (18.5)	1.06 (27)	1.69 (43)	1/4-20 x 1-1/2	0.20 (0.09)
	0.37	9.5	3/8"	-								
	0.41	10.3	-	1/8"								
2	0.50	12.7	1/2"	-	1.14 (29)	2.17 (55)	2.09 (53)	0.71 (18)	1.02 (26)	1.71 (43.5)	1/4-20 x 1-1/2	0.30 (0.14)
	0.54	13.7	-	1/4"								
	0.63	16	5/8"	-								
	0.67	17.1	-	3/8"								
3	0.75	19	3/4"	-	1.42 (36)	2.76 (70)	2.64 (67)	0.93 (23.5)	1.46 (37)	2.15 (54.5)	5/16-18 x 1-3/4	0.40 (0.18)
	0.84	21.3	-	1/2"								
	0.87	22	7/8"	-								
	1.00	25.4	1"	-								
4	1.05	26.7	-	3/4"	1.77 (45)	3.35 (85)	3.23 (82)	1.02 (26)	1.65 (42)	2.34 (59.5)	5/16-18 x 2	0.44 (0.20)
5	1.26	32	1-1/4"	-	2.20 (56)	4.33 (110)	4.17 (106)	1.26 (32)	2.13 (54)	2.81 (71.5)	5/16-18 x 2-1/2	0.60 (0.27)
	1.33	33.7	-	1"								
	1.50	38	1-1/2"	-								
	1.65	42	-	1-1/4"								

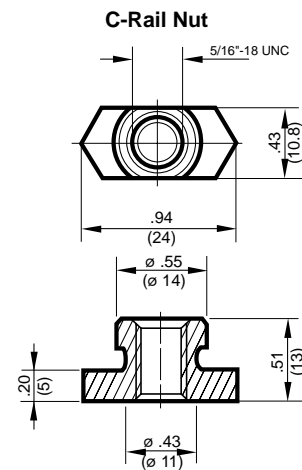
C-Rail and C-Rail Nut Dimensions



sizes 1-5

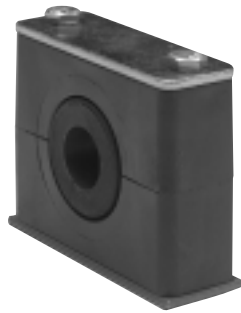
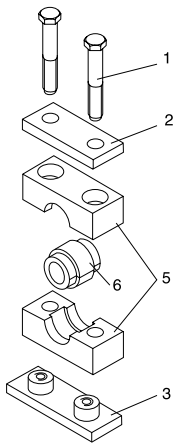


size 1

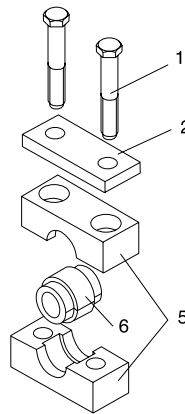


sizes 2-5

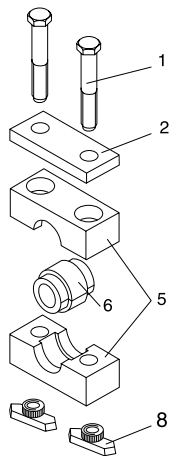
Standard Duty Clamps With Rubber Inserts: Arrangements



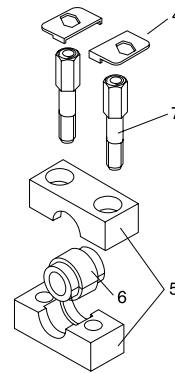
A
Single Clamp with Weld Plate



A1
Single Clamp Stacking Kit

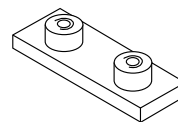


A1TM
Single Clamp for C-Rail Mounting
(order C-Rail separately)



D
Single Clamp Stacking Module

Note: 3 max. stacking modules recommended



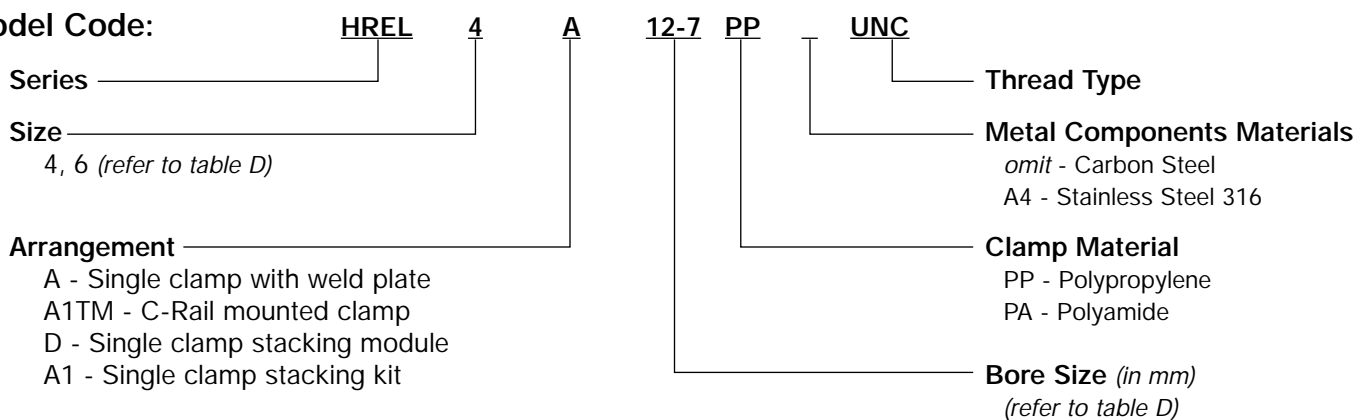
Weld Plate
order separately

Parts Legend

- | | |
|-----------------|-----------------|
| 1 Hex Head Bolt | 5 Clamp Pair |
| 2 Top Plate | 6 Rubber Insert |
| 3 Weld Plate | 7 Stacking Bolt |
| 4 Safety Plate | 7 C-Rail Nut |

Note: To order parts, refer to page 17

Model Code:



Standard Duty Clamps with Rubber Inserts: Dimensions

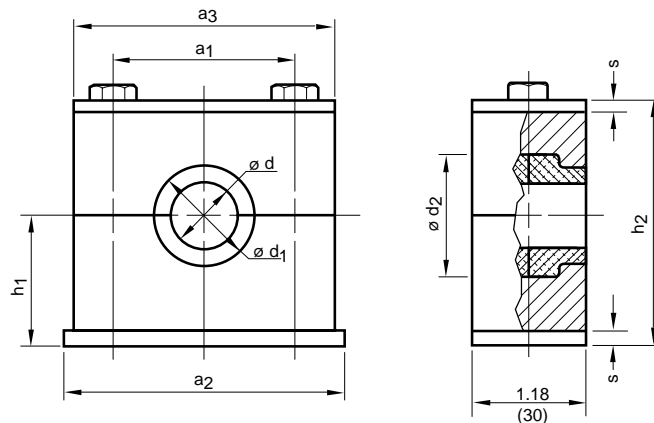
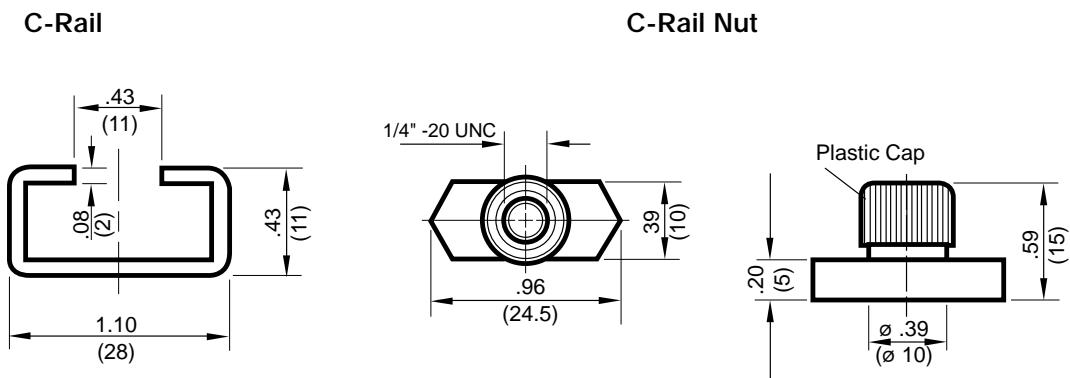


Table D

Note: Dimensions are shown in inches (millimeters).

Clamp Size	EE-Rubber Insert		Recommended Nominal Size				D1 in (mm)	D2 in (mm)	H1 in (mm)	H2 in (mm)	A1 in (mm)	A2 in (mm)	A3 in (mm)	S in (mm)	Bolt Size (in)	Weight lbs (kg)	
	Size	Bore Size		Tube O.D.	Pipe	Hose O.D.											
		ø D in	mm			Min (in)											Max (in)
4	2/4 L	0.24	6	-	-	0.22	0.24	1.00 (25.5)	1.22 (31)	0.925 (23.5)	1.85 (47)	1.57 (40)	2.32 (59)	2.24 (57)	0.118 (3)	1/4-20x1 3/4	33 (0.15)
		0.32	8	1/16"	-	0.30	0.32										
		0.39	10	-	1/8"	0.37	0.39										
		0.47	12	-	-	0.45	0.47										
		0.50	12.7	1/2"	-	0.48	0.50										
		0.55	14	-	-	0.53	0.55										
		0.59	15	-	-	0.57	0.59										
		0.63	16	5/8"	-	0.61	0.63										
		0.68	17.2	-	3/8"	0.66	0.68										
		0.75	19	-	3/4"	0.73	0.75										
6	3/6 L	0.79	20	-	1/2"	0.77	0.79	1.54 (39)	1.81 (46)	1.40 (35.5)	2.80 (71)	2.60 (66)	3.46 (88)	3.39 (86)	0.118 (3)	1/4-20x2 3/4	0.68 (0.31)
		0.87	22	7/8"	-	0.85	0.87										
		0.98	25	1"	-	0.96	0.98										
		1.06	26.9	-	3/4"	1.04	1.06										
		1.10	28	-	-	1.08	1.10										
		1.18	30	-	-	1.16	1.18										
		1.26	32	1 1/4"	-	1.24	1.26										

C-Rail and C-Rail Nut Dimensions



Standard Duty Clamps with Rubber Inserts: Dimensions

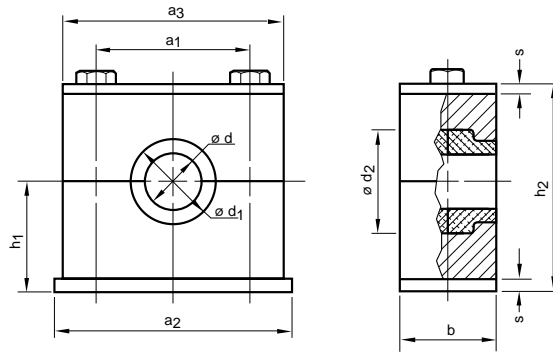
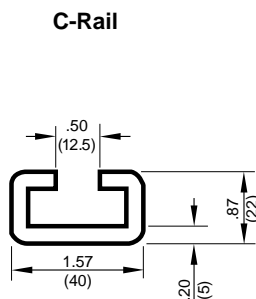


Table E

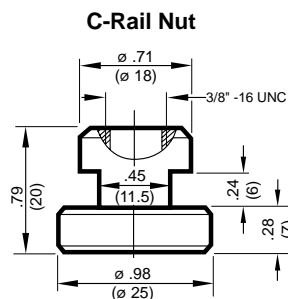
Note: Dimensions are shown in inches (millimeters).

Clamp Size	EE-Rubber Insert		Recommended Nominal Size				D1 in (mm)	D2 in (mm)	B in (mm)	H1 in (mm)	H2 in (mm)	A1 in (mm)	A2 in (mm)	A3 in (mm)	S in (mm)	Bolt Size (in)	Weight lbs (kg)	
	Size	Bore Size ø D		Tube O.D.	Hose O.D.													
		in	mm		Pipe	Min (in)												Max (in)
2	2/4 L	0.24	6	-	-	0.22	0.24	1.00 (25.5)	1.22 (31)	1.18 (30)	0.925 (23.5)	1.85 (47)	1.57 (40)	2.32 (59)	2.24 (57)	0.118 (3)	1/4-20x1 3/4	33 (0.15)
		0.32	8	1/16"	-	0.30	0.32											
		0.39	10	-	1/8"	0.37	0.39											
		0.47	12	-	-	0.45	0.47											
		0.50	12.7	1/2"	-	0.48	0.50											
		0.55	14	-	-	0.53	0.55											
		0.59	15	-	-	0.57	0.59											
		0.63	16	5/8"	-	0.61	0.63											
		0.68	17.2	-	3/8"	0.66	0.68											
		0.75	19	-	3/4"	0.73	0.75											
3	3/6 L	0.79	20	-	1/2"	0.77	0.79	1.54 (39)	1.81 (46)	1.18 (30)	1.40 (35.5)	2.80 (71)	2.60 (66)	3.46 (88)	3.39 (86)	0.118 (3)	1/4-20x2 3/4	0.68 (0.31)
		0.87	22	7/8"	-	0.85	0.87											
		0.98	25	1"	-	0.96	0.98											
		1.06	26.9	-	3/4"	1.04	1.06											
		1.10	28	-	-	1.08	1.10											
		1.18	30	-	-	1.16	1.18											
		1.26	32	1 1/4"	-	1.24	1.26											
4	4	1.33	33.7	-	1"	1.31	1.33	2.56 (65)	2.91 (74)	1.77 (45)	2.11 (53.5)	4.21 (107)	3.56 (90.5)	5.51 (140)	4.53 (115)	0.39 (10)	1/2-13x4	3.17 (1.44)
		1.38	35	-	-	1.36	1.38											
		1.50	38	1 1/2"	-	1.48	1.50											
		1.58	40	-	-	1.56	1.58											
		1.65	42	-	-	1.63	1.65											
		1.79	45.5	-	-	1.77	1.79											
		1.89	48	-	1 1/2"	1.87	1.89											
		2.01	51	2"	-	1.99	2.01											
		2.10	53.4	-	-	2.08	2.10											
		2.22	56.4	-	-	2.20	2.22											
5	5	2.36	60	-	2"	2.34	2.36	3.50 (89)	3.86 (98)	2.36 (60)	2.70 (68.5)	5.39 (137)	4.80 (122)	7.09 (180)	5.98 (152)	0.39 (10)	5/8-11x5 1/2	5.91 (6.73)
		2.56	65	-	-	2.54	2.56											
		2.76	70	-	-	2.74	2.76											
		2.87	73	-	2 1/2"	2.85	2.87											
		2.99	76	3"	-	2.97	2.99											
6	6	3.27	83	-	-	3.19	3.27	4.57 (116)	5.20 (132)	3.15 (80)	3.88 (98.5)	7.76 (197)	6.61 (168)	8.86 (225)	8.07 (205)	0.59 (15)	3/4-10x7 1/2	14.84 (6.73)
		3.50	89	3 1/2"	3"	3.43	3.50											
		3.70	94	-	-	3.62	3.70											
		3.98	101	4"	3 1/2"	3.90	3.98											
7	7	4.26	108	-	-	4.17	4.26	6.06 (154)	6.61 (168)	3.54 (90)	4.47 (113.5)	8.94 (227)	8.07 (205)	10.63 (270)	9.92 (252)	0.59 (15)	7/8-9x8 1/2	22.93 (10.4)
		4.49	114	-	4"	4.41	4.49											
		5.24	133	-	-	5.16	5.24											

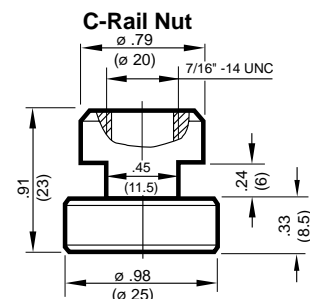
C-Rail and C-Rail Nut Dimensions



sizes 1-4



sizes 1-3

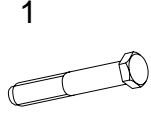


size 4

Standard Duty Clamps: Parts

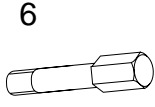
Hex Head Bolt

size	model code
0	SCREW H 1/4 - 20 x 1.25 GR2
0 (B arrange)	SCREW H 1/4 - 20 x 1.00 GR2
1	SCREW H 1/4 - 20 x 1.25 GR2
1(B arrange)	SCREW H 1/4 - 20 x 1.00 GR2
2	SCREW H 1/4 - 20 x 1.50 GR2
2 (B arrange)	SCREW H 1/4 - 20 x 1.25 GR2
3	SCREW H 1/4 - 20 x 1.50 GR2
4	SCREW H 1/4 - 20 x 1.75 GR2
5	SCREW H 1/4 - 20 x 2.50 GR2
6	SCREW H 1/4 - 20 x 2.75 GR2
6 (B arrange)	SCREW H 1/4 - 20 x 2.50 GR2



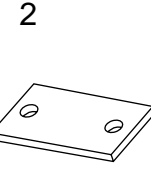
AF = Stacking Bolt

size	model code
1	HRL 1 AF ST UNC
2	HRL 2 AF ST UNC
3	HRL 3 AF ST UNC
4	HRL 4 AF ST UNC
5	HRL 5 AF ST UNC
6	HRL 6 AF ST UNC



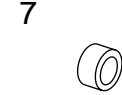
DP = Top Plate

size	model code
0	HRL 0 DP ST ZN
1	HRL 1 DP ST ZN
2	HRL 2 DP ST ZN
3	HRL 3 DP ST ZN
4	HRL 4 DP ST ZN
5	HRL 5 DP ST ZN
6	HRL 6 DP ST ZN
7	HRL 7 DP ST ZN



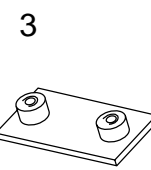
EF = Insert

size	model code
1	HRL EH PP
2	HRL EH PP
3	HRL EH PP
4	HRL EH PP
5	HRL EH PP
6	HRL EH PP



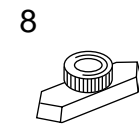
AP = Weld Plate

size	model code
0	HRL 0 AP ST UNC BL
1	HRL 1 AP ST UNC BL
2	HRL 2 AP ST UNC BL
3	HRL 3 AP ST UNC BL
4	HRL 4 AP ST UNC BL
5	HRL 5 AP ST UNC BL
6	HRL 6 AP ST UNC BL
7	HRL 7 AP A4 UNC BL



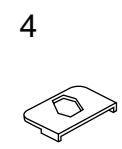
TM = C-Rail Nut

size	model code
0	HRL 0-6 TM1/4 ST UNC BL
1	HRL 0-6 TM1/4 ST UNC BL
2	HRL 0-6 TM1/4 ST UNC BL
3	HRL 0-6 TM1/4 ST UNC BL
4	HRL 0-6 TM1/4 ST UNC BL
5	HRL 0-6 TM1/4 ST UNC BL
6	HRL 0-6 TM1/4 ST UNC BL



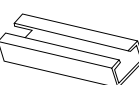
HRL = Safety Plate

size	model code
1	HRL 0-6 SIP ST ZN
2	HRL 0-6 SIP ST ZN
3	HRL 0-6 SIP ST ZN
4	HRL 0-6 SIP ST ZN
5	HRL 0-6 SIP ST ZN
6	HRL 0-6 SIP ST ZN



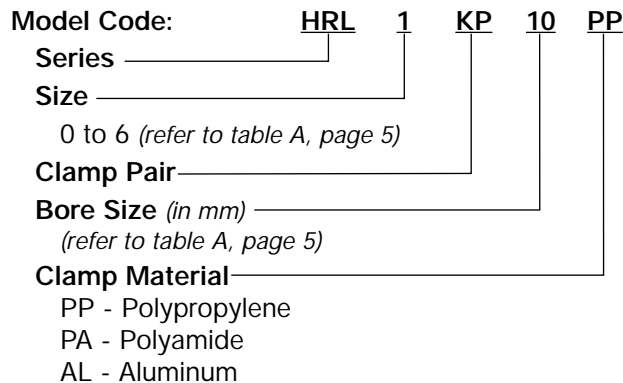
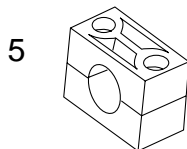
TS = C-Rail

size	model code
39"	HRL TS 28x11 ST BL 1M
78"	HRL TS 28x11 ST BL 2M



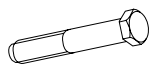
Contact Factory for Stainless Steel Component Model Codes

KP = Clamp Pair




Heavy Duty Clamps: Parts

1



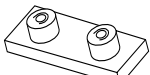
Hex Head Bolt	
size	model code
1	SCREW H 3/8 - 16 x 1.75 GR5
2	SCREW H 3/8 - 16 x 2.25 GR5
3	SCREW H 3/8 - 16 x 2.75 GR5
4	SCREW H 7/16 - 14 x 4.00 GR5
5	SCREW H 5/8 - 11 x 5.50 GR5
6	SCREW H 3/4 - 10 x 7.50 GR5
7	SCREW H 7/8 - 9 x 8.50 GR5
8	HRS 8 ASKT M30

2



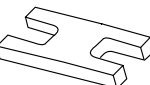
DP = Top Plate	
size	model code
1	HRS 1 DP ST ZN
2	HRS 2 DP ST ZN
3	HRS 3 DP ST ZN
4	HRS 4 DP ST ZN
5	HRS 5 DP ST BL
6	HRS 6 DP ST BL
7	HRS 7 DP ST BL
8	HRS 8 DP ST BL

3



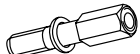
AP = Weld Plate	
size	model code
1	HRS 1 AP ST UNC BL
2	HRS 2 AP ST UNC BL
3	HRS 3 AP ST UNC BL
4	HRS 4 AP ST UNC BL
5	HRS 5 AP ST UNC BL
6	HRS 6 AP ST UNC BL
7	HRS 7 AP ST UNC BL
8	HRS 8 AP ST UNC BL

4




SIP = Safety Plate	
size	model code
1	HRS 1 SIP ST ZN
2	HRS 2 SIP ST ZN
3	HRS 3 SIP ST ZN
4	HRS 4 SIP ST ZN
5	HRS 5 SIP ST ZN

6



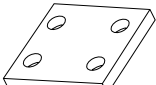
AF = Stacking Bolt w/ Washer	
size	model code
1	HRS 1 AF ST UNC
2	HRS 2 AF ST UNC
3	HRS 3 AF ST UNC
4	HRS 4 AF ST UNC
5	HRS 5 AF ST UNC

7



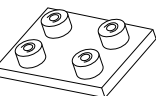
TM = C-Rail Nut	
size	model code
2	HRS 1-3 TM3/8 ST UNC BL
3	HRS 1-3 TM3/8 ST UNC BL
4	HRS 4 TM7/16 ST UNC BL

8



DDP = Double Top Plate	
size	model code
1	HRS 1 DDP ST UNC BL
2	HRS 2 DDP ST UNC BL
3	HRS 3 DDP ST UNC BL
4	HRS 4 DDP ST UNC BL
5	HRS 5 DDP ST UNC BL
6	HRS 6 DDP ST UNC BL
7	HRS 7 DDP ST UNC BL

9



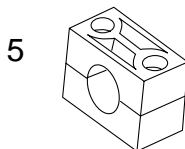
DAP = Double Weld Plate	
size	model code
1	HRS 1 DAP ST UNC BL
2	HRS 2 DAP ST UNC BL
3	HRS 3 DAP ST UNC BL
4	HRS 4 DAP ST UNC BL
5	HRS 5 DAP ST UNC BL
6	HRS 6 DAP ST UNC BL
7	HRS 7 DAP ST UNC BL

TS = C-Rail

size	model code
39"	HRS TS 40x22 ST BL 1M
78"	HRS TS 40x22 ST BL 2M

Contact Factory for Stainless Steel Component Model Codes

KP = Clamp Pair



Model Code: **HRS 1 KP 12.7 PP**

Series _____

Size _____
1 to 8 (refer to table B, page 6)

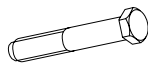
Clamp Pair _____

Bore Size (in mm) _____
(refer to table B, page 6)

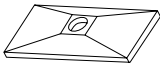
Clamp Material _____

PP - Polypropylene
PA - Polyamide
AL - Aluminum

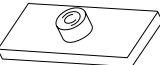
Twin Clamps: Parts

1 

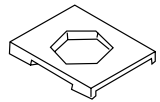
Hex Head Bolt	
size	model code
1	SCREW H 1/4 - 20 x 1.5 GR2
2	SCREW H 5/16 - 18 x 1.25 GR2
3	SCREW H 5/16 - 18 x 1.75 GR2
4	SCREW H 5/16 - 18 x 2.00 GR2
5	SCREW H 5/16 - 18 x 2.50 GR2

2 

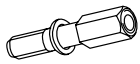
DP = Top Plate	
size	model code
1	HRZ 1 DP ST ZN
2	HRZ 2 DP ST ZN
3	HRZ 3 DP ST ZN
4	HRZ 4 DP ST ZN
5	HRZ 5 DP ST BL

3 

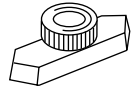
AP = Weld Plate	
size	model code
1	HRZ 1 AP ST UNC BL
2	HRZ 2 AP ST UNC BL
3	HRZ 3 AP ST UNC BL
4	HRZ 4 AP ST UNC BL
5	HRZ 5 AP ST UNC BL

4 

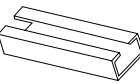
SIP = Safety Plate	
size	model code
1	HRZ 1 SIP ST ZN
2	HRZ 2/5 SIP ST ZN
3	HRZ 2/5 SIP ST ZN
4	HRZ 2/5 SIP ST ZN
5	HRZ 2/5 SIP ST ZN

6 

AF = Stacking Bolt w/ Washer	
size	model code
1	HRZ 1 AF ST UNC
2	HRZ 2 AF ST UNC
3	HRZ 3 AF ST UNC
4	HRZ 2 AF ST UNC
5	HRZ 2 AF ST UNC

7 

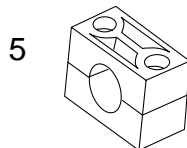
TM = C-Rail Nut	
size	model code
1	HRZ 2/5 TM5/16 ST UNC UNC KAP
2	HRZ 2/5 TM5/16 ST UNC UNC O-Ring
3	HRZ 2/5 TM5/16 ST UNC UNC O-Ring
4	HRZ 2/5 TM5/16 ST UNC UNC O-Ring
5	HRZ 2/5 TM5/16 ST UNC UNC O-Ring



TS = C-Rail	
size	model code
39"	HRS TS 28x11 ST BL 1M
78"	HRS TS 28x11 ST BL 2M

Contact Factory for Stainless Steel Component Model Codes

KP = Clamp Pair



Model Code: **HRS** **1** **KP** **9.5-9.5** **PP**

Series _____

Size _____
0 to 5 (refer to table C, page 9)

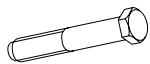
Clamp Pair _____

Bore Size (in mm) _____
(refer to table C, page 9)

Clamp Material _____
PP - Polypropylene
PA - Polyamide

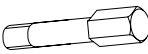
Standard Duty Clamps with Rubber Inserts: Parts

1



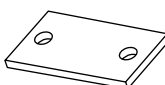
Hex Head Bolt	
size	model code
4	SCREW H 1/4 - 20 x 1.75 GR2
6	SCREW H 1/4 - 20 x 2.75 GR2

7



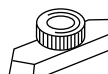
AF = Stacking Bolt	
size	model code
4	HRL 4 AF ST UNC
6	HRL 6 AF ST UNC

2



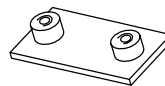
DP = Top Plate	
size	model code
4	HRL 4 DP ST ZN
6	HRL 6 DP ST ZN

8




TM = C-Rail Nut	
size	model code
4	HRL 0-6 TM1/4 ST UNC BL
6	HRL 0-6 TM1/4 ST UNC BL

3



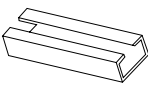
AP = Weld Plate	
size	model code
4	HRL 4 AP ST UNC BL
6	HRL 6 AP ST UNC BL

4



HRL = Safety Plate	
size	model code
1	HRL 0-6 SIP ST ZN
2	HRL 0-6 SIP ST ZN
3	HRL 0-6 SIP ST ZN
4	HRL 0-6 SIP ST ZN
5	HRL 0-6 SIP ST ZN
6	HRL 0-6 SIP ST ZN

TS = C-Rail

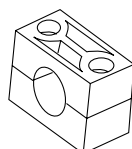


TS = C-Rail	
size	model code
39"	HRL TS 28x11 ST BL 1M
78"	HRL TS 28x11 ST BL 2M

Contact Factory for Stainless Steel Component Model Codes

KP = Clamp Pair

5



Model Code: **HRL** **4** **KP** **PP**

Series _____


Size _____
4, 6 (refer to table D, page 11)

Clamp Pair _____

Clamp Material _____
PP - Polypropylene
PA - Polyamide

EE = Rubber Insert

6



Model Code: **HRES 2/4 L** **EE** **12**

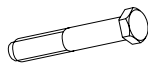
Series _____

Size _____
2/4 L, 3/6 L (refer to table D, page 11)

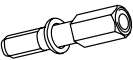
Rubber Insert _____

Bore Size (in mm) _____
(refer to table D, page 11)

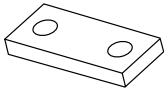
Heavy Duty Clamps with Rubber Inserts: Parts

1 


Hex Head Bolt	
size	model code
1	SCREW H 3/8 - 16 x 1.7 GR5
2	SCREW H 3/8 - 16 x 2.25 GR5
3	SCREW H 3/8 - 16 x 2.75 GR5
4	SCREW H 7/16 - 14 x 4.00 GR5
5	SCREW H 5/8 - 11 x 5.50 GR5
6	SCREW H 3/4 - 10 x 7.50 GR5
7	SCREW H 7/8 - 9 x 8.50 GR5

7 

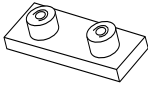
AF = Stacking Bolt w/ Washer	
size	model code
2	HRS 2 AF ST UNC
3	HRS 3 AF ST UNC

2 

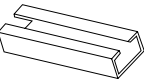
DP = Top Plate	
size	model code
2	HRS 2 DP ST ZN
3	HRS 3 DP ST ZN
4	HRS 4 DP ST ZN
5	HRS 5 DP ST BL
6	HRS 6 DP ST BL
7	HRS 7 DP ST BL

8 

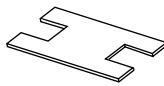
TM = C-Rail Nut	
size	model code
2	HRS 1-3 TM3/8 ST UNC BL
3	HRS 1-3 TM3/8 ST UNC BL
4	HRS 4 TM7/16 ST UNC BL

3 

AP = Weld Plate	
size	model code
2	HRS 2 AP ST UNC BL
3	HRS 3 AP ST UNC BL
4	HRS 4 AP ST UNC BL
5	HRS 5 AP ST UNC BL
6	HRS 6 AP ST UNC BL
7	HRS 7 AP ST UNC BL

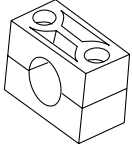
4 

TS = C-Rail	
size	model code
39"	HRS TS 40x22 ST ML 1M
78"	HRS TS 40x22 ST ML 2M

4 

SIP = Safety Plate	
size	model code
2	HRS 2 SIP ST ZN
3	HRS 3 SIP ST ZN

Contact Factory for Stainless Steel Component Model Codes

KP = Clamp Pair **5** 

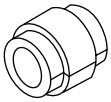
Model Code: **HRES** **4** **KP** **PP**

Series _____

Size _____
2 to 7 (refer to table E, page 13)

Clamp Pair _____

Clamp Material _____
PP - Polypropylene
PA - Polyamide

EE = Rubber Insert **6** 

Model Code: **HRES** **4** **EE** **33.7**

Series _____

Size _____
2/4 L to 7 (refer to table E, page 13)

Rubber Insert _____

Bore Size (in mm) _____

Technical Specifications:

Recommended Distance Between Clamps

Pipe Size	Distance	Tube Size	Distance
1/4"	4'	1/16"	3'
1/2"	4'	1/8"	3'
3/4"	5'	1/4"	3'
1"	5'	3/8"	3'
1 1/4"	7'	1/2"	3'
1 1/2"	8'	5/8"	4'
2"	10'	3/4"	4'
2 1/2"	10'	7/8"	4'
3"	12'	1"	5'
4"	13'	1 1/4"	7'
5"	13'	1 3/4"	7'
6"	14'	1 3/4"	7'
		2'	7'

Properties of Materials *(clamp pairs)*

	Polypropylene PP	Polyamide PA	Aluminum AL
Mechanical Properties			
Tensile Strength	4200 psi	7800-11500 psi	-
Flexural Yield Strength	7600 psi	20500 psi	-
Impact Strength (Izod Method)	No Failure	No Failure	-
Tensile Test	-	-	2800 psi
Brinell Hardness Number	-	-	60 BHN
Modules of Elasticity	-	-	9.7 x 10 ⁸ 11.1 x 10 ⁶ psi
Thermal Properties			
Continuous Service Temperature Range	-22° to 194°F -30° to 90°C	-40° to 284°F -40° to 140°C	-67° to 500°F -55° to 260°C
Electrical Properties			
Volume Resistivity	1018 Ohm-cm	1015 Ohm-cm	-
Chemical Properties			
Chemical Resistance	Resistant to most aqueous solutions of inorganic salts, minerals, and organic acids, even at high temperatures.	Resistant to organic solvents, dilute acids, and bases. Resistant to radiation.	Resistant to neutral and sea water, organic acids, esters, oils, and inorganic salt solutions.

Other Products from HYDAC's Clamps, Valves, and Accessories Line



High Pressure Ball Valves

HYDAC offers a complete line of high pressure ball valves. These valves feature full unrestricted flow, positive shut-off, and have pressure ratings of up to 7,250 psi. Available sizes range from 1/4" thru 2" with NPT, SAE, or SAE split flange connections. Options include locking devices, pneumatic or electrical actuators, limit switches, and offset or straight handles. For complete information on **HYDAC** High Pressure Ball Valves, contact **HYDAC** at **610-266-0100** and request a catalog.

Request catalog # 02068169



TestPoints Series 1620

HYDAC offers a complete line of TestPoints Series 1620. TestPoints are compact, self sealing couplings that provide access to hydraulic and pneumatic systems for pressure measurements to 9000 psi. Mating adaptors or hose connections can be connected without loss of fluid while the system is operating. They are available in 1620 (M16x2.0) connection threads with variety of screw-in port configurations. For complete information on **HYDAC** TestPoints Series 1620, contact **HYDAC** at **610-266-0100** and request a catalog.

Request catalog #02070729



Flow, Needle, and Check Valves

When it comes to flow control valves, **HYDAC** once again provides a complete line of high quality solutions. Flow, Needle, and check valves are designed to be safe, precise, and easy to use. The valves are constructed of high quality materials to be compatible with the type of fluid being used. These valves come with pressure ratings of up to 5,000 psi. Both inline and manifold designs are available. **HYDAC** would be glad to help you determine which flow control valve(s) would be appropriate for your application. For more information on these products, or help selecting the right valve, contact **HYDAC** at **610-266-0100**.

Request catalog # 02068165



Multi Station Gauge Isolators

HYDAC Multi-Station Gauge Isolators allow for multiple pressure readings to be taken by a single gauge. They are offered with or without a built-in gauge. Available in 6 to 9 stations, these gauge isolators have operating pressure ranges of 4500 psi at measuring points. For help in selecting the proper gauge isolator for your application call **HYDAC** at **610-266-0100**.

Request catalog # 02068186



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