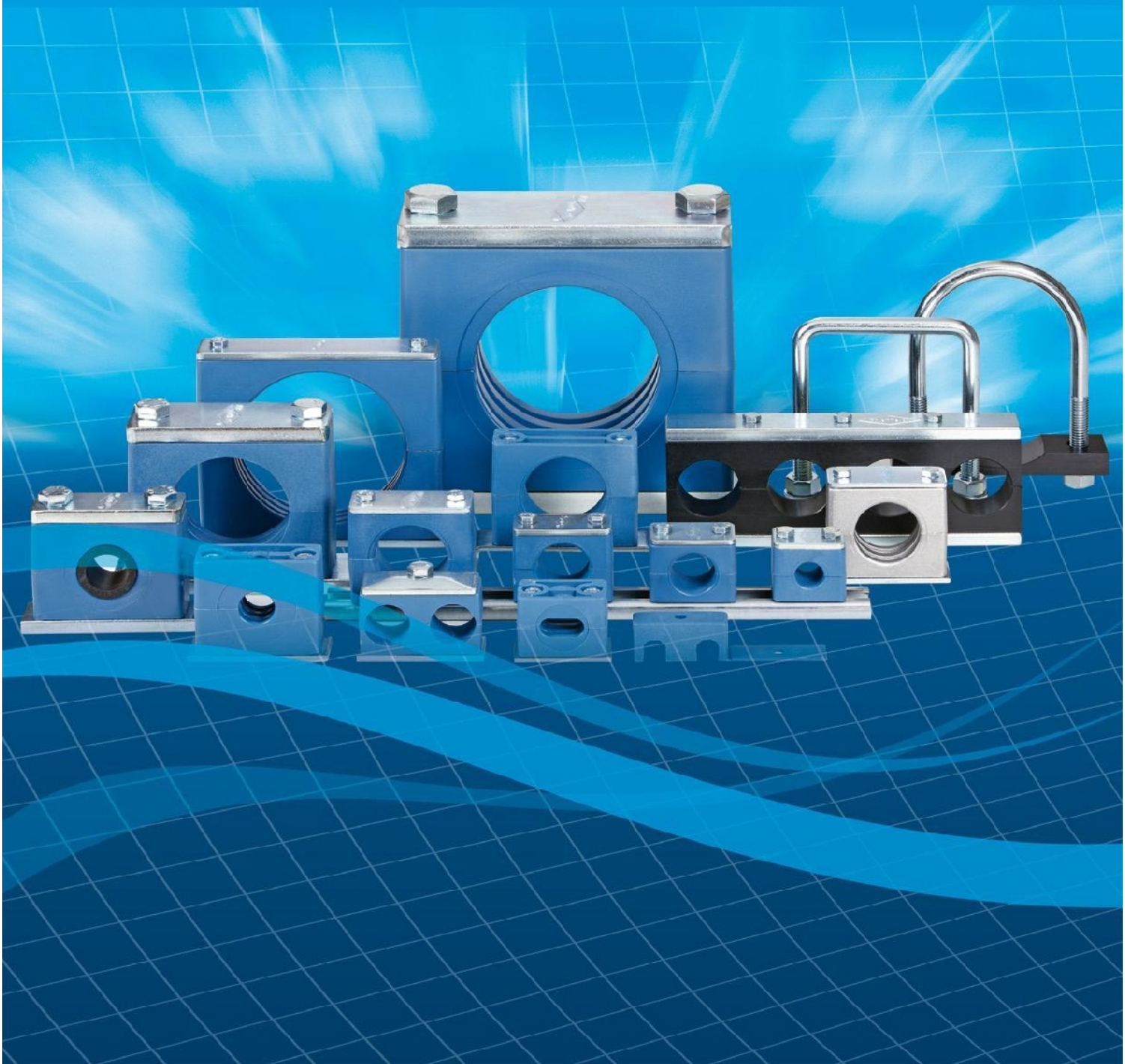
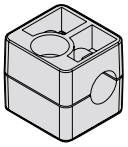
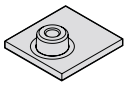
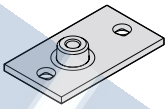
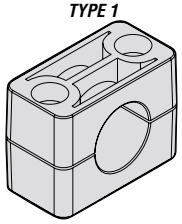
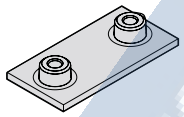
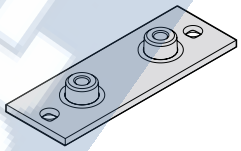
MegaControl
Ouressa Parque, Edif.12
Av. Almirante Gago Coutinho
2725-685 Mem Martins
PORTUGAL
tel.: +351 21 924 52 30
fax: +351 21 924 52 39

megacontrol@megacontrol.pt

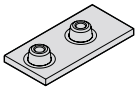
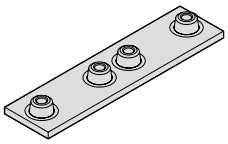
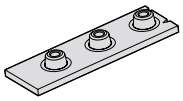
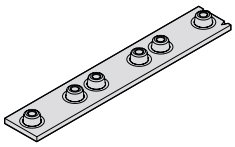
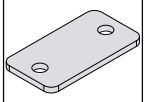
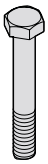
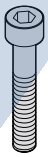
www.megacontrol.pt



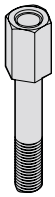
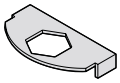
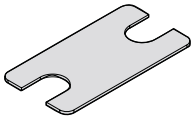
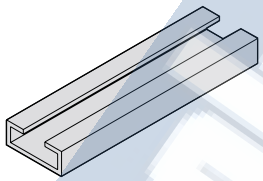
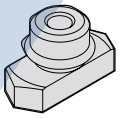
PIPE CLAMPS - STANDARD SERIES
Order Codes

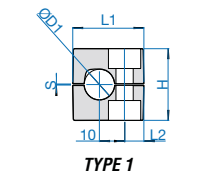
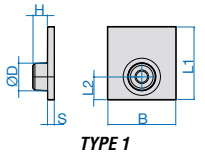
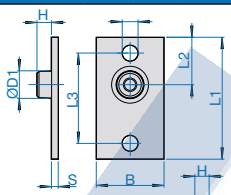
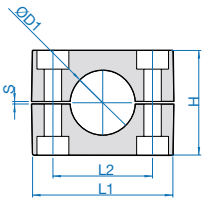
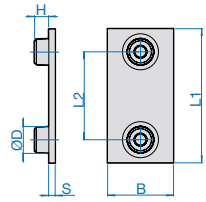
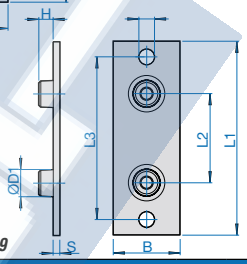
PIPE CLAMPS MATERIAL	Clamp body (two clamp halves)	Single weld plate P	Elongated weld plate (with screw) PL
Code **PP**: **Polypropylene** material Colour **Blue** NB: other colours on demand.	 *TYPE 1*	 *TYPE 1*	 *TYPE 1*
Code **PA**: **Polyamide** material Colour **Black**.			
Code **GM**: **Rubber TC8GPZ** material Colour **Black**			
Internal surface clamp body **Knurled** from C1 to C7 type and **profiled** from C8 to C9.	 *TYPE 2-9*	 *TYPE 2-9*	 *TYPE 2-9*
Code **A**: **Alluminium** material Colour **Alluminio** Internal surface clamp body **profiled**.			
For Dimensions see pages 7-9. For material characteristics, see pages 12, 74 and 76.			

Components description				## - ##, ## - ##			P# XP#	#	PL# XPL#	#
	O.D. of Pipe/Tube/Hose									
Code PI.EFFE.CI. clamp body	in mm	nominal bore pipe in inch	in inch	Code PI.EFFE.CI. Type	Outside diameter in mm	Material of clamp body	Single weld plate St360 and AISI 316L Type	Type of thread	Elongated weld plate St360 and AISI 316L Type	Type of thread
C1 AC1	6			C1	6	##	P1 XP1	M6	PL1 XPL1	M6
	6,4		1/4"	C1	6,4	##				
	8		5/16"	C1	8	##				
	9,5		3/8"	C1	9,5	##				
	10	1/8"		C1	10	##				
	12			C1	12	##				
	12,7		1/2"	C1	12,7	##				
C2 AC2	6			C2	6	##	P2 XP2	M6	PL2 XPL2	M6
	6,4		1/4"	C2	6,4	##				
	8		5/16"	C2	8	##				
	9,5		3/8"	C2	9,5	##				
	10	1/8"		C2	10	##				
	12			C2	12	##				
	12,7		1/2"	C2	12,7	##				
C3 AC3	12,7		1/2"	C3	12,7	##	P3 XP3	M6	PL3 XPL3	M6
	13,5	1/4"		C3	13,5	##				
	14			C3	14	##				
	15			C3	15	##				
	16		5/8"	C3	16	##				
	17,2	3/8"		C3	17,2	##				
	18			C3	18	##				
C4 AC4	19		3/4"	C4	19	##	P4 XP4	M6	PL4 XPL4	M6
	20			C4	20	##				
	21,3	1/2"		C4	21,3	##				
	22		7/8"	C4	22	##				
	23			C4	23	##				
	25			C4	25	##				
	25,4		1"	C4	25,4	##				
C5 AC5	26,9	3/4"		C5	26,9	##	P5 XP5	M6	PL5 XPL5	M6
	28			C5	28	##				
	29			C5	29	##				
	30			C5	30	##				
	32		1.1/4"	C5	32	##				
C6 AC6	32		1.1/4"	C6	32	##	P6 XP6	M6	PL6 XPL6	M6
	33,7	1"		C6	33,7	##				
	35			C6	35	##				
	38		1.1/2"	C6	38	##				
	40			C6	40	##				
	42	1.1/4"		C6	42	##				
	45			C6	45	##				
C7 AC7	44,5		1.3/4"	C7	44,5	##	P7 XP7	M6	PL7 XPL7	M6
	45			C7	45	##				
	48,3	1.1/2"		C7	48,3	##				
	50			C7	50	##				
	50,8		2"	C7	50,8	##				
	53			C7	53	##				
	54	1.3/4"		C7	54	##				
C8	57,2		2.1/4"	C8	57,2	##	P8 XP8	M6	PL8 XPL8	M6
	60,3	2"		C8	60,3	##				
	63,5		2.1/4"	C8	63,5	##				
	66			C8	66	##				
	70		2.3/4"	C8	70	##				
	73			C8	73	##				
	76,1	2.1/2"	3"	C8	76,1	##				
C9	88,9	3"	3.1/2"	C9	88,9	##	P9 XP9	M6	PL9 XPL9	M6
	102	3.1/2"	4"	C9	102	##				

Twin weld plate PD	Multiple weld plate PM	Upper plate PS	Hexagon head bolt VE	Bushing B	Hexagon head bolt VEB	Socket cap screw TCEI
 *TYPE 1*  *TYPE 2-7*	 *TYPE 1*  *TYPE 2-7*	 *TYPE 1*  *TYPE 2-9*	*WITH UPPER PLATE PS* *EN ISO 4014 / 4017* 	*NO UPPER PLATE* *FOR USE WITH HEXAGON HEAD BOLT VEB* 	*FOR USE WITH BUSHING B* 	*EN ISO 4762* 

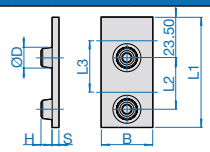
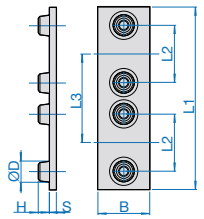
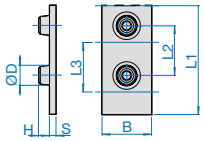
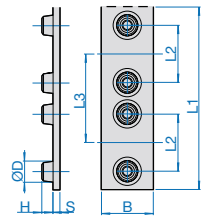
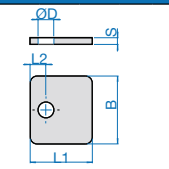
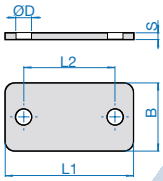
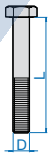
PD# XPD#	#	PM# XPM#	#		PS# XPS#	VE# XVE#	#	B XB	VEB# XVEB#	#	TCEI# XTCEI#	#
Twin weld plate St360 and AISI 316L Type	Type of thread	Multiple weld plate St360 and AISI 316L Type	Type of thread	Number of clamps	Upper plate St360 and AISI 316L Type	Hexagon head bolt Steel 8.8 and A4 Type	Type of thread	Bushing Steel Lead and AISI 316L	Hexagon head bolt Steel 8.8 and A4 Type	Type of thread	Socket cap screw Steel 8.8 and A4 Type	Type of thread
PD1 XPD1	**M6**	**PM1 XPM1**	**M6**	10	**PS1 XPS1**	**VE1 XVE1**	(M6x30)	**B XB** For clamps **C1-C7** and **AC1-AC7**	**VEB1 XVEB1**	(M6x27)	**TCEI1 XTCEI1**	(M6x20)
PD2 XPD2	**M6**	**PM2 XPM2**	**M6**	10	**PS2 XPS2**	**VE2 XVE2**	(M6x30)		**VEB2 XVEB2**	(M6x27)	**TCEI 2 XTCEI 2**	(M6x20)
PD3 XPD3	**M6**	**PM3 XPM3**	**M6**	10	**PS3 XPS3**	**VE3 XVE3**	(M6x35)		**VEB3 XVEB3**	(M6x32)	**TCEI 3 XTCEI 3**	(M6x25)
PD4 XPD4	**M6**	**PM4 XPM4**	**M6**	10	**PS4 XPS4**	**VE4 XVE4**	(M6x40)		**VEB4 XVEB4**	(M6x35)	**TCEI 4 XTCEI 4**	(M6x30)
PD5 XPD5	**M6**	**PM5 XPM5**	**M6**	5	**PS5 XPS5**	**VE5 XVE5**	(M6x45)		**VEB5 XVEB5**	(M6x42)	**TCEI 5 XTCEI 5**	(M6x35)
PD6 XPD6	**M6**	**PM6 XPM6**	**M6**	5	**PS6 XPS6**	**VE6 XVE6**	(M6x60)		**VEB6 XVEB6**	(M6x57)	**TCEI 6 XTCEI 6**	(M6x50)
PD7 XPD7	**M6**	**PM7 XPM7**	**M6**	5	**PS7 XPS7**	**VE7 XVE7**	(M6x70)		**VEB7 XVEB7**	(M6x65)	**TCEI 7 XTCEI 7**	(M6x60)
---		---			**PS8 XPS8**	**VE8 XVE8**	(M6x100)	---	---		**TCEI 8 XTCEI 8**	(M6x90)
---		---			**PS9 XPS9**	**VE9 XVE9**	(M6x125)	---	---		**TCEI 9 XTCEI 9**	(M6x110)

Flat washer RP	Safety washer RS	High hexagon head bolt VA		Locking plate PB	Mounting rail BB	Rail nut with rubber ring DF+ AG	
FOR USE WITH SCREW TCEI / VA 	*FOR USE WITH HEXAGON HEAD BOLT VE / VEB* *ISO 4759 / 3 A* 	*FOR OVERLAPPED CLAMPS* 		*FOR OVERLAPPED CLAMPS*  *TYPE 1*  *TYPE 2-9*			
RP XRP	**RS 6.4 XRS 6.4**	**VA# XVA#**	**#**	**PB#**	**BB XBB**	**DF XDF**	**#**
Flat washer St360 and A4	Safety washer St360 and A4	High hexagon head bolt Steel lead and AISI 316L Type	Type of thread	Locking plate St360 and AISI 316L Type	Mounting rail Steel DX51D and AISI 316L	Rail nut C20 and AISI 316L	Type of thread
RP XRP for clamps **C1-C9** and **AC1-AC7**	**RS 6,4 XRS 6,4** for clamps **C1-C9** and **AC1-AC7**	**VA1 XVA1**	**M6**	**PB1 XPB1**	**BB XBB** Available heights **11, 14 and 30mm** Available lenghts **2m**	**DF XDF**	**M6**
		VA2 XVA2	**M6**	**PB2 XPB2**			
		VA3 XVA3	**M6**	**PB3 XPB3**			
		VA4 XVA4	**M6**	**PB4 XPB4**			
		VA5 XVA5	**M6**	**PB5 XPB5**			
		VA6 XVA6	**M6**	**PB6 XPB6**			
		VA7 XVA7	**M6**	**PB7 XPB7**			
		VA8 XVA8	**M6**	**PB8 XPB8**			
		VA9 XVA9	**M6**	**PB9 XPB9**			

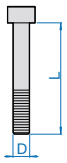
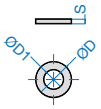
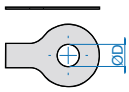
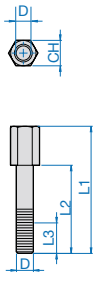
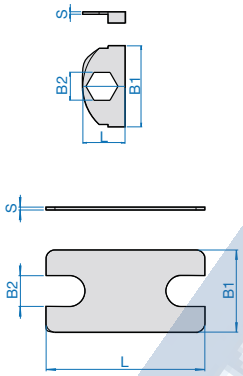
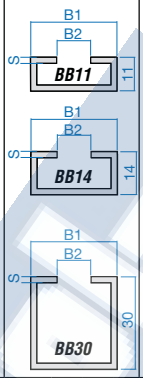
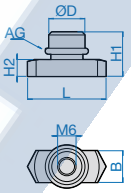
MATERIALS AND TYPE OF THREAD COMPONENTS AND ACCESSORIES	Clamp body (two clamp halves)	Single weld plate P	Elongated weld plate (with screw) PL
All component and accessories are available in: Carbon steel **St360**: with finishing surface in white zinc-coated **Fe Zn c8 II**. Untreated are available on request. Stainless steel **inox 316L**: (X2 CrNiMo 17-12-2) 1.4404 Marked with **X** identification code. NB: the BB track is treated with zinc-plating **SENDZIMIR.**	 *TYPE 1*	 *TYPE 1*	 *TYPE 1*
All the components are produced with metric thread, on request are also available with UNC thread. Metric thread: code **M** UNC thread: code **UNC**.	 *TYPE 2-9*	 *TYPE 2-9*	 *TYPE 2-9*
For material characteristics see pages 12, 74 and 76.			

Material description	Code C Mat. PP-PA-GM Alluminium mat. code AC					Carbon steel St360 code P Stainless steel AISI 316L code XP							Carbon steel St360 code PL Stainless steel AISI 316L code XPL							
Code PI.EFFE.CI. clamp body	O.D. of Pipe/Tube/Hose ØD1 in mm	O.D. of Pipe/Tube/Hose ØD1 nom. bore pipe	O.D. of Pipe/Tube/Hose ØD1 in inch	L1	L2	H	S	Width	Code PI.EFFE.CI.	L1	L2	B	S	H	ØD	Code PI.EFFE.CI.	L1	L2	L3	B	S	H	ØD1	ØD2
C1 AC1	6			28	7.6	27	0.6	30	P1 XP1	32	10	30	3	6.5	12	PL1 XPL1	54	21	40	30	3	6,5	12	7
	6,4		1/4"																					
	8		5/16"																					
	9,5		3/8"																					
	10	1\8"																						
	12																							
	12,7		1/2"																					
C2 AC2	6			37	20	27	0,6	30	P2 XP2	41	20	30	3	6,5	12	PL2 XPL2	64	20	50	30	3	6,5	12	7
	6,4		1/4"																					
	8		5/16"																					
	9,5		3/8"																					
	10	1/8"																						
	12																							
	12,7		1/2"																					
C3 AC3	12,7		1/2"	42	26	33	0,8	30	P3 XP3	47	26	30	3	6,5	12	PL3 XPL3	70	26	56	30	3	6,5	12	7
	13,5	1/4"																						
	14																							
	15																							
	16		5/8"																					
	17,2	3/8"																						
	18																							
C4 AC4	19		3/4"	50	33	36	0,8	30	P4 XP4	54	33	30	3	6,5	12	PL4 XPL4	78	33	64	30	3	6,5	12	7
	20																							
	21,3	1/2"																						
	22		7/8"																					
	23																							
	25																							
	25,4		1"																					
C5 AC5	26,9	3/4"		57	40	42	1	30	P5 XP5	61	40	30	3	6,5	12	PL5 XPL5	87	40	73	30	3	6,5	12	7
	28																							
	29																							
	30																							
	32		1.1/4"																					
C6 AC6	32		1.1/4"	71	52	58	1,4	30	P6 XP6	73	52	30	3	6,5	12	PL6 XPL6	100	52	86	30	3	6,5	12	7
	33,7	1"																						
	35																							
	38		1.1/2"																					
	40																							
	42	1.1/4"																						
	45																							
C7 AC7	44,5		1.3/4"	86	66	66	1,4	30	P7 XP7	88	66	30	3	6,5	12	PL7 XPL7	114	66	100	30	3	6,5	12	7
	45																							
	48,3	1.1/2"																						
	50																							
	50,8		2"																					
	53																							
	54	1.3/4"																						
C8	57,2		2.1/4"	121	94	93	2	30	P8 XP8	122	94	30	5	6,5	12	PL8 XPL8	150	94	136	30	5	6,5	12	7
	60,3	2"																						
	63,5		2.1/4"																					
	66																							
	70		2.3/4"																					
	73																							
	76,1	2.1/2"	3"																					
C9	88,9	3"	3.1/2"	147	120	118	3	30	P9 XP9	148	120	30	5	6,5	12	PL9 XPL9	178	120	162	30	5	6,5	12	7
	102	3.1/2"	4"																					

PIPE CLAMPS - STANDARD SERIES
Dimensions

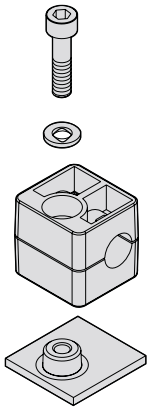
Twin weld plate PD	Multiple weld plate PM	Upper plate PS	Hexagon head bolt VE	Bushing B	Hexagon head bolt VEB
 TYPE 1  TYPE 2-7	 TYPE 1  TYPE 2-7	 TYPE 1  TYPE 2-9	ISO 4014 / 4017 FOR UPPER PLATE PS 		FOR USE WITH BUSHING B 

Carbon steel St360 code PD Stainless steel AISI 316L c. XPD								Carbon steel St360 code PM Stainless steel AISI 316L c. XPM								Carbon steel St360 c. PD Stainless steel AISI 316L code XPD						Steel 8.8 code VE Stainless st. A4 code XVE		Steel lead c. B St. AISI 316L code XB				Steel 8.8 c. VEB Stainless st. A4 code XVEB	
Code Pl.EFFE.Cl.	L1	L2	L3	B	S	H	ØD	Code Pl.EFFE.Cl.	L1	L2	L3	B	S	H	ØD	Code Pl.EFFE.Cl.	L1	L2	B	S	ØD	Code Pl.EFFE.Cl.	D x L	Code Pl.EFFE.Cl.	D1	D2	H	Code Pl.EFFE.Cl.	D x L
PD1 XPD1	64	30	30	30	3	6,5	12	PM1 XPM1	304	30	30	30	4	6,5	12	PS1 XPS1	27,5	7	30	3	7	VE1 XVE1	M6x30	B XB	11,5	6,5	8	VEB1 XVEB1	M6x27
PD2 XPD2	79	20	38	30	3	6,5	12	PM2 XPM2	384	20	38	30	4	6,5	12	PS2 XPS2	34,5	20	30	3	7	VE2 XVE2	M6x30					VEB2 XVEB2	M6x27
PD3 XPD3	91	26	44	30	3	6,5	12	PM3 XPM3	443	26	44	30	4	6,5	12	PS3 XPS3	40,5	26	30	3	7	VE3 XVE3	M6x35					VEB3 XVEB3	M6x32
PD4 XPD4	105	33	51	30	3	6,5	12	PM4 XPM4	513	33	51	30	4	6,5	12	PS4 XPS4	48	33	30	3	7	VE4 XVE4	M6x40					VEB4 XVEB4	M6x35
PD5 XPD5	121	40	60	30	3	6,5	12	PM5 XPM5	301	40	60	30	4	6,5	12	PS5 XPS5	56,5	40	30	3	7	VE5 XVE5	M6x45					VEB5 XVEB5	M6x42
PD6 XPD6	148	52	75	30	3	6,5	12	PM6 XPM6	373	52	75	30	4	6,5	12	PS6 XPS6	69,5	52	30	3	7	VE6 XVE6	M6x60					VEB6 XVEB6	M6x57
PD7 XPD7	177	66	90	30	3	6,5	12	PM7 XPM7	447	66	90	30	4	6,5	12	PS7 XPS7	85,5	66	30	3	7	VE7 XVE7	M6x70					VEB7 XVEB7	M6x65
---								---								PS8 XPS8	118	94	30	5	7	VE8 XVE8	M6x100	---				---	
---								---								PS9 XPS9	144	120	30	5	7	VE9 XVE9	M6x125	---				---	

Socket cap screw TCEI	Flat washer RP	Safety washer RS	High hexagon head bolt VA	Locking plate PB	Mounting rail BB	Rail nut with rubber ring DF+AG
ISO 4762		*ISO 4759 / 3A*				
						

Steel 8.8 c.TCEI Stainless steel AISI 316L code XTCEI		Carbon steel St360 code RP Stainless steel AISI 316L c. XRP				Carbon steel St360 code RS Stainless steel A4 code XRS		Steel lead code VA Stainless steel AISI 316L code XVA					Carbon steel St360 code PB Stainless steel AISI 316L code XPB					Steel DX51D code BB Stainless st. AISI 316L c. XBB				Steel C20 code DF Stainless st. AISI 316L code XDF						
Code PI.EFFE.CI.	D x L	Code PI.EFFE.CI.	ØD	ØD1	S	Code PI.EFFE.CI.	ØD	Code PI.EFFE.CI.	D	L1	L2	L3	CH	Code PI.EFFE.CI.	L	B1	B2	S	Code PI.EFFE.CI.	B1	B2	S	Code PI.EFFE.CI.	L	B	H1	H2	ØD	AG
TCEI XTCEI	M6x20	RP XRP	11,5	6,3	0,8	RS XRS	6,4	VA1 XVA1	M6	34	20	14	11	PB1 XPB1	17	32	11,2	1	BB XBB	28	11	2	DF XDF	25,5	10,4	14,5	5,5	11,8	10x2
	M6x20							VA2 XVA2	M6	34	20	14	11	PB2 XPB2	33	28	11,2	1											
	M6x25							VA3 XVA3	M6	39	25	14	11	PB3 XPB3	39	28	11,2	1											
	M6x30							VA4 XVA4	M6	43	29	14	11	PB4 XPB4	47	28	11,2	1											
	M6x35							VA5 XVA5	M6	49	35	14	11	PB5 XPB5	54	28	11,2	1											
	M6x50							VA6 XVA6	M6	64	49	15	11	PB6 XPB6	66	28	11,2	1											
	M6x60							VA7 XVA7	M6	73	59	14	11	PB7 XPB7	80,3	28	11,2	1											
	M6x90							VA8 XVA8	M6	99	85	14	11	PB8 XPB8	117	28	11,2	1											
	M6x110							VA9 XVA9	M6	124	110	14	11	PB9 XPB9	143	28	11,2	1											

Mounting Example of complete clamp C1 type in Polypropylene for pipe with outside diameter of 12mm with single weld plate.



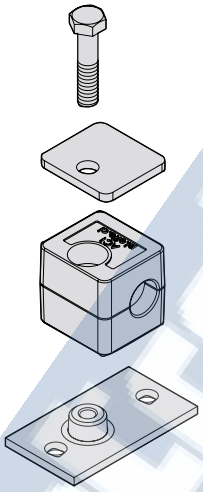
TCEI M6x20
Socked cap screw
in Steel 8.8

N.1 RP
Flat washer in St360

N.1 C1 12 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.1 P1
Weld plate in St360
Metric thread
Surface fihishing
white zinc-plating

Mounting Example of complete Aluminium clamp AC1 type for pipe with outside diameter of 12mm with elongated plate with fixing holes and upper plate.



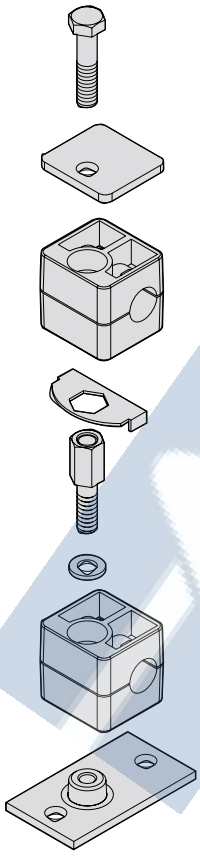
N.1 VE1 M6x30
Hexagon head bolt Steel 8.8
Metric Thread

N.1 PS1
Upper plate in St360
Surface fihishing
white zinc-plating

N.1 C1 12 # #
Clamp body
(Two clamp halves)
in Aluminium

N.1 PL1
Elongated plate with fixing holes
in St 360 Metric thread
Surface fihishing
white zinc-plating

Mounting Example of complete stacked clamp C1 in Rubber for pipe with outside diameter of 12mm, elongated plate with fixing holes and upper plate.



N.1 VE1 M6x30
Hexagon head bolt
Steel 8.8 Metric Thread

N.1 PS1
Upper plate in St360
Surface fihishing
white zinc-plating

N.1 C1 12 # #
Clamp body
(Two clamp halves)
in Rubber

N.1 PB1
Locking plate Steel St360
Surface finishing white zinc-plating

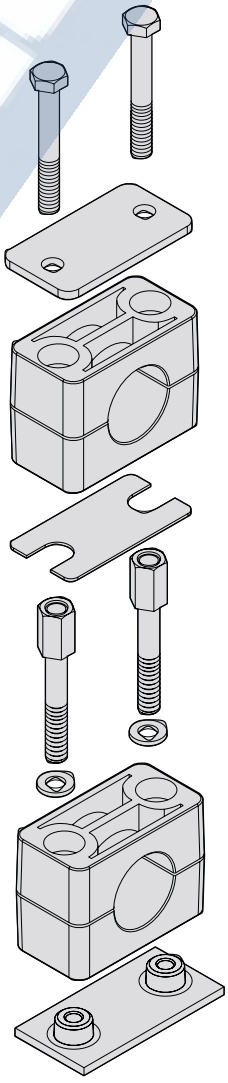
N.1 VA1
Stacking bolt in Steel lead
Metric thread

N.1 RP
Flat washer in St360

N.1 C1 12 # #
Clamp body
(Two clamp halves)
in Rubber

N.1 PL1
Elongated plate with fixing holes
in St 360 Metric thread
Surface finishing
white zinc-plating

Mounting Example of complete stacked clamp C5 in Polypropylene for pipe with outside diameter of 30mm single weld plate and upper plate.



N.2 VE5 M6x45
Hexagon head bolt
Steel 8.8 Metric Thread

N.1 PS5
Upper plate in St360
Surface fihishing
white zinc-plating

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.1 PB5
Locking plate Steel St360
Surface finishing white zinc-plating

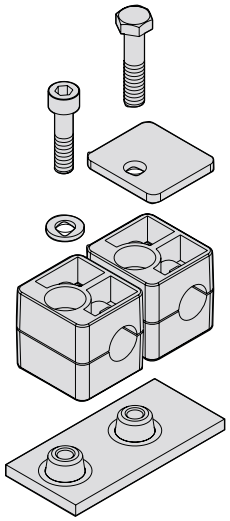
N.2 VA5
Stacking bolt in Steel lead
Metric thread

N.2 RP
Flat washer in St360

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.1 P5
Weld plate in St 360
Metric thread
Surface fihishing
white zinc-plating

Mounting Example of complete clamp C1 type side by side in Polypropylene for pipe with outside diameter of 12mm, with double weld plate and upper plate.



N.1 VE1 M6x30
Hexagon head bolt
Steel 8.8 Metric Thread

N.1 TCEI M6x20
Stacking bolt in Steel 8.8
Metric Thread

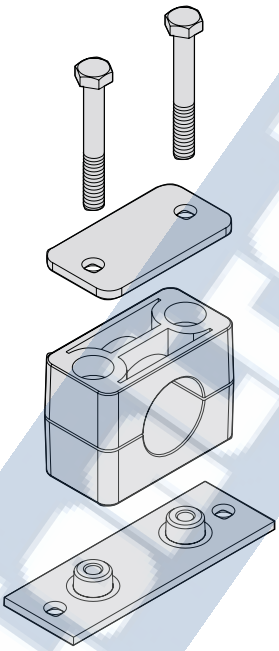
N.1 PS1
Upper plate in St360
Surface fihishing white zinc-plating

N.1 RP
Flat washer in St360

N.2 C1 12 # #
Clamp body (Two clamp halves)
in Polypropylene

N.1 PD1
Weld double plate in St 360
Metric thread
Surface fihishing white zinc-plating

Mounting Example of complete clamp C5 in Polypropylene for pipe with outside diameter of 30mm, elongated plate with fixing holes and upper plate.



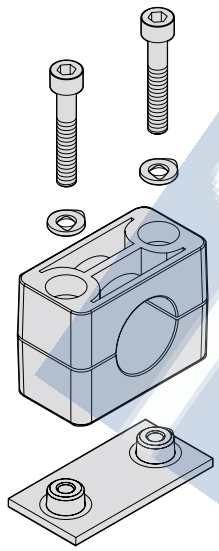
N.2 XVE5 M6x45
Hexagon head bolt
Steel A4
Metric Thread

N.1 XPS5
Upper plate in Aisi 316L

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.1 XPL5
Elongated plate with fixing holes
in Aisi 316L Metric Thread

Mounting Example of complete clamp C5 in Polypropylene for pipe with outside diameter of 30mm, with single weld plate.



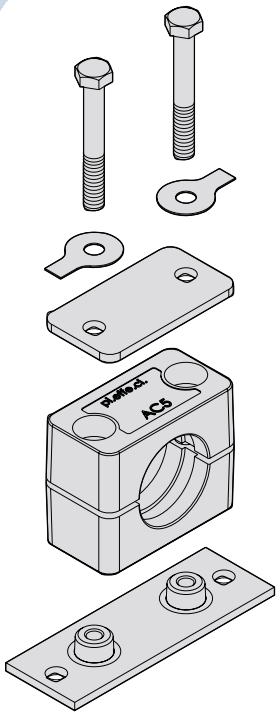
N.2 TCEI M6x35
Socked cap screw
Steel 8.8 Metric Thread

N.2 RP
Flat washer in St360

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.1 P5
Weld plate in St360
Metric thread
Surface fihishing
white zinc-plating

Mounting Example of complete clamp C5 in Aluminium for pipe with outside diameter of 30mm, elongated plate with fixing holes and upper plate.



N.2 VE5 M6X45
Hexagon head bolt
Steel 8.8 Metric Thread

N.2 RS 6.4
safety washer St 360

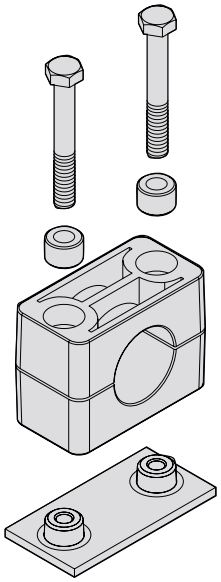
N.1 PS5
Upper plate in St360
Surface fihishing
white zinc-plating

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Aluminium

N.1 PL5
Elongated plate with fixing holes
in St 360
Metric thread
Surface fihishing
white zinc-plating

PIPE CLAMPS - STANDARD SERIES
Mounting Example

Mounting Example of complete clamp C5 in Rubber for pipe with outside diameter of 30mm, with single weld plate with bushing.



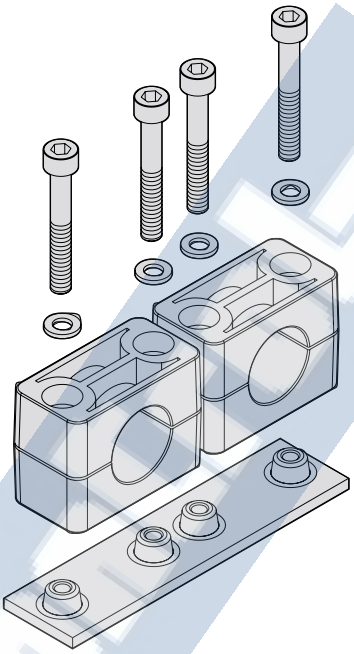
N.2 VEB5 M6x42
Hexagon head bolt
Steel 8.8 Metric Thread

N.2 B
Bushing in steel lead
Surface fihishing
white zinc-plating

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Rubber

N.1 P5
Weld plate in St360
Metric thread
Surface fihishing
white zinc-plating

Mounting Example of complete clamp C5 type side by side in polypropylene for pipe with outside diameter of 30mm, with double weld plate.



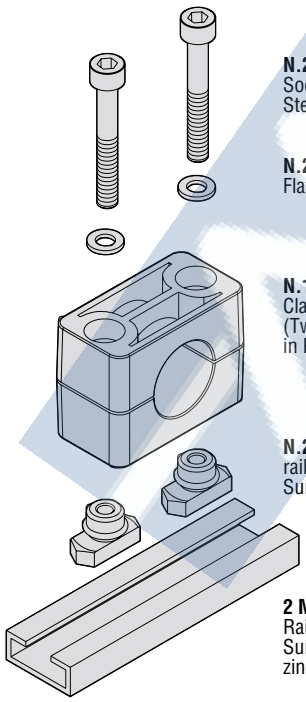
N.4 TCEI M6x35
Socked cap screw
Steel 8.8 Metric Thread

N.4 RP
Flat washer in St360

N.2 C5 30 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.1 PD5
Weld double plate in St 360
Metric thread
Surface fihishing
white zinc-plating

Mounting Example of complete clamp C5 in Polypropylene for pipe with outside diameter of 30mm, mounting rail nut.



N.2 TCEI M6x35
Socked cap screw
Steel 8.8 Metric Thread

N.2 RP
Flat washer in St360

N.1 C5 30 # #
Clamp body
(Two clamp halves)
in Polypropylene

N.2 DFM06+AG
rail nut in steel C20 Metric thread
Surface fihishing white zinc-plating

2 Meters BB 28x11
Rail in steel DX 51D
Surface fihishing
zinc-plating

NOTES

 # # : Material clamp body

PP: Polypropylene

PA: Polyamide

A: Aluminium

GM: Rubber

Material ring AG: Rubber NBR

MECHANICAL CHARACTERISTICS

Hardness shore: 70 A (ASTM D 2240)

Density: g/cm3 1.25 (ASTM D 792)

Tensile strehght: MPa 14.3 (ASTM D 412 C)

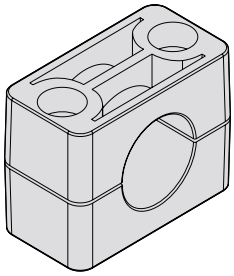
Elongation at break: % 390

Tear strenght: N/mm 49 (ASTM D 624 B)

THERMAL CHARACTERISTICS

Operating temperature range: -30°C to +120°C

MATERIAL CHARACTERISTICS

CLAMP BODY		MATERIAL			
		PP	PA	GM	AL
		POLYPROPYLENE Copolymeric PPC 5660	POLYAMIDE AG5 FR PH2 0160	RUBBER Elastomer TC8 GPZ	ALUMINIUM EN AB AlSi11
COLOURE		BLUE	BLACK	BLACK	NATURAL
MECHANICAL CHARACTERISTICS	TEST METHOD				
Tensile modulus	ISO 527	Mpa 1.300	Mpa 8.500	_ _	_ _
Load in bending at break	ISO 178	_ _	Mpa 190	_ _	_ _
Elongation at break	ISO 527	6%	3%	600%	1%
Tensile strain at break	ISO 527	Mpa 25	Mpa 145	Mpa 9	Mpa 150
Notched Izod impact strenght	ISO 180/A	KJ/m2 10	KJ/m2 10	_ _	_ _
Notched Charpy impact strenght	ISO 179	J/cm2 1.30	KJ/m2 10	_ _	_ _
Shore hardness	ISO 868	_ _	_ _	80 A	_ _
THERMAL CHARACTERISTICS	TEST METHOD				
Flammability Rating	UL 94	HB	V0	_ _	_ _
Vicat (50°C/h 9.8 N)	ISO 306	°C150	°C254	_ _	_ _
HDT (0,45 N/ mm2)	ISO 75	°C92	°C245	_ _	_ _
HDT (1,82 N/ mm2)	ISO 75	°C50	°C242	_ _	_ _
Recommended Min/Max temperature	IEC 216	-30°C + 90°C	-40°C +120° C	-40°C + 90°C	up to 300° C
ELECTRICAL CHARACTERISTICS	TEST METHOD				
Dielectric strenght 2mm	IEC 60243	_ _	KV/mm 20	_ _	_ _
Comparative Tracking Index	IEC 60112	_ _	V 600	_ _	_ _
Volume Resistiviy	DIN 53482	Ohm/m $>10^{18}$	Ohm/m 10^{*15}	_ _	_ _
CHEMICAL CHARACTERISTICS	TEST METHOD				
Weak acids - Alkaline solution	_ _	Limited resistance	Good resistance	Good resistance	_ _
Benzine - Mineral oils	_ _	Good resistance	Good resistance	Limited resistance	_ _
Alcohol - Other oils - Sea water	_ _	Good resistance	Good resistance	Good resistance	_ _

MATERIAL COMPONENTS AND ACCESSORIES

STEELS

Plates: non-alloy steel for structural applications St360 (235JR) and St430 (275JR).
Accessories: in steel lead 11SMnPb37 (for high hexagon head bolts VA and bushing B),in Carbon Steel C20 (nut for fixing clamps to the rail) and in steel sheets for deep drawing DX 51D (standard series rail)

STAINLESS STEEL

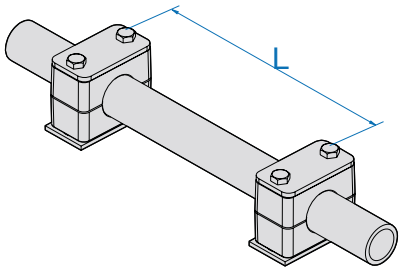
Metal parts: in stainless steel 316L (X2CrNiMo17-12-2) 1.4404.
U-Bolts in stainless steel 304L with good corrosion resistance and stainless steel 316L (stainless marine) with excellent resistance to corrosion.

SURFACE FINISHINGS

Components and accessories: all our parts and metal accessories are treated with advanced surface treatments.
Sendzimir method: this process consists of immersing products in a bath of molten zinc (used to rail the Standard series) for zinc-plating protection;
Crapal: consists of a steel wire, coated with an alloy of 95% of zinc and 5% of aluminum, dull gray color and excellent corrosion resistance (used for U-bolts); **White Zinc plating Fe Zn c8 II:** used for all other metal products.
All protection surfaces are according to the RoHS directive.

PIPE CLAMPS
TECHNICAL APPENDIX

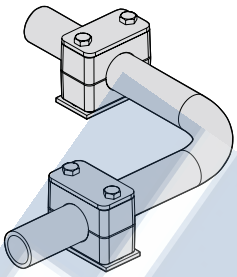
RECOMMENDED DISTANCE BETWEEN CLAMPS



The values of the distances of the clamps shown in the table are indicative values, reported to static loads.

Pipe outside diameter (mm)	Distance L (m)	Pipe outside diameter (mm)	Distance L (m)
6,0 - 13,5	1,0	114,0 - 168,0	5,0
13,5 - 18	1,2	168,0 - 219,0	6,0
18 - 32	1,5	219,0 - 324,0	6,7
32 - 38	2,0	324,0 - 356,0	7,0
38 - 57,2	2,7	356,0 - 406,0	7,5
57,2 - 75	3,0	406,0 - 480,0	8,0
75 - 76,1	3,5	481,0 550,0	8,5
76,1 - 88,9	3,7	551,0 - 630,0	9,0
88,9 - 102,0	4,0	631,0 - 716,0	10,0
102,0 - 114,0	4,5	716,0 - 800,0	12,0

CLAMP INSTALLATION IN CASE OF BEND PIPE



Bend pipes should be fixed by clamps immediately before and after the bend.

Morever it is recommended to design these clamps as fixed piont clamps.

Joints is recommended for applications with the use of clamps before and after the junction.

THREAD CHART

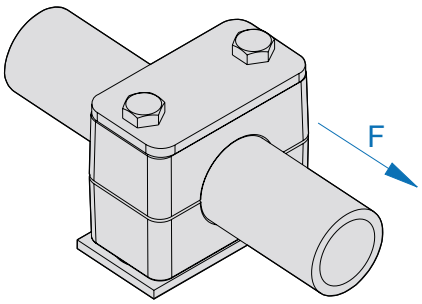
Conversion table and Metric thread / UNC thread

STANDARD SERIES			HEAVY SERIES			TWIN SERIES		
Code PI.EFFE.CI.	Metric thread	UNC thread	Code PI.EFFE.CI.	Metric thread	UNC thread	Code PI.EFFE.CI.	Metric thread	UNC thread
C1	M6	1/4 - 20 UNC	CP1	M10	3/8 - 16 UNC	CF1	M6	1/4 - 20 UNC
C2			CP2			CF2	M8	5/16 - 18 UNC
C3			CP3			CF3		
C4			CP4	M12	7/16 - 14 UNC	CF4		
C5			CP5	M16	5/8 - 11 UNC	CF5		
C6			CP6	M20	3/4 - 10 UNC			
C7			CP7	M24	7/8 - 9 UNC			
C8			CP8	M30	11/8 - 7 UNC			
C9			CP9	M30	11/4 - 7 UNC			
			CP10					

PROPERTY CLASSES FOR BOLTS AND SCREWS

ACCESSORIES	MATERIAL	FINISHING	CLASS
Socket cap screw	Steel	Zinc plated/Untreated	8.8
	Stainless Steel	---	A4-70
Hexagon head bolt	Steel	Zinc plated/Untreated	8.8
	Stainless Steel	---	A4-70
Safety washer	Steel	Zinc plated/Untreated	8
	Stainless Steel	---	A4-70
U-bolt nut	Steel	Zinc plated	8
	Stainless Steel	---	A4-70 A2-70
Flanged nut for U-bolts	Steel	Zinc plated	8
	Stainless Steel	---	---
Washer for U-bolts	Steel	Zinc plated	100 HV
	Stainless Steel	---	A4-70 A2-70
Nut bolt	Steel	Zinc plated	8

TIGHTENING TORQUES AND MAXIMUM LOADS IN PIPE DIRECTION



All tightening torques and maximum loads in pipe direction regard clamps with upper plates and hexagon head bolts according to EN ISO 4014/4017.

The value of the load F is an average value of tests performed with steel tube Fe360.
If the stress of the clamp in an axial direction of the pipe, the pipe slides into the clamp.

Sliding starts when F value is reached.

STANDARD SERIES

Code PI.EFFE.CI.	Hexagon head bolt (EN ISO 4014/4017)	Polypropylene		Polyamide		Aluminium	
		Tightening torque (Nm)	Max load in pipe direction F (KN)	Tightening torque (Nm)	Max load in pipe direction F (KN)	Tightening torque (Nm)	Max load in pipe direction F (KN)
C1	M6	8	0,7	10	0,7	12	3,6
C2		8	1,2	10	0,9	12	4,3
C3		8	1,5	10	1	12	4,4
C4		8	1,7	10	1,8	12	4,8
C5		8	1,8	10	1,9	12	5,2
C6		8	2	10	2,1	12	7,5
C7		8	2,2	10	2,8	12	9
C8		8	2,3	10	2,5	---	---
C9		8	2,4	10	2,5	---	---

HEAVY SERIES

Code PI.EFFE.CI.	Hexagon head bolt (EN ISO 4014/4017)	Polypropylene		Polyamide		Aluminium	
		Tightening torque (Nm)	Max load in pipe direction F (KN)	Tightening torque (Nm)	Max load in pipe direction F (KN)	Tightening torque (Nm)	Max load in pipe direction F (KN)
CP1	M10	13	1,8	21	4,5	32	13
CP2		13	3	21	4,7	32	16
CP3		15	3,5	25	5,2	37	16,5
CP4	M12	30	8,5	40	9,5	55	30,5
CP5	M16	46	11,5	56	27	125	36,5
CP6	M20	80	15	155	25	225	62,5
CP7	M24	110	30	200	34	250	71,7
CP8	M30	190	41	360	50	500	86,5
CP9		210	125	380	130	500	190,5
CP10		270	168	450	180	600	244,5

TWIN SERIES

Code PI.EFFE.CI.	Hexagon head bolt (EN ISO 4014/4017)	Polypropylene		Polyamide	
		Tightening torque (Nm)	Max load in pipe direction F (KN)	Tightening torque (Nm)	Max load in pipe direction F (KN)
CF1	M6	6	1,1	6	1,1
CF2	M8	13	2,5	13	2,5
CF3		13	2,1	13	2,1
CF4		13	2,9	13	3,1
CF5		9	2,2	9	2,7