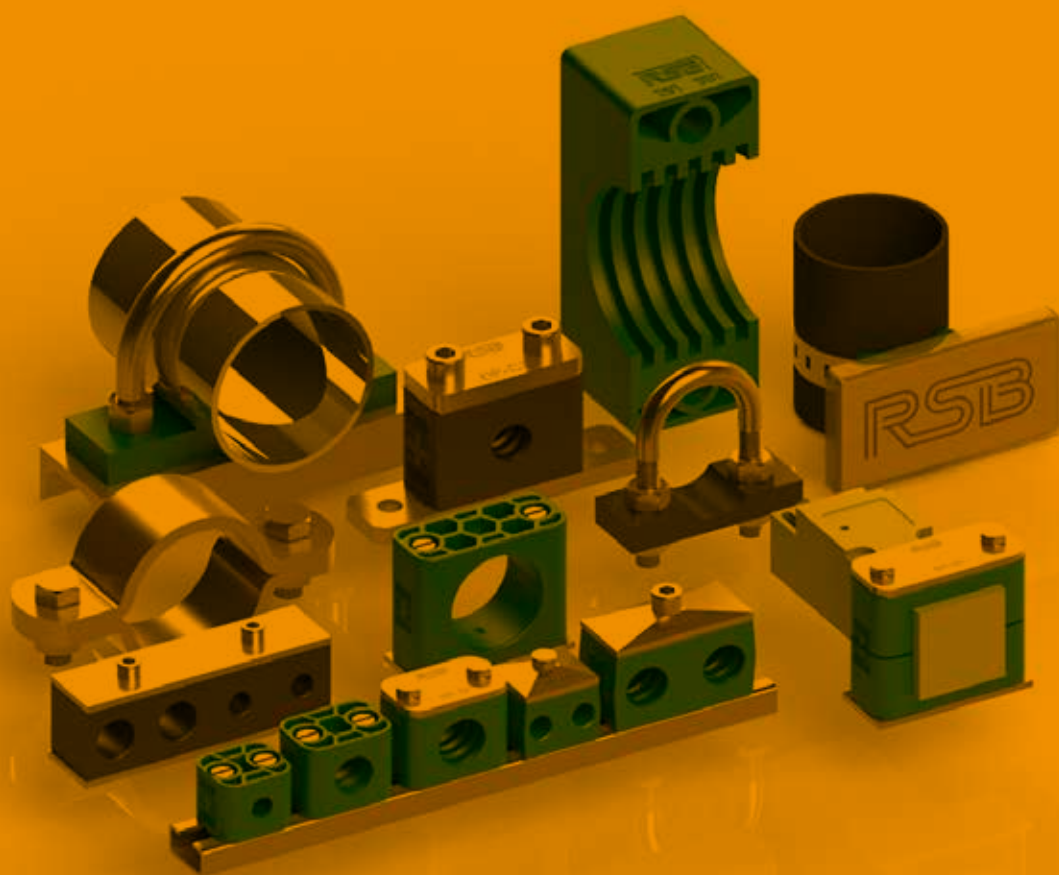


FLUICONNECTO
TUBE CLAMPS
FASTENING SYSTEMS CATALOGUE



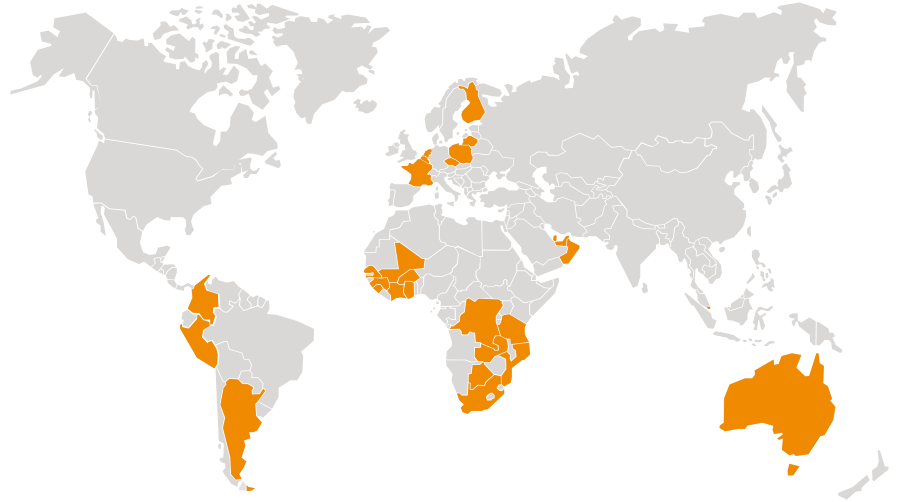
www.fluiconnecto.com

fluiconnecto[®]
— by *manuli*[®] —

WHO WE ARE

Fluiconnecto by Manuli, is a leading international service organization, focused on high pressure fluid connectors, providing products and application knowledge, as well as maintenance services, to all market segments through a global network tailored to local requirements.

Fluiconnecto's services are made **available at the customer's doorstep** in 5 continents through an ever-expanding network of **Hydroshops, on-site Workshops and Service on-site Vans**.



MANULI RUBBER INDUSTRIES

Fluiconnecto is part of the Manuli Rubber Industries group of companies with 80 years of experience, which includes Manuli-Hydraulics: a leading international manufacturer of hydraulic hoses, connectors and assembled hoses.

QUALITY ASSURANCE

We love high quality. Quality you can trust, so we all can build on that

Fluiconnecto has implemented a quality management system compliant to ISO 9001:2015. From in-house production and management systems to the final product, quality is never compromised.

Our in-house corporate quality system ensures that only fully approved and certified products enter the distribution line. This is driven by our business relationships with companies and manufacturers that exhibit an equally high commitment to quality. The awareness of this core value amongst all employees is fully and consistently promoted, making Fluiconnecto a true quality orientated organization.



we work with **trusted** suppliers



we provide products and services **complying to** international standards



we participate in **industry associations** and standardization committees



we have **ISO 9001** certifications



we invest in our **employees**



WE KEEP IT RUNNING

We are your strategic partner for all applications and markets

Our solutions are designed to be suitable for each specific application, involving construction machines, mining, industrial processes, agriculture, road construction equipment, drilling, forestry machines, material handling and lifting, road transportation, marine and offshore, among others.



OIL & GAS SPECIALISTS

- Off-shore Drilling
- On-shore Drilling, incl. Hydraulic Fracturing



MINING SPECIALISTS

- Hard Rock Open Cast
- Soft Rock Open Cast
- Hard Rock Underground
- Soft Rock Underground
- Exploration Drilling



MARINE SPECIALISTS

- Ports
- Dredging & Drainage
- Cargo Ships
- Passenger Cruisers
- Luxury Yachts
- Ship Building & Repair



CIA SPECIALISTS

- Construction
- Agriculture
- Industrial Applications
- Manufacturing
- Logistics
- Forestry
- Waste Management

WHY FLUICONNECTO?

5 good reasons for choosing Fluiconnecto as your trusted partner:



SAVE TIME

- Find all you need in one place.
- We are always close to you through our well-established network of Hydrosops, On-Site Workshops and Service On-Site Vans.
- We offer 24/7 service availability to support you throughout the year, always.



SAVE MONEY

- We bring the manufacturer to your doorstep: Manuli Hydraulics. In this way, we can offer you the best products available in the market.
- We work directly with the manufacturer, ensuring continuity of stock availability, improving your productivity and avoiding additional costs.



REDUCE DOWNTIME

- We help you to evolve from reactive maintenance to preventive maintenance.
- With our **flui-ID Hoses Maintenance Program**, we go beyond inspection activities, optimizing the performance and service life of your hose assemblies.



INCREASE SAFETY

- We work with **MANULI'S INTEGRATED SYSTEM** to ensure increased performance and higher safety.
- We use original Manuli components and we don't mix and match, in this way we can guarantee safety and a longer service life.



GAIN PEACE OF MIND

- Work with our certified and highly qualified technicians, trained directly by Manuli Hydraulics, the manufacturer.
- You can trust our experience and knowledge.
- Our offer has been designed to meet the specific requirements of your market.



WHENEVER YOU NEED US



HYDROSHOP

**ONE STOP-SHOP
CLOSE TO YOU**

Our Hydroshops are specialized Fluiconnecto service points, open to the public and strategically located to serve through convenience and proximity. At our Hydroshops you can easily place and collect your orders, as well as make use of our wide range of professional services: from hose assemblies to the maintenance of hydraulic lines.

Our experienced and professional personnel will guide you through the whole process to find the right solution for your assets and to keep your operations running.

Your benefits:

- Faster ordering via phone, email or fax.
- Products delivered at your doorstep.
- Reduce downtime by using our mobile 24/7 services.
- One stop-shop: all you need in one place.
- Hassle free hose ordering with FLC tagged hoses.
- Find replacement parts quicker: our engineers will advise and order the best solution for you.
- Extended service life of your hose assemblies with Manuli's Integrated System.
- Reduce your inventory: Fluiconnecto carries and manages you inventory for you.



ON-SITE WORKSHOP

**A CONTAINER WORKSHOP WE PLACE AT
YOUR PREMISES**

For demanding conditions that require qualified technicians always on duty, we can rapidly set up a custom container or workshop at your premises, with services and inventory tailored to your needs.

Our face-to-face workshops are flexible solutions fully equipped with hose assembly equipment, a service area and a warehouse that stores all the components you need. With our On-Site workshops, you can have replacement hose assemblies manufactured at your mine site or other remote location.

Your benefits:

- Faster response to emergencies: qualified technicians 24/7 available on call.
- Decrease your stock: product range that suits your needs.
- Hassle free hose ordering: with FLC tagged hoses.
- Reduce your downtime: with our "preventive maintenance" service - flui-ID.
- Extended service life of your hose assemblies with Manuli's Integrated System.
- More effective asset management: closely monitoring hose failures, daily inspections and monthly KPI reporting.



SERVICE ON-SITE VAN

**SUPPORT WHERE AND WHEN
YOU NEED US**

Fluiconnecto's Service On-site Vans are fully equipped mobile workshops that will solve your hydraulic problems wherever and whenever they occur.

An SOS Van can provide support for a variety of hydraulic problems: from replacing a single hose on an excavator working on a construction site, to planned scheduled maintenance of hydraulic circuits on industrial & mobile machines.

Your benefits:

- Faster response to emergencies: qualified technicians 24/7 available on call.
- Hassle free hose ordering: with FLC tagged hoses.
- Reduce your downtime: with our "preventive maintenance" service - flui-ID.
- Extended service life of your hose assemblies with Manuli's Integrated System.
- Save time: by having hydraulic hoses manufactured on-site.

1

- 01 - 02 Tube clamps DIN 3015
- 03 Material properties
- 04 Special-materials for tube- and hoseclamps
- 07 Assembly instructions
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- 23 - 27 Tube clamps Series B



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- 75 - 76 Flat steel U-bolts
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- 82 Flat steel tube clamps



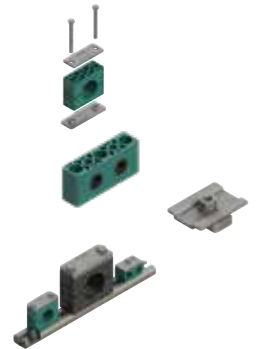
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- 10 - 19 Tube clamps Series A
- 11 - 12 PP-CR the corrosion inhibitor
- 19 Sensor clamps Series A
- 20 - 21 Tube clamps Series 2+5
- 53 - 57 Multiclamps



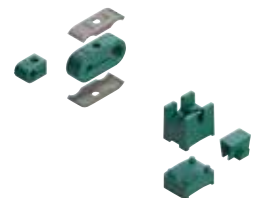
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- 29 - 34 Tube clamps Series C
- 35 - 38 Twin clamp heavy series
- 39 - 42 Fixed adaptor
- 43 - 44 One rail for all



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- 58 - 60 Tube clamps Series O
- 61 - 64 Tube fastening on a cylinder



TYPES

Types of clamp bodies

The clamp bodies are available in these materials ex store:

- Polypropylene (dark green colour)
- Polyamide 6 (black colour)
- TPE (black colour)
- Aluminium

Upper and lower clamp halves are identical.
The inside of the clamp is available with or without grooves.

Grooves on the inside of the clamps have a vibration and impact reducing effect and absorb force towards the direction of the tube axis.

A spacing between both halves produces the prestress of the tube.

For the support of hoses and cables, we recommend to use clamps with an even inside without prestress. The spacing measure s_1 is not required. Thus, the block height h_1 is reduced.



Types of metal parts

As a regular feature of series A and B clamps, screws, rail nuts and cover plates are chromium VI free zinc coated, welding plates phosphatized and mounting rails uncoated.

As a regular feature of series C clamps, all metal parts are uncoated and phosphatized.

All metal parts of the different construction series are available ex stock in stainless steel type W5 (AISI 316).

Other surface treatments are available upon request.
UNC-threads are available upon request.

Metric thread	corresponding UNC-thread
M 6	1/4 - 20 UNC
M 8	5/16 - 18 UNC
M 10	3/8 - 16 UNC
M 12	7/16 - 14 UNC
M 16	5/8 - 11 UNC
M 20	3/4 - 10 UNC
M 24	7/8 - 9 UNC
M 30	1 1/8 - 7 UNC

STRENGTH CLASSES

Type of screw	Material	Strength class
Slotted head screw SL	Steel	4.8 (nach DIN EN ISO 898-1)
	A2	A2-70 (nach DIN EN ISO 3506-1)
	A4	A4-70 (nach DIN EN ISO 3506-1)
Hexagon head screw SSL/SS	Steel	8.8 (nach DIN EN ISO 898-1)
	A2	A2-70 (nach DIN EN ISO 3506-1)
	A4	A4-70 (nach DIN EN ISO 3506-1)
Hexagon socket head screw IS	Steel	8.8 (nach DIN EN ISO 898-1)
	A2	A2-70 (nach DIN EN ISO 3506-1)
	A4	A4-70 (nach DIN EN ISO 3506-1)

MATERIAL PROPERTIES

MECHANICAL PROPERTIES	Polypropylene (PP)	Polyamide (PA 6)	Aluminium (Al)	Thermoplastic elastomer
Density	0,90 g/cm ³	1,10 g/cm ³	2,65 g/cm ³	0,97 g/cm ³
Impact value at 23 °C	7 kJ/m ² (ISO 179/1eA)	8 kJ/mm ² (ISO 179/1eA)		
Impact value at -20 °C	3 kJ/m ² (ISO 179/1eA)			
Modulus of elasticity	1.400 N/mm ² (ISO 527)	2.000 N/mm ² (ISO 527)	72.000 N/mm ²	
Yield stress resp. tensile strength (Rm)	28 N/mm ² (ISO 527)	50 N/mm ² (ISO 527)	>240 N/mm ²	5,2 ... 8,8 N/mm ² (ASTM D412)

THERMAL PROPERTIES	Polypropylene (PP)	Polyamide (PA 6)	Aluminium (Al)	Thermoplastic elastomer
Temperature resistance	-30 ... +90°C	-40 ... +120°C	-40 ... +300°C	-50 ... +120°C

CHEMICAL PROPERTIES	Polypropylene (PP)	Polyamide (PA 6)	Aluminium (Al)	Thermoplastic elastomer
Weak acids	limited resistant	limited resistant	limited resistant	resistant
Weak alkalis	limited resistant	limited resistant	limited resistant	resistant
Alcohol	resistant	resistant	resistant	resistant
Petrol	limited resistant	resistant	resistant	limited resistant
Mineral oils	limited resistant	resistant	resistant	resistant
Other oils	resistant	resistant	resistant	resistant

The outlined particulars are approximate values and are only valid as references, which are not binding, also with regard to possible protection of third parties, and they do not exempt you from your own examination of suitability of the products delivered by us.

Therefore, these values can only be used in a limited sense for construction purposes.

The application of the products is carried out outside our control, and therefore, is exclusively subject to your own area of responsibility. If, however, liability should be possible, it would be limited for all damages to the value of the goods supplied by us and in use by you.

It goes without saying, that we guarantee the perfect quality of our products according to our general sales and delivery conditions.

Other materials on request

PREVENTIVE FIRE PROTECTION

Material:	PA66-F
EN 45545-2	
T01 EN ISO 4589-2: Oxygen Index	OI = 35,5 %
T10.03 EN ISO 5659-2: 25 kW/m ²	D _s max. = 124
T12 NF X 70 100-1 & -2: 600 °C	CIT _{NLP} = 0,51
Compliance of the requirement set R22 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R23 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R24 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R26 for the hazard level:	HL1 - HL2 - HL3

Material:	PP-F
EN 45545-2	
T01 EN ISO 4589-2: Oxygen Index	OI = 38,7 %
T10.03 EN ISO 5659-2: 25 kW/m ²	D _s max. = 48
T12.NF X 70 100-1 & -2: 600 °C	CIT _{NLP} = 0,15
Compliance of the requirement set R22 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R23 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R24 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R26 for the hazard level:	HL1 - HL2 - HL3

Material:	TPE-F
EN 45545-2	
T01 EN ISO 4589-2: Oxygen Index	OI = 33,4 %
T10.03 EN ISO 5659-2: 25 kW/m ²	D _s max. = 79
T12 NF X 70 100-1 & -2: 600 °C	CIT _{NLP} = 0,15
Compliance of the requirement set R22 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R23 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R24 for the hazard level:	HL1 - HL2 - HL3
Compliance of the requirement set R26 for the hazard level:	HL1 - HL2 - HL3

Further fire safety tests on request.

SHIPBUILDING AND OFFSHORE SOLUTIONS

CORROSION-INHIBITING AND SOUND-ABSORBING | IN ACCORDANCE WITH DIN 3015

THE SHIPBUILDING AND OFFSHORE SOLUTION

- Systematic vibration insulation and structure-borne sound insulation
- Certified corrosion inhibitor in line with DIN EN ISO 9227
- Longer service life
- Increased maintenance intervals
- Greater durability of tubes and hydraulic lines

STANDARDS COMPLIANCE APPROVALS

- DNV-GL
- ABS (American Bureau of shipping)
- Bureau Veritas
- Lloyd's Register of Shipping

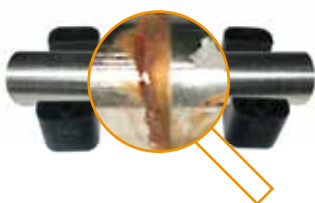
PRODUCTS

1. Tube clamps with noise protection insert
2. Tube clamps series 2+5
3. PP-CR[®] tube clamp
4. U-bolt

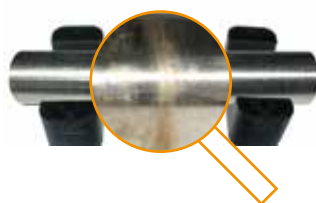


THE CORROSION INHIBITOR TUBE CLAMPS MADE FROM PP-CR[®]

STAINLESS STEEL TUBE (1.4571) AFTER 4,500 HOURS SALT SPRAY TEST



Result with standard polypropylene



Result with PP -CR[®]

FLAME PROTECTED TUBE CLAMPS

FOR IMPROVED RAILWAY VEHICLE SAFETY | IN ACCORDANCE WITH EN 45545-2

THE ADVANTAGES

- Improved railway vehicle safety
- Flame protected in accordance with EN 45545-2, UL 94
- 2+5 system. Only 2 sizes for tube diameters 6 – 42 mm
- Plates and rails in steel and stainless steel

STANDARDS COMPLIANCE

FLAME PROTECTED TUBE CLAMPS
DIN 3015 CERTIFICATION IN LINE WITH

- EN 45545-2
- UL 94

SYSTEMATIC FOR IMPROVED SAFETY!

The well-known tube clamp range from RSB® has just got bigger. Now available as a flame protected version, it is the ideal solution for the transport and railway market. This means improved safety and efficiency for rail vehicles.

PRODUCTS

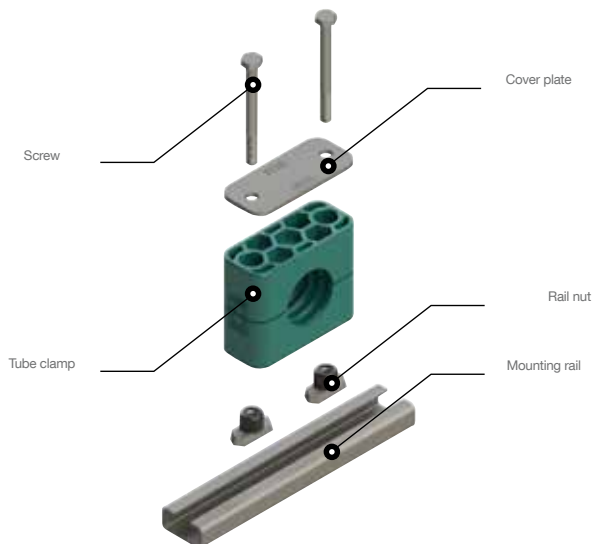
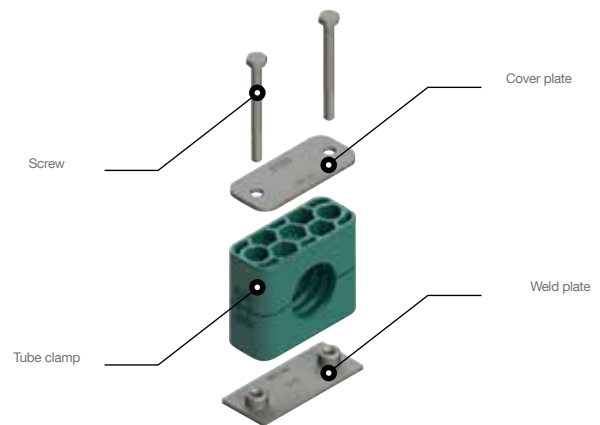
1. Multiclamp series A
2. Tube clamp series A
3. Visitec



ASSEMBLY INSTRUCTION

Assembly on metal welding plates

Place welding plates on a base appropriate for the load. Make sure that the clamps are properly aligned. Clamp lower clamp half onto welding plate, insert tube, place upper clamp half onto lower half and fasten with the screws. Attention must be paid to the prestress (after completed assembly, clamp halves must not be in contact!) Do not weld with fitted plastic clamp! Extended welding plates may be screwfastened to the base.

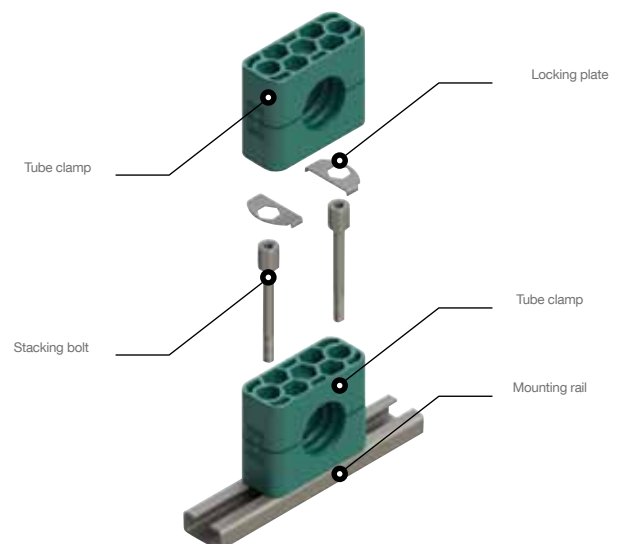


Assembly on mounting rails

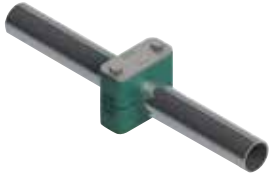
Mounting rails are available in four different heights and come in pieces of 1 m or 2 m length, as required. Weld on mounting rail or screwfasten with fastening angle bracket. Insert mounting rail nuts in rail and turn until stop. For heavy duty construction series, nuts are simply pushed in. Clamp lower clamp half on mounting rail nuts, insert tube, place upper clamp half onto lower half and fasten with the screws. Before fastening the screws, the clamp may still be positioned. Attention must be paid to the prestress (after completed assembly, the clamp halves must not be in contact!)

Stacking assembly

RSB-Clamps allow the assembly of multiple clamps of the same construction size and of different tube diameters one above the other. The construction assembly is carried out with special fixing screws that are secured against twisting by applying a locking plate. Clamp lower clamp half on welding plate or mounting rail respectively, insert tube, place upper clamp half on lower half and fasten with fixing screws. The fixing screw juts out from the upper clamp half. The application of a locking plate securely fastens the fixing screw and prevents twisting. Clamp on second clamp half on to the fixing screws etc.



SCREW TIGHTENING TORQUE AND AXIAL PIPE SHEARING FORCES



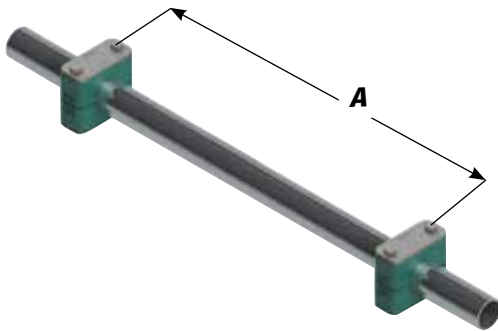
The indicated screw tightening torque and axial pipe shearing forces refer to the assembly with weld plates, cover plates and hexagon head bolts according to ISO 4014/4017 (DIN 931/933). The axial pipe shearing force (according to DIN 3015, part 10) is an average value, determined by three tests made with a steel pipe according to DIN 2448 of St 37, for which static friction is presupposed (temperature during tests: 23°C). When loading the RSB clamp with the indicated test force (F) in axial pipe direction, the pipe does not slide in the clamp.

Light series (DIN 3015, part 1)							
SIZE	Fixing screw ISO 4014/4017 (DIN 931/933)	Polypropylene		Polyamide		Aluminium	
		Screw tightening torque (Nm)	Pipe shearing force F (kN)	Screw tightening torque (Nm)	Pipe shearing force F (kN)	Screw tightening torque (Nm)	Pipe shearing force F (kN)
0	M 6	8	0,6	10	0,6		
1		8	1,1	10	0,7	12	4,2
2		8	1,2	10	0,8	12	4,3
3		8	1,4	10	1,6	12	4,8
4		8	1,5	10	1,7	12	5,0
5		8	1,9	10	2,0	12	7,3
6		8	2,0	10	2,5	12	8,9
7		8	2,3	10	3,2		
8		8	2,6	10	3,5		

Heavy series (DIN 3015, part 1)							
SIZE	Fixing screw ISO 4014/4017 (DIN 931/933)	Polypropylen / Polypropylene		Polyamide		Aluminium	
		Screw tightening torque (Nm)	Pipe shearing force F (kN)	Screw tightening torque (Nm)	Pipe shearing force F (kN)	Screw tightening torque (Nm)	Pipe shearing force F (kN)
1	M 10	12	1,6	20	4,2	30	12,1
2		12	2,9	20	4,5	30	15,1
3		15	3,3	25	5,1	35	15,5
4	M 12	30	8,2	40	9,3	55	29,4
5	M 16	45	11,0	55	15,8	120	34,8
6	M 20	80	14,0	150	21,0	220	50,0
7	M 24	110	28,0	200	32,0	250	70,6
8	M 30	180	40,0	350	48,0	500	84,5
9		200	119,0	370	125,0	500	181,5
10		270	168,0	450	180,0	600	244,5

Double series (DIN 3015, part 3)					
SIZE	Fixing screw ISO 4014/4017 (DIN 931/933)	Polypropylene		Polyamide	
		Screw tightening torque (Nm)	Pipe shearing force F (kN)	Screw tightening torque (Nm)	Pipe shearing force F (kN)
1	M 6	5	0,9	6	0,9
2	M 8	12	2,1	12	2,2
3		12	1,9	12	2,0
4		12	2,7	12	2,9
5		8	1,7	8	2,5

RECOMMENDED CLAMP PITCH



The clamp pitches assigned to the respective outside pipe diameters are standard values for static load.

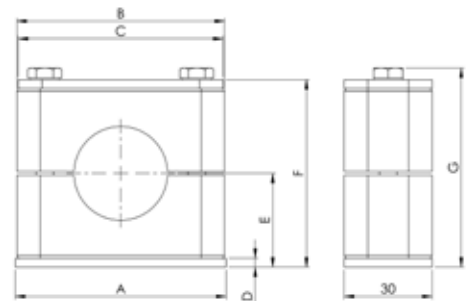
Outside pipe diameter (mm)	Clamp pitch A (m)
6,0 – 12,7	1,0
12,7 – 22,0	1,2
22,0 – 32,0	1,5
32,0 – 38,0	2,0
38,0 – 57,0	2,7
57,0 – 75,0	3,0
75,0 – 76,1	3,5
76,1 – 88,9	3,7
88,9 – 102,0	4,0
102,0 – 114,0	4,5
114,0 – 168,0	5,0
168,0 – 219,0	6,0
219,0 – 324,0	6,7
324,0 – 356,0	7,0
356,0 – 406,0	7,5

PIPE BEND ASSEMBLY



Pipe bends must be fixed with RSB-pipe clamps immediately in front of and behind the bend.

2. TUBE CLAMPS SERIE A



DIMENSIONS AND WEIGHTS OF TUBE CLAMPS, COMPLETE (MM)

SIZE	A	B	C	D	E		F		G		WEIGHT / 10 PCS. RAPR3-xxx (kg)
					Grooved	Smooth	Grooved	Smooth	Grooved	Smooth	
0	30	28	28	3	16,5	16,2	33	32,4	37	36,4	0,66
1	36	34	34	3	16,5	16,2	33	32,4	37	36,4	0,82
2	42	42	40	3	19,5	19,1	39	38,2	43	42,2	0,98
3	50	49	48	3	20,5	20	41	40	45	44	1,14
4	59	59	57	3	24	23,4	48	46,8	52	50,8	1,36
5	72	71	70	3	32	31,4	64	62,8	68	66,8	1,83
6	88	86	86	3	36	35,4	72	70,8	76	74,8	2,22
7	122	121	120	5	51,8	51	103,6	102	107,6	106	4,55
8	148	147	146	5	63,8	63	127,6	126	131,6	130	6,18

The weight was determined with the smallest diameter (see catalogue) and the standard model of the steel parts of the respective quantity in bulk.

THE SOLUTION FOR SUSCEPTIBLE TO CORROSION APPLICATIONS

PP-CR®

PP-CR has been developed based on our approved Polypropylene.

Crevice corrosion between the clamphalves and the tube is effectively retarded by a special corrosion inhibitor.

These properties have been tested and successfully approved in a salt spray test according to DIN EN ISO 9227.

Tube Clamps made of PP-CR are available in all standard dimensions of our approved RSB-TUBE CLAMP range.

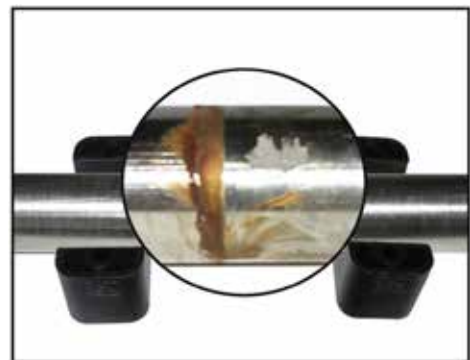
Tube Clamps made of PP-CR are available in slate gray colour.



THE CORROSION INHIBITOR – TUBE CLAMPS MADE OF PP-CR®

clamp size	O.D. mm	1 part / 2 clamp-halves
	d ₁	RAPG
1	4	RAPG-104/CR
	6	RAPG-106/CR
	6,4	RAPG-106,4/CR
	8	RAPG-108/CR
	9,5	RAPG-109,5/CR
	10	RAPG-110/CR
	12	RAPG-112/CR
	12,7	RAPG-112,7/CR
2	12,7	RAPG-212,7/CR
	13,5	RAPG-213,5/CR
	14	RAPG-214/CR
	15	RAPG-215/CR
	16	RAPG-216/CR
	17,2	RAPG-217,2/CR
3	18	RAPG-218/CR
	19	RAPG-319/CR
	20	RAPG-320/CR
	21,3	RAPG-321,3/CR
	22	RAPG-322/CR
	23	RAPG-323/CR
	25	RAPG-325/CR
25,4	RAPG-325,4/CR	
4	26,9	RAPG-426,9/CR
	28	RAPG-428/CR
	30	RAPG-430/CR
5	32	RAPG-532/CR
	33,7	RAPG-533,7/CR
	35	RAPG-535/CR
	38	RAPG-538/CR
	40	RAPG-540/CR
	42	RAPG-542/CR
6	44,5	RAPG-644,5/CR
	45	RAPG-645/CR
	48	RAPG-648/CR
	50	RAPG-650/CR
	50,8	RAPG-650,8/CR
	52	RAPG-652/CR
	54	RAPG-654/CR
	55	RAPG-655/CR
57	RAPG-657/CR	
7	57,2	RAPG-757,2/CR
	60,3	RAPG-760,3/CR
	63,5	RAPG-763,5/CR
	70	RAPG-770/CR
	73	RAPG-773/CR
	76,1	RAPG-776,1/CR
8	88,9	RAPG-888,9/CR
	101,8	RAPG-8101,8/CR

STAINLESS STEEL TUBE (316Ti)
AFTER 4500 H SALT SPRAY



Result with standard Polypropylene



Result with PP-CR

Advantages

- Enormous reduction of crevice corrosion
- Extension of maintenance intervals
- cost reduction due to extended durability of the tubing

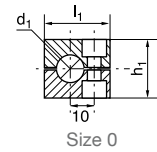
Order codes for clamp-halves:

Polypropylene	RAPR
inside smooth	RAPG²⁾
Polyamide 6	RANR
inside smooth	RANG²⁾
Rubber	RAVR^{3) 4)}
	RAVG^{2) 3)}
Aluminium	RAAR¹⁾

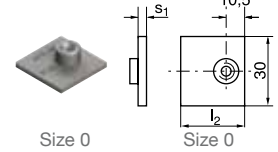
Replace standard abbreviation RAPR in column "clamp-halves" as required.



Size 0



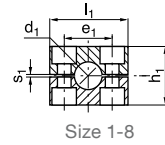
Size 0



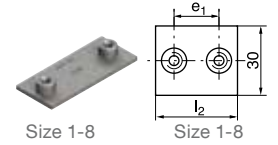
Size 0



Size 1-8



Size 1-8

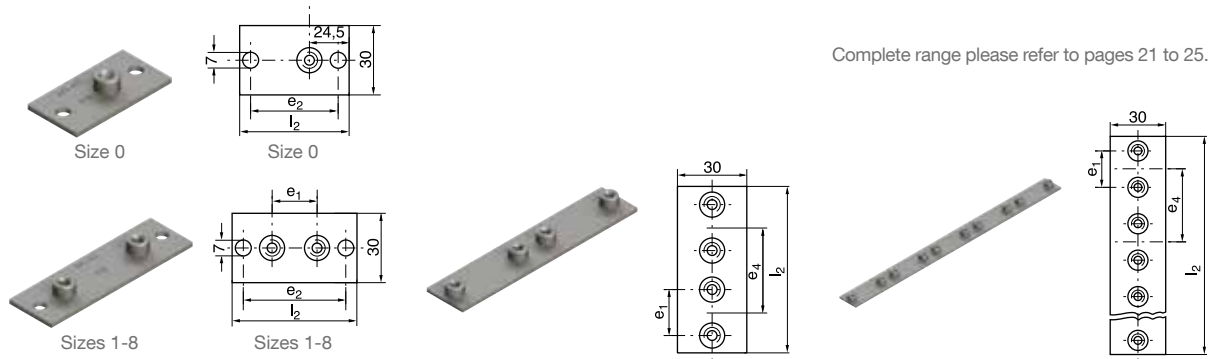


Size 1-8

SIZE	O.D. mm d_1	Tube NB	Inch O.D.	RAPR 1 part / 2 clamp-halves	RAPR-... 2 clamp-halves				APK-A Weld plate													
					l_1	h_1	e_1	s_1	e_1	l_2	s_1											
0	4	G 1/8	1/4 5/16 3/8	RAPR-004 RAPR-006 RAPR-006,4 RAPR-008 RAPR-009,5 RAPR-010 RAPR-012	28	27	-	0,6	APK-A 0	-	30	3										
	6,4																					
	8																					
	9,5																					
	10																					
	12																					
1	4	G 1/8	1/4 5/16 3/8	RAPR-104 RAPR-106 RAPR-106,4 RAPR-108 RAPR-109,5 RAPR-110 RAPR-112	34	27	20	0,6	APK-A 1	20	36	3										
	6,4																					
	8																					
	9,5																					
	10																					
	12																					
2	12,7	G 1/4	1/2	RAPR-212,7 RAPR-213,5 RAPR-214 RAPR-215 RAPR-216 RAPR-217,2 RAPR-218	42	33	26	0,8	APK-A 2	26	42	3										
	13,5																					
	14																					
	15	G 3/8	5/8	RAPR-319 RAPR-320 RAPR-321,3 RAPR-322 RAPR-323 RAPR-325 RAPR-325,4	49	35	33	1	APK-A 3	33	50	3										
	16																					
	17,2																					
18	G 3/4	1	RAPR-426,9 RAPR-428 RAPR-430	59	42	40	1,2	APK-A 4	40	59	3											
19																						
20																						
3	21,3	G 1/2	3/4	RAPR-532 RAPR-533,7 RAPR-535 RAPR-538 RAPR-540 RAPR-542	71	58	52	1,2	APK-A 5	52	72	3										
	22																					
	23																					
	25																					
	25,4																					
	26,9												G 1	1 1/4	RAPR-644,5 RAPR-645 RAPR-648 RAPR-650 RAPR-650,8 RAPR-652 RAPR-654 RAPR-655 RAPR-657	86	66	66	1,2	APK-A 6	66	88
28																						
30																						
4	32	G 1 1/4	1 3/4	RAPR-757,2 RAPR-760,3 RAPR-763,5 RAPR-770 RAPR-773 RAPR-776,1	121	93,6	94	1,6	APK-A 7	94	122	5										
	33,7																					
	35																					
	38																					
	40																					
	42																					
5	44,5	G 2	2 1/4 60,3 2 1/2 2 3/4 73 3	RAPR-888,9 RAPR-8101,8	147	117,6	120	1,6	APK-A 8	120	148	5										
	45																					
	48																					
	50																					
	50,8																					
	52																					
6	54	G 2 1/2	3 1/2 4	RAPR-888,9 RAPR-8101,8	147	117,6	120	1,6	APK-A 8	120	148	5										
	55																					
	57																					
	57,2																					
	60,3																					
	63,5																					
7	70	G 3	3 1/2 4	RAPR-888,9 RAPR-8101,8	147	117,6	120	1,6	APK-A 8	120	148	5										
	73																					
	76,1																					
	88,9																					
	101,8																					
	101,8																					

All metal parts available in stainless steel. ¹⁾Aluminium in sizes 0 to 6 ²⁾without prestress ³⁾When assembling solid rubber tube clamps, cover plates, hexagon screws and locking washers must be used ⁴⁾Rubber in sizes 1 to 5





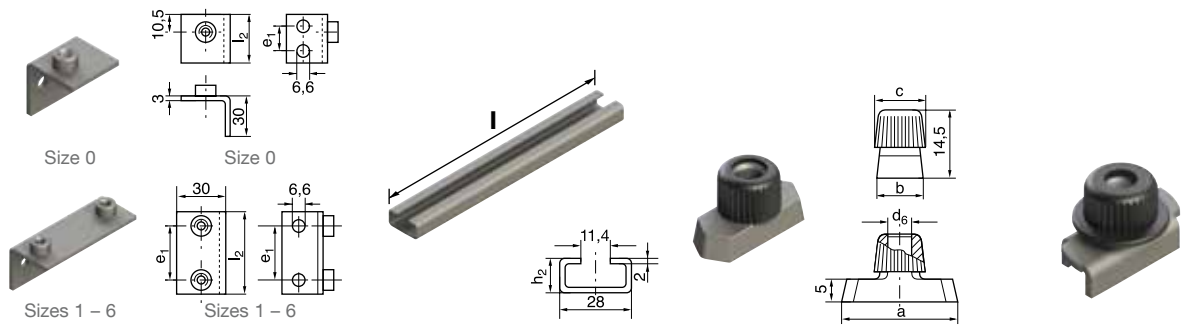
Complete range please refer to pages 21 to 25.

SIZE	APL-A <i>Weld- and screwplate, elongated</i>			APD-A <i>Weldplate, double</i>			APR-A <i>Multiple weld plate</i>					
		e_1	l_2	e_2		e_1	e_4	l_2		e_1	e_4	l_2
0	APL-A 0	-	58	44	APD-A 0	-	30	61	APR-A 0 10 Clamps	-	30	298
1	APL-A 1	20	64	50	APD-A 1 APDL-A 1	20 20	35 40	69 76	APR-A 1 APRL-A 1 10 Clamps	20 20	35 40	349 394
2	APL-A 2	26	70	56	APD-A 2 APDL-A 2	26 26	43 52	86 94	APR-A 2 APRL-A 2 10 Clamps	26 26	43 52	427 508
3	APL-A 3	33	78	64	APD-A 3 APDL-A 3	33 33	52 75	104 125	APR-A 3 APRL-A 3 10 Clamps	33 33	52 75	516 723
4	APL-A 4	40	87	73	APD-A 4	40	60	117	APR-A 4 5 Clamps	40	60	297
5	APL-A 5	52	100	86	APD-A 5	52	75	145	APR-A 5 5 Clamps	52	75	370
6	APL-A 6	66	116	100	APD-A 6	66	90	176	APR-A 6 5 Clamps	66	2,22	446
7	APL-A 7	94	150	136								
8	APL-A 8	120	178	162								

All metal parts available in stainless steel.



Complete range please refer to pages 21 to 25.

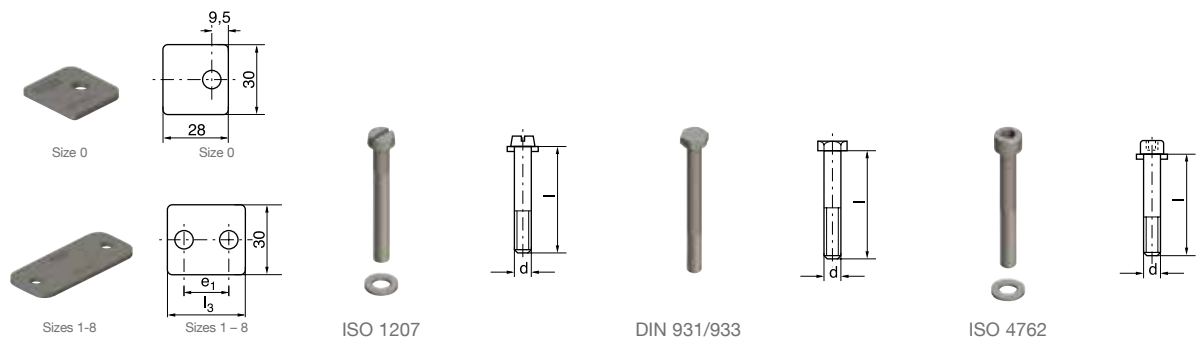


SIZE	APW-A Weld plate, angled	APW-A		TS-A/B Mounting rail			TM-A/B 1 Rail nut				TM-A/B 1 Visitec							
		e_1	l_2	l	h_2	a	b	c	d_6	a	b	c	d_6					
0	APW-A 0	14	30															
1	APW-A 1	20	36															
2	APW-A 2	26	42															
3	APW-A 3	33	50	TS 11-A/B 1	1 m	11												
				TS 11-A/B 2	2 m	11												
4	APW-A 4	40	59	TS 14-A/B 1	1 m	14	TM-A (TM-B1)	25,4	10,4	12	M 6	24,9	10,5	12	M6			
				TS 14-A/B 2	2 m	14												
5	APW-A 5	52	72	TS 30-A/B 1	1 m	30												
				TS 30-A/B 2	2 m	30												
6	APW-A 6	66	88															
7																		
8																		

All metal parts available in stainless steel.



Complete range please refer to pages 21 to 25.

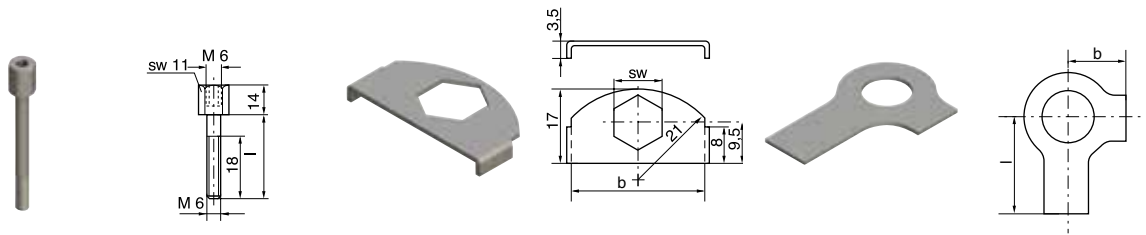


SIZE	DP-A Cover plate	DP-A		SL-A Slotted head screw	SL-A			SSL-A Hexagon head screw	SSL-A			IS-A Hexagon socket head screw	IS-A		
		l_3	e_1		d	x	l		d	x	l		d	x	l
0	DP-A 0	-	-	SL-A 0 / A 1	M 6	x	20	SSL-A 0 / A 1	M 6	x	30	IS-A 0 / A 1	M 6	x	20
1	DP-A 1	34	20	SL-A 0 / A 1	M 6	x	20	SSL-A 0 / A 1	M 6	x	30	IS-A 0 / A 1	M 6	x	20
2	DP-A 2	40	26	SL-A 2	M 6	x	25	SSL-A 2 (SS-B 1)	M 6	x	35	IS-A 2	M 6	x	25
3	DP-A 3	48	33	SL-A 3	M 6	x	30	SSL-A 3	M 6	x	40	IS-A 3	M 6	x	30
4	DP-A 4	57	40	SL-A 4	M 6	x	35	SSL-A 4	M 6	x	45	IS-A 4 (IS-B 1)	M 6	x	35
5	DP-A 5	70	52	SL-A 5	M 6	x	50	SSL-A 5	M 6	x	60	IS-A 5	M 6	x	50
6	DP-A 6	86	66	SL-A 6	M 6	x	60	SSL-A 6	M 6	x	70	IS-A 6	M 6	x	60
7	DP-A 7	120	94	SL-A 7	M 6	x	90	SSL-A 7	M 6	x	100	IS-A 7	M 6	x	90
8	DP-A 8	146	120	SL-A 8	M 6	x	110	SSL-A 8	M 6	x	125	IS-A 8	M 6	x	110

All metal parts available in stainless steel.



Complete range please refer to pages 21 to 25.



SIZE	AS-A Stacking bolt ¹⁾		SBR-A Locking plate ¹⁾			US-A Locking washer ²⁾		
		l		b	SW		b	l
0	AS-A 0 / A 1 (AS-B1)	20						
1	AS-A 0 / A 1 (AS-B1)	20						
2	AS-A 2	25						
3	AS-A 3	28						
4	AS-A 4	34	SBR-A	30	11	US-A	9	18
5	AS-A 5	50						
6	AS-A 6	60						
7	AS-A 7	85						
8	AS-A 8	110						

All metal parts available in stainless steel.

¹⁾The usage of stacking bolts necessitates the use of locking plates during the construction assembly

²⁾When assembling solid rubber clamps, cover plates, hexagon screws and locking washers must be used



VISITEC

THE RAILNUT WITH LOSS PROTECTION



LIGHT SERIES

Order Code:

TM-A/B1 VISITEC 1.4571

TM-A/B1 VISITEC CRVIF

Available with CR-VI free coating and in stainless steel 1.4571

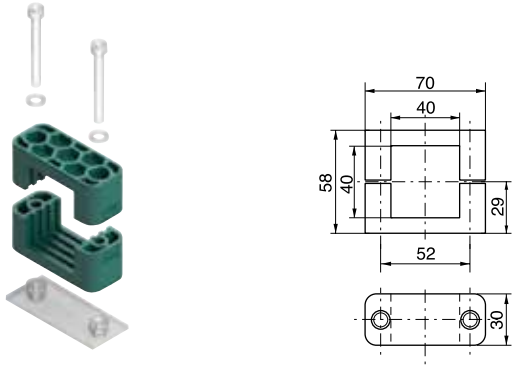
ADVANTAGES

- 40% time savings during installation
- Fast and easy to install
- Vibration and sound insulating function
- Especially for vertical installations

The big flange prevents that the railnut falls into the rail during installation and has a vibration and sound insulating function. The rubbercap has an integrated screw locking device. Fast and easy to install, easy to adjust, especially for vertical installations.

Order codes for clamp-halves:

Polypropylene	RAPS-540
Polyamide 6	RANS-540
Rubber	RAVS-540



1 piece = 2 clamp halves

Fixing clamp for proximity switch built to EN 50 025 and 50 037 with square casing 40 x 40 mm. The sensors can be adjusted axially and laterally when mounted on mounting rails. Accessory materials same as in Series A, size 5.



Series A tube clamps of suitable diameter can be used for fixing proximity switches with a cylindrical casing built according to EN 50 008, 50 036 and 50 040 or similar.



2+5 ... THE SYSTEM!

ONLY 2 TUBE CLAMP SIZES

With our 2+5 RSB-Tube clamps system you can fix all tube diameters between 6 and 42 mm with only 2 tube clamp sizes.

- easy assembly, can be combined with all versions
- all metal parts of our standard program according to DIN 3015 can be used

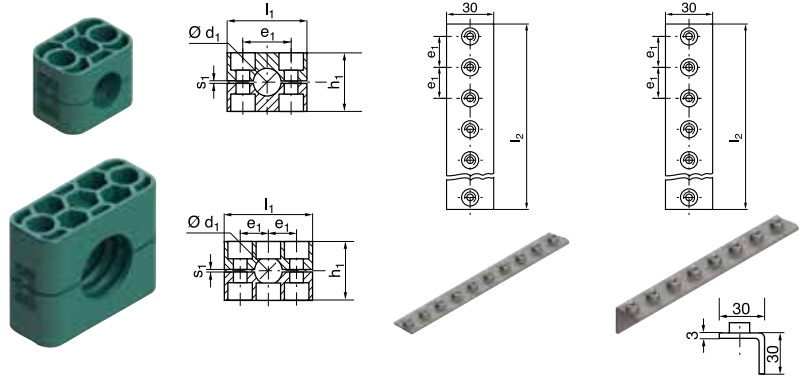


Only one multiple weldplate with similar weldnut distances suits all tube clamps of size 2+5

Order codes for clamp-halves:

Polypropylene **RAPR**
inside smooth **RAPG²⁾**
Polyamide 6 **RANR**
inside smooth **RANG²⁾**
Rubber **RAVR³⁾**
RAVG^{2),3)}
Aluminium **RAAR**

Replace standard abbreviation RAPR in column "Order codes" as required.



SIZE	O.D. mm d_1	Tube NB	Inch O.D.	RAPR	RAPR-...				APRL-A 2		APRWL-A 2	
				1 part / 2 clamp-halves	2 clamp-halves				Multiple welding plate		Multiple welding plate, angled	
					l_1	h_1	e_1	s_1	e_1	l_2	e_1	l_2
2	6	G 1/8	1/4	RAPR-206	42	33	26	0,8	26	508	26	508
	6,4			RAPR-206,4								
	8			RAPR-208								
	9,5			RAPR-209,5								
	10			RAPR-210								
	12			RAPR-212								
	12,7	RAPR-212,7										
	13,5	G 1/4	RAPR-213,5									
	14	RAPR-214										
	15	RAPR-215										
	16	RAPR-216										
	17,2	G 3/8	RAPR-217,2									
18	RAPR-218											
5	19	G 1/2	3/4	RAPR-519	71	58	52	1,2	20 Bolzen/Nuts	508	20 Bolzen/Nuts	508
	20			RAPR-520								
	21,3			RAPR-521,3								
	22			RAPR-522								
	23			RAPR-523								
	25			RAPR-525								
	25,4	RAPR-525,4										
	26,9	G 3/4	RAPR-526,9									
	28	RAPR-528										
	30	RAPR-530										
	32	RAPR-532										
	33,7	G 1	RAPR-533,7									
	35	RAPR-535										
	38	RAPR-538										
40	RAPR-540											
42	G 1 1/4	RAPR-542										

All metal parts available in stainless steel. Please refer to individual components pages 14-18.

²⁾without prestress

³⁾When assembling solid rubber tube clamps, cover plates, hexagon screws and locking washers must be used



SPECIAL CLAMPS

CUSTOM-BUILT TO ORDER
STEEL, ALUMINIUM, POLYAMIDE, POLYPROPYLENE,
THERMOPLASTIC RUBBER, STAINLESS STEEL...



RSB-SPECIAL CLAMPS

For solving your fixing problem that series components cannot.

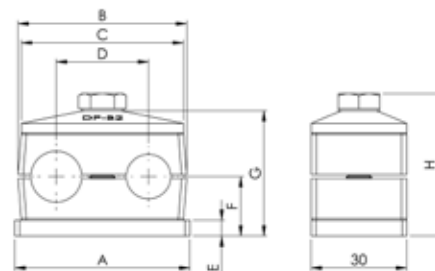
State-of-the-art technology ensures that we can adapt to meet your individual requirements.

We work from a customer sketch or in cooperation with you. We offer expert advice or support you with our in-house developments.

WE ARE THE PEOPLE TO TALK TO!



3. TUBE CLAMPS SERIES B



DIMENSIONS AND WEIGHTS OF TUBE CLAMPS, COMPLETE (MM)

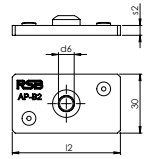
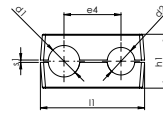
SIZE	A	B	C	D	E	F		G		H		WEIGHT / 10 PCS. RBPR3-xxx (kg)
						Grooved	Smooth	Grooved	Smooth	Grooved	Smooth	
1	37	36	34	20	3	16,5	16	37	36	41	40	0,74
2	55	53	51	29	5	18,7	18,1	39,4	38,2	44,7	43,5	1,32
3	70	67	64	36	5	23,5	22,7	49	47,4	54,3	52,7	1,73
4	85	82	78	45	5	26	25	54	52	59,3	57,3	2,13
5	110	106	102	56	5	32	31	66	64	71,3	69,3	3,01

The weight was determined with the smallest diameter (see catalogue) and the standard model of the steel parts of the respective quantity in bulk.

Order codes for clamp-halves:

Polypropylene **RBPR**
inside smooth **RBPG²⁾**
Polyamide 6 **RBNR**
inside smooth **RBNG²⁾**
Rubber **RBVG^{2) 3)}**

Replace standard abbreviation RBPR in column "clamp-halves" as required.



SIZE	O.D. mm d_1/d_2	Tube NB	Inch O.D.	RBPR	RBPR-...	APZ3-B						
				1 part / 2 clamp-halves ¹⁾	2 clamp-halves	Weld plate with locking device						
					l_1	h_1	e_4	s_1	l_2	s_2	d_6	
1	6	G 1/8	1/4	RBPR-106	36	27	20	1,0	APZ3-B 1 with locking device	37	3	M 6
	6,4			RBPR-106,4								
	8			RBPR-108								
	9,5			RBPR-109,5								
	10			RBPR-110								
	12			RBPR-112								
2	12,7	G 3/8	5/8	RBPR-212,7	53	27,4	29	1,2	APZ3-B 2 with locking device	55	5	M 8
	13,5			RBPR-213,5								
	14			RBPR-214								
	15			RBPR-215								
	16			RBPR-216								
	17,2			RBPR-217,2								
18	RBPR-218											
3	19	G 1/2	3/4	RBPR-319	67	37	36	1,6	APZ3-B 3 with locking device	70	5	M 8
	20			RBPR-320								
	21,3			RBPR-321,3								
	22			RBPR-322								
	25			RBPR-325								
	25,4			RBPR-325,4								
4	26,9	G 3/4	1	RBPR-426,9	82	42	45	2	APZ3-B 4 with locking device	85	5	M 8
	28			RBPR-428								
	30			RBPR-430								
5	32	G 1 1/4	1 1/4	RBPR-532	106	54	56	2	APZ3-B 5 with locking device	110	5	M 8
	33,7			RBPR-533,7								
	35			RBPR-535								
	38			RBPR-538								
	40			RBPR-540								
	42			RBPR-542								

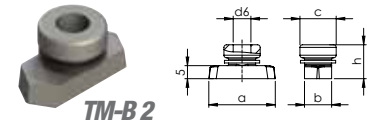
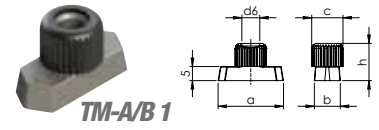
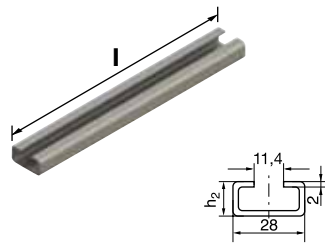
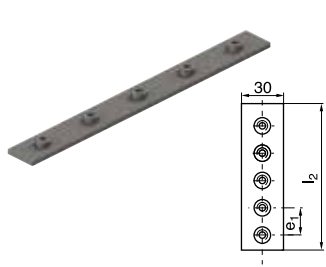
All metal parts available in stainless steel.

¹⁾Twin-tube clamps with different outer tube diameter upon request ²⁾without prestress

³⁾When assembling solid rubber tube clamps, cover plates, hexagon screws and locking washers must be used



Complete range please refer to pages 34 to 35.



SIZE	APR-B Multiple weld plate	APR-B		TS-A/B Mounting rail			TM Rail nut					
		e_1	l_2		l	h_2		a	b	c	d_6	h
1	APR-B 1 5 Clamps	40	196				TM-A/B 1	25,4	10,4	12	M 6	14,5
2	APR-B 2 5 Clamps	58	288	TS 11-A/B 1	1 m	11						
				TS 11-A/B 2	2 m	11						
3	APR-B 3 5 Clamps	72	358	TS 14-A/B 1	1 m	14						
				TS 14-A/B 2	2 m	14						
				TS 30-A/B 1	1 m	30	TM-B 2	25,4	10,4	14	M 8	13
				TS 30-A/B 2	2 m	30						
4	APR-B 4 5 Clamps	90	446									
5	APR-B 5 5 Clamps	112	558									

All metal parts available in stainless steel.



Complete range please refer to pages 34 to 35.



DIN 931/933

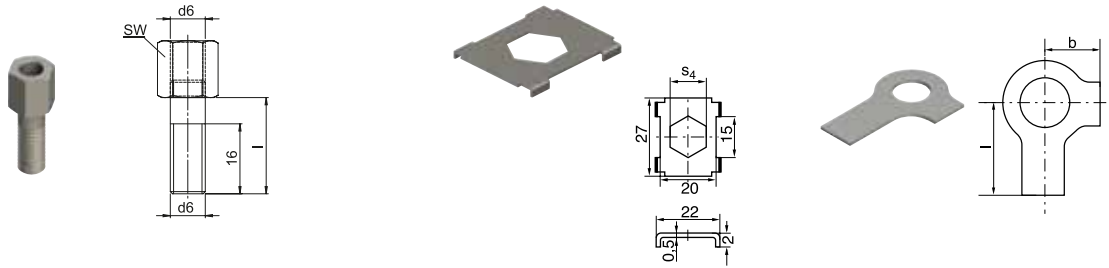
ISO 4762

SIZE	DP-B Cover plate	DP-B		SS-B Hexagon head screw	SS-B			IS-B Hexagon socket head screw	IS-B		
		l_3	d_7		d	x	l		d	x	l
1	DP-B 1	34	7	SS-B 1 (SSL-A 2)	M 6	x	35	IS-B 1 (IS-A 4)	M 6	x	35
2	DP-B 2	51	9	SS-B 2	M 8	x	35	IS-B 2	M 8	x	35
3	DP-B 3	64	9	SS-B 3	M 8	x	45	IS-B 3	M 8	x	45
4	DP-B 4	78	9	SS-B 4	M 8	x	50	IS-B 4	M 8	x	50
5	DP-B 5	102	9	SS-B 5	M 8	x	60	IS-B 5	M 8	x	60

All metal parts available in stainless steel.



Complete range please refer to pages 34 to 35.



SIZE	AS-B Stacking bolt ¹⁾				SB-B Locking plate ¹⁾		US Locking washer ²⁾		
		l	d_6	SW		s_4		b	l
1	AS-B 1 (AS-A 0/A 1)	20	M6	11	SB-B 1	11	US-A	9	18
2	AS-B 2	22	M 8	12	SB-B 2	12	US-B 2	11	20
3	AS-B 3	30	M 8	12					
4	AS-B 4	35	M 8	12					
5	AS-B 5	47	M 8	12					

All metal parts available in stainless steel.

¹⁾The usage of stacking bolts necessitates the deployment of locking plates during the construction assembly

²⁾When assembling solid rubber clamps, cover plates, hexagon screws and locking washers must be used



INNOVATIVE DESIGN INSPIRED BY NATURE – HONEYCOMB-STRUCTURE

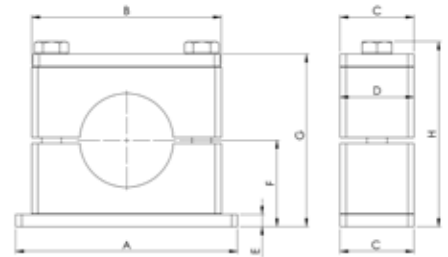


ADVANTAGES

- Optimized product-geometry
- Best possible distribution of pressure
- Highest possible tube holding force

All standard materials available

4. TUBE CLAMPS SERIES C



DIMENSIONS AND WEIGHTS OF TUBE CLAMPS, COMPLETE (MM)

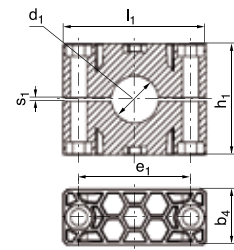
SIZE	A	B	C	D	E	F		G		H		WEIGHT / 10 PCS. RCPR3-xxx (kg)
						Grooved	Smooth	Grooved	Smooth	Grooved	Smooth	
1	73	56	30	30	8	24	23	48	46	54,4	52,4	0,31
2	84	71	30	30	8	32	31	64	62	70,4	68,4	0,41
3	100	86	30	30	8	38	37	76	74	82,4	80,4	0,48
4	140	117	45	45	10	55	53,5	110	107	117,5	114,5	1,24
5	180	154	60	60	10	70	67,5	140	135	150	145	2,43
6	225	206	80	80	15	99	96	198	192	210,5	204,5	6,12
7	270	251	90	90	15	115	112	230	224	245	239	8,69
8	340	320	120	120	25	160	157	320	314	333,7	327,7	22,49
9	520	470	160	162	30	235	–	470	–	488,7	–	51,23
10	680	630	180	182	30	295	–	590	–	608,7	–	74,38

The weight was determined with the smallest diameter (see catalogue) and the standard model of the steel parts of the respective quantity in bulk.

Order codes for clamp-halves:

Polypropylene	RCPR
inside smooth	RCPG^{1) 2)}
Polyamide 6	RCNR
inside smooth	RCNG^{1) 2)}
Rubber	RCVR^{1) 3)}
	RCVG^{1) 2) 3)}
Aluminium	RCAR

Replace standard abbreviation RCPR in column "clamp-halves" as required.



SIZE	O.D. mm d_1	Tube NB	Inch O.D.	RCPR 1 part / 2 clamp-halves	RCPR-... 2 clamp-halves				
					l_1	h_1	e_1	s_1	b_1
1	6	G 1/8	5/16 3/8	RCPR-106	56	32	33	2	30
	8			RCPR-108					
	9,5			RCPR-109,5					
	10			RCPR-110					
	12			RCPR-112					
	12,7	RCPR-112,7							
	13,5	RCPR-113,5							
	14	RCPR-114							
	15	RCPR-115							
	16	RCPR-116							
17,2	G 3/8	5/8	RCPR-117,2						
18			RCPR-118						
2	19	G 1/2	3/4	RCPR-219	71	48	45	2	30
	20			RCPR-220					
	21,3			RCPR-221,3					
	22			RCPR-222					
	23			RCPR-223					
	25	RCPR-225							
	25,4	G 3/4	1	RCPR-225,4					
	26,9			RCPR-226,9					
	28			RCPR-228					
	30			RCPR-230					
30	G 1			1 1/4	RCPR-330				
32		RCPR-332							
33,7		RCPR-333,7							
35		RCPR-335							
38		RCPR-338							
40		RCPR-340							
42	G 1 1/4	1 1/2	RCPR-342						
42			RCPR-342						
4	38	G 1 1/4	1 1/2	RCPR-438	117	90	90	3	45
	40			RCPR-440					
	42			RCPR-442					
	45			RCPR-445					
	48,3	G 1 1/2	2	RCPR-448,3					
	50			RCPR-450					
	51	RCPR-451							
	52	RCPR-452							
	55	RCPR-455							
	57	RCPR-457							
	60,3	G 2	2 1/4	RCPR-460,3					
	63			RCPR-463					
	65			RCPR-465					
	65			RCPR-465					
70	RCPR-470								

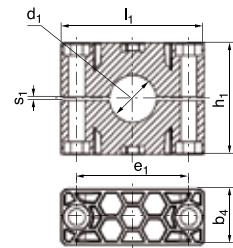
¹⁾Only sizes 1 – 8 ²⁾without prestress

³⁾When assembling solid rubber tube clamps, cover plates, hexagon screws and locking washers must be used

Order codes for clamp-halves:

Polypropylene	RCPR
inside smooth	RCPG^{1) 2)}
Polyamide 6	RCNR
inside smooth	RCNG^{1) 2)}
Rubber	RCVR^{1) 3)}
	RCVG^{1) 2) 3)}
Aluminium	RCAR

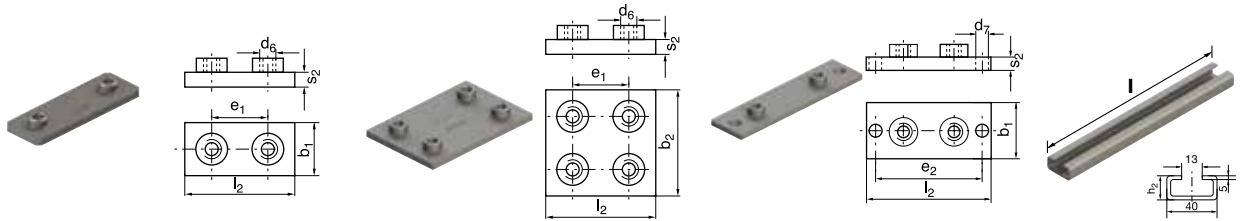
Replace standard abbreviation RCPR in column "clamp-halves" as required.



SIZE	O.D. mm d_1	Tube NB	Inch O.D.	RCPR 1 part / 2 clamp-halves	RCPR-... 2 clamp-halves				
					l_1	h_1	e_1	s_1	b_1
5	65	G 2 1/2	2 3/4	RCPR-565	154	120	122	5	60
	70			RCPR-570					
	73			RCPR-573					
	75			RCPR-575					
	76,1			RCPR-576,1					
	80	RCPR-580							
	82,5	RCPR-582,5							
	85	RCPR-585							
	88,9	RCPR-588,9							
	90	RCPR-590							
6	90	G 3 1/2	4	RCPR-690	206	168	168	6	80
	97			RCPR-697					
	100			RCPR-6100					
	101,6			RCPR-6101,6					
	108	RCPR-6108							
	114,3	RCPR-6114,3							
	127	RCPR-6127							
	7	127	G 5	5					
130		RCPR-7130							
133		RCPR-7133							
140		RCPR-7140							
150		RCPR-7150							
152,4		RCPR-7152,4							
159		RCPR-7159							
165,1		RCPR-7165,1							
168,3		RCPR-7168,3							
8		168,3	G 6	8	RCPR-8168,3	320	270	265	6
	177,8	RCPR-8177,8							
	193,7	RCPR-8193,7							
	203	RCPR-8203							
	219,1	RCPR-8219,1							
	220	RCPR-8220							
9	219,1	G 8		RCPR-9219,1	470	410	395	20	162
	244,5	G 10		RCPR-9244,5					
	273	G 12		RCPR-9273					
	323,9			RCPR-9323,9					
10	355,6	G 14		RCPR-10355,6	630	530	534	20	182
	406,4	G 16		RCPR-10406,4					

¹⁾Only sizes 1 – 8 ²⁾without prestress ³⁾When assembling solid rubber tube clamps, cover plates, hexagon screws and locking washers must be used

Complete range please refer to pages 43 to 48.

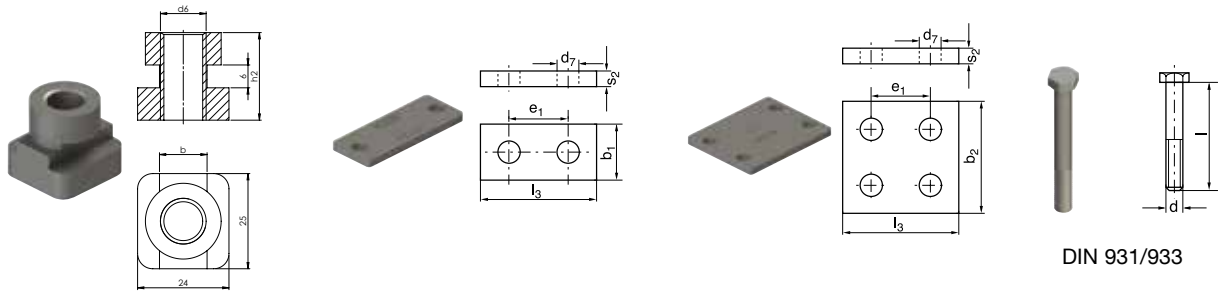


SIZE	AP-C Weld plate						APD-C Weld plate, double						APL-C Weld- and screw plate, elongated						TS-C Mounting rail		
	e_1	b_1	l_2	s_2	d_6		e_1	b_2	l_2	s_2	d_6		l_2	b_1	s_2	e_2	d_7		l	h_2	
1	AP-C 1	33	30	73	8	M 10	APD-C 1	33	60	73	8	M 10	APL-C 1	113	30	8	85	11	TS-C 1 TS-C 2	1m 2m	22
2	AP-C 2	45	30	84	8	M 10	APD-C 2	45	60	84	8	M 10	APL-C 2	125	30	8	97	11			
3	AP-C 3	60	30	100	8	M 10	APD-C 3	60	60	100	8	M 10	APL-C 3	140	30	8	112	11			
4	AP-C 4	90	45	140	10	M 12	APD-C 4	90	90	140	10	M 12	APL-C 4	190	45	10	160	14			
5	AP-C 5	122	60	180	10	M 16	APD-C 5	122	120	180	10	M 16	APL-C 5	240	60	10	205	18			
6	AP-C 6	168	80	225	15	M 20	APD-C 6	168	160	225	15	M 20	APL-C 6	310	80	15	270	22			
7	AP-C 7	205	90	270	15	M 24	APD-C 7	205	180	270	15	M 24	APL-C 7	370	90	15	320	26			
8	AP-C 8	265	120	340	25	M 30	APD-C 8	265	240	340	25	M 30	APL-C 8	450	120	25	390	33			
9	AP-C 9	395	160	520	30	M 30	APD-C 9	395	330	520	30	M 30									
10	AP-C 10	534	180	680	30	M 30	APD-C 10	534	370	680	30	M 30									

All metal parts available in stainless steel.



Complete range please refer to pages 43 to 48.



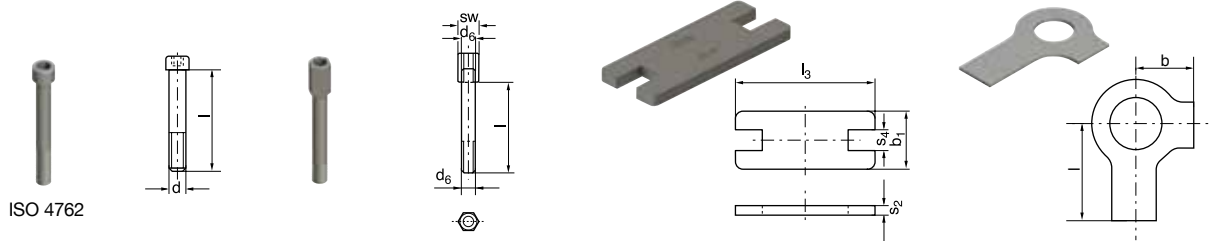
DIN 931/933

SIZE	TM-C Rail nut			DP-C Cover plate					DPD-C Cover plate, double					SS-C Hexagon head screw				
	h_2	b	d_6	l_3	e_1	b_1	s_2	d_7	l_3	e_1	b_2	s_2	d_7	d	x	l		
1				DP-C 1	55	33	30	8	11	DPD-C 1	55	33	60	8	11	SS-C 1	M 10 x 40	
2	TM-C 1	20	12	M 10	DP-C 2	70	45	30	8	11	DPD-C 2	70	45	60	8	11	SS-C 2	M 10 x 60
3					DP-C 3	85	60	30	8	11	DPD-C 3	85	60	60	8	11	SS-C 3	M 10 x 70
4	TM-C 4	23	12,5	M 12	DP-C 4	115	90	45	10	14	DPD-C 4	115	90	90	10	14	SS-C 4	M 12 x 100
5					DP-C 5	152	122	60	10	18	DPD-C 5	152	122	120	10	18	SS-C 5	M 16 x 130
6					DP-C 6	205	168	80	15	22	DPD-C 6	205	168	160	15	24	SS-C 6	M 20 x 190
7					DP-C 7	251	205	90	15	28	DPD-C 7	250	205	180	15	28	SS-C 7	M 24 x 220
8					DP-C 8	320	265	120	25	35	DPD-C 8	322	265	240	25	35	SS-C 8	M 30 x 300
9					DP-C 9	470	395	160	30	35	DPD-C 9	470	395	330	30	35	SS-C 9	M 30 x 450
10					DP-C 10	630	534	180	30	35	DPD-C 10	630	534	360	30	35	SS-C 10	M 30 x 560

All metal parts available in stainless steel.



Complete range please refer to pages 43 to 48.



SIZE	IS-C Hexagon socket head screw			AS-C Stacking bolt ¹⁾			SP-C Locking plate ¹⁾				US-C Locking washer ²⁾			
	d	x	l	l	d ₆	sw	l ₃	b ₁	s ₂	s ₄	b	l		
1	IS-C 1	M 10	x 40	AS-C 1	25	M 10	15	SP-C 1	55	30	8	15,5		
2	IS-C 2	M 10	x 60	AS-C 2	40	M 10	15	SP-C 2	70	30	8	15,5	US-C 1	13 22
3	IS-C 3	M 10	x 70	AS-C 3	50	M 10	15	SP-C 3	85	30	8	15,5		
4	IS-C 4	M 12	x 100	AS-C 4	80	M 12	17	SP-C 4	115	45	10	17,5	US-C 4	15 28
5	IS-C 5	M 16	x 130	AS-C 5	110	M 16	21	SP-C 5	152	60	10	21,5	US-C 5	18 32
6	IS-C 6	M 20	x 190	AS-C 6	155	M 20	27	SP-C 6	205	80	15	27,5	US-C 6	21 36
7	IS-C 7	M 24	x 220	AS-C 7	180	M 24	30	SP-C 7	250	90	15	30,5	US-C 7	25 42
8	IS-C 8	M 30	x 300	AS-C 8	250	M 30	36	SP-C 8	320	120	25	36,5	US-C 8	32 52
9	IS-C 9	M 30	x 450											
10	IS-C 10	M 30	x 560											

All metal parts available in stainless steel.

¹⁾The usage of stacking bolts necessitates the deployment of locking plates during the construction assembly

²⁾When assembling solid rubber clamps, cover plates, hexagon screws and locking washers must be used



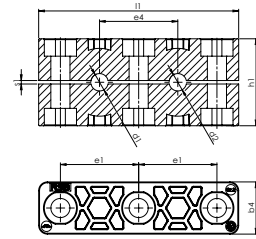
4. TWIN CLAMP HEAVY SERIES



Order codes for clamp-halves:

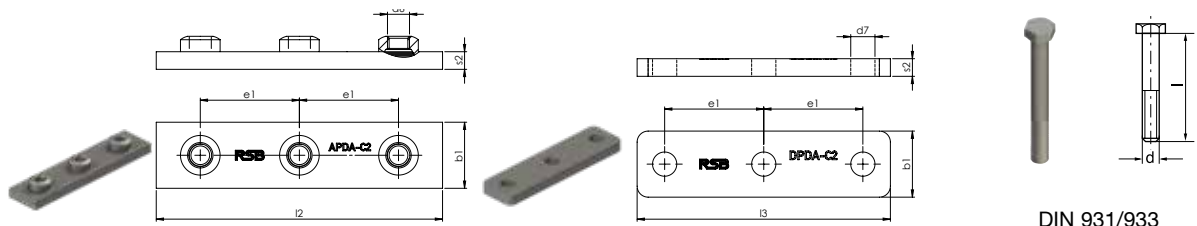
Polypropylene **RCPRD**
 Polyamide 6 **RCNRD**

Replace standard abbreviation RCPRD in column "clamp-halves" as required.



SIZE	O.D. mm		Tube NB	Inch O.D.	RCPRD 1 part / 2 clamp-halves	RCPRD-... 2 clamp-halves					
	d_1/d_2					l_1	h_1	e_1	e_2	s_1	b_1
2	10		G 2		RCPRD-210	115	50	45	45	2	30
	12,7			1/2	RCPRD-212,7						
	19			3/4	RCPRD-219						
	20				RCPRD-220						
	21,3		G 1/2		RCPRD-221,3						
	22				RCPRD-222						
	25,4			1	RCPRD-225,4						
	26,9		G 3/4		RCPRD-226,9						
	28				RCPRD-228						
	30			RCPRD-230							
3	30				RCPRD-330	145	60	60	60	2	30
	32			1 1/4	RCPRD-332						
	33,7		G 1		RCPRD-333,7						
	35				RCPRD-335						
	38			1 1/2	RCPRD-338						
	40				RCPRD-340						
	42		G 1 1/4		RCPRD-342						

Tube clamps with different outer tube diameter upon request.



DIN 931/933

SIZE	APDA-C Weld plate						DPDA-C Weld plate						SS-C Hexagon head screw			
		e_1	b_1	l_2	s_2	d_6		l_3	e_1	b_1	s_2	d_7	d	x	l	
2	APDA-C2	45	30	130	8	M10	DPDA-C2	115	45	30	8	11	SS-C2	M10	x	60
3	APDA-C3	60	30	160	8	M10	DPDA-C3	145	60	30	8	11	SS-C3	M10	x	70

- Also suitable for twin clamp heavy series:
- Hexagon socket head screw IS-C (heavy series, size 2 and 3)
 - Fixed adaptor BA (heavy series, size 2 and 3)
 - Rail nut TM-C (heavy series, size 2 and 3)
 - Mounting rail TS-C (heavy series)
 - Stacking bolt AS-C (heavy series, size 2 and 3)
 - Locking plate SPD-C (heavy series, twin version)

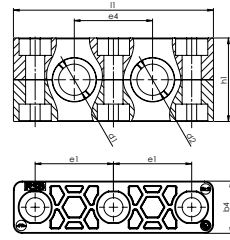
All metal parts available in stainless steel.



**Order codes for
clamp-halves:**

Polypropylene **RCPEED**
Polyamide 6 **RCNEED**

Replace standard abbreviation
RCPEED in column "clamp-halves"
as required.



SIZE	O.D. mm d_1/d_2	Tube NB	Inch O.D.	RCPEED 1 part / 2 clamp-halves	RCPEED-... 2 clamp-halves				
					l_1	h_1	e_1	e_4	b_4
2	6			RCPEED-206	115	48	45	45	30
	8		$\frac{5}{16}$	RCPEED-208					
	10	G 2		RCPEED-210					
	12			RCPEED-212					
	12,7		$\frac{1}{2}$	RCPEED-212,7					
	14			RCPEED-214					
	15			RCPEED-215					
	16		$\frac{5}{8}$	RCPEED-216					
	17,2	G 2		RCPEED-217,2					
	18			RCPEED-218					
3	19		$\frac{3}{4}$	RCPEED-219	145	58	60	60	30
	20			RCPEED-320					
	21,3	G $\frac{1}{2}$		RCPEED-321,3					
	22			RCPEED-322					
	23			RCPEED-323					
	25			RCPEED-325					
	26,9	G $\frac{3}{4}$		RCPEED-326,9					
	28			RCPEED-328					
30			RCPEED-330						
32		$1\frac{1}{4}$	RCPEED-332						

Tube clamps with inserts for different outer tube diameter upon request.

Order codes for clamp-halves:

Polypropylene **RCPED**
 Polyamide 6 **RCNED**

Replace standard abbreviation RCPED in column "clamp-halves" as required.



SIZE	O.D. mm d_1/d_2	Tube NB	Inch O.D.	RCPED Tube clamp suitable for insert	EE-... Noise protection insert
2	6			RCPED-2	EE-206/406
	8		$\frac{5}{16}$		EE-208/408
	10	G 2			EE-210/410
	12				EE-212/412
	12,7		$\frac{1}{2}$		EE-212,7/412,7
	14				EE-214/414
	15				EE-215/415
	16		$\frac{5}{8}$		EE-216/416
	17,2	G 2			EE-217,2/417,2
	18				EE-218/418
	19		$\frac{3}{4}$		EE-219/419
3	20			RCPED-3	EE-320/620
	21,3	G $\frac{1}{2}$			EE-321,3/621,3
	22				EE-322/622
	23				EE-323/623
	25				EE-325/625
	26,9	G $\frac{3}{4}$			EE-326,9/626,9
	28				EE-328/628
	30				EE-330/630
	32		$1\frac{1}{4}$		EE-332/632

4. TWIN CLAMP HEAVY SERIES



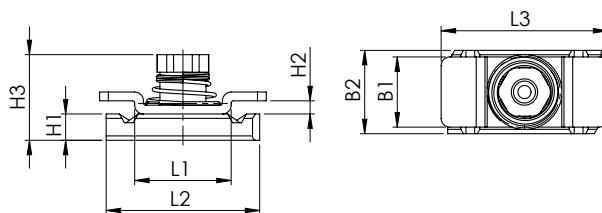
COMPATIBILITY WITH CHANNEL RAILS

HILTI <i>Channel system MQ for medium load)</i>	HALFEN <i>Medium duty channel system)</i>	UNISTRUT®
MQ-21, MQ-21U, MQ-21D	HM 41/22, HL 41/22, HM 41/22 D	P1000, P1000T, P1001, P1001T
MQ-31,	HZM 41/22, HZL 41/22, HZM 41/22 D	P2000, P2000T
MQ-41, MQ-41U, MQ-41D	HM 41/41, HL 41/41, HM 41/41 D	P3300, P3300T10, P3301, P3301T10
MQ-52, MQ-52-72D	HZM 41/41, HZL 41/41, HZM 41/41 D	P4000, P4000T10
MQ-72, MQ-72U	HM 41/62, HL 41/62, HM 41/62 D	P5000T, P5001T, P5500T, P5501T
	HM 41/83, HL 41/83	

Please contact us to check compatibility with additional types of channel rails.

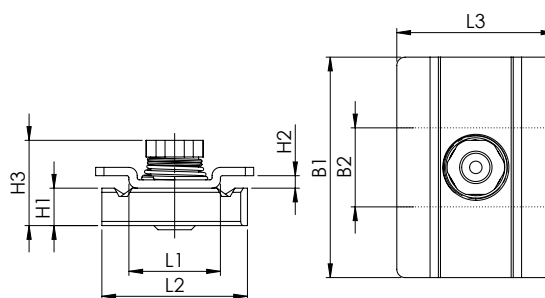


FIXED ADAPTOR FOR SERIES A



SIZE	BA Fixed adaptor									
	L1	L2	L3	B1	B2	H1	H2	H3	d6	
1	BA-A/B1	22	35	38	16	19	6	3	19,5	M6
2										
3										
4										
5										
6										
7										
8										

FIXED ADAPTOR FOR SERIES B

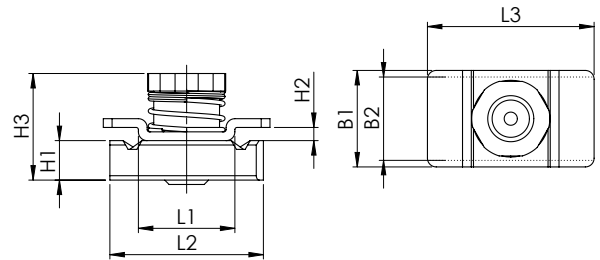


SIZE	BA Fixed adaptor									
	L1	L2	L3	B1	B2	H1	H2	H3	d6	
1	22	35	38	16	19	6	3	19,5	M6	
2				53						
3				80						
4				80						
5				80						

Available: galvanized and stainless steel
Also available in UNC



FIXED ADAPTOR FOR SERIES C



SIZE	BA Fixed adaptor									
	L1	L2	L3	B1	B2	H1	H2	H3	d6	
1	22	35	38	22	19	9	3	24,3	M10	
2										
3										
4	BA-C4			45	25			25,8	M12	

RECOMMENDED SCREW LENGTHS WHEN USING FIXED ADAPTOR BA FOR SERIES C

SIZE	Hexagon head screw (with cover plate)	Hexagon socket head screw (without cover plate)	Stacking bolt
1	M10 x 40	M10 x 20 *	M10 x 20 *
2	M10 x 55 *	M10 x 35 *	M10 x 35 *
3	M10 x 65 *	M10 x 50 *	M10 x 50 *
4	M12 x 100	M12 x 75 *	M12 x 75 *

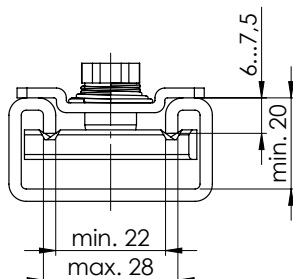
* for screws with special length (different from the catalogue) price on request

Available: galvanized and stainless steel
Also available in UNC



BASIC DIMENSIONAL REQUIREMENTS

FOR CHANNEL RAILS TO BE USED WITH FIXED ADAPTOR BA



EXAMPLE OF ORDER

BA-A/B1/Zn
 BA-B2-3/Mat.A4
 BA-C1-3/Zn/UNC

BA	-	A/B1	/	Zn
----	---	------	---	----

Serie
 A/B1
 B2-3
 B4-5
 C1-3
 C4

Features
 Zn= zinc p/ated
 Mat.A4= stainless steel
 A4 UNC= UNC thread

BA=Fixed adaptor

Available: galvanized and stainless steel
 Also available in UNC



UNLIMITED POSSIBILITIES:

ONE MOUNTING RAIL FOR ALL

**ASSEMBLY OF SERIES A, B AND C COMPONENTS
ON TS-C MOUNTING RAIL**

Design

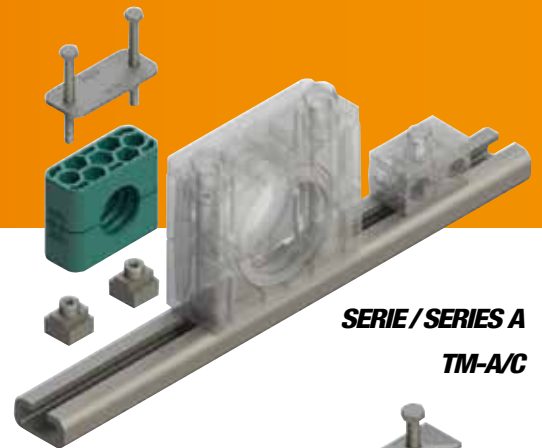
New mounting rail-nuts make it possible to mount standard tube clamps of our series A, B and C, on the heavy duty mounting rail, series C.

YOUR ADVANTAGE

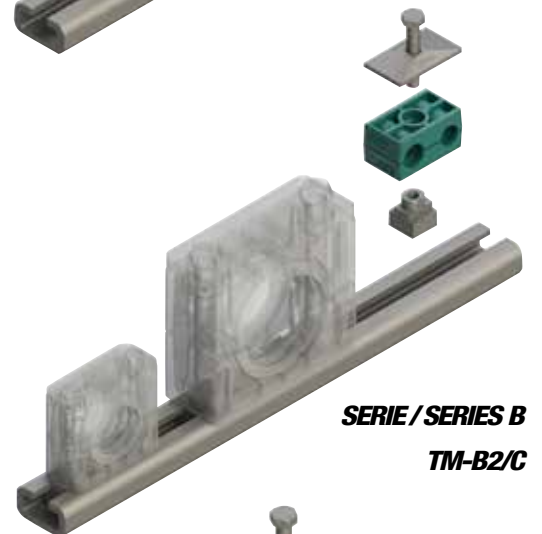
Combine reliable and field-tested components of our various series for a multitude of new applicability:

ONE MOUNTING RAIL – MORE FUNCTIONS!

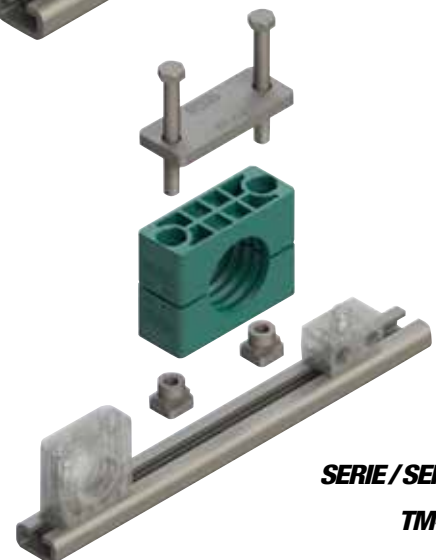
Also available in stainless steel.



**SERIE / SERIES A
TM-A/C**



**SERIE / SERIES B
TM-B2/C**



**SERIE / SERIES C
TM-C1(4)**



RAIL NUTS

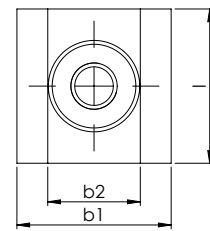
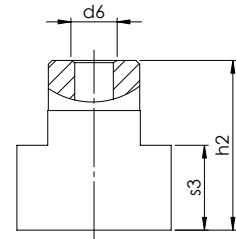
The easiest way to mount DIN 3015 tube clamps on a rail of our heavy duty series.

- Light construction – Series A
- Twin-tube clamps – Series B
- Heavy duty construction – Series C

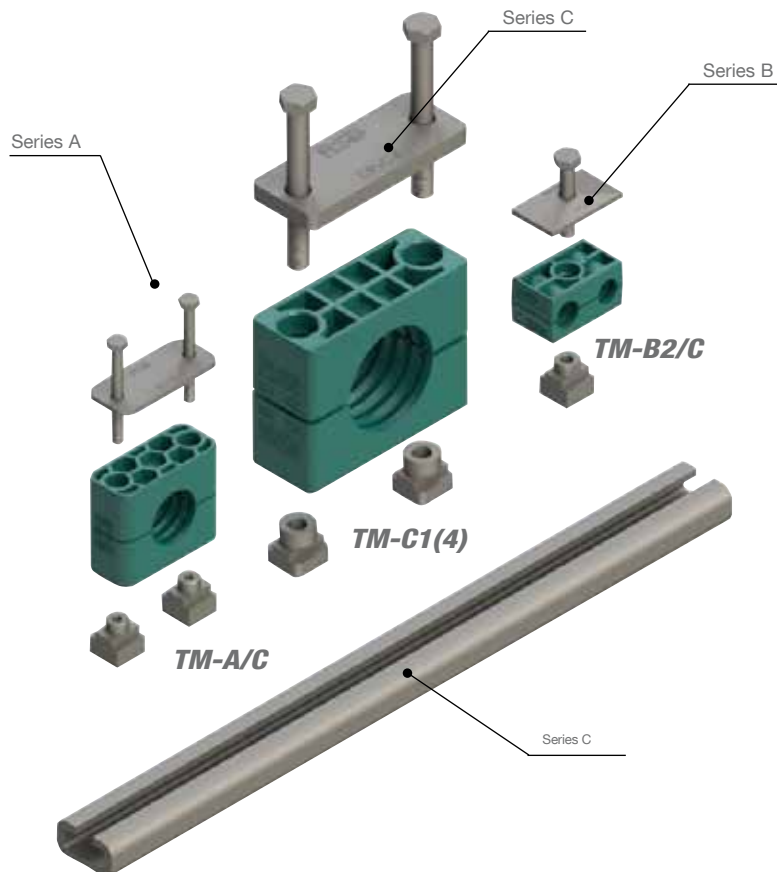
Order codes:
 TM-A/C
 TM-B2/C
 TM-C1
 TM-C4



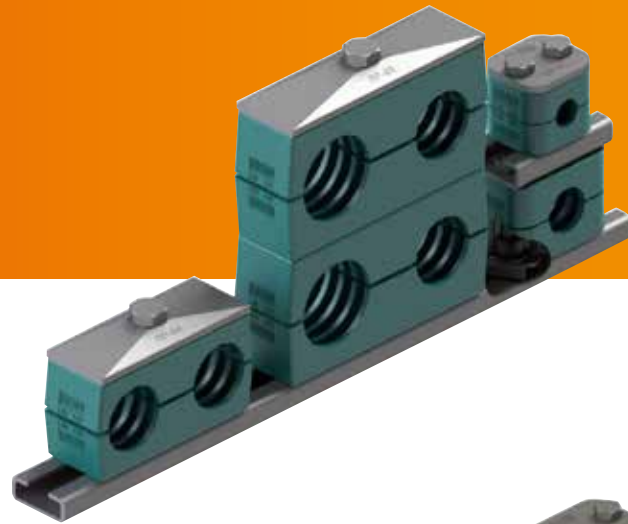
TM-A/C



For clamps series	Order codes	d_6	l	b_1	b_2	h_2	s_3
A / B1	TM-A/C	M 6	20	20	12	22	11
B2 – B5	TM-B2/C	M 8	20	20	12	22	11
C1 – C3	TM-C1	M 10	25	24	12	20	7
C4	TM-C4	M 12	25	24	12,5	23	8,5



EXAMPLES FOR THE ASSEMBLY WITH MOUNTING RAILS



*EASILY ASSEMBLED
INDIVIDUAL COMBINATION
VERSATILE APPLICATION*



5. TUBE CLAMPS WITH NOISE PROTECTION INSERT

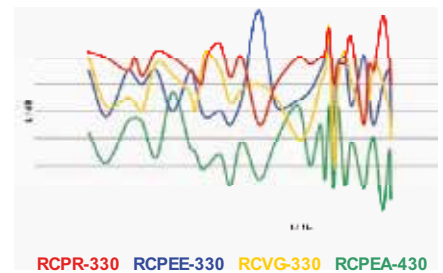


THE SYSTEM FOR VIBRATION INSULATION AND STRUCTURE-BORNE NOISE INSULATION THE SUITABLE SOLUTION FOR EACH APPLICATION!

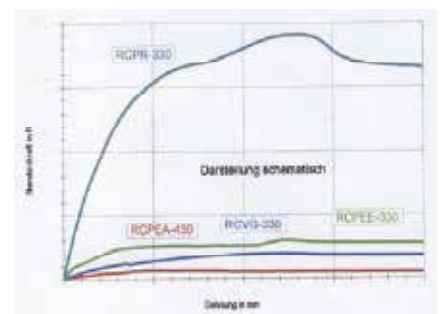
The production of quiet machines, devices and equipment becomes more and more important due to the growing environmental awareness.

With our noise protection system

- Fully flexible tube clamps TPE
 - Tube clamps with noise protection insert EE/TPE
 - Tube clamps with noise protection insert EFA/TPE
- you cover all fields of applications.



Comparison of the noise insulation properties of different tube clamps (schematic)



Comparison of the pipe shearing force of different tube clamps

LIGHT CONSTRUCTIONS SERIES



NOISE
PROTECTION
INSERT

**Order codes for
clamp-halves:**

Polypropylene **RAPE**
Polyamide 6 **RANE**

Replace standard abbreviation
RAPE or RAPEE in column "Series
A" as required.

SIZE SERIES A	O.D. mm	SERIES A		Noise protection insert
		Tube clamp suitable for insert	Tube clamp with noise protection insert	
4	6	RAPE-4	RAPEE-406	EE-206/406
	8		RAPEE-408	EE-208/408
	10		RAPEE-410	EE-210/410
	12		RAPEE-412	EE-212/412
	12,7		RAPEE-412,7	EE-212,7/412,7
	14		RAPEE-414	EE-214/414
	15		RAPEE-415	EE-215/415
	16		RAPEE-416	EE-216/416
	17,2		RAPEE-417,2	EE-217,2/417,2
	18		RAPEE-418	EE-218/418
	19		RAPEE-419	EE-219/419
5	20	RAPE-5	RAPEE-520	EE-520
	22		RAPEE-522	EE-522
	25		RAPEE-525	EE-525
	28		RAPEE-528	EE-528
	30		RAPEE-530	EE-530
6	20	RAPE-6	RAPEE-620	EE-320/620
	21,3		RAPEE-621,3	EE-321,3/621,3
	22		RAPEE-622	EE-322/622
	23		RAPEE-623	EE-323/623
	25		RAPEE-625	EE-325/625
	26,9		RAPEE-626,9	EE-326,9/626,9
	28		RAPEE-628	EE-328/628
	30		RAPEE-630	EE-330/630
	32		RAPEE-632	EE-332/632
6	35	RAPAE-6	RAPEE-635	EE-635
	38		RAPEE-638	EE-638
	42		RAPEE-642	EE-642
	45		RAPEE-645	EE-645

Attention! For tube clamps with noise protection insert, the relation of diameter and size is not identical with the profile design or smooth design.

HEAVY SERIES



NOISE
PROTECTION
INSERT

**Order codes for
clamp-halves:**

Polypropylene **RCPE**
Polyamide 6 **RCNE**

Replace standard abbreviation
RCPE or RCPEE in column
"Series C" as required.

**Order codes
for noise protection insert:**
EE-*

complete with clamp size and outside
tube diameter,
TPE 73° Shore

SIZE SERIES C	O.D. mm	SERIES C		Noise protection insert
		Tube clamp suitable for insert	Tube clamp with noise protection insert	
2	6	RCPE-2	RCPEE-206	EE-206/406
	8		RCPEE-208	EE-208/408
	10		RCPEE-210	EE-210/410
	12		RCPEE-212	EE-212/412
	12,7		RCPEE-212,7	EE-212,7/412,7
	14		RCPEE-214	EE-214/414
	15		RCPEE-215	EE-215/415
	16		RCPEE-216	EE-216/416
	17,2		RCPEE-217,2	EE-217,2/417,2
	18		RCPEE-218	EE-218/418
	19		RCPEE-219	EE-219/419
3	20	RCPE-3	RCPEE-320	EE-320/620
	21,3		RCPEE-321,3	EE-321,3/621,3
	22		RCPEE-322	EE-322/622
	23		RCPEE-323	EE-323/623
	25		RCPEE-325	EE-325/625
	26,9		RCPEE-326,9	EE-326,9/626,9
	28		RCPEE-328	EE-328/628
	30		RCPEE-330	EE-330/630
	32		RCPEE-332	EE-332/632
4	32	RCPE-4	RCPEE-432	EE-432
	33,7		RCPEE-433,7	EE-433,7
	35		RCPEE-435	EE-435
	38		RCPEE-438	EE-438
	40		RCPEE-440	EE-440
	42		RCPEE-442	EE-442
	45,5		RCPEE-445,5	EE-445,5
	48		RCPEE-448	EE-448
	51		RCPEE-451	EE-451
	53,4		RCPEE-453,4	EE-453,4
	56,4		RCPEE-456,4	EE-456,4
	60,3		RCPEE-460,3	EE-460,3

Attention! For tube clamps with noise protection insert, the relation of diameter and size is not identical with the profile design or smooth design.

HEAVY SERIES



NOISE PROTECTION INSERT

**Order codes for
clamp-halves:**

Polypropylene **RCPE**
Polyamide 6 **RCNE**

Replace standard abbreviation
RCPE or RCPEE in column "Series
C" as required.

**Order codes
for noise protection insert:**
EE-*

complete with clamp size and out-
side tube diameter,
TPE 73° Shore

SIZE SERIES C	O.D. mm	ERIES C		Noise protection insert
		Tube clamp suitable for insert	Tube clamp with noise protection insert	
5	57	RCPE-5	RCPEE-557	EE-557
	60,3		RCPEE-560,3	EE-560,3
	63,5		RCPEE-563,5	EE-563,5
	65		RCPEE-565	EE-565
	70		RCPEE-570	EE-570
	73		RCPEE-573	EE-573
	76,1		RCPEE-576,1	EE-576,1
6	80	RCPE-6	RCPEE-680	EE-680
	82,5		RCPEE-682,5	EE-682,5
	88,9		RCPEE-688,9	EE-688,9
	100		RCPEE-6100	EE-6100
	101,6		RCPEE-6101,6	EE-6101,6
7	101,6	RCPE-7	RCPEE-7101,6	EE-7101,6
	108		RCPEE-7108	EE-7108
	114,3		RCPEE-7114,3	EE-7114,3
	127		RCPEE-7127	EE-7127
	133		RCPEE-7133	EE-7133

Attention! For tube clamps with noise protection insert, the relation of diameter and size is not identical with the profile design or smooth design.

LIGHT CONSTRUCTIONS SERIES



NOISE PROTECTION INSERT

Order codes for clamp-halves:

Polypropylene **RAPE**
Polyamide 6 **RANE**

Clamp size A6 from Ø 18:
Polypropylene **RAPAE**
Polyamide 6 **RANAE**

Replace standard abbreviation
RAPE or RAPEA in column
"Series A" as required.

Order codes for noise protection insert: **EFA-***

complete with clamp size and out-
side tube diameter,
TPE 55° Shore

SIZE SERIES A	O.D. mm	SERIES A		Noise protection insert
		Tube clamp suitable for insert	Tube clamp with noise protection insert	
4	10	RAPE-4	RAPEA-410	EFA-410/210
5	10 12 15	RAPE-5	RAPEA-510 RAPEA-512 RAPEA-515	EFA-510 EFA-512 EFA-515
6	10 12 15 18 20	RAPE-6	RAPEA-610 RAPEA-612 RAPEA-615 RAPEA-618 RAPEA-620	EFA-610/310 EFA-612/312 EFA-615/315 EFA-618/318 EFA-620/320
6	18 20 22 25 28 30	RAPAE-6	RAPEA-618 RAPEA-620 RAPEA-622 RAPEA-625 RAPEA-628 RAPEA-630	EFA-618 EFA-620 EFA-622 EFA-625 EFA-628 EFA-630

Attention! For tube clamps with noise protection insert, the relation of diameter and size is not identical with the profile design or smooth design.

HEAVY SERIES



NOISE PROTECTION INSERT

Order codes for clamp-halves:

Polypropylene **RCPE**
Polyamide 6 **RCNE**

Replace standard abbreviation
RCPE or RCPEA in column
"Series C" as required.

Order codes for noise protection insert: **EFA-***

complete with clamp size and out-
side tube diameter,
TPE 55° Shore

SIZE SERIES C	O.D. mm	SERIES C		Noise protection insert
		Tube clamp suitable for insert	Tube clamp with noise protection insert	
2	10	RCPE-2	RCPEA-210	EFA-410/210
3	10 12 15 18 20	RCPE-3	RCPEA-310 RCPEA-312 RCPEA-315 RCPEA-318 RCPEA-320	EFA-610/310 EFA-612/312 EFA-615/315 EFA-618/318 EFA-620/320
4	22 25 28 30 35	RCPE-4	RCPEA-422 RCPEA-425 RCPEA-428 RCPEA-430 RCPEA-435	EFA-422 EFA-425 EFA-428 EFA-430 EFA-435
5	35 38 42 48,3 60,3	RCPE-5	RCPEA-535 RCPEA-538 RCPEA-542 RCPEA-548,3 RCPEA-560,3	EFA-535 EFA-538 EFA-542 EFA-548,3 EFA-560,3
6	76,1 88,9	RCPE-6	RCPEA-676,1 RCPEA-688,9	EFA-676,1 EFA-688,9
7	114,3	RCPE-7	RCPEA-7114,3	EFA-7114,3

Attention! For tube clamps with noise protection insert, the relation of diameter and size is not identical with the profile design or smooth design.

THE FULLY FLEXIBLE TUBE CLAMP OPTIMUM SOUND INSULATION AND VIBRATION DAMPENING

THE PRIMARY MATERIAL

The fully flexible tube clamps are made out of thermoplastic caoutchouc.

THE ADVANTAGES

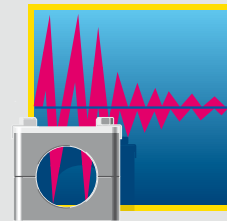
Decisive improvements regarding noise insulation and vibration behaviour. Easy securing also of sensitive tube and pipe installations. The essential qualities of this material are appreciably higher than those of comparable vulcanized rubber products.

THE CONSTRUCTIONS DETAILS

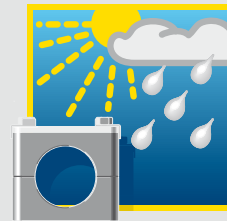
The internal surface are smooth or grooved. A useful screw safety-device guarantees perfect connections also for the solid rubber construction – therefore making a self – acting loosening impossible! The welding plates, covers and screws are also available in stainless steel.

Please order available measurements at the standard range DIN 3015.

Low noise and vibration level



Weather-proof and brittle-resistant



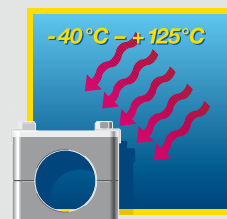
Shape stability with high elasticity



Resistant against many chemicals



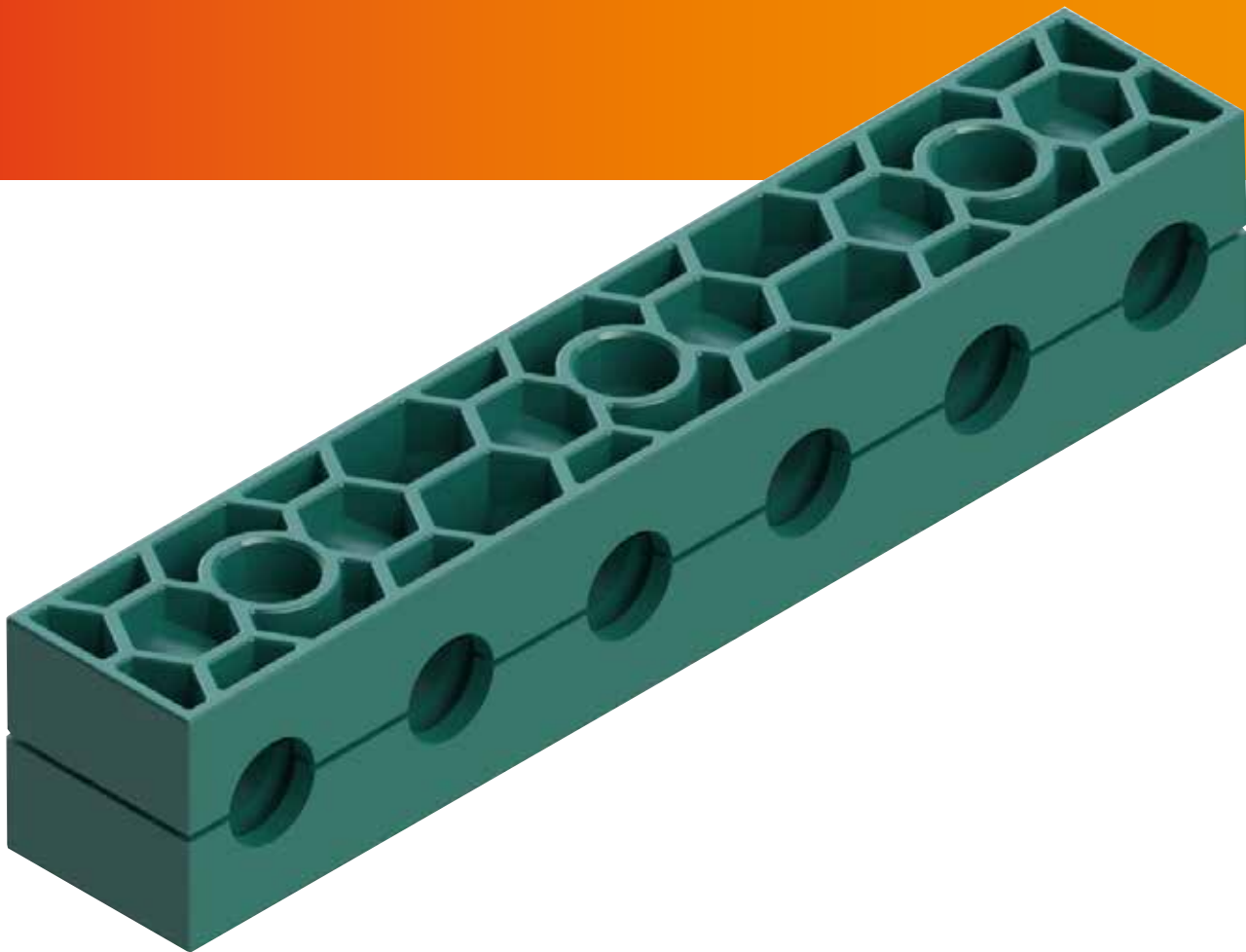
Wide temperature deployment area



**STAINLESS
STEEL**
rust free



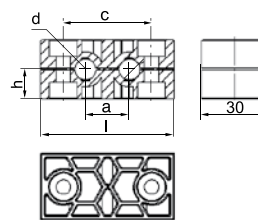
2. MULTICLAMPS



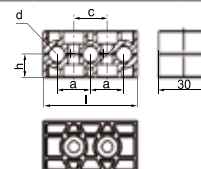
Order codes for clamp-halves:

Polypropylene **RAPRM**
 inside smooth **RAPGM²⁾**
 Polyamide 6 **RANRM**
 inside smooth **RANGM²⁾**
 Rubber **RAVGM^{2) 3)}**

Replace standard abbreviation RAPRM in column "clamp-halves" as required.



SIZE	O.D. mm d_1	Number of tubes	RAPRM 1 part / 2 clamp-halves	RAPRM-... 2 clamp-halves				Fastening screws B
				a	c	h	l	
1	6 6,4 8 9,5 10 12	2	RAPRM-1xxxB2	20	40	13,5	60,5	2
2	10 12 12,7 13,5 14 15 16 17,2 18	2	RAPRM-2xxxB2	29	58	16,5	78,5	2
3	15 16 17,2 18 19 20 21,3 22 23 25 25,4	2	RAPRM-3xxxB2	36	72	18,5	92,5	2



SIZE	O.D. mm d_1	Number of tubes	RAPRM 1 part / 2 clamp-halves	RAPRM-... 2 clamp-halves				Fastening screws B
				a	c	h	l	
1	6 6,4 8 9,5 10 12	3	RAPRM-1xxxB3	20	20	13,5	56	2
2	10 12 12,7 13,5 14 15 16 17,2 18	3	RAPRM-2xxxB3	29	29	16,5	85	2
3	15 16 17,2 18 19 20 21,3 22 23 25 25,4	3	RAPRM-3xxxB3	36	36	18,5	106	2

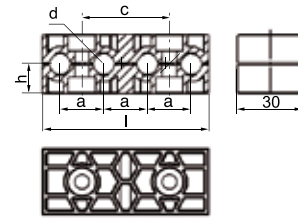
²⁾without prestress

³⁾When assembling solid rubber tube clamps, cover plates, hexagon head screws and locking washers must be used

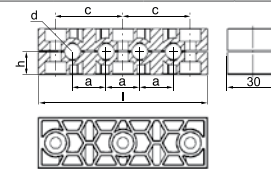
Order codes for clamp-halves:

Polypropylene **RAPRM**
 inside smooth **RAPGM²⁾**
 Polyamide 6 **RANRM**
 inside smooth **RANGM²⁾**
 Rubber **RAVGM^{2) 3)}**

Replace standard abbreviation RAPRM in column "clamp-halves" as required.



SIZE	O.D. mm d_1	Number of tubes	RAPRM 1 part / 2 clamp-halves	RAPRM-... 2 clamp-halves				Fastening screws B
				a	c	h	l	
1	6 6,4 8 9,5 10 12	4	RAPRM-1xxxB4	20	40	13,5	76	2
2	10 12 12,7 13,5 14 15 16 17,2 18	4	RAPRM-2xxxB4	29	58	16,5	114	2
3	15 16 17,2 18 19 20 21,3 22 23 25 25,4	4	RAPRM-3xxxB4	36	72	18,5	142	2



SIZE	O.D. mm d_1	Number of tubes	RAPRM 1 part / 2 clamp-halves	RAPRM-... 2 clamp-halves				Fastening screws C
				a	c	h	l	
1	6 6,4 8 9,5 10 12	4	RAPRM-1xxxC4	20	40	13,5	100,5	3
2	10 12 12,7 13,5 14 15 16 17,2 18	4	RAPRM-2xxxC4	29	58	16,5	136,5	3
3	15 16 17,2 18 19 20 21,3 22 23 25 25,4	4	RAPRM-3xxxC4	36	72	18,5	164,5	3

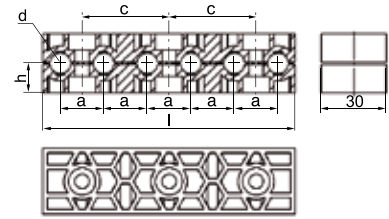
²⁾without prestress

³⁾When assembling solid rubber tube clamps, cover plates, hexagon head screws and locking washers must be used

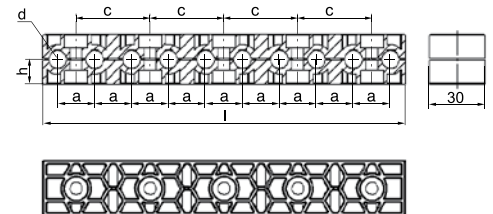
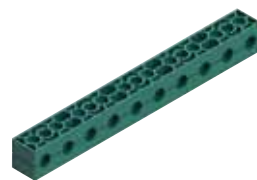
Order codes for clamp-halves:

Polypropylene **RAPRM**
 inside smooth **RAPGM²⁾**
 Polyamide 6 **RANRM**
 inside smooth **RANGM²⁾**
 Rubber **RAVGM^{2) 3)}**

Replace standard abbreviation RAPRM in column "clamp-halves" as required.



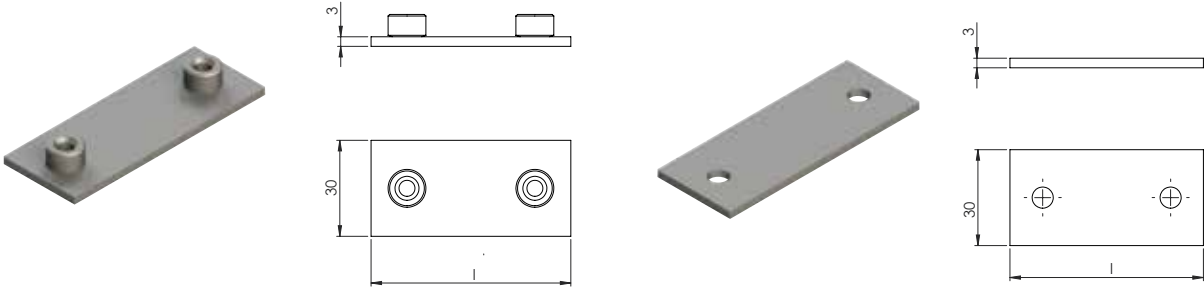
SIZE	O.D. mm d_1	Number of tubes	RAPRM 1 part / 2 clamp-halves	RAPRM-... 2 clamp-halves				Fastening screws C
				a	c	h	l	
1	6	6	RAPRM-1xxxC6	20	40	13,5	116	3
	6,4							
	8							
	9,5							
	10							
	12							
2	10	6	RAPRM-2xxxC6	29	58	16,5	172	3
	12							
	12,7							
	13,5							
	14							
	15							
3	16	6	RAPRM-3xxxC6	36	72	18,5	214	3
	17,2							
	18							
	19							
	20							
	21,3							
22								
23								
25								
25,4								



SIZE	O.D. mm d_1	Number of tubes	RAPRM 1 part / 2 clamp-halves	RAPRM-... 2 clamp-halves				Fastening screws E
				a	c	h	l	
1	6	10	RAPRM-1xxxE10	20	40	13,5	196	5
	6,4							
	8							
	9,5							
	10							
	12							
2	10	10	RAPRM-2xxxE10	29	58	16,5	288	5
	12							
	12,7							
	13,5							
	14							
	15							
3	16	10	RAPRM-3xxxE10	36	72	18,5	358	5
	17,2							
	18							
	19							
	20							
	21,3							
22								
23								
25								
25,4								

²⁾without prestress

³⁾When assembling solid rubber tube clamps, cover plates, hexagon head screws and locking washers must be used



SIZE	APM-A Weld plate						DPM-A Cover plate					
	B2	B3	B4	C4	C6	E10	B2	B3	B4	C4	C6	E10
1	62,5	58	78	102,5	118	198	60,5	56	76	100,5	116	196
2	80,5	87	116	138,5	174	300	78,5	85	114	136,5	172	288
3	94,5	108	144	166,5	216	360	92,5	106	142	164,5	214	358

EXAMPLE OF ORDER

RAPRM-1xx/B2
 RAPRM-106/8/B2
 RAPRM-315/21,3/25,4/B3

R	A	P	R	M	-	1	06	/	B	4	
Serie		Material		Interior surface		Version		Clamp size		Number of Tubes	
A = Light construction series		P = polypropylene, N = polyamide, V = TPE		R = grooved, G = smooth		M = Multi				Number of screws A = 1, B = 2, C = 3, D = 4, E = 5	
Tube clamp											

All metal parts are available in stainless steel.



6. TUBE CLAMPS SERIES O

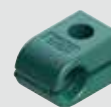


- quick assembly
- space-saving
- Cover plate provides for stable fixing
- secure clamping of tubes due to pre-clamping
- different tube diameters combinable
- Fixing with screws
- particularly suitable for cables, hoses, gas and oil pipes, lubricating lines
- Metal parts also available in stainless steel

**STAINLESS
STEEL**
rust free 

fluiconnecto
— manuli —

Tube clamp series O
space-saving and flexible
from Ø 6 mm to 22 mm



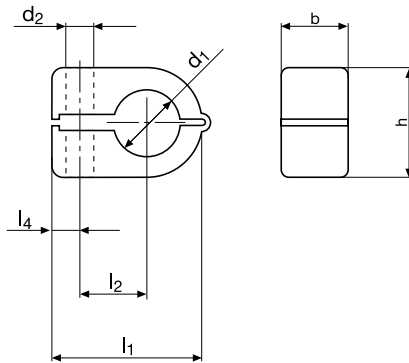
Double-tube clamp series O
with same diameters
from Ø 6 mm to 22 mm



Double-tube clamp series O
with different diameters from
Ø 6 mm to 22 mm



TUBE CLAMP SERIES O



Order codes for clamp-halves:

Polypropylene **ROP-***
Polyamide **RON-***

* supplement with size and tube \varnothing mm
(e.g. ROP-106)

Packing standard:
100 pieces

NOISE PROTECTION INSERT

Areas of application:

- Pneumatics
- Automotive Technology
- Machine tool industry
- Lubrication
- Naval Technology
- suitable for cables and hoses

SIZE	Tube \varnothing d ₁			l ₁	l ₂	l ₄	b	h	d ₂
	O.D. mm	Tube NB	Inch						
1	6		1/4	23	9	7	14,5	13,5	6,5
	6,4								
	8								
2	8	G 1/8	3/8	27	11	7	14,5	18,5	6,5
	9,5								
	10		1/2						
	12								
12,7									
3	10	G 1/8	1/2	34	15	7	14,5	23,5	6,5
	12	G 1/4							
	12,7								
	13,5								
	14								
15	5/8								
16									
4	14	G 3/8	5/8	40	19	6	14,5	30,5	6,5
	15								
	16								
	17,2								
	18	G 1/2	3/4						
	19								
	20								
	21,3								
22									

DOUBLE-TUBE CLAMP SERIES O

Order codes for clamp-halves:

Polypropylene **ROPD-***
 Polyamide **ROND-***

* supplement with size and tube Ø mm (e.g. ROPD-106), different diameters on request

Packing standard:
 100 pieces



COVER PLATE

Order codes: **DP-0***

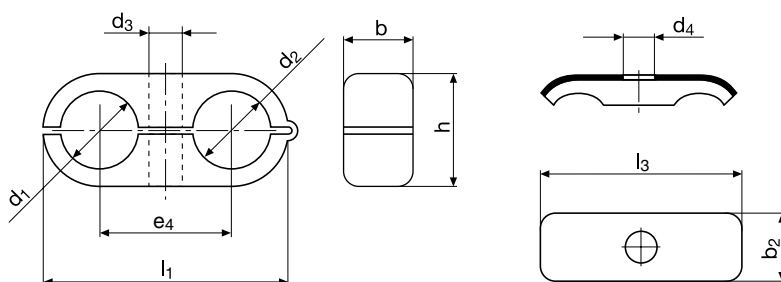
* supplement with size

Material: Galvanized steel
 (Stainless steel upon request)

NOISE PROTECTION INSERT

Areas of application:

- Pneumatics
- Automotive Technology
- Machine tool industry
- Lubrication
- Naval Technology
- suitable for cables and hoses



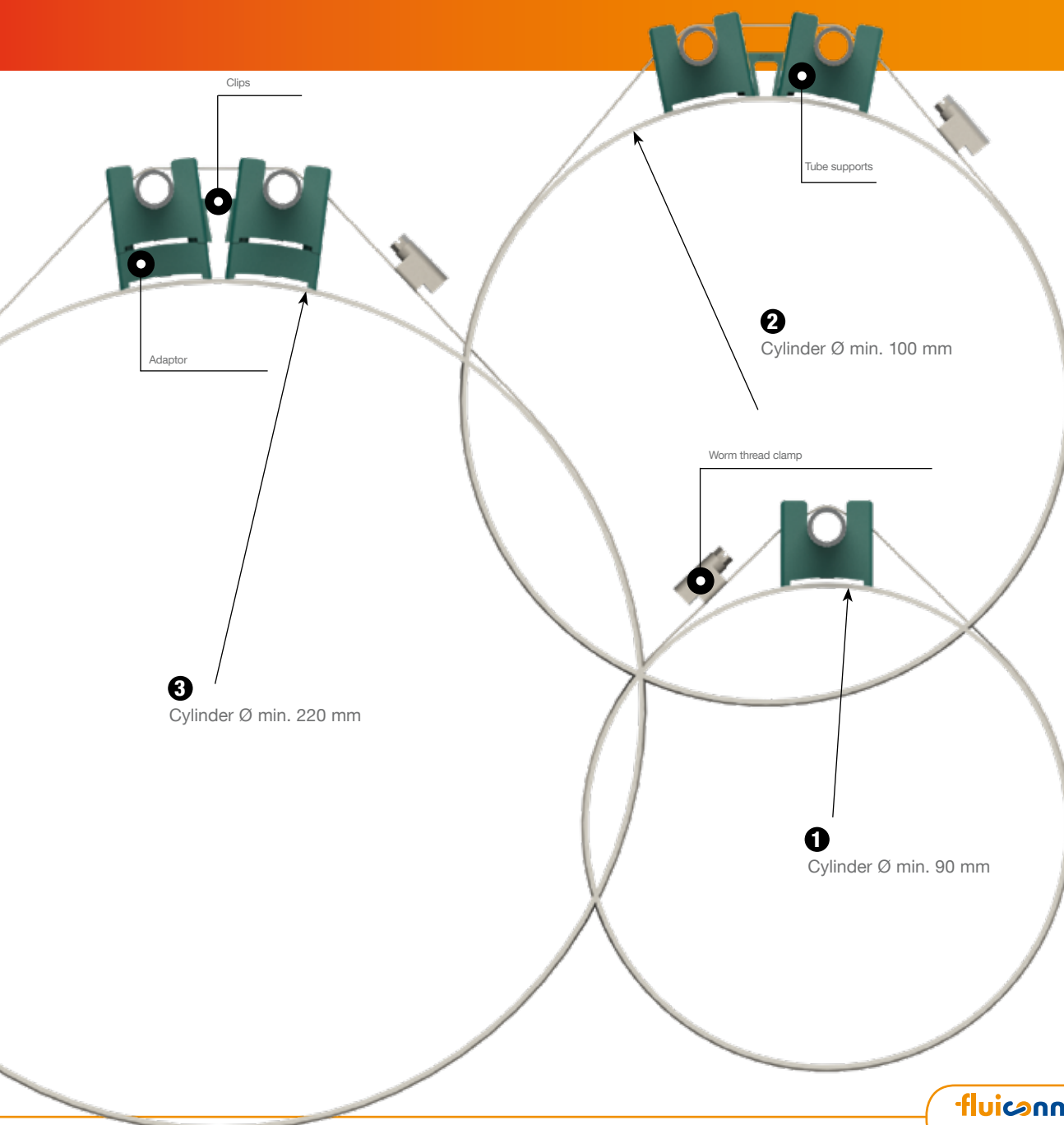
SIZE	Tube Ø d ₁			l ₁	e ₄	b	h	d ₃	l ₃	b ₂	d ₄			
	O.D. mm	Tube NB	Inch											
1	6		1/4	32	18		13,5		29					
	6,4													
	8													
2	8	G 1/8	3/8	41	22		18,5	6,5	40	16,3				
	9,5													
	10													
	12,7													
3	10	G 1/8	1/2	54	30	14,5	23,5	6,5	50,5		6,5			
	12													
	12,7													
	14	G 1/4					5/8					30,5	63	
	15													
16														
4	14	G 3/8	3/4	69	38		30,5	6,5	63	16,5				
	15													
	16													
	17,2													
	18	G 1/2					5/8					38	63	
	19													
	20													
21,3														
22														

All metal parts available in stainless steel.



6. TUBE FASTENING ON A CYLINDER

Tube support – Adaptor – Clip – Worm thread clamps



ASSEMBLY: THE “CLIP + READY”-SYSTEM!

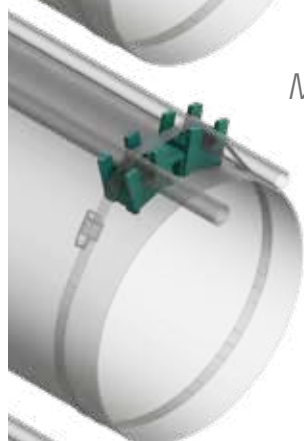
1.



SINGLE ASSEMBLY

Tube support without adaptor

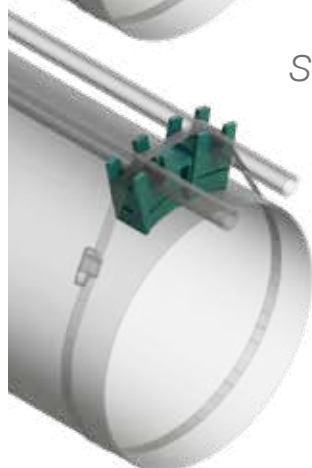
2.



MULTIPLE ASSEMBLY

Tube support with clip

3.



STACKING ASSEMBLY

Tube support with adaptor

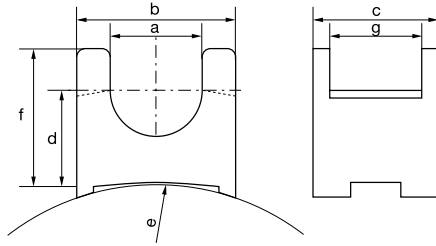
THE COMPLETE SYSTEM CONSISTS OF THE FOLLOWING INDIVIDUAL COMPONENTS:

Tube support, adaptor, clip and worm thread clamps. Practical solutions for many different assembly situations can be found by either using an individual component or by combining all the components.

For example:

- Assembly of tubes or hoses on hydraulic cylinder
- different tube or hose diameters
- different distances between tubes and cylinder
- the assembly of several tube supports for different tube diameters

	FIGURE 1.	FIGURE 2.	FIGURE 3.
Assembly hydr. cylinder	Single-part assembly Tube support without adaptor	Assembly several tube supports with clip without adaptor	Assembly several tube supports with clip adaptors
Cylinder Ø	min. Ø 90 mm	min. Ø 100 mm	min. Ø 220 mm



TUBE SUPPORT

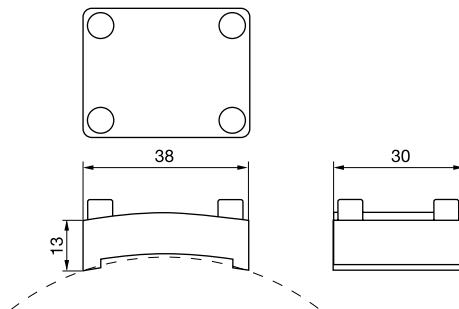
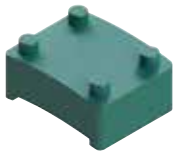
Order codes:
Polypropylene **RLP**

With the RLP tube support, tubes or hoses can be fitted on hydraulic cylinders by using a worm thread clamp.

See figure 1

SIZE Tube Ø mm	Order Codes	a	b	c	d	e	f	g
8	RLP-8	8	38	30	21	R 110	32	22
10	RLP-10	10						
12	RLP-12	12						
15	RLP-15	15						
16	RLP-16	16						
18	RLP-18	18						
20	RLP-20	20						
22	RLP-22	22						
25	RLP-25	25						

ADAPTOR

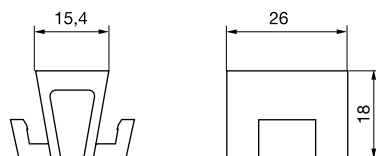
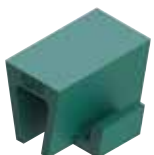


Order codes:
Polypropylene **ADP**

The ADP adaptor is clipped beneath the tube support in order to get a bigger distance between the tube and the cylinder.

See figure 3

CLIPS



Order codes:
Polypropylene **KLP**

KLP clips allow the assembly of tube supports. The tube supports are clipped together with the clip.

See figures 2 and 3

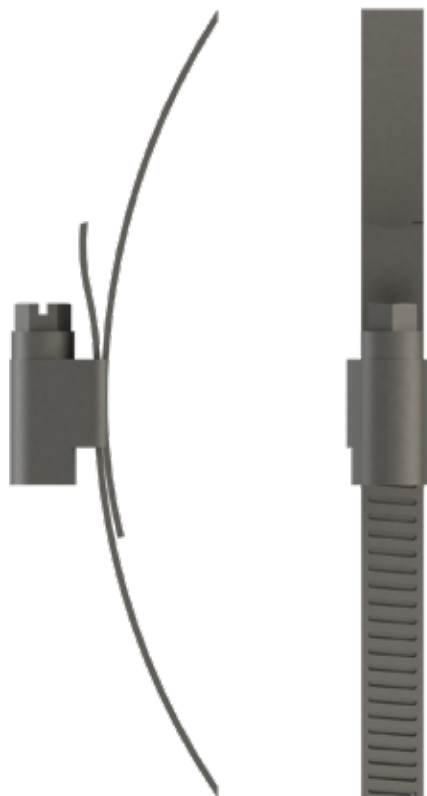
WORM THREAD CLAMPS

Order codes: **SGS**

* please add. to order code:
W1: Steel zinc plated
W5: Stainless steel

**Dimensions to use 1 pipe on 1 support!

Use clamps of the correct size when assembling more than one tube on the cylinder or/and when using the adaptor!



WORM THREAD CLAMPS DIN 3017		
Strip width	Order Codes	Fits cylinders**
12	SGS-100-120/W*	90 – 110
	SGS-110-130/W*	100 – 120
	SGS-120-140/W*	110 – 130
	SGS-130-150/W*	120 – 140
	SGS-140-160/W*	130 – 150
	SGS-150-170/W*	140 – 160
	SGS-160-180/W*	150 – 170
	SGS-170-190/W*	160 – 180
	SGS-180-200/W*	170 – 190
	SGS-190-210/W*	180 – 200
	SGS-200-220/W*	190 – 210
	SGS-210-230/W*	200 – 220
	SGS-220-240/W*	210 – 230
	SGS-230-250/W*	220 – 240
	SGS-240-260/W*	230 – 250
	SGS-250-270/W*	240 – 260
SGS-260-280/W*	250 – 270	



7. HYDRAULIC STEEL CLAMP

Save and vibration-insulation



*SPACE-SAVING SYSTEM
CAN BE WELDED AFTERWARDS
ALLOWS VIBRATION-FREE LAYING AND MOUNTING OF TUBES*

DESIGN

Top and bottom clamp halves are identical. The support-block is welded in upend or flat position.

FIELD OF APPLICATION

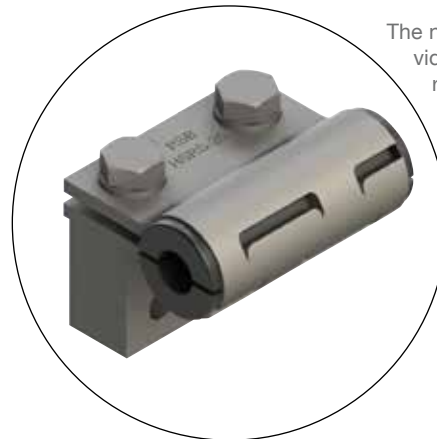
The clamp is used for the whole mobile hydraulic. The small dimension of the clamp allows hydraulic tubes and hoses to be mounted afterwards.

DO UP YOUR CONSTRUCTION MACHINES WITH HSRS HYDRAULIC STEEL CLAMP HSRS



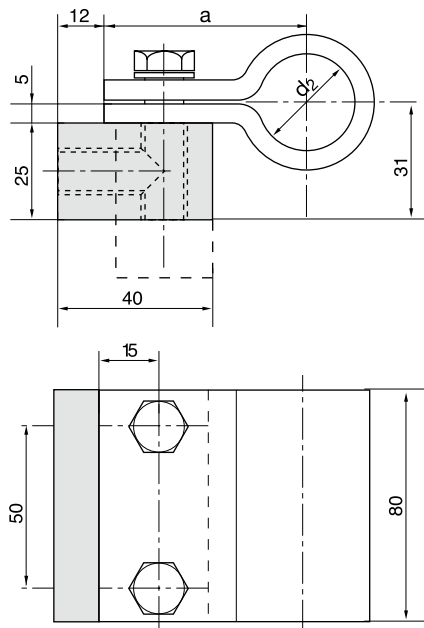
WELD-ON POSSIBILITY LATER ON VIBRATION-FREE INSTALLATION OF TUBES AND HOSES

The robust construction of the clamp provides for impact and vibration reduction. The low height of this clamp type allows hydraulic lines to be installed at any time later on – e.g. for the installation of additional units on construction machines.



The noise protection inlay provides for an improved noise reduction and guarantees the safe fastening of sensitive tubes and host lines.

HYDRAULIC STEEL CLAMP



Order codes:

W1: Steel zinc plated **HSRS-***

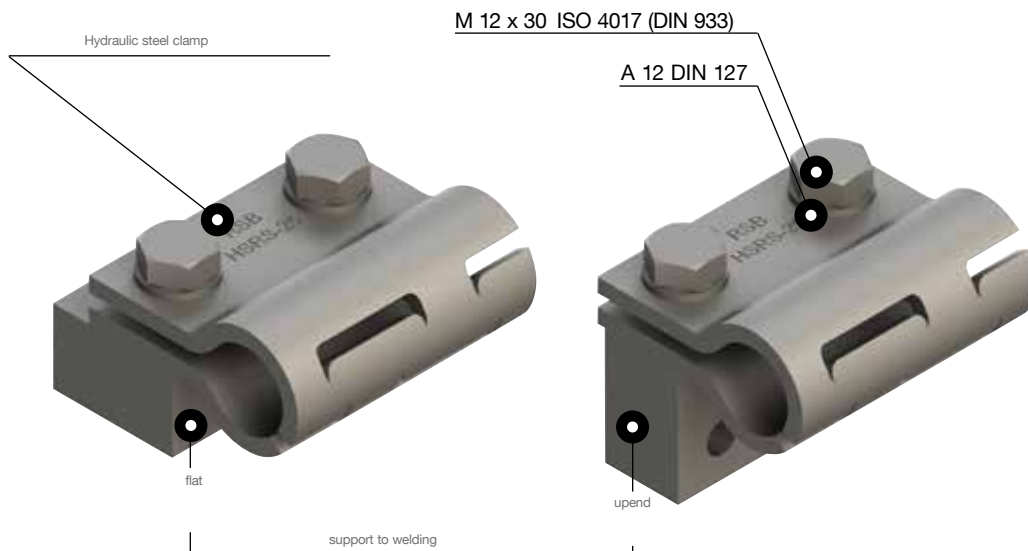
* please add. Ø d2

HSRS hydraulic steel clamps are mainly used in the field of construction machinery.

The support-block is welded to the machine body or another component either in upend or flat position. The tube-clamp is screwed on.

The robust construction of the clamp has an impact- and vibration-insulation effect. The small dimension/height of the clamp allows hydraulic cables to be fitted on later – e.g. for installing additional equipment to building machinery.

Order codes	Measurement	
	Ø d ₂	a
HSRS-25	25	52,5
HSRS-30	30	55
HSRS-35	35	57,5
HSRS-38	38	59
HSRS-42	42	61
HSRS-48	48	64
HSRS-50	50	65
HSRS-60 ¹⁾	60	70



¹⁾ The support can only be used in upright position

NOISE PROTECTION INSERT

Order codes: EE-*

* complete with nominal clamp size and outside tube diameter

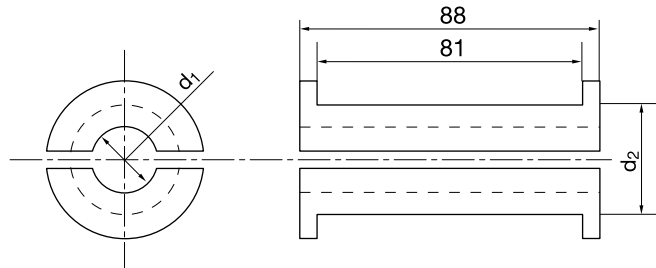
Hydraulik steel clamp HSRS also available with noise protection insert.

The advantages:

- improved quality as regards noise and vibration reduction
- safe fastening method even for very sensitive tube and hose lines
- only one clamp for different tube diameters

Material:

- TPE 64° Shore
- high oil and weathering resistance
 - Temperature stability between -40°C and +120°C



Order codes	Nominal size $\varnothing d_2$	Tube \varnothing mm d_1
EE 25-12	HSRS-25	12
EE 25-15		15
EE 30-20	HSRS-30	20
EE 35-25	HSRS-35	25
EE 42-30	HSRS-42	30
EE 50-35	HSRS-50	35
EE 50-38		38
EE 50-42		42
EE 60-47	HSRS-60	47
EE 60-50		50



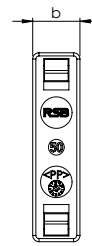
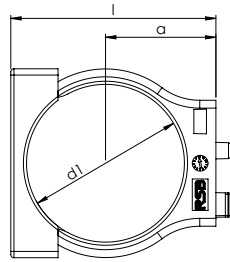
VISITEC

HOSE GUIDE



Order codes:
Polypropylene

SHP



Order Codes	SHP Measurements			
	d_1	a	l	b
SHP-14	14	17	35,6	15
SHP-16	16	18	36,9	
SHP-17	17	18,5	37,5	
SHP-18	18	19	38,1	
SHP-20	20	20	40,3	
SHP-21,5	21,5	20,8	41,6	
SHP-24	24	22	43,6	
SHP-26	26	23	45,3	
SHP-28,5	28,5	24,3	46	
SHP-30	30	25	48,3	
SHP-35	35	27,5	54,7	
SHP-43	43	31,5	60,3	
SHP-50	50	35	65	
SHP-65	65	42,5	79,8	

EXAMPLE OF ORDER

SH P - 35 Visitec

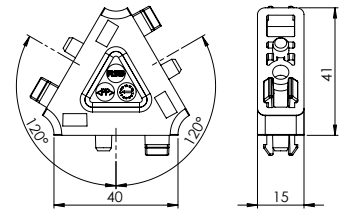
Diameter /
Number of junctions

Material
P=polypropylene

SH=Hose guide (with safety bracket)
ASH=Screw connector for hose guide
VSH=Connector for hose guides

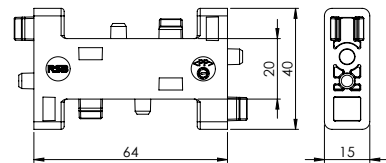
3-WAY CONNECTOR FOR HOSE GUIDES

Order codes:
Polypropylene **VSHP-3**



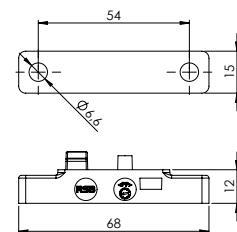
4-WAY CONNECTOR FOR HOSE GUIDES

Order codes:
Polypropylene **VSHP-4**



SREW CONNECTOR FOR HOSE GUIDES

Order codes:
Polypropylene **ASHP-1**

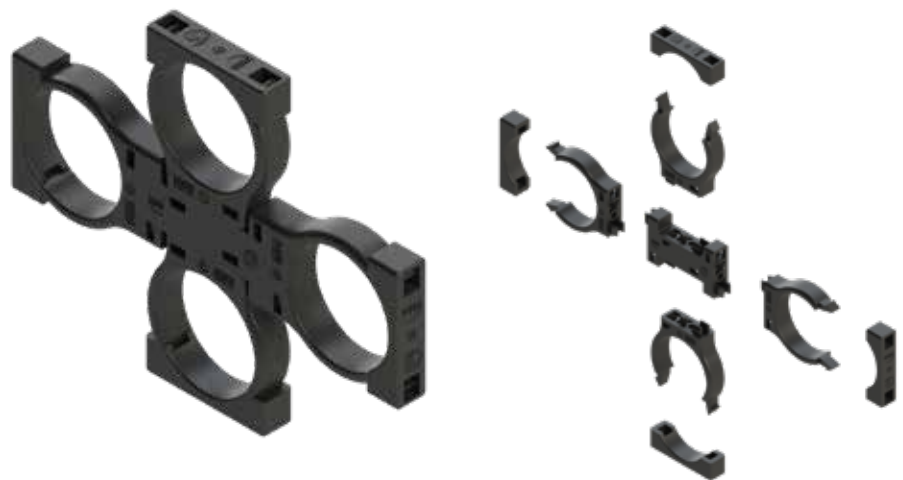


CONVINCING ADVANTAGES

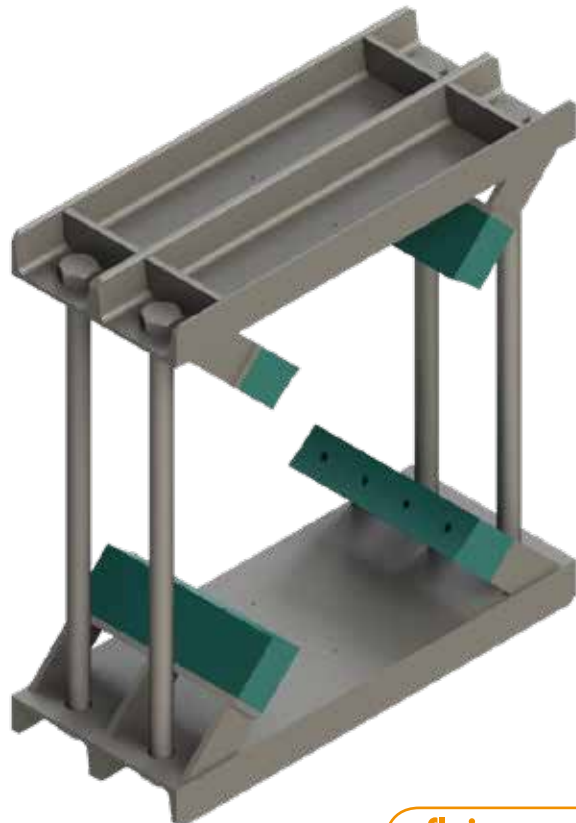
- Simple assembly without damaging the hoses
- Flexible installation
- Variable diameters
- Fixation of up to four hoses with different diameters
- Maintaining complete flexibility
- Successful field testing

The special manufacture and the new design allow for a flexible installation of the hoses; at the same time, damage during assembly is prevented.

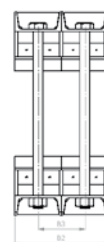
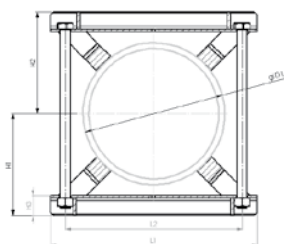
Due to the variable number of diameters, guides of up to four hoses are possible. The new VISITEC hose guide from RSB features can be assembled quickly and easily with many different installation options.



7. STEEL-CONSTRUCTION CLAMP WITH TUBE SADDLES



**STAINLESS
STEEL**
rust free 



O.D.mm D1	Steel-construction clamp								Hexagon head screw	Number of tube saddles
	L1	L2	H1	H2	H3	B1	B2	B3		
220 – 275	420	330	220	220	60	140	280	140	M30 x 370	4
276 – 325	460	370	240	240	60	140	280	140	M30 x 410	4
326 – 370	510	420	260	260	60	140	280	140	M30 x 450	4
371 – 425	570	480	290	290	60	140	280	140	M30 x 510	4
426 – 485	620	530	305	305	60	140	280	140	M30 x 540	4
486 – 550	680	590	370	370	60	140	280	140	M30 x 670	4
551 – 630	760	670	410	410	60	140	280	140	M30 x 750	5
631 – 715	845	755	452	452	60	140	280	140	M30 x 840	5
716 – 800	940	850	495	495	60	140	280	140	M30 x 920	5

EXAMPLE OF ORDER

RKP-355,6/CRVIF
RKPD-273/Zn

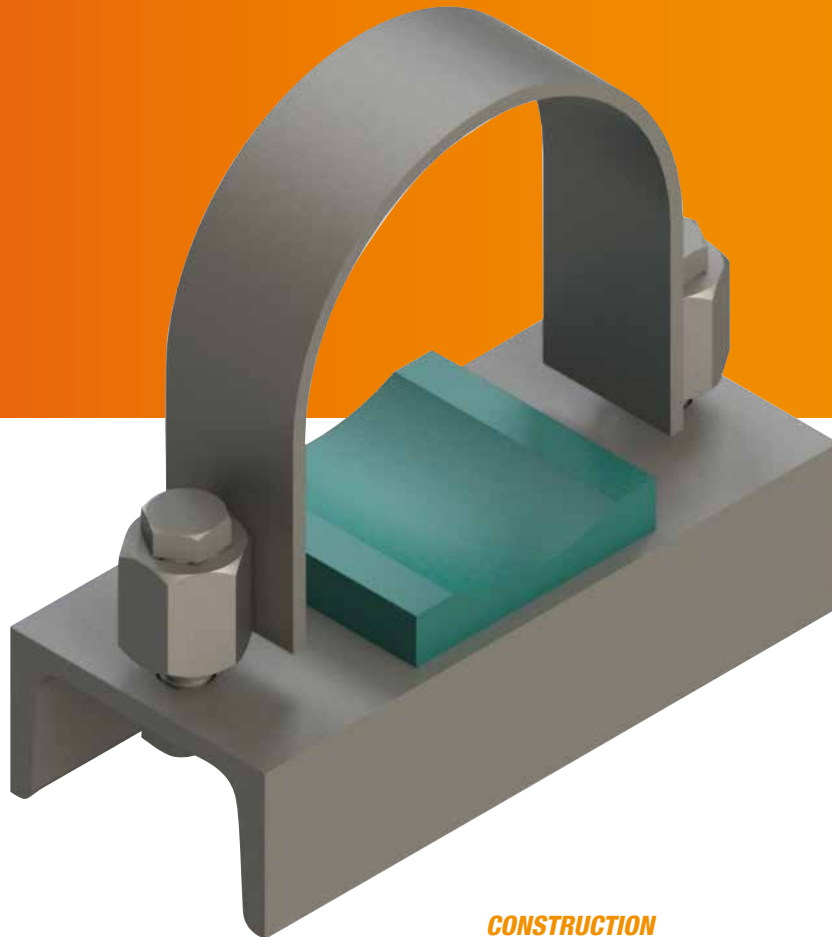
RK P - 220 / CRVIF

RK = Steel-construction clamp with tube saddles
 P = polypropylene, N = polyamide
 Version
 D = double
 Diameter
 Material (tube saddles)
 P = polypropylene, N = polyamide

Features
 Zn = zinc plated
 CRVIF = chromium
 VI free
 Phos = phosphated
 P = primed
 1.4571 = stainless
 steel
 1.4301 = stainless
 steel



7. FLAT STEEL U-BOLTS



AREA OF APPLICATION

Flat steel U-bolts are to be used as fixed point-fastening only.

CONSTRUCTION

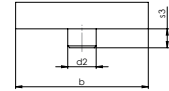
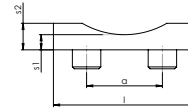
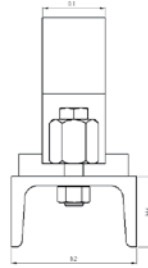
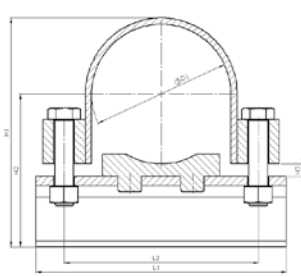
Flat steel U-bolts with U-profile and short tube-saddle KUPK.

Flat steel U-bolts are available for tube diameters from 48,3mm to 521 mm.

The tube saddles are made of polypropylene and polyamide.

**STAINLESS
STEEL**
rust free





SIZE	for tube		Flat steel U-bolt						u-profile	Tube saddle, short						Hexagon head screw	
	D1	NW	L1	L2	H1	H2	H3	B1	B2 x H4	l	a	b	d2	s1	s2		s3
40	48,3	1 1/2"	103	78	94	67	5	20 x 3	DIN 1026 50 x 38	24	25	35	8	5	8	5	M10 x 40
50	57	2"	115	87	103	71,5				38		50	10		10	6	
65	60,3			76,1	2 1/2"	132	106,1	122,1	81,1	8	40 x 4	75	40	70	15	14	10
80	88,9	3"	160	123,9	146	97,5	170	143	165								
100	108	4"	180	149	171	110	40 x 6	DIN 1026 80 x 45	140	90	25	8	23	10	M16 x 75		
125	133			205	168	190										119,5	174,7
150	159	6"	265	207	218	132,5	40 x 8	DIN 1026 100 x 50	220	150	30	30	M20 x 80				
175	168,3			290	241,7	252,7								149,9	267	278	162,5
200	216	8"	315	264	275	161	12	60 x 8	220	150	30	30	M24 x 100				
250	219,1			375	324	328								186,5	273	330	334
300	267	10"	380	330	334	189,5	8	40 x 6	220	150	30	30	M24 x 100				
350	318			430	375	379								212	323,9	384,9	215
400	323,9	12"	475	417,6	421,6	235,8	12	60 x 8	220	150	30	30	M24 x 100				
450	355,6			485	430	434								242	406,4	472,4	261,2
500	406,4	16"	540	468,4	472,4	261,2	12	60 x 8	220	150	30	30	M24 x 100				
550	419			575	519	523								286,5	457	519	523
600	508	20"	625	570	574	312	12	60 x 8	220	150	30	30	M24 x 100				
650	521			635	583	587								318,5	508	570	574

EXAMPLE OF ORDER

RUBF-88,9/Zn/KUPK-80

RUB F - 60,3 / CRVIF / KUPK - 50

Nominal size

Tube saddle
KUPK: polypropylene
KUNK: polyamide

Features
Zn = zinc plated
CRVIF = chromium VI free
Phos = phosphated
P = primed
1.4571 = stainless steel
1.4301 = stainless steel

Diameter

Version
F = flat

U-bolt



7. U-BOLT WITH TUBE SADDLE FLAT STEEL TUBE CLAMP

Steel, galvanized steel and stainless steel

AREA OF APPLICATION

Especially suitable for securing tubes with heat expansion. The tubes can be braced firmly to the bow or, alternatively, slide along grooves.

CONSTRUCTION

U-bolts are available in two designs:

RUBD DIN 3570 with 2 nuts and **RUBL** U-bolts with 4 nuts to be used with tube saddle **KUPK** or **KUPL**. U-bolts are available for tube diameters from 17 to 762 mm.

The tube saddles are made of polypropylene and poly-amide and are produced in a short or long version.

U-bolt with
tube saddle long



U-bolt with
tube saddle short



U-bolt



Flat steel
tube clamp



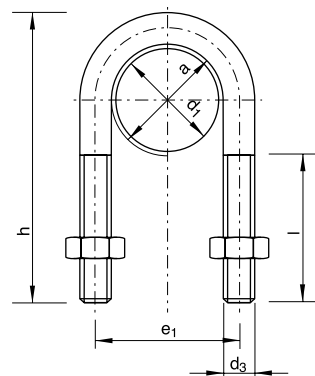
**STAINLESS
STEEL**
rust free



Order codes:

Steel **RUBD-***
 Steel zinc plated **RUBD-*/Zn**
 Stainless steel 1.4571 **RUBD-*/1.4571**

* complete with size and measure a



SIZE	for tube		RUBD Order Codes	a	l	d ₃	e ₁	h
	NW	d ₁						
15	3/8"	17,2	RUBD-15/24	24	40	M 10	34	65
	1/2"	21,3						
20	3/4"	25	RUBD-20/30	30	40	M 10	40	70
		26,9						
25	1"	30	RUBD-25/38	38	50	M 12	48	76
		33,7						
32	1 1/4"	38	RUBD-32/46	46	50	M 12	56	86
		42,4						
40	1 1/2"	44,5	RUBD-40/52	52	50	M 12	62	92
		48,3						
50	2"	57	RUBD-50/64	64	60	M 16	76	109
		60,3						
65	2 1/2"	76,1	RUBD-65/82	82	60	M 16	94	125
		88,9						
80	3"	88,9	RUBD-80/94	94	70	M 20	106	138
		108						
100	4"	108	RUBD-100/120	120	70	M 20	136	171
		114,3						
125	5"	133	RUBD-125/148	148	70	M 24	164	191
		139,7						
150	6"	159	RUBD-150/176	176	70	M 24	192	217
		168,3						
175	8"	193,7	RUBD-175/202	202	70	M 24	218	249
		216						
200	10"	216	RUBD-200/228	228	70	M 24	248	283
		219,1						
250	12"	267	RUBD-250/282	282	70	M 24	302	334
		273						
300	14"	318	RUBD-300/332	332	70	M 24	352	385
		323,9						
350	16"	355,6	RUBD-350/378	378	70	M 24	402	435
		368						
400	20"	406,4	RUBD-400/428	428	70	M 24	452	487
		419						
500	20"	508	RUBD-500/530	530	70	M 24	554	589
		521						

U-bolts be combined with tube saddles. U-bolts and tube saddles are also available in single pieces.
 RUBD with KUPK or KUPL may be used as glide- or fixed point-fastening.
 Available: without surface treatment, galvanized and stainless steel.



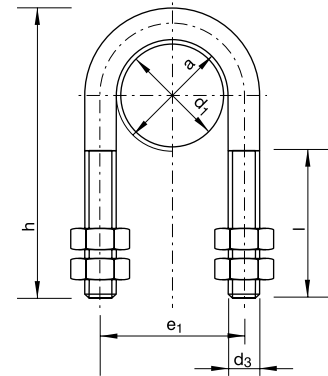
Order codes:

Steel
Steel zinc plated
Stainless steel 1.4571

RUBL-*
RUBL-*/Zn
RUBL-*/1.4571

* complete with size and measure a

U-Bolts similar to DIN 3570



SIZE	for tube		RUBL Order Codes	a	l	d ₃	e ₁	h	
	NW	d ₁							
15	3/8"	17,2	RUBL-15/24	24	40	M 10	34	70	
	1/2"	21,3							
20	3/4"	25	RUBL-20/30	30	46		40	73,5	
	1"	26,9							
25	1"	30	RUBL-25/38	38	50		48	81	
32	1 1/4"	38	RUBL-32/46	46	55		56	89	
40	1 1/2"	44,5	RUBL-40/52	52	63		62	100	
50	2"	57	RUBL-50/64	64	77		76	118	
65	2 1/2"	76,1	RUBL-65/82	82	82		M 12	94	135
		88,9							
80	3"	88,9	RUBL-80/94	94	105	106	152		
100	4"	108	RUBL-100/120	120	M 16	136	190		
125	5"	133	RUBL-125/148	148		164	217		
		139,7							
150	6"	159	RUBL-150/176	176		192	247		
175		168,3	RUBL-175/202	202	218	273			
200	8"	216	RUBL-200/228	228	M 20	248	311		
250	10"	267	RUBL-250/282	282		302	364		
		273							
300	12"	318	RUBL-300/332	332	M 24	352	418		
350	14"	323,9	RUBL-350/378	378		402	475		
		355,6							
400	16"	368	RUBL-400/428	428		452	526		
500	20"	406,4	RUBL-500/530	530	M 30	554	627		
550		419	RUBL-550/570	570		600	689		
		508							
600		558,8	RUBL-600/622	622		652	741		
650		609,6	RUBL-650/680	680		710	795		
700		660,4	RUBL-700/730	730		760	845		
750		711,2	RUBL-750/785	785		815	898		
		762							

U-bolts be combined with tube saddles. U-bolts and tube saddles are also available in single pieces.
RUBL with KUPK or KUPL may be used as glide- or fixed point-fastening.
Available: without surface treatment, galvanized and stainless steel.



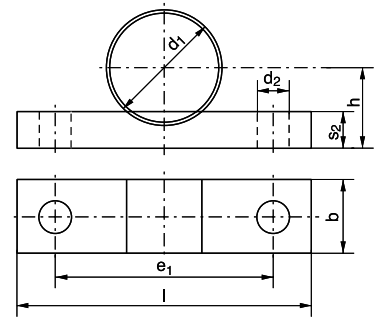
Order codes:

Polypropylene
Polyamide 6

KUPL-*
KUNL-*

* complete with size and diameter d_1

Replace standard abbreviation KUPL in column "Order codes" as required.



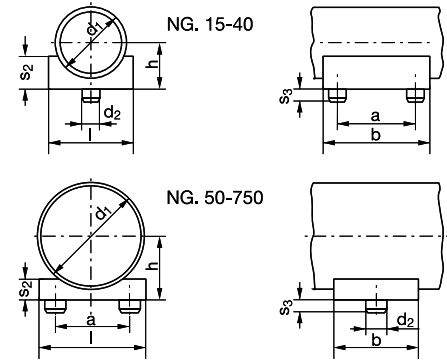
SIZE	for tube		KUPL Order Codes	l	b	s ₂	h	e ₁	d ₂
	NW	d ₁							
15	3/8"	17,2	KUPL-15/17,2	60	25	10	13,5	34	
	1/2"	21,3	KUPL-15/21,3				15,5		
20	3/4"	25	KUPL-20/25	75	30	12	17,5	40	
		26,9	KUPL-20/26,9				18,5		
25	1"	30	KUPL-25/30	80	35	15	20	48	11
		33,7	KUPL-25/33,7				22		
32	1 1/4"	38	KUPL-32/38	90	40	20	24	56	
		42,4	KUPL-32/42,4				26,2		
40	1 1/2"	44,5	KUPL-40/44,5	95	45	25	27,2	62	
		48,3	KUPL-40/48,3				29		
50	2"	57	KUPL-50/57	110	50	30	33,5	76	14
		60,3	KUPL-50/60,3				35,2		
65	2 1/2"	76,1	KUPL-65/76,1	135	55	35	43	94	
		88,9	KUPL-80/88,9				54,5		
100	4"	108	KUPL-100/108	190	60	40	64	136	
		114,3	KUPL-100/114,3				67		
125	5"	133	KUPL-125/133	220	65	45	76,5	164	18
		139,7	KUPL-125/139,7				80		
150	6"	159	KUPL-150/159	250	70	50	91,5	192	
		168,3	KUPL-150/168,3				96		
175	8"	193,7	KUPL-175/193,7	270	75	55	109	218	
		216	KUPL-200/216				120		
200	10"	219,1	KUPL-200/219,1	315	80	60	121,5	248	
		267	KUPL-250/267				145,5		
250	12"	273	KUPL-250/273	370	85	65	148,5	302	22
		318	KUPL-300/318				174		
300	14"	323,9	KUPL-300/323,9	420	90	70	177	352	
		355,6	KUPL-350/355,6				193		
350	16"	368	KUPL-350/368	480	95	75	199	402	
		406,4	KUPL-400/406,4				218		
400	18"	419	KUPL-400/419	540	100	80	224,5	452	26
		508	KUPL-500/508				269		
500	20"	521	KUPL-500/521	640	105	85	276	554	
		558,8	KUPL-550/558,8				300		
550	22"	609,6	KUPL-600/609,6	750	110	90	325	652	
		660,4	KUPL-650/660,4				350		
600	24"	660,4	KUPL-650/660,4	810	115	95	376	760	33
		711,2	KUPL-700/711,2				401		
700	26"	762	KUPL-750/762	910	120	100	401	815	
		750	KUPL-750/762				401		

Order codes:

Polypropylene
Polyamide 6

KUPK-*
KUNN-*

* complete with size and diameter d_1
Replace standard abbreviation KUPK
in column "Order codes" as required.



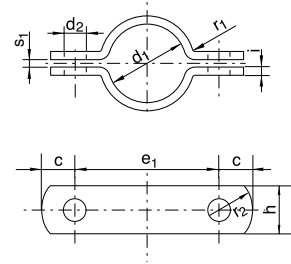
SIZE	for tube		KUPK Order Codes	l	b	s ₂	h	a	d ₂	s ₃					
	NW	d ₁													
15	3/8"	17,2	KUPK-15/17,2	24	35	8	13,6	25	8	5					
	1/2"	21,3	KUPK-15/21,3				15,65								
20		25	KUPK-20/25				17,5				18,45				
	3/4"	26,9	KUPK-20/26,9												
25	1"	30	KUPK-25/30				20				21,85				
		33,7	KUPK-25/33,7												
32	1 1/4"	38	KUPK-32/38				24				26,2				
		42,4	KUPK-32/42,4												
40	1 1/2"	44,5	KUPK-40/44,5				27,25				29,15				
		48,3	KUPK-40/48,3												
50	2"	57	KUPK-50/57				38				50	10	33,5	10	6
		60,3	KUPK-50/60,3										35,15		
65	2 1/2"	76,1	KUPK-65/76,1				75				70	14	43,05	40	15
80	3"	88,9	KUPK-80/88,9										52,45		
							100				4"	108	KUPK-100/108	62	
114,3	KUPK-100/114,3	65,15													
		125	5"	133	KUPK-125/133	74,5	90	25							
139,7	KUPK-125/139,7					77,85									
		150	6"	159	KUPK-150/159	140	23	87,5	150	10					
168,3	KUPK-150/168,3										92,15				
		175	8"	193,7	KUPK-175/193,7	140	23	104,85	90	25					
216	KUPK-200/216							116							
		219,1	KUPK-200/219,1	117,55											
250	10"			267	KUPK-250/267	140	23	141,5	90	25					
		273	KUPK-250/273					144,5							
300	12"			318	KUPK-300/318	220	75	30	150	30					
		323,9	KUPK-300/323,9								167				
350	14"			355,6	KUPK-350/355,6	220	75	30	150	30					
		368	KUPK-350/368								169,95				
400	16"			406,4	KUPK-400/406,4	220	75	30	150	30					
		419	KUPK-400/419								185,8				
500	20"			508	KUPK-500/508	300	38	220	150	30					
		521	KUPK-500/521								192				
550	558,8			KUPK-550/558,8	300	38	220	150	30						
		609,6	KUPK-600/609,6							211,2					
650	660,4			KUPK-650/660,4	300	38	220	150	30						
		711,2	KUPK-700/711,2							217,5					
750	762			KUPK-750/762	300	38	220	150	30						
		262	KUPK-550/558,8							268,5					
287,4	KUPK-600/609,6			287,4											
		312,8	KUPK-650/660,4	312,8											
338,2	KUPK-700/711,2			338,2											
		363,6	KUPK-750/762	363,6											
389	KUPK-750/762			389											

Order codes:

Steel
Steel zinc plated
Stainless steel 1.4571

FRD-*A
FRD-*A/Zn
FRD-*A/1.4571

* complete with size



SIZE d_1	FRD Order Codes	For tube NB	Measurements								Matching screws with nut								
			e_1	c	d_2	s_1	r_1	r_2	h	i									
18	FRD-18 A	15	57	15	11,5	7	4	18	30	5	M 10 x 30								
22	FRD-22 A		$1/2''$									59							
25	FRD-25 A	20	62																
27	FRD-27 A		$3/4''$									66							
30	FRD-30 A	25	68																
34	FRD-34 A		1"									72							
38	FRD-38 A	32	76																
43	FRD-43 A		$1 1/4''$									82							
45	FRD-45 A	40	84																
49	FRD-49 A		$1 1/2''$									88							
57	FRD-57 A	50	104									18	14	9	6	24	40	6	M 12 x 35
61	FRD-61 A		2"																
77	FRD-77 A	65	$2 1/2''$	122															
89	FRD-89 A	80	3"	136															
108	FRD-108 A	100	172	24	18	11	6	30	50	8	M 16 x 45								
115	FRD-115 A		4"									178							
133	FRD-133 A	125	196																
140	FRD-140 A		5"									204							
159	FRD-159 A	150	222																
169	FRD-169 A		6"									232							
191	FRD-191 A	175	254																
194	FRD-194 A		258																
216	FRD-216 A	200	280																
220	FRD-220 A		8"									284							
267	FRD-267 A	250	342									30	23	14	8	36	60	8	M 20 x 50
273	FRD-273 A		10"																
318	FRD-318 A	300	392																
324	FRD-324 A		12"	398															
356	FRD-356 A	350	432																
368	FRD-368 A		14"	444															
407	FRD-407 A	400	498	36	27	18	8	42	70	10	M 24 x 60								
419	FRD-419 A		16"									510							
508	FRD-508 A	500	600																
521	FRD-521 A		20"									614							

Available: without surface treatment, galvanized and stainless steel.



SALES TERMS & CONDITIONS

ALL GOODS AND SERVICES PROVIDED BY MANULI FLUICONNECTO ARE FURNISHED ONLY ON THE TERMS AND CONDITIONS STATED BELOW:

1. VALIDITY AND RIGHT OF VARIATION.

These standard terms and conditions of sales (referred to below as Conditions) apply to the relationship involving the supply of products (referred to below as Products) by Manuli Fluiconnecto Companies to professional operators or end-users (referred to below as Buyer). Manuli Fluiconnecto does hereby reserve the right to add to, amend or vary the Conditions as herein set out, by including such additions, variations or modifications to the quotation or in any written correspondence addressed to the Buyer.

2. TERMS OF PAYMENT.

Credits shall be granted at Manuli Fluiconnecto's absolute discretion and the following terms of payment shall then apply.

- a. Payment at Net Invoice Value is due no later than the due date indicated in the invoice;
- b. If the Buyer fails to make payment in the time and manner specified by Manuli Fluiconnecto or becomes insolvent or has a receiver appointed or passes a resolution for winding up, Fluiconnecto may suspend, at its option, further deliveries;
- c. In case of default in payment by the date indicated on the invoice and in addition to the other remedies permitted under the applicable law and these Conditions, Manuli Fluiconnecto reserves the right to charge interest, without prior notice, at a rate equal to one and a half times the legal interest rate;
- d. In event Manuli Fluiconnecto does not expressly confirm its willingness to apply the terms of payment referred in this section, the Products shall be paid by the Buyer, by means of cash, check, credit card on delivery or an irrevocable letter of credit confirmed by a primary bank accepted by Manuli Fluiconnecto and cashable against the presentation of the delivery documents and the relevant invoice. Such letter of credit must be received by Manuli Fluiconnecto together with the Buyer's Order.

3. TERMS OF DELIVERY.

The delivery of the Products shall be EXW (Incoterms 2000).

4. ORDERS' ACCEPTANCE AND MANULI FLUICONNECTO'S DISCLAIMERS OF LIABILITY FOR ANY PROVIDED INFORMATION.

Any order from the Buyer shall be binding for Manuli Fluiconnecto, only when accepted in writing by Manuli Fluiconnecto itself. Verbal, telephoned or faxed orders and any modifications to orders must be confirmed in writing by the Buyer, otherwise Manuli Fluiconnecto accepts no responsibility for errors or consequent misunderstandings. Catalogues, price lists or other advertising matters are only an indication of the type of products and no prices or other particulars contained herein shall be binding for Manuli Fluiconnecto. All information given in price lists and catalogues or any literature are supplied by Manuli Fluiconnecto in good faith; however, whilst every effort has been made to ensure that the information is correct, Manuli Fluiconnecto does not accept any responsibility for errors which may have inadvertently been made.

5. NO LIABILITY FOR LATE DELIVERY.

Manuli Fluiconnecto shall endeavour to complete the agreement and/or deliver the Products within the time agreed (if any) but it shall not be liable for any loss or damage of any kind whatsoever caused directly or indirectly by any delay in the completion of the agreement or delivery of the Products.

6. ACCEPTANCE OF THE PRODUCTS.

All claims for transit damages, loss or shortage of Products must be submitted by the Buyer to Manuli Fluiconnecto, in writing, within 10 (ten) working days from the date in which the Buyer received the forwarded Products. In absence of claims within these time limits, the Products shall be deemed to have been properly delivered.

7. COMPLIANCE WITH SPECIFICATIONS AND TERMS OF WARRANTY.

Manuli Fluiconnecto does hereby represent and warrant that the Product shall comply with the technical specifications forwarded by Manuli Fluiconnecto itself to the Buyer with the written acceptance of the Buyer's order. Manuli Fluiconnecto further represents and warrants that the Products are free of defects for a period equal to twelve (12) months from the date of delivery or in accordance with and subject to the limitations of liability provided for by the Products' warranty manuals actually in force in which the Products are delivered to the Buyer. Such warranty is given in lieu of any additional warranty on the merchantability, quality and fitness for purpose. Consequently, except in case it is proven the Manuli Fluiconnecto's gross negligence, Manuli Fluiconnecto shall not be liable for any direct or indirect damage or loss of profit due to the use, the inability to use, or the incorporation of the Products in other products. Furthermore, under no circumstances Manuli Fluiconnecto shall be liable for wrong choice, bad use or normal wear of the Products.

8. SPECIFIC TERMS AND CONDITIONS OF SALE.

In the event that the Buyer objects to the inclusion in any agreement with Manuli Fluiconnecto of any of the excluding or exempting or indemnity terms contained herein, such objections must be brought to the attention of Fluiconnecto, in writing, before conclusion of any such agreement so that if (which shall be within the Manuli Fluiconnecto's entire discretion) Manuli Fluiconnecto agrees to the deletion or modification of any such term, appropriate increases in the price of Products to be supplied under such agreement may be agreed to reflect any increase in risks and obligations which Manuli Fluiconnecto may thus agree or bear.

9. APPLICABLE LAW AND SETTLEMENT OF DISPUTES.

All agreements with Manuli Fluiconnecto shall be deemed, construed and interpreted in accordance with the law of the country where registered office of Manuli Fluiconnecto is located. Any dispute shall be referred to the Court of the city where registered office of Manuli Fluiconnecto is located, provided however that Manuli Fluiconnecto, at its own discretion, may elect to bring an action against the Buyer before any court of competent jurisdiction. The United Nations Conventions for the International Sales of Goods does not apply to any supply of Products made hereunder by Manuli Fluiconnecto to the Buyer.

NOTE:

In case of dispute, only the original English text will be used, the translation being given for guidance only

**Argentina**

T: +0800 220 8420 | +54 11 4726 8420
E: ventas@fluiconnecto.com.ar

**Australia**

T: +61 8 9493 4241
E: info@fluiconnecto.com.au

**Belgium**

T: +32 3 541 54 95
E: info@fluiconnecto.be

**Botswana**

T: +267 391 2879
E: sales@fluiconnecto.co.bw

**Burkina Faso**

T: +226 25 36 03 06
E: burkina@hyspec.com

**Colombia**

T: +57 1 756 9833
E: ventas@fluiconnecto.com.co

**Czech Republic**

T: +420 585 207 798
E: czech@fluiconnecto.com

**Democratic Republic of the Congo**

T: +243 81 952 8058
E: drc@hyspec.com

**Finland**

T: +358 10 613 7000
E: info@hytar.fi

**France**

T: +33 02 40 93 57 99
E: std@fluiconnecto.fr

**Ghana**

T: +233 244 420 399
E: sales.gh@hyspec.com

**Guinea**

T: +224 624 58 33 49
E: guinea@hyspec.com

**Indonesia**

T: +62 7706 11709
E: sales@fluiconnecto.co.id

**Ivory Coast**

T: +225 21 35 00 08
E: cotedivoire@hyspec.com

**Lithuania**

T: +370 5 2645810
E: lithuania@fluiconnecto.com

**Mali**

T: +223 20 21 01 74
E: mali@hyspec.com

**Mozambique**

T: +258 25220536
E: psiafrica@psihydraulics.com

**Oman**

T: +968 2459 6489
E: oman@fluiconnecto.ae

**Peru**

T: +51 1 211 66 55
E: ventas@talleres-hidraulicos.com

**Poland**

T: +48 32 222 01 35
E: hq@fluiconnecto.pl

**Qatar**

T: +974 44884511
E: qatar@fluiconnecto.ae

**Sierra Leone**

T: +232 7622 5726
E: sierraleone@fluiconnecto.sl

**Singapore**

T: +65 67909191
E: singapore@fluiconnecto.com.sg

**Senegal**

T: +221 33 820 66 66
E: senegal@fluiconnecto.com

**South Africa**

T: +27 11 454 5155
E: sales@fluiconnecto.co.za

**Tanzania**

T: +255 28 25 00 674
E: tanzania@hyspec.com

**The Netherlands**

T: +31 180 511 411
E: info@fluiconnecto.nl

**United Arab Emirates**

T: +971 4 2207002
E: dubai@fluiconnecto.ae

**Zambia**

T: +260 (0) 967810042
E: sales@hyspec.com



fluiconnecto
— manuli —

MORE INFO
WWW.FLUICONNECTO.COM

Fluiconnecto Holdings B.V.

Beurs - World Trade Center, Beursplein 37, PO Box 30116
3001 DC Rotterdam, The Netherlands
www.fluiconnecto.com

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