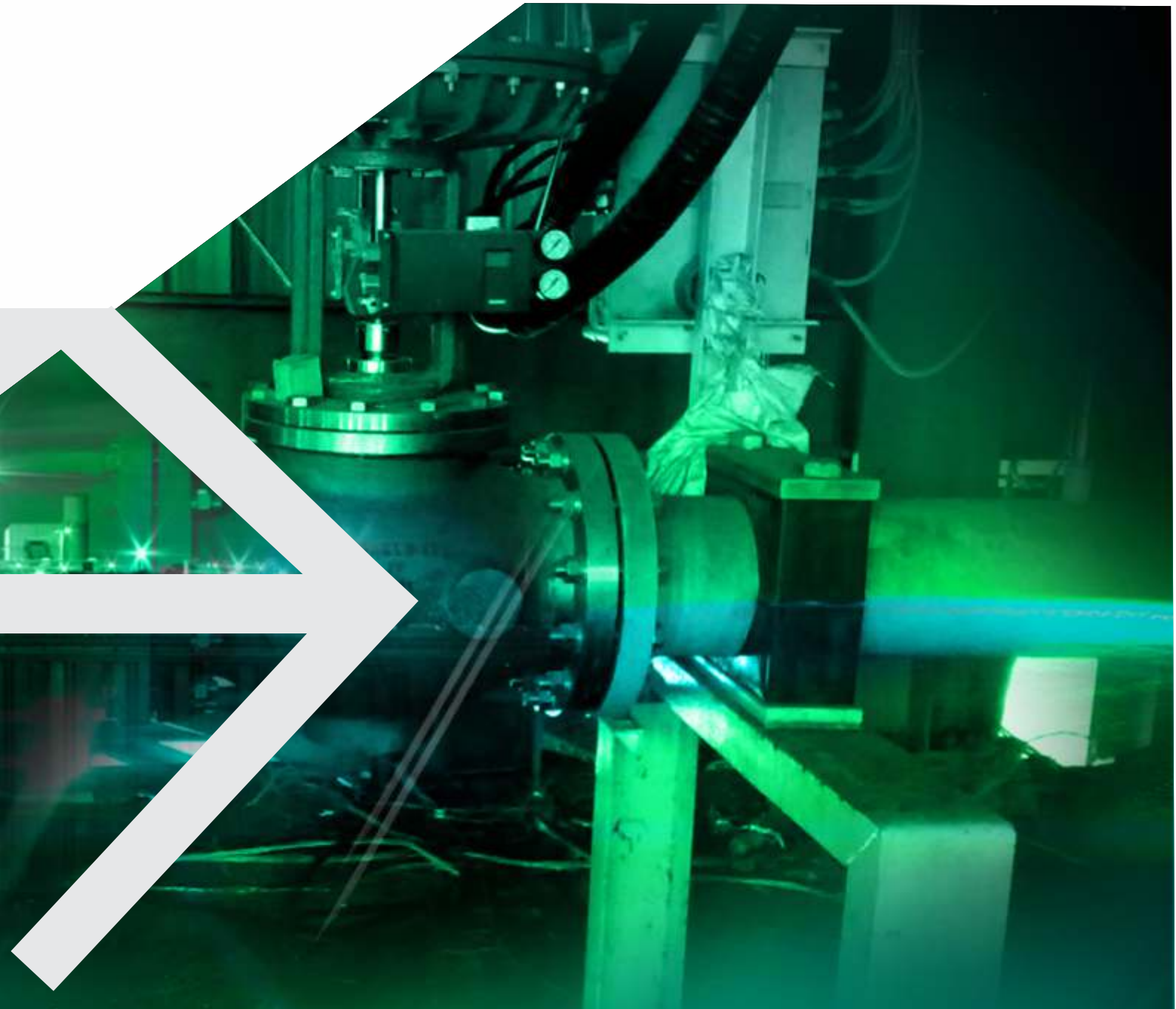
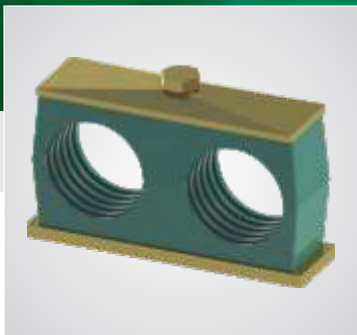




DIN PIPE CLAMPS & FLANGES





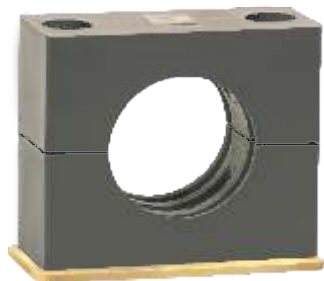
INTRODUCTION

Clamping of pipes in installations is required for purposes of damping vibrations, providing support to the installation and preventing loosening of joints and welds.

The traditional method of clamping pipes was to use 'U' bolts. While providing support, "U" bolts cannot damp vibrations which leads to loosening of joints. This problem became especially acute where the location of the 'U' bolt was at the node of vibration in the system.

Hyd-Air Pipe Clamps, with their unique 4-rib construction design, prevent the transmission of vibrations from the pipe to the frame and vice versa. They also provide rigid support to the pipe both in the lateral and longitudinal directions, relieving stresses caused by unequal movements in the pipeline. Clamp material differs to suit relatively cold conditions to high temperatures upto 550° C.

Piping installations can be rigidly and safely mounted without any vibration transmissal with the use of these type of clamps. High-impact forces encountered in rolling mills, gun installations, military equipment, ships and other such applications are damped and not transmitted. The rigidity provided by these clamps and the choice of the clamp material prevents the loosening of joints and consequent leakages in the system.



STANDARD DUTY PIPE CLAMPS

Standard Duty Pipe Clamps are used in installations having average loading with relatively light vibration in the system. These types of pipe clamps are ideal for machine tool applications and in instrumentation piping.

The clamps may be used without the top plate for reasons of economy in equipment with very low or no vibrations. Where relatively light to moderate vibrations are encountered, the clamps may be used with a top plate for additional support.

Standard Duty Pipe Clamps are also available for mounting on channels with 'T'nuts. Channels are available in lengths of 1/2 meter and are useful for multiple clamping on a single base. They also allow flexibility of clamping where the pitch between the pipes is uneven. Channel-mounted Pipe Clamps may be used with or without the top plate, depending upon the application.

Standard Duty Pipe Clamps are only available for pipe sizes upto 2" or 50 mm OD.

HEAVY DUTY PIPE CLAMPS

Heavy Duty Pipe Clamps are used in installations where heavy pipes and high vibrations are encountered. They are invariably used for trench layout of pipes and in open-weather conditions.

Heavy Duty Pipe Clamps are available with weld plate mounting for all sizes and channel mounting with special "T" nuts for pipe sizes upto 1" or 38 mm OD. Channels are available in lengths of 1/2 meter and are economical for multiple mounting on single channel.

Both weld plate and channel mounting designs are available only with top plate in view of the heavy vibration and loading encountered where there are used.

Heavy Duty Clamps with polypropylene bodies are available for pipe size upto 8" or 222 mm OD in the current program.

Heavy Duty Pipe Clamps are also available in vertical mounting arrangement and horizontal multi-clamp arrangement either back to back or run as shown on page 3.



Both Standard Duty and Heavy Duty pipe clamps are also available in other mounting forms for compact and efficient piping where the installation has multiple lines stacked vertically or horizontally. They may be used in horizontal back to back mounting where excessive loads and vibration are encountered.

VARIOUS INSTALLATIONS

VERTICAL MOUNTING



HYD-AIR multi-level clamps permit easy mounting of several tubes or pipes of the same group. This is also possible in the event of varying size diameters. The clamps are connected by intermediate bolts and plates.

Available in both standard and heavy duty series also in kit form to convert a single clamp using into a dual or multiple one.

HORIZONTAL MULTIPLE MOUNTING

Standard duty



Heavy duty



Various sizes of pipe clamps can be provided on a single weld plate where there is continuous demand. Twin Pipe Clamp Assembly is popular for clamping two pipes on a single weld plate. Such installations provide inter-pipe rigidity.

HORIZONTAL BACK-TO-BACK MOUNTING



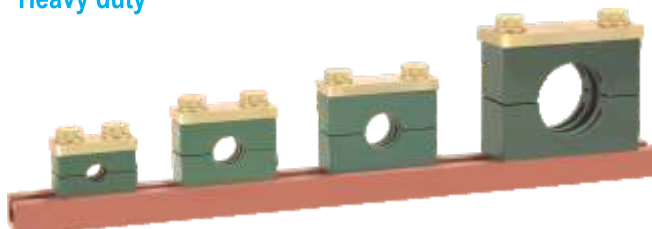
Horizontal Back-to-Back Assembly Permits use of Single Heavy Duty Pipe Clamp Assemblies in locations of extreme vibration and heavy loads where two or more assemblies are mounted on single weld plate.

CHANNEL MOUNTING WITH OR WITHOUT TOP PLATE

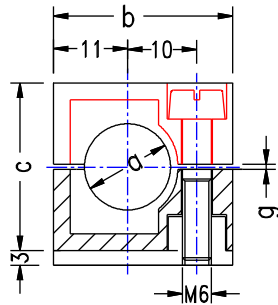
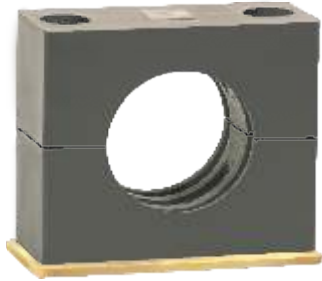
Standard duty



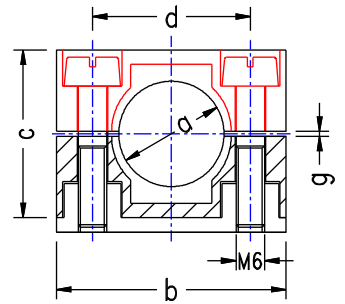
Heavy duty



ASSEMBLY WITH WELD PLATE & SCREWS

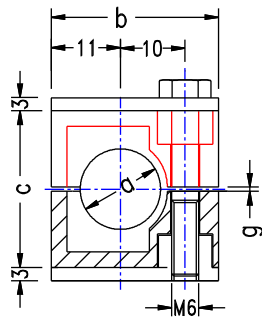


Group 1 only

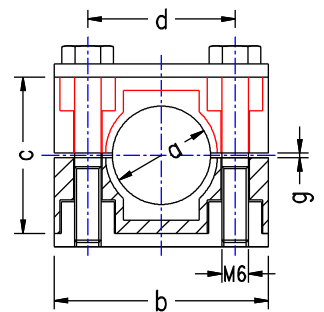


Group 1A to 6

ASSEMBLY WITH WELD PLATE, TOP PLATE, & HEX. BOLTS

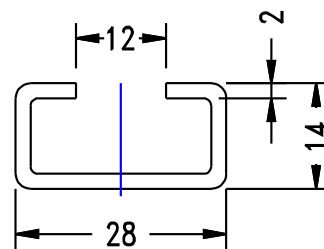


Group 1 only

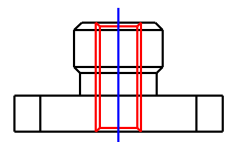


Group 1A to 6

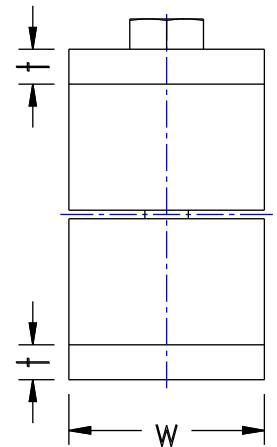
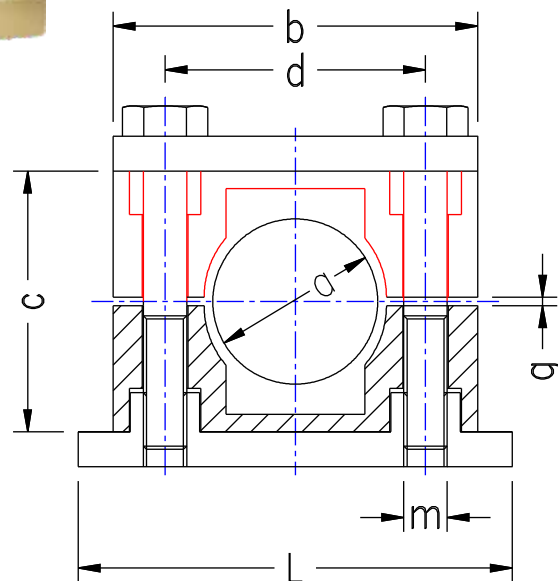
CHANNEL MOUNTING RAIL



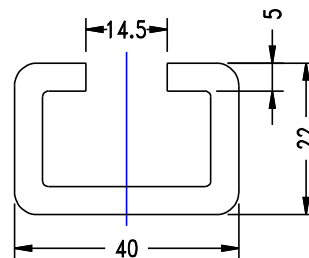
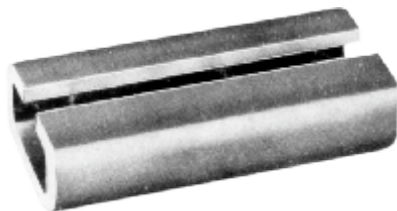
'T' Nut



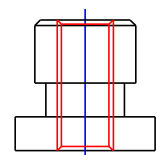
ASSEMBLY WITH WELD PLATE, TOP PLATE, & HEX. BOLTS



CHANNEL MOUNTING RAIL



'T' Nut



REFERENCE-DIN3015 PART-2

GROUP	PIPE SIZE (a)			b	c	w	L	t	d	m	g	TOP PLATE AND HEX BOLTS ASSY.PART NO.	WT./PIECE IN KG.
	MM OD	INCH OD	INCH NB										
1H	6	1/4		55	32	30	73	8	33	M10	2	P1H.1.06 ...	0.35
	8											P1H.1.08 ...	
	10	3/8	1/8									P1H.1.10 ...	
	12	1/2										P1H.1.12 ...	
	14		1/4									P1H.1.14 ...	
	15											P1H.1.15 ...	
	16	5/8	3/8									P1H.1.16 ...	
	18											P1H.1.18 ...	
2H	19	3/4		70	48	30	85	8	45	M10	2	P2H.1.19 ...	0.46
	20											P2H.1.20 ...	
	22	7/8	1/2									P2H.1.22 ...	
	25	1										P2H.1.25 ...	
	28		3/4									P2H.1.28 ...	
3H	30	1.1/4		84	60	30	100	8	60	M10	2	P3H.1.30 ...	0.53
	35		1									P3H.1.35 ...	
	38	1.1/2										P3H.1.38 ...	
	42		1.1/4									P3H.1.42 ...	
4H	50	2	1.1/2	115	90	45	140	10	90.5	M12	3	P4H.1.50 ...	1.80
	60		2									P4H.1.60 ...	
	63	2.1/2										P4H.1.63 ...	
	65											P4H.1.65 ...	
5H	70			152	120	60	180	10	122	M16	3	P5H.1.70 ...	3.00
	73		2.1/2									P5H.1.73 ...	
	76	3										P5H.1.76 ...	
	89	3.1/2	3									P5H.1.89 ...	
	90											P5H.1.90 ...	
6H	101	4	3.1/2	205	170	80	225	15	168	M20	4	P6H.1.101 ...	8.00
	114	4.1/2	4									P6H.1.114 ...	
	127	5	4.1/2									P6H.1.127 ...	
7H	141	5.1/2	5	250	200	90	270	15	205	M24	4	P7H.1.141 ...	11.00
	150	6										P7H.1.150 ...	
	168	6.1/2	6									P7H.1.168 ...	
8H	219	8.1/2	8	330	270	120	340	25	268	M30	4	P8H.1.219 ...	24.00

HOW TO ORDER

(A) For Single Clamp Assembly and vertical Mounting Kit

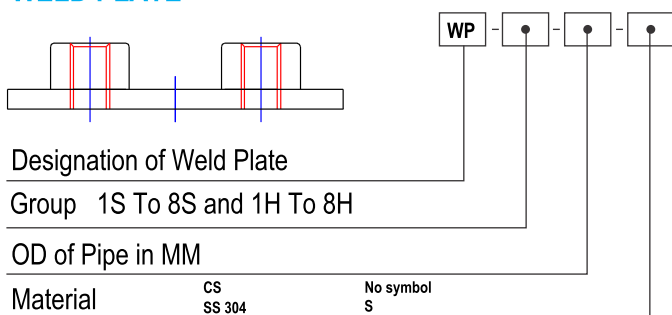
Pipe Clamp Assembly P
 Vertical Mounting Kit MKP
 Group Number 1H,2H,...
 Pipe Clamp Assembly.
 With Top Plate & Hex Bolts 1
 Vertical Mounting kit No Symbol
 OD of Pipe / Tube : in mm
 PIPE CLAMP ASSY.
 With Weld Plate No. Symbol.
 With 'T'-Nuts For Channel Mounting CH
 (For Group 1H To 3H Only.)
 Vertical Mounting Kit No Symbol.
 MATERIAL OF CLAMP BODY
 Polypropelene : NO SYMBOL
 Polyamide UL : PA
 Aluminium Al Si I2 : ALU

(B) For Multiple Clamps on Single Weld Plate

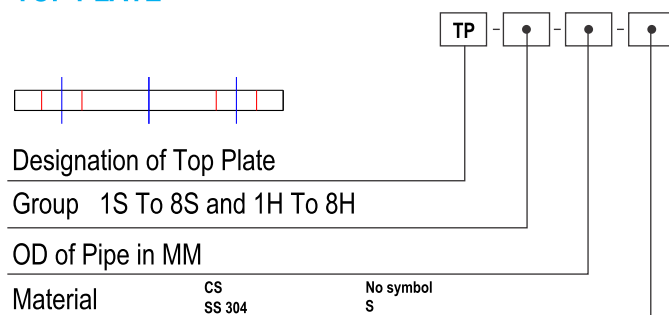
Number of Clamps :
 Vertical Mounting : V
 Horizontal Back-to-Back : HB
 Horizontal Side-to-Side : HR
 Pipe Clamps Assembly
 Group Number 1H, 2H,...
 Heavy Duty Pipe Clamps Always
 Available With Top Plate And Hex Bolts.
 Outside Diameter for Pipe / Tube in their order :
 (a) For Vertical Mounting : Starting from Weld Plate up
 (b) For Horizontal Mounting : Starting from left to right
 Material
 Polypropelene : NO SYMBOL
 Polyamide UL : PA
 Aluminium Al Si I2 : ALU

HOW TO ORDER

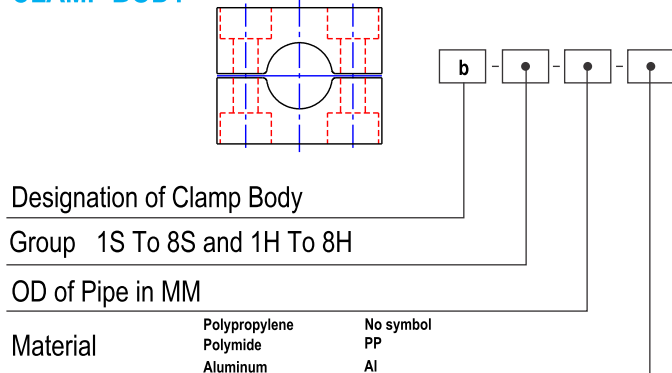
WELD PLATE



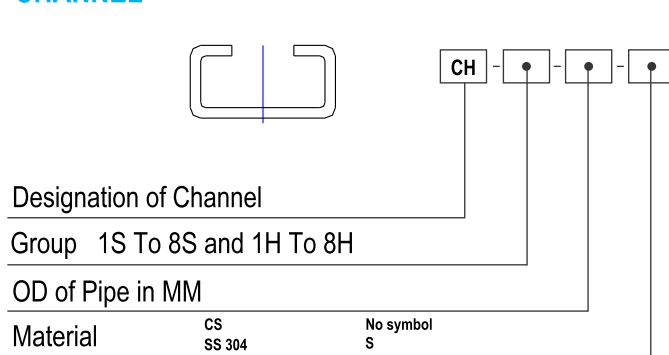
TOP PLATE



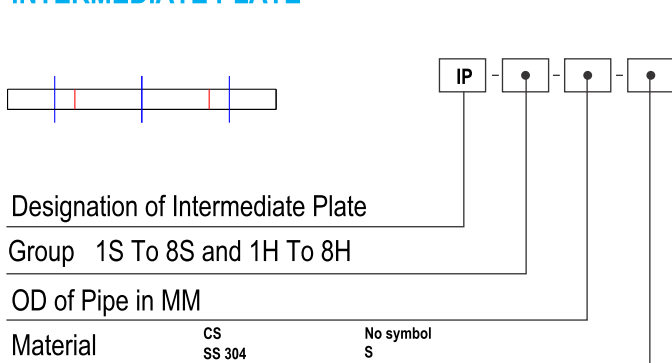
CLAMP BODY



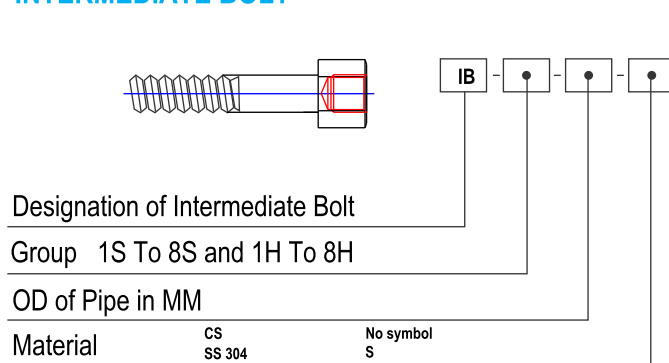
CHANNEL



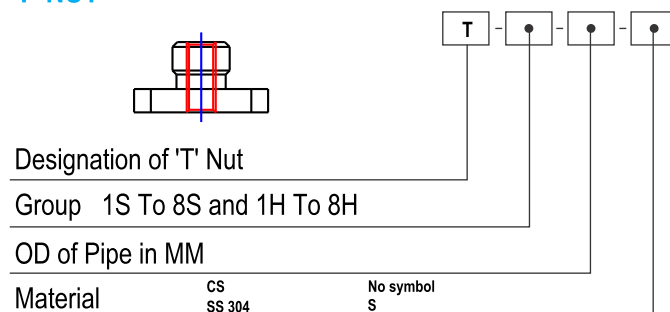
INTERMEDIATE PLATE



INTERMEDIATE BOLT



'T' NUT

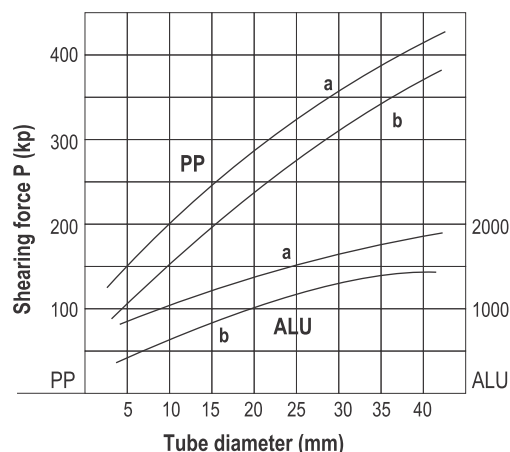


SHEARING FORCES DIAGRAM

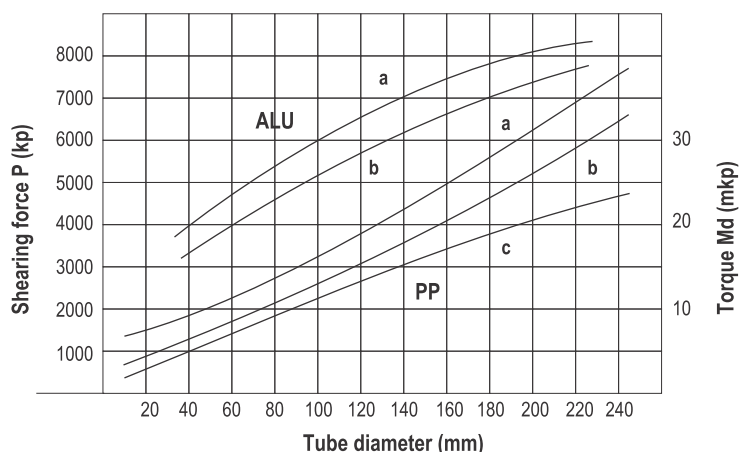
The design of Pipe Clamps, and the choice of Standard or Heavy Duty Pipe Clamps body material, vary according to the loading, the shearing forces and the torque so as to provide for rigid installation. Shearing forces diagram for various tube sizes are given below for Standard and Heavy Duty Pipe Clamps for polypropylene, polyamide and aluminum. These graphs may be used for guidance in selection of clamps.

STANDARD SERIES

WITH TOP PLATE AND HEX. BOLTS



HEAVY SERIES

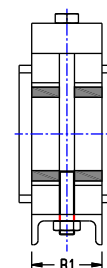
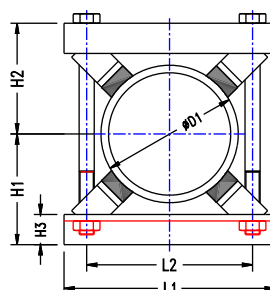


MATERIAL

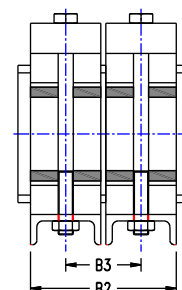
Pipe Clamps in bodies of polypropylene are suitable for temperatures upto 90 degrees C. For higher Temperatures and heavy ratings, Pipe Clamp bodies are made with polyamide. Where temperatures are in excess of 180 degrees C., these bodies are made from aluminium. Properties of the clamp body materials are given in the chart below :

Clamp Body Material Properties	Polypropylene PP Density : 0.906 gm/cm ³	Polyamide - Nylon 66 Density : 1.12 - 15g/cm ³	Aluminum - LM 6 IS : 733-1983 Density : 2.65gm./cm ³
Mechanical Properties			
Tensile Yield Stress ASTM D 638	370 Kg/Cm ²	750 Kg/Cm ²	3,300 Kg/Cm ²
Flexural Modules ASTM D 790	16,000 Kg/Cm ²		Yield 3,100 Kg/Cm ² @ 12% Elongation
Izod Impact Strength ASTM 0 256	7.5 Kg.cm./cm. R70	4.5 Kg. cm./cm. R120	
Hardness			
Thermal Properties			
Melting Point	160°C	20°C	
Vicat Softening Point	150°C	210°C	
Maxm. Temp. Resistance	-30°C to + 90°C	-40°C to + 180°C	to 400°C
Chemical Properties			
Weak Acids, Solvents	cond. consistent	cond. consistent	
Benzene, mineral oils	cond. consistent	cond. consistent	
Alcohol, other oils, sea water	consistent	consistent	
Suggested mfs Spec.	IPCL KOYLENE M3030	GSFC GUJLCON M28RC	HINDALCO 6443 WP.

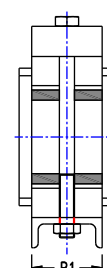
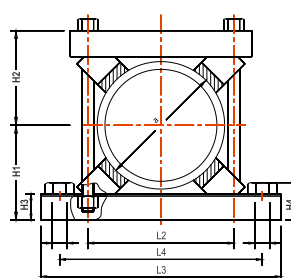
TWO- PART WELD-CONSTRUCTION WITH POLYPROPYLENE OR POLYAMIDE BEARING PADS



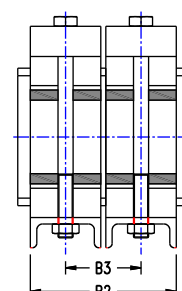
SC



DSC



SCA



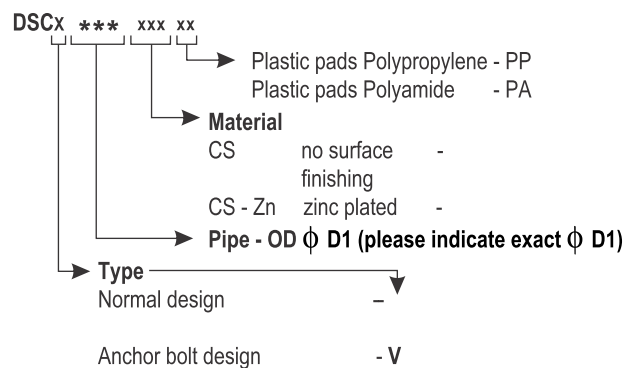
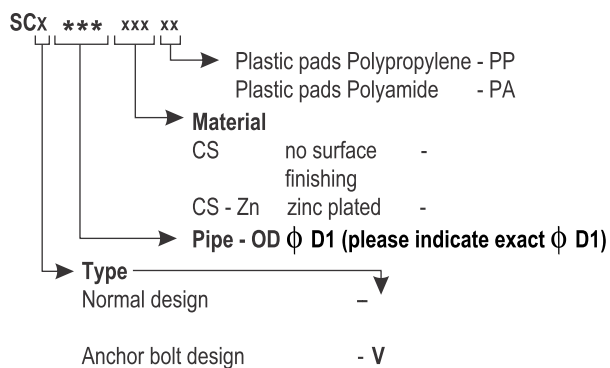
DSCA

(For anchor bolt fastening)

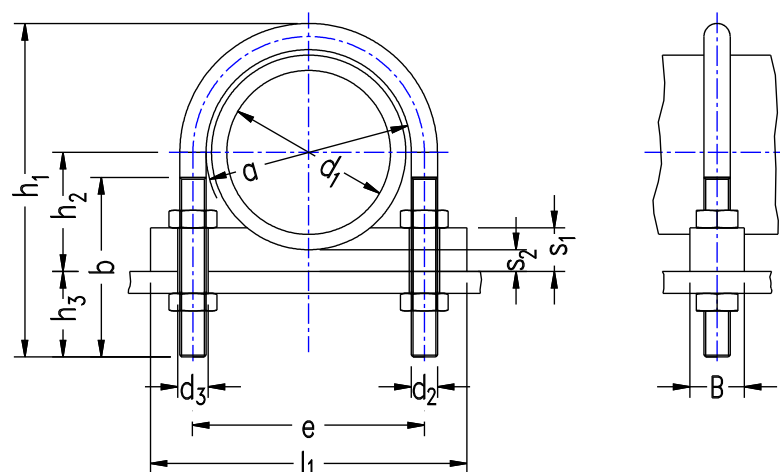
DIMENSIONAL CHART FOR SINGLE / DOUBLE PIPE CLAMP ASSY.

Pipe - OD D1	L1	L2	L3	L4	H1	H2	H3	H4	B1	B2	B3	D2	Hexagon Head Bolt	Number of plastic pads
220 to 275	420	330	580	490	220	220	60	90	140	280	140	35	M30 x 420	4
276 to 325	460	370	620	530	240	240	60	90	140	280	140	35	M30 x 460	4
326 to 370	510	420	670	580	260	260	60	90	140	280	140	35	M30 x 500	4
371 to 425	570	480	750	640	290	290	60	90	140	280	140	35	M30 x 560	4
426 to 485	620	530	800	730	305	305	60	90	140	280	140	35	M30 x 590	4
486 to 550	680	590	860	790	370	370	60	90	140	280	140	35	M30 x 720	5
551 to 630	760	670	940	870	410	410	60	90	140	280	140	35	M30 x 800	5
631 to 715	845	755	1025	955	452	452	60	90	140	280	140	35	M30 x 884	5
716 to 800	940	850	1120	1050	495	495	60	90	140	280	140	35	M30 x 970	5

HOW TO ORDER



Round Steel "U" Bolt clamps (UB) with Long Pipe Saddle - Type PSL



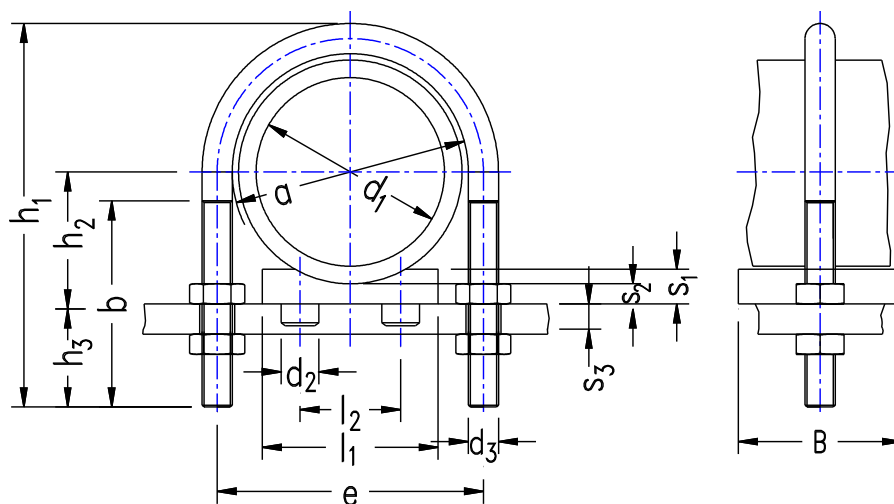
PIPE			Round Steel U-Bolt RB							Pipe saddle, Type PSL									
DN	d1		a	b	d3	e	h1	h2	h ₃	l1	B	S1	S2	d2					
	Inch-NB	MM-OD																	
20		25	30	46	M10	40	73.5	17.5	30	75	30	12	5	11					
	3/4"	26.9						18.5											
25		30	38	50		48	81	20		80					35	95	15	14	
	1"	33.7						22											
32		38	46	55		56	89	24	90	39	110	40			20	18			
	1.1/4"	42.4						26.2											
40		44.5	52	63		62	100	27.2	95	135	145	25			25		22		
	1.1/2"	48.3						29											
50		57	64	77	M12	76	118	33.5	47	190	50	30	26						
	2"	60.3						35.2											
65		76.1	82	82		94	135	43		250				55	420			60	15
	2.1/2"	88.9						54.5											
80		88.9	94	105	M16	106	152	54.5	55	270	60	30		26					
	3"	108						64							190	220		250	270
100		114.3	120	136		190	67	190		220							250		
	4"	133					76.5								220	250		270	
125		139.7	148	164		217	80	220	250	270	30	15							
	5"	159					91.5						250		270				
150		168.3	176	192		247	96	250	270	30	15								
	6"	193.7					218					273	109		315	370	420	60	15
175		216	202	218	273	109	315	370	420	60	15								
	8"	219.1				120						121.5	315	370	420	60	15		
200		227	228	302	364	145.5	63	370	420	60	15								
	250					273						148.5	480	540	640				
300			318	332	352	418		174	480	540	60	15							
	12"	323.9	177					540					640						
350		355.6	378	402	475	193	63		480	540	60	15							
	400					368		199					540	640					
400			406	428	452	526		218	540	640	60	15							
	16"	419	224.5					640											
500		508	530	554	627	269	640		640	60	15								
		521				276													

HOW TO ORDER

Round steel "U" Bolt Clamp, Type UB with 4 fixing nuts and polyamide plastic saddle PLS / PA, - Diameter d₁ ±** mm

Example : 1 x UB ** / PSL-PA

Round Steel "U" Bolt clamps (UB) with short pipe saddle - Type PSS



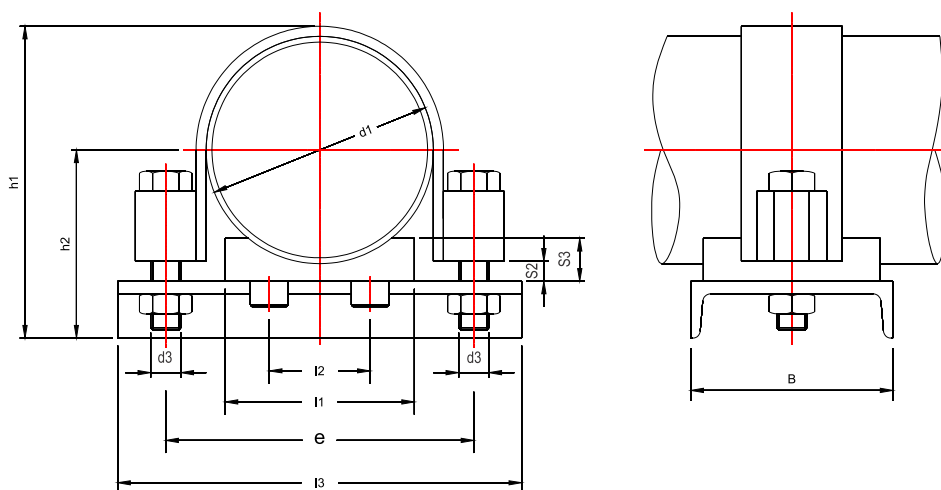
	Pipe		Round steel "U"-Bolt						Pipe saddle, Type PSS													
DN	d ₁		a	b	d ₃	e	h ₁	h ₂	h ₃	l ₁	l ₂	B	S ₁	S ₂	S ₃	d ₂						
	Inch - NB	MM - OD																				
20		25	30	46	M 10	40	73.5	17.5	30	24	25	35	8	5	5	8						
	3/4"	26.9					18.5															
25		30	38	50		48	81	20														
	1"	33.7					22															
32		38	46		56	89	24	35	38	50	10	6	10									
	1.1/4"	42.4			26.2																	
40		44.5	52	55		62	100	27.2						35	75	40	70	14	8	10	25	
	1.1/2"	48.3				29																
50		57	64	63	M 12	76	118	33.5	39	140	90	23	8	10								30
	2"	60.3					35.2															
65	2.1/2"	76.1	82	77		94	135	43	41						150	75	30	30	30			
80	3"	88.9	94	82		106	152	52.5														
100		108	120	105	M 16	136	190	62	49	220	150	75	30	30								
	4"	114.3						65														
125		133	148			164	217	74.5							51	62	70	150	75	30	30	
	5"	139.7						78														
150		159	176	192	247	87.5	59	70	150	75	30	30										
	6"	168.3				92																
175		193.7	202	218	273	105	59						70	150	75	30	30					
200		216	228	248	311	116																
		219.1				117.5	62	220	150	75	30	30										
250		267	282	302	364	141.5																
		273				144.5	70						220	150	75	30	30					
300		318	332	352	418	167																
		323.9				170	70	220	150	75	30	30										
350		355.6	378	402	475	186																
		368				192	70						220	150	75	30	30					
400		406	428	452	526	211																
		419				217.5	70	220	150	75	30	30										
500		508	530	554	627	262																
		521				269																

HOW TO ORDER

Round steel "U" Bolt Clamp, Type UB with 4 fixing nuts and polypropylen plastic saddle PSS / PP - Diameter d₁ = **mm

Example : 1 x UB ** / PSS-PP

Flat steel strip "U" Bolt clamps with Polypropylene saddle - Type UF

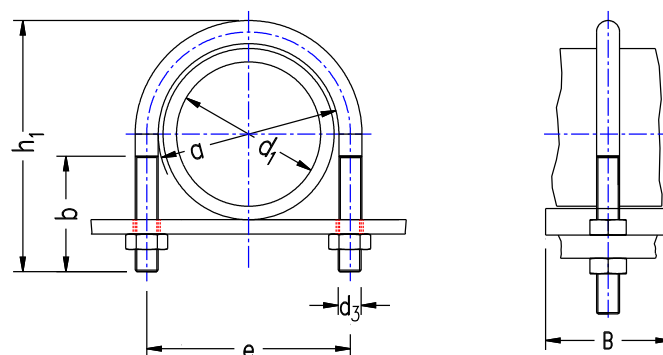


Pipe			Flat steel "U" Bolt clamp, Type UF					Pipe saddle, Type PSS					U - Profile	
DN	d ₁		Flat-steel	d ₃	e	h ₁	h ₂	l ₁	l ₂	B	S ₁	S ₂	U-section acc. to DIN 1026	l ₃
	Inch - NB	MM - OD												
40	1.1/2	48.3	20 x 3	M 10 x 40	76	95	67	24	38	25	35	8	50 x 38	100
50	2	57			85	103	71.5	50			10			115
		60.3			88	106	73.2							
65	2.1/2	76.1			104	122	81							132
80	3	88.9	40 x 4	M 12 x 55	122	146	97.5	75	40	70	14			160
100	4	108			140	165	107							170
		114.3			147	171	110							180
125	5	133			165	190	119.5							210
150	6	159	40 x 6	M 16 x 75	172	197	123	140	90		23		80 x 45	265
		168.3			201	220	132.5							275
		193.7			211	230	137							305
		216			236	255	150							320
200	8	219.1	40 x 8	M 16 x 75	260	277	161			75				380
		267			261	280	162.5							385
		273			325	328	186.5							440
		318			330	334	189.5							450
300	12	323.9	60 x 8	M 24 x 100	375	384	212	220	150		30		100 x 50	480
		355.6			382	390	215							490
		368			420	421	236							550
		406.4			430	434	242							585
400	16	419	60 x 8	M 24 x 100	470	472	261							630
		457			482	485	267.5							640
		508			520	523	286.5							
		521			570	574	312							
500	20	508			585	587	319							

HOW TO ORDER

Round steel "U" Bolt Clamp, Type UF with 4 fixing nuts and polyamid plastic saddle PSS / PA, - Diameter d₁ = ** mm

Example : 1 x UF ** / PSS-PA



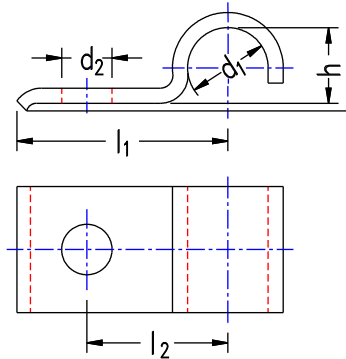
Pipe			"U" Bolt clamp, Type UBR							
DN	d ₁		a	b	d ₃	e	h ₁			
	Inch - NB	MM - OD								
20		25	30	40	M 10	40	70			
	3/4"	26.9				48	76			
25		30	38			56	86			
	1"	33.7				62	92			
32		38	46	50	M 12	76	109			
	1.1/4"	42.4				94	125			
40		44.5	52			106	138			
	1.1/2"	48.3				136	171			
50		57	64		M 16	164	191			
	2"	60.3				192	217			
65	2.1/2"	76.1	82			218	249			
80	3"	88.9	94			248	283			
100		108	120	60	M 20	302	334			
	4"	114.3				352	385			
125		133	148			M 24	402	435		
	5"	139.7					452	487		
150		159	176		70	M 24	554	589		
	6"	168.3								
175		191	202							
		193.7								
200		216	228	70	M 20	402	435			
		219.1				452	487			
250		267	282			M 24	554	589		
		273								
300		318	332		70	M 24	554	589		
		323.9								
350		355.6	378				70	M 24	554	589
		368								
400		406	428	70	M 24	554			589	
		419								
500		508	530			70	M 24	554	589	
		521								

HOW TO ORDER

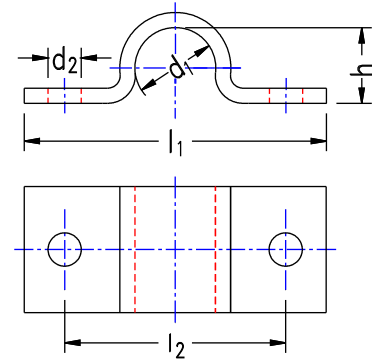
"U" Bolt Clamp, Type UBR to DIN 3570, Section "A" with 2 fixing nuts. - **Diameter d₁ = ** mm**

Example : 1 x UBR **

DIN 1592



DIN 1593



d_1	Diameter range d_a	d_2	h	l_1	l_2	Strip mm
7	5,5 - 7	6,6	5	22	14	16 x 2
9	7-9		6	27	18	20 x 2
13	9,5 - 13	11	9	40	25	25 x 3
15,5	13 - 15,5		12	41	26	
19	15,5 - 19		15	43	28	
23	20 - 23	14	19	51	35	30 x 5
26	23 - 26		22	52	36	
28,5	26 - 28,5		24	53	37	
31	28,5 - 31		27	55	39	
36	33 - 36	18	32	57	41	40 x 5
39	36 - 39		34	59	43	
43	39 - 43		38	68	48	
46	43 - 46	18	41	70	50	40 x 8
49	46 - 49		44	73	53	
52	49 - 52		47	76	56	
58	53 - 58		52	78	58	
61	58 - 61		57	80	60	

Material : Steel - Electro zinc plated finish
Stainless Steel - natural finish

HOW TO ORDER

Example : DIN 1592 **

** Diameter d_1

d_1	Diameter range d_a	d_2	h	l_1	l_2	Strip mm
7	5,5 - 7	6,6	5	44	28	16 x 2
9	7 - 9		6	48	32	20 x 2
13	9,5 - 13		9	52	36	
15,5	13 - 15,5		12	56	40	
19	15,5 - 19		15	60	44	
23	20 - 23	11	19	82	56	25 x 3
26	23 - 26		22	84	58	
28,5	26 - 28,5		24	90	64	
31	28,5 - 31		27			
36	33 - 36		32	106	80	30 x 5
39	36 - 39	14	34	110	84	
43	39 - 43		38	120	88	
46	43 - 46		41	122	90	40 x 5
49	46 - 49		44			
58	53 - 58		52	142	110	
61	58 - 61	18	57			
71	67 - 71		66	152	120	40 x 8
77	73 - 77		72	176	136	
81	77 - 81		76	184	144	
91	86 - 91		85	198	158	40 x 8
103	99 - 103	18	98	214	174	
109	105 - 109		104	220	180	
115	110 - 115		109	226	186	

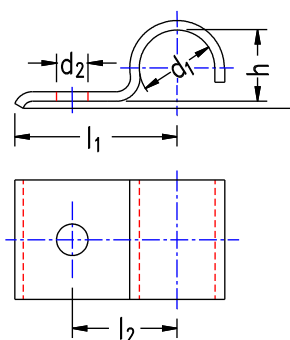
Material : Steel - Electro zinc plated finish
Stainless Steel - natural finish

HOW TO ORDER

Example : DIN 1593 **

** Diameter d_1

DIN 1596



d ₁	Diameter range d _a	d ₂	h	l ₁	l ₂	Strip mm
7	5,5 - 7	6,6	5	26	14	16 x 2
9	7-9		6	28	16	
13	9,5 - 13		9	30	18	20 x 2
15,5	13 - 15,5		12	32	20	
19	15,5 -19		15	34	22	
23	20 - 23	9	19	43	28	25 x 3
26	23 - 26		22	44	29	
28,5	26 - 28,5		24	47	32	
31	28,5 - 31		27			
33	31 - 33		29	56	36	
36	33 - 36	11	32	57	40	30 x 3
39	36 - 39		34	59	42	
43	39 - 43		38	61	44	
46	43 - 46		41	62	45	
49	46 - 49	14	44	67	48	40 x 4
52	49 - 52		47	72	53	
58	53 - 58		52	74	55	
61	58 - 61		56	77	58	

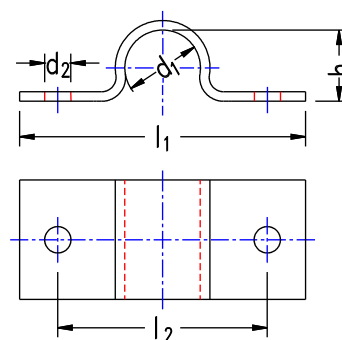
Material : Steel - Electro zinc plated finish
Stainless Steel - natural finish

HOW TO ORDER

Example : DIN 1596 **

** Diameter d_1

DIN 1597



d ₁	Diameter range d _a	d ₂	h	l ₁	l ₂	Strip mm
7	5,5 - 7	5,5	5	44	28	16 x 1,5
9	7-9		6	48	32	
13	9,5 - 13		9	52	36	
15,5	13 - 15,5		12	56	40	
19	15,5 -19		15	60	44	
23	20 - 23	6,6	19	76	56	20 x 2
26	23 - 26		22	78	58	
28,5	26 - 28,5		24	84	64	
31	28,5 - 31		27			
33	31 - 33		29	92	72	
36	33 - 36	9	32	104	80	25 x 3
39	36 - 39		34	108	84	
43	39 - 43		38	112	88	
46	43 - 46		41	114	90	
49	46 - 49	11	44	118		30 x 3
52	49 - 52		47	134	106	
58	53 - 58		52	138	110	
61	58 - 61		56			

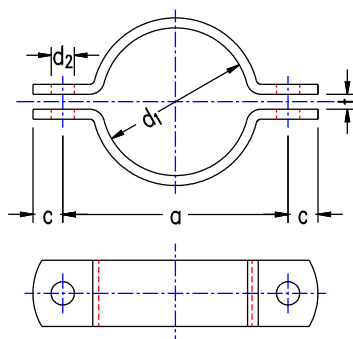
Material : Steel - Electro zinc plated finish
Stainless Steel - natural finish

HOW TO ORDER

Example : DIN 1597 **

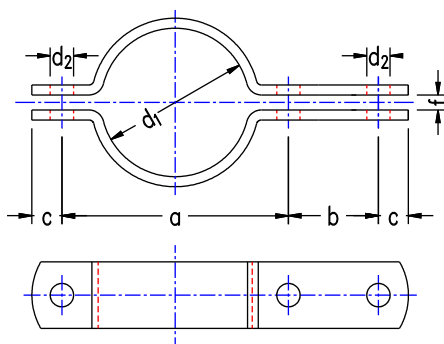
** Diameter d_1

Note: For clamping of multiple number of tubes
add the number of tubes as prefix to the past number.



d ₁	Bore diameters		a	c	d ₂	f	Strip mm	Accessories : Hexagon headed bolts
	MM - OD	Inch - NB						
20	15		57	15	11,5	7	30 x 5	M 10 x 30
22			59					
25			62					
27	20	3/4	66					
30	25		68					
34		1	72					
38	32		76					
43		1 ¼	82					
45	40		84					
49		1 ½	88					
57	50		104	18	14	9	40 x 6	M 12 x 35
61		2	108					
77	65	2 ½	122					
89	80	3	136					
108	100		172	24	18	11	50 x 8	M 16 x 45
115		4	178					
133	125		196					
140			204					
159	150		222					
169			232					
194	175		258					
216	200		280					
220			284					
267	250		342	30	23	14	60 x 8	M 20 x 50
273			348					
318	300		392					
324			398					
368	350		444					
407	400		498	36	27	18	70 x 10	M 24 x 60
419			510					
521	500		614					

Material : Steel - Electro zinc plated finish
Stainless Steel - natural finish

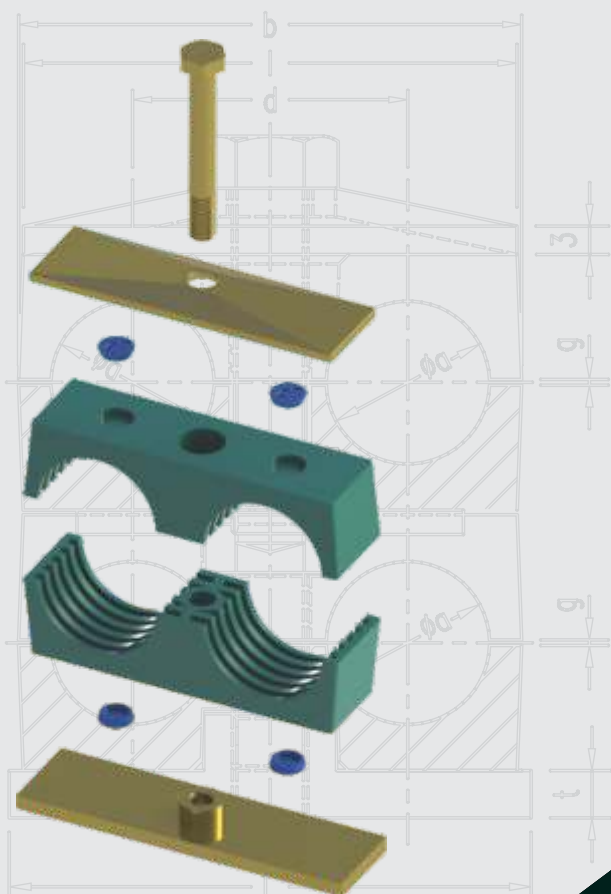


d 1	Bore diameters		a	b	c	d 2	f	Strip mm	Accessories : Hexagon headed bolts																								
	MM - OD	Inch - NB																															
20	15		57	46	15	11,5	7	30 x 5	M 10 x 30																								
22			59																														
25	20		3/4							62																							
27		66																															
30	25		68							54	18	14	9	40 x 6	M 12 x 35																		
34		1	72																														
38	32		76													70	24	18	11	50 x 8	M 16 x 45												
43		1 ¼	82																														
45	40		84																			86	30	23	14	60 x 8	M 20 x 50						
49		1 ½	88																														
57	50		104	104	36	27	18	70 x 10	M 24 x 60																								
61		2	108																														
77	65	2 ½	122																									521	500				
89	80	3	136																														
108	100		172																														
115		4	178																														
133	125		196																														
140			204																														
159	150		222																														
169			232																														
194	175		258																														
216			280																														
220	200		284																														
267			342																														
273	250		348																														
318			300																														
324	398																																
368	350		444																														
407	400		498																														
419			510																														
521	500		614																														

Material : Steel - Electro zinc plated finish
Stainless Steel - natural finish

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