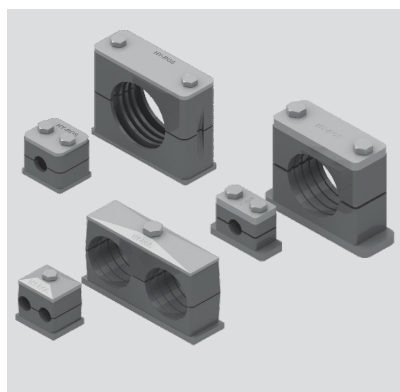


HYDAC INTERNATIONAL



Clamps to DIN 3015

DIN 3015-1 Light range

DIN 3015-2 Heavy range

DIN 3015-3 Twin clamps

General

Clamps to DIN 3015 are a sophisticated modular system for fixing pipes with static and dynamic loads.

It offers several advantages:

- Damping of shocks, vibrations and noise, as well as compensation of pipe tolerances through the use of elastomer inserts
- High strength ensured by ribbed clamp bodies
- Weld plate from a single pulled piece
- Steel parts with sufficient surface protection
- Secure overhead installation through clamping effect of the plastic parts
- Can be installed on C mounting rails, also available with weld struts
- Efficient plug/screw installation of the mounting rail nuts
- Optional:
 - Elimination of rust penetration due to all-round anti-corrosion coatings
 - Gentle component mounting with clamp bodies made of a thermoplastic element

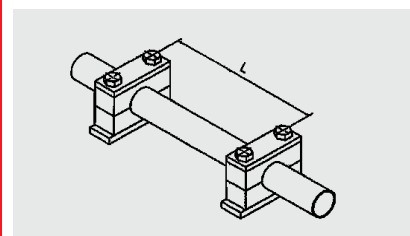
Assembly

All the pipe clamps in the HY-ROS range offer extremely impressive features: excellent resilience, optimal material resistance to tensile and tear stress, and high abrasion resistance.

The type of pipe clamp, size and material are selected depending on the application and type of stress (thermal / mechanical).

- For secure mounting, stable carrier units, such as base plates and mounting rails, are required according to the load requirements.
- The first clamp should be mounted directly after the threaded connection. This protects the connection from vibrations.
- Bends in the pipe should be clamped on both sides of the bend (pulsation direction must be taken into account).
- The prescribed material property limits must be observed.
- In the absence of any past experience, the recommended distance between pipe supports must be adhered to (see right).
- If valves are incorporated in the pipelines, it is recommended that support is provided in front of and behind these valves.

Recommended distance between pipe supports



Distance between pipe supports L [m]	Pipe diameter D	
	min [mm]	max [mm]
1.0	6.0	12.7
1.2	12.7	22.0
1.5	22.0	32.0
2.0	32.0	38.0
2.7	38.0	57.0
3.0	57.0	75.0
3.5	75.0	76.1
3.7	76.1	88.9
4.0	88.9	102.0
4.5	102.0	114.0
5.0	114.0	168.0
6.0	168.0	219.0
6.7	219.0	324.0
7.0	324.0	356.0

Material properties of clamps to DIN 3015

Material	Density	Yield stress and/or tensile strength	Shore hardness	Temperature resistance	Fire protection
	ISO 1183	ISO 527-2	ISO 868		EN 45545-2
Polypropylene (PP)	0.9 g/cm ³	26 MPa	-	-30 to +90 °C	-
Polyamide (PA)	1.13 g/cm ³	tr. 90 / lf. 45 MPa	-	-40 to +120 °C	-
Polyamide, flame-retardant (PAFF)	1.14 g/cm ³	tr. 80 / lf. 40 MPa	-	-40 to +120 °C	R22, R23 / HL1, HL3, HL3
Thermoplastic elastomer (TPE)	0.97 g/cm ³	8.3 MPa	73 ±5° Shore A Others on request	-40 to +125 °C	-
Acrylonitrile butadiene elastomer (NBR)	1.35 g/cm ³	25 MPa	73 ±5° Shore A Others on request	-35 to +90 °C	-

Bolt torque rating to DIN 3015 Part 10

Standard	Thread	Nominal size	Torque rating [Nm] with clamp material		
			PP	PA	AL
Light range	M 6	0 to 6	8	10	12
Heavy range	M 10	1 to 2	12	20	30
		3	15	25	35
		4	30	40	55
	M 12	5	45	55	120
	M 16	6	80	150	220
	M 20	7	110	200	250
	M 24	8	180	350	500
		9	200	370	500
		10	270	470	600
Twin clamps	M 6	1	5	6	-
	M 8	2 to 4	12	12	-
		5	8	8	-

Note: The specified bolt torque ratings relate to assembly with cover plates and hex. head bolts to ISO 4014 / 4017.

Packing details for light range DIN 3015 Part 1

Light range	Pairs of clamp jaws			Weld and cover plates			Bolts	
	Box (pairs)		Bag (pairs)	Box (pieces)		Bag (pieces)	Box (pieces)	Bag (pieces)
	PP, PA	AL		AP	DP			
0	1000	-	50	250	500	50	1000	50
1	1000	500	50	250	500	50	1000	50
2	1000	250	50	250	250	50	1000	50
3	500	250	50	250	250	50	1000	50
4	500	200	25	200	200	25	1000	50
5	250	100	25	100	200	25	500	50
6	250	100	25	100	200	25	500	50
TMV 6 / TM6				1000		50		
Washer				-		50		
Build-up bolt the same as normal bolts								

Packing details for heavy range DIN 3015 Part 2

Heavy range	Pairs of clamp jaws			Weld and cover plates		Bolts	
	Box (pairs)		Bag (pairs)	Box (pieces)		Box (pieces)	Bag (pieces)
	PP, PA	AL					
1	500	250	25	100	25	250	50
2	250	150	25	100	25	250	50
3	250	100	25	100	25	250	50
4	250 (pieces)	-	-	25 (AP), 50 (DP)	-	100	-
5	120 (pieces)	-	-	25	-	25	-
TM 10				250	50		
TM 12				250	50		
Washer				-	50		
Build-up nut size 1 - 4				250	50		
Build-up nut size 5				100	-		
Stud size 1 - 3				250	50		
Stud size 4				250	-		
Stud size 5				100	-		

Packing details for twin clamps DIN 3015 Part 3

Twin clamp	Pairs of clamp jaws		Weld and cover plates			Bolts	
	Box (pairs)		Box (pieces)		Bag (pieces)	Box (pieces)	Bag (pieces)
	PP, PA	AL	AP	DP			
1	1000	50	200	250	50	500	50
2	750	50	100	200	50	500	50
3	500	50	100	200	50	500	50
4	250	25	100	100	25	200	25
5	250	25	100	100	25	200	25
TMV 6 / TM6					50		
TM 8					25		
Build-up bolt the same as normal bolts							
Note: Only available in given pack sizes							

Comparison metrical / imperial measurements

Pipe outside Ø [mm]	Inches	Nominal bore
6	-	-
6.4	1/4	-
8	5/16	-
9.5	3/8	-
10	-	G 1/8
12	-	-
12.7	1/2	-
13.7	-	G 3/4
14	-	-
15	-	-
16	5/8	-
17.1	-	G 3/8
18	-	-
19	3/4	-
20	-	-
21.3	-	G 1/2
22	-	-
23	-	-
25	-	-
25.4	1	-
26.9	-	G 3/4
28	-	-

Pipe outside Ø [mm]	Inches	Nominal bore
30	-	-
32	1 1/4	-
33.7	-	G 1
35	-	-
38	1 1/2	G 1 1/8
40	-	-
42	-	G 1 1/4
44.5	1 3/4	-
48.3	-	G 1 1/2
50.8	2	-
54	-	-
57	2 1/4	-
60.3	-	G 2
63.5	2 1/2	-
65	-	-
70	-	-
73	-	-
76.1	3	G 2 1/2

Pipe outside Ø [mm]	Inches	Nominal bore
80	-	-
88.9	3 1/2	G 3
90	-	-
96	-	-
101.6	4	G 3 1/2
108	4 1/4	-
114.3	4 1/2	G 4
136	-	-
139.7	5 1/2	G 5
168	6 1/2	G 6
177.8	7	-
193.7	7 5/8	G 7
219.1	8 5/8	G 8
244.5	-	-
273	-	G 10
323.9	12 3/4	G 12
355.6	-	G 14
406.4	-	G 16