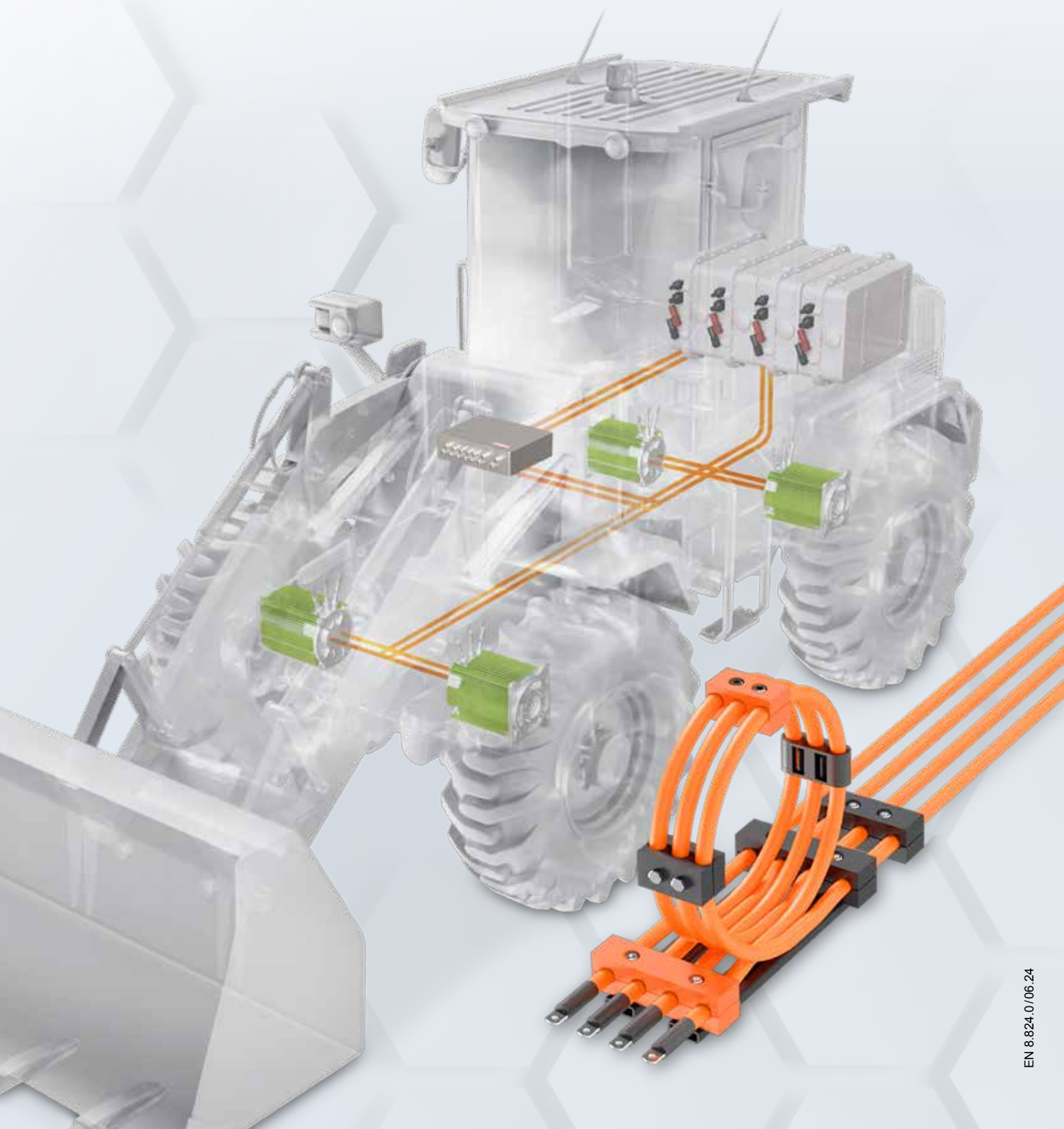


Cable management Low and high voltage for electrifying mobile machines



The future of mobility firmly in our grasp

High-voltage cable management

Customised or standard – You decide!

In addition to the complex system architecture, the high voltage that supplies the electric drive components in hybrid and electric vehicles (BEV/PHEV) is a major challenge.

High-voltage cables transport the current within the high-voltage on-board electrical system, e.g. to the engine, generator, battery, plug components, on-board charger, power distribution unit (PDU) or breakout box.

Optimised mounting solutions are essential in this regard. These types of solutions are able to withstand temperature fluctuations, vibrations and all environmental influences – preventing damage to the cable. We offer a wide range of solutions for fastening and routing your cables with additional features, such as tolerance compensation, heat reduction, cable protection, friction minimisation, cable spacing and many other properties.

A specialist in mounting solutions for over 50 years

Cable management isn't something we have only just discovered. We have been an established partner in a wide range of industries for many years. Be it wind turbines, modern high-speed trains or electrified work machines – our mounting solutions enable a perfectly functioning and optimised installation that keeps installation time to a minimum and extends the service life of your cables. We work closely with you to evaluate your situation and offer you needs-based solutions that will prove themselves both today and in future.



Example of communicating systems that are safely interlinked on a machine via cables.

Cable management safety – Correctly securing voltage levels

That's why our high voltage clamps also come in orange

Different voltage levels are used in vehicles and mobile machines. These must always work independently of each other, but also work simultaneously. The standard fuse protection methods are used for the individual voltage levels for line and short-circuit protection, as the HV and LV networks must be electrically isolated. Maximum safety is achieved here by separating the voltage levels to minimise the physical points of contact and to ensure that a voltage short circuit is virtually impossible.

Orange is chosen as the signal colour to indicate special voltage ranges and to avoid confusion. For this reason, it's advisable to design HV cables and connectors, and mounting elements, in this signal colour. This is why all our high-voltage clamps also come in the signal colour "pastel orange" RAL 2003.

Voltage classes	AC		DC
	$U_{\text{eff}} (U_{\text{RMS}})$	U_{SS}	U_{DC}
Low voltage	$\leq 30 \text{ V}$	$\leq 42 \text{ V}$	$\leq 60 \text{ V}$
High voltage	$\leq 600 \text{ V}$	$\leq 849 \text{ V}$	$\leq 1,000 \text{ V}$
	$\leq 1,000 \text{ V}$	$\leq 1,414 \text{ V}$	$\leq 1,500 \text{ V}$



Cables and connecting components in the HV system are marked in orange in accordance with ISO 6469-3 and ECE-R 100. This colour is colloquially referred to as "high-voltage orange". The distinction in colour between high voltage and low voltage in vehicle technology protects the inexperienced user from potential threats and highlights the increased risk potential.

The following points must be given due consideration in the design. These parameters must also be clarified in order to optimise your cable mount:

- Select the function of the cable mount:
 - Cable mount (static)
 - Cable guide (dynamic)
 - Cable spacer (spacer clamp)
- Cable diameter to be mounted
- Number of cables to be laid
- Laid individually or "in series"
- Identical or different cable diameters
- Selection of suitable materials (PA, PP, TPE) with regard to application temperature

The mount must always be tailored to your individual challenge. This means that the design will depend on your specific application.

We will be happy to advise you and work with you to find the optimum mounting solution for you.

Contact us for more information!

Special features of each clamp type:

Series strip

A quick and cost-effective way of organising your cables or keeping them at a distance. Can be mounted or used as a floating spacer clamp.

Available in three different materials.

FLEX series strip

For heavy cables and large diameter fluctuations (the TPE material compensates for these fluctuations), high variance in cable diameters (clamp remains constant, elastomer insert can be customised).

Corrugated tube clamp

Solution for protective routing of sensitive and small cables, laying the cable in a corrugated conduit, which is fixed in place with clamps.

Buegu

TPE inserts compensate for unevenness in the cable diameters and dampen vibrations.

Special solutions

Get in touch with us! – Your customised solution has been our daily business for over 50 years.

High-voltage cable management on the road – a place where precision is required

Safe, certified, tailor-made

Bending radii

Due to the minimal installation space in vehicles and mobile machinery, the bending radii of HV cables are especially important. By definition, a distinction is made between permissible bending radii for static and dynamic cable laying. Our solution ensures that your cables are properly mounted and, in doing so, will aid your compliance with all regulations.

Example of static cable laying:

- The cable – including mounts – is laid on one movement plane.
- No relative movements are permitted between the various cable mounting points.

Example of dynamic cable laying:

- The cable, including mounts, is laid on various movement planes in the bending area.
- Relative movements between the various cable mounting points can occur.

Minimal bending radii are the steady trend. This is because the vibration loads and dynamic bending moments generated in the harness must not be passed on directly to the HV connectors. With our mounting technology, you can achieve the optimum here.

Sealing

Sealing against moisture plays a key role in ensuring the electrical safety of the HV cables in the HV on-board electrical system. These are generally fitted with housing seals ('seals' for short) to insulate them against potential moisture ingress in HV connectors. For this reason, connector and component manufacturers recommend a static cable fixing of 10 – 15 cm after the sealing point to ensure IP leak tightness.

Material properties of the clamps

Material	Density	Yield stress and tensile strength	Shore hardness	Temperature resistance
	ISO 1183	ISO 527-2	ISO 868	
Polypropylene (PP)	0.9 g/cm ³	26 MPa	–	-30 to +90 °C
Polyamide (PA)	1.13 g/cm ³	dry 90 / conditioned 45 MPa	–	-40 to +120 °C
Thermoplastic elastomer (TPE)	0.97 g/cm ³	8.3 MPa	73 ±5° Shore A others on request	-40 to +125 °C

Screw tightening torques for the high voltage clamps

Thread	Tightening Torque (Nm)		
	PP	PA	Buegu
M6	8	10	8
M8	12	12	12

Note: The specified tightening torques refer to installation with cover plates and hexagon head bolts as per ISO 4014/4017.

“Made in Germany” cable management

HYDAC offers more than just first-class quality. We rely on fully automated, in-house production. For us, this means a “Made in Germany” promise! The advantages for you are clear: we don’t just offer fast delivery times: we also press ahead with custom developments in very short time frames. The direct communication channels between development, production and you as a customer combined with our exceptional engineering skills makes for the perfect mix.



Our IATF 16949 certification guarantees the highest standards. And this applies to your commercial vehicles as well as the automotive industry.

Our mounts are suitable for:

Single and multi-core (screened and unscreened) cables from 2.5 – 120 mm² and an outer diameter of 6 – 32 mm, cables with copper or aluminium as the conductor material and for a wide variety of sheath materials.

HIGH VOLTAGE series strips

Page 6 – 12



1

HIGH VOLTAGE FLEX series strip

Page 13 – 19



2

HIGH VOLTAGE corrugated conduit clamp

Page 20 – 21



3

HIGH VOLTAGE Buegu clamp

Page 22 – 26



4

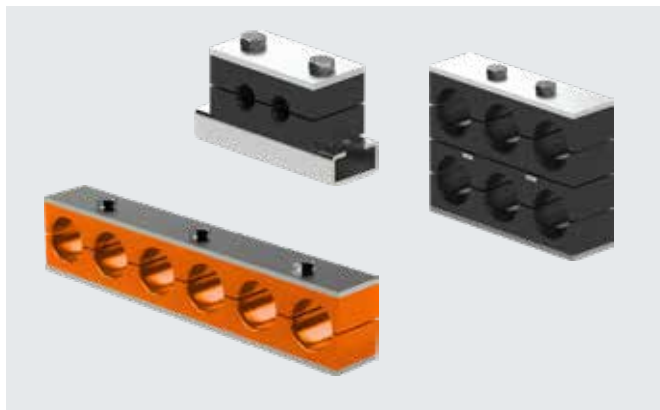
Special solutions

Page 27



5

HIGH VOLTAGE series strips



HY-ROS high-voltage series strips are based on the needs of the market. They enable quick and safe installation of cable groups. This avoids an accumulation of individual clamps.

The smooth inner surface and large radii protect your cable. Series strips with a smooth inner surface or elastomer inserts are used depending on the application.

Up to 10 cables with diameters of 6 – 56.4 mm can be fitted as standard, with 3 sizes and different versions available.

Size	External cable diameter D [mm]
1L	6
	6.4
	8
	9.5
	10
	12
2L	12.7
	13.7
	14
	15
	16
	17.1
3L	18
	19
	20
	21.3
	22
	23
	25
	25.4

Model code

(also order example)

HRRL 1L A 4x12 PP 76/2 ST M6 BL HV

Designation

HRRL = HY-ROS series strip

Size

1L = Size 1L
2L = Size 2L
3L = Size 3L

Version

A = With weld plate, cover plate and hex head screw
A1 = With cover plate and hex head screw
A1TM = With cover plate, hex head screw and rail nut
D = With stacking screw and locking plate

Number of cables x external cable diameter D

(as per versions)

Material of the clamping jaws

PP = Polypropylene
PA = Polyamide
TPE = Thermoplastic elastomer

Component length / number of mounting screws

(as per versions)

Material of the steel parts

ST = Steel
A2 = Stainless steel (on request)
A4 = Stainless steel (on request)

Thread type

M6 = Metric thread M6

Surface of the steel parts

BL = Blank weld plate, galvanised cover plate, galvanised screws
ZN = Galvanised weld plate, galvanised cover plate, galvanised screws

Colour

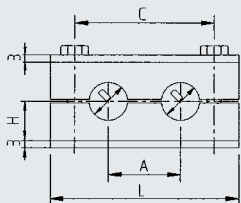
not specified = black
HV = orange

PP and PA are available as self-extinguishing versions on request.

Note: Blank components may exhibit flash rust.

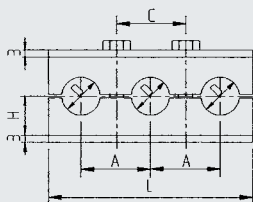
Dimensions [mm]

2 cables with 2 mounting screws



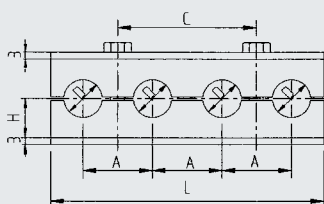
Size	A	C	H	L
1L	20	40	13.5	60.5
2L	29	58	16.5	78.5
3L	36	72	18.5	92.5

3 cables with 2 mounting screws



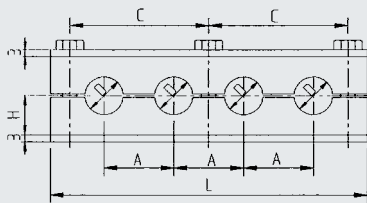
Size	A	C	H	L
1L	20	20	13.5	56
2L	29	29	16.5	85
3L	36	36	18.5	106

4 cables with 2 mounting screws



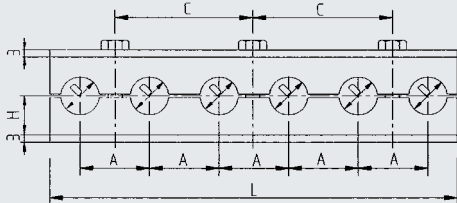
Size	A	C	H	L
1L	20	40	13.5	76
2L	29	58	16.5	114
3L	36	72	18.5	142

4 cables with 3 mounting screws



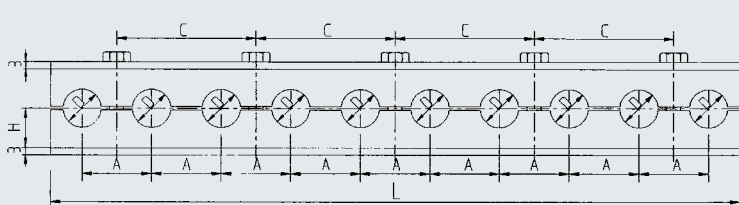
Size	A	C	H	L
1L	20	40	13.5	100.5
2L	29	58	16.5	136.5
3L	36	72	18.5	164.5

6 cables with 3 mounting screws



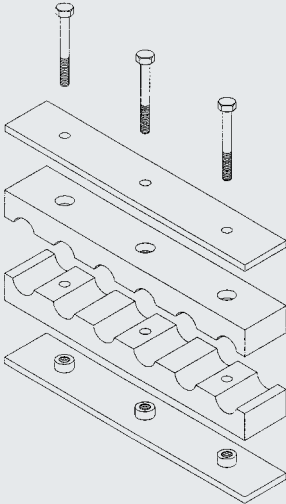
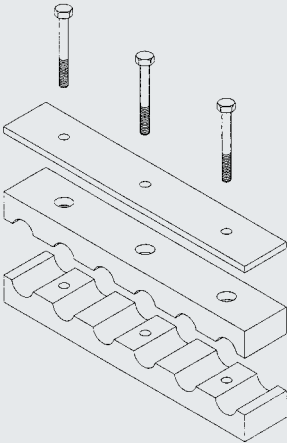
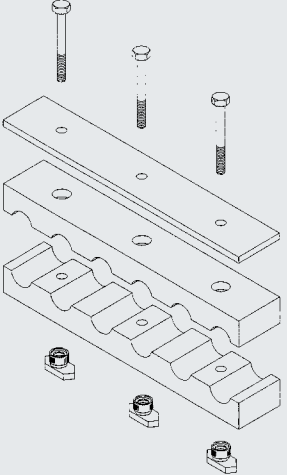
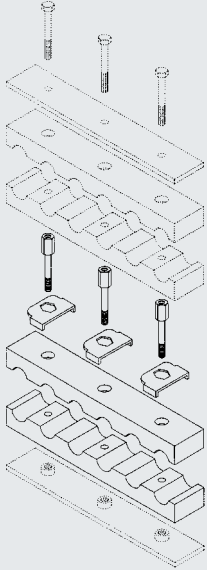
Size	A	C	H	L
1L	20	40	13.5	116
2L	29	58	16.5	172
3L	36	72	18.5	214

10 cables with 5 mounting screws



Size	A	C	H	L
1L	20	40	13.5	196
2L	29	58	16.5	288
3L	36	72	18.5	358

Series strip versions

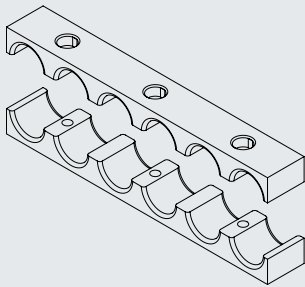
Version A Size 1L, 2L, 3L	Version A1 Size 1L, 2L, 3L	Version A1TM Size 1L, 2L, 3L	Version D* Size 1L, 2L, 3L
			

*** Note regarding version D**
The scope of delivery includes a pair of clamping jaws with the corresponding number of locking plates and stacking screws.
Additional clamping jaws, weld plates, cover plates and screws must be ordered separately.

Size	Number and diameter of cables	Component length L [mm]	/	Number of mounting screws
1L	2 x D	60.5	/	2
	3 x D	56	/	2
	4 x D	76	/	2
	4 x D	100.5	/	3
	6 x D	116	/	3
	10 x D	196	/	5
2L	2 x D	78.5	/	2
	3 x D	85	/	2
	4 x D	114	/	2
	4 x D	136.5	/	3
	6 x D	172	/	3
	10 x D	288	/	5
3L	2 x D	92.5	/	2
	3 x D	106	/	2
	4 x D	142	/	2
	4 x D	164.5	/	3
	6 x D	214	/	3
	10 x D	358	/	5

Individual parts

Pair of clamping jaws
(HRRL...KP...)
Size 1L, 2L, 3L

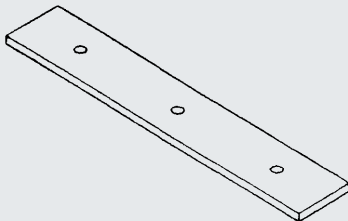


Model code

(also order example)

	HRRL	1L	KP	3x12	PP	56/2	M6	HV
Series	HRRL = HY-ROS series strip							
Size (as per dimensions)	1L = Size 1L, 2L, 3L							
Designation	KP = Pair of clamping jaws							
Number and Ø of the cables (as per versions)	3x12 = Number and Ø of the cables							
Material of the clamping jaws	PP = Polypropylene PA = Polyamide TPE = Thermoplastic elastomer							
Component length / number of mounting screws (as per versions)	56/2 = Component length / number of mounting screws							
Screw hole	M6 = Through hole for screws M6							
Colour	Not specified = black HV = orange							

Cover plate
(HRRL...DP...)
Size 1L, 2L, 3L



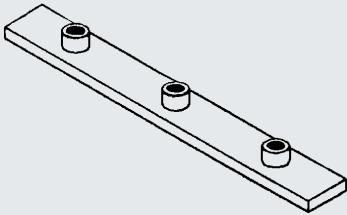
Model code

(also order example)

	HRRL	3L	DP	30	x	3	x	106/2	ST	D7	ZN
Series	HRRL = HY-ROS series strip										
Size (as per dimensions)	3L = Size 1L, 2L, 3L										
Designation	DP = Cover plate										
Component width	30 = 30 mm										
Component thickness	3 = 3 mm										
Component length / number of mounting screws (as per versions)	106/2 = Component length / number of mounting screws										
Material of steel parts	ST = Steel A2 = Stainless steel (on request) A4 = Stainless steel (on request)										
Screw hole	D7 = Through hole diameter 7 mm										
Surface of steel parts	ZN = galvanised										

Individual parts

**Weld plate
(HRRL...AP...)**
Size 1L, 2L, 3L



Model code

(also order example)

HRRL 3L AP 30 x 3 x 214/3 ST M BL

Series

HRRL = HY-ROS series strip

Size

(as per dimensions)

Designation

AP = Weld plate

Component width

30 = 30 mm

Component thickness

3 = 3 mm

Component length / number of mounting screws

(as per versions)

Material of steel parts

ST = Steel

A2 = Stainless steel (on request)

A4 = Stainless steel (on request)

Thread type

M = Metric thread

Surface of steel parts

BL = Blank

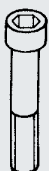
ZN = Galvanised

Notice: Blank components may exhibit flash rust.

Hexagon head bolt ISO 4014
Size 1L, 2L, 3L



**Hexagon socket head cap screw
ISO 4762**



Model code

(also order example)

6kt-shr.ISO4014 - M6 x 30 - 8.8 A3B

Series

6kt-shr.ISO4014 = Hexagon head bolt ISO 4014

Zyl-shr.ISO4762 = Hexagon socket head cap screw ISO 4762

Size

ISO4014	ISO4762	For HRRL size
M6 x 30	M6 x 20	1L
M6 x 35	M6 x 25	2L
M6 x 40	M6 x 30	3L

Screw quality

8.8 = As per ISO 4014, ISO 4762

Surface of screw

A3B = Galvanised

Others on request

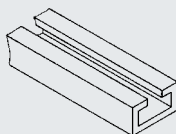
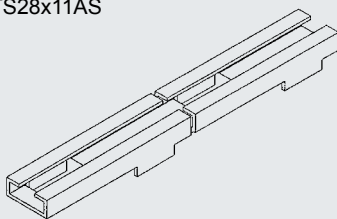
The specified screw length for version A1 is designed for use on rail nuts (TM) or weld plates (AP).

If used without a cover plate, we recommended using a 6 x 0.8 mm washer.

Individual parts

C-rail (TS)

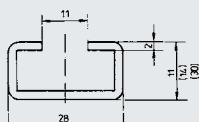
C-rail TS

C-rail with weld struts
TS28x11AS

Dimensions

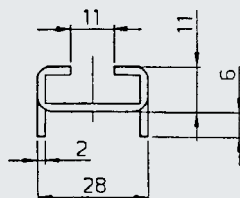
C-rail TS

1 m and 2 m unit lengths available



C-rail with weld struts

1 m unit length available



Model code

(also order example)

HRL TS28x11 ST BL 1m

Series

HRL = HY-ROS light series

Version

TS28x11 = C-rail 28x11

TS28x14 = C-rail 28x14

TS28x30 = C-rail 28x30

TS28x11AS = C-rail 28x11 with weld struts

Material of steel parts

ST = Steel

AL = Aluminium (on request)

A2 = Stainless steel (on request)

A4 = Stainless steel (on request)

Surface of steel parts

BL = Blank

ZN = Galvanised

Others on request

Overall length

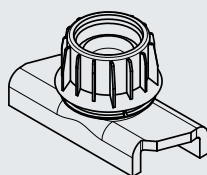
1 m

2 m (not for C-rail with weld struts)

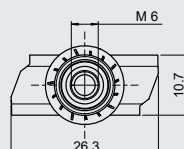
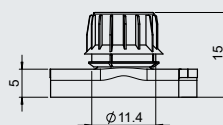
Other lengths on request

Note: Blank components may exhibit flash rust.

Rail nut (TM)



Dimensions



Model code

(also order example)

HRL TMV6 ST ZN

Series

HRL = HY-ROS light series

Designation

TMV6 = Rail nut with twist lock, M6

TM6 = Rail nut without twist lock, M6

Material of steel parts

ST = Steel

A4 = Stainless steel (on request)

Surface of steel parts

ZN = Galvanised

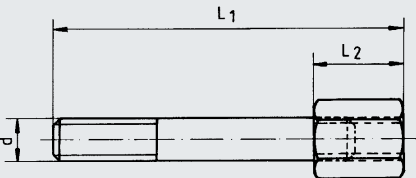
Others on request

Individual parts

Stacking screw (AF)



Dimensions



Size	Dimensions [mm]		
	L1	L2	d
0+1	34	14	M6
2	39	14	M6
3	44	14	M6

Model code

(also order example)

Series

HRL = HY-ROS light series

Size

	For HRL size
0+1	1L
2	2L
3	3L

Designation

AF = Stacking screw

Material of steel parts

ST = Steel
A2 = Stainless steel (on request)
A4 = Stainless steel (on request)

Thread type

M = Metric thread

Surface of steel parts

ZN = Galvanised
Others on request

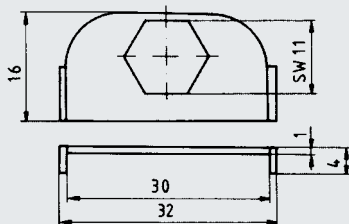
HRL 3 AF ST M ZN

Note: With stacking screws, it is possible to mount several HYDAC series strips on top of each other to make optimum use of space. Locking plates of type SIP are required to prevent the stacking screws from twisting.

Locking plate (SIP)



Dimensions (for all sizes)



Model code

(also order example)

Series

HRL = HY-ROS light series

Size

0 = For all sizes

Designation

SIP = Locking plate

Material of steel parts

ST = Steel
A2 = Stainless steel (on request)
A4 = Stainless steel (on request)

Surface of steel parts

ZN = Galvanised
Others on request

HRL 0 SIP ST ZN

Note: Locking plates prevent stacking screws from twisting when stacking several series strips with stacking screws.

HIGH-VOLTAGE FLEX series strips



In addition to the advantages of the series strip, the FLEX version offers greater tolerance compensation for fluctuating cable diameters as well as optimised vibration, shock and noise damping for your sensitive cables.

The ribbed design enhances tolerance compensation and, at the same time, reduces heat build-up in the mount.

Different cable diameters can also be accommodated in a FLEX series strip.

Size	External cable diameter D [mm]
2	6
	8
	10
	12
	12.7
	14
	15
	16
	17.2
	18
3*	19
	6
	8
	10
	12
	12.7
	14
	15
	16
	17.2
3	18
	19
	20
	21.3
	22
	23
	25
	26.9
	28
	30
	32

* Only with reducing adapter

Model code

(also order example)

HRRLE 2 A 2x15 PP 107/2 ST M8 BL HV

Designation

HRRLE = HY-ROS series strip with elastomer insert

Size

2 = Size 2
3 = Size 3
4 = Size 4

Version

A = With weld plate, cover plate and hexagon head bolt
A1 = With cover plate and hexagon head bolt
A1TM = With cover plate, hexagon head bolt and rail nut

Number of cables x external cable diameter D

(as per versions)

Material of clamping jaws

PP = Polypropylene
PA = Polyamide

Component length / number of mounting screws

(as per versions)

Material of steel parts

ST = Steel
A2 = Stainless steel (on request)
A4 = Stainless steel (on request)

Thread type

M8 = Metric thread M8

Surface of steel parts

BL = Blank weld plate, galvanised cover plate, galvanised screws
ZN = Galvanised weld plate, galvanised cover plate, galvanised screws

Colour

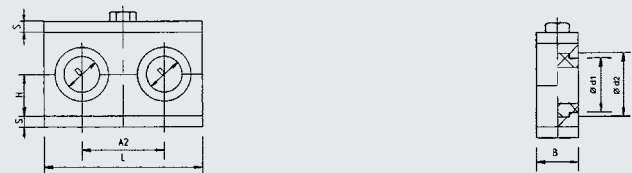
not specified = black
HV = orange

PP and PA are available as self-extinguishing versions on request.

Note: Blank components may exhibit flash rust.

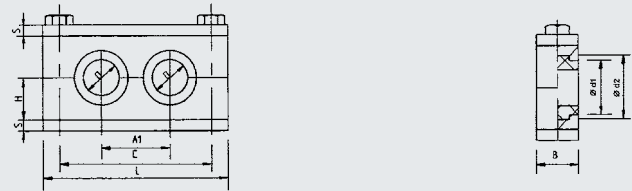
Dimensions [mm]

2 cables with 1 mounting screw



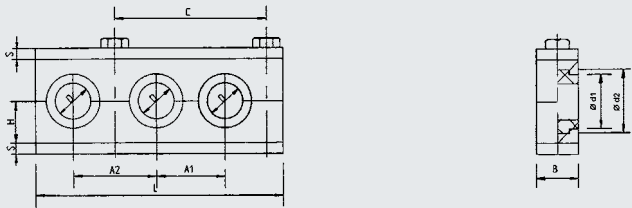
Size	d1	d2	A1	A2	B	L	H	C	S
2	25.5	31	-	46	30	83	23	-	3
3	39	46	-	60	30	115	30	-	3

2 cables with 2 mounting screws



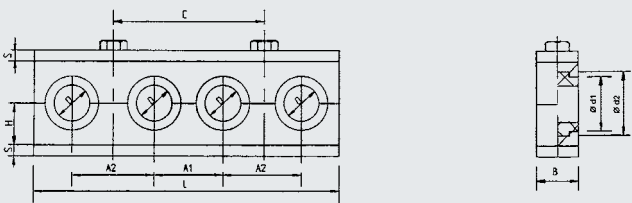
Size	d1	d2	A1	A2	B	L	H	C	S
2	25.5	31	34	-	30	107	23	80	3
3	39	46	50	-	30	134	30	110	3

3 cables with 2 mounting screws



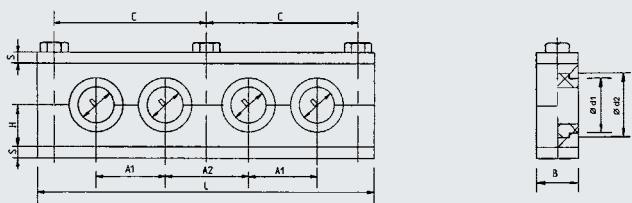
Size	d1	d2	A1	A2	B	L	H	C	S
2	25.5	31	34	46	30	135	23	80	3
3	39	46	50	60	30	179.5	30	110	3

4 cables with 2 mounting screws



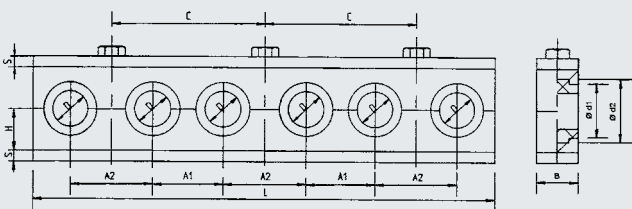
Size	d1	d2	A1	A2	B	L	H	C	S
2	25.5	31	34	46	30	163	23	80	3
3	39	46	50	60	30	225	30	110	3

4 cables with 3 mounting screws



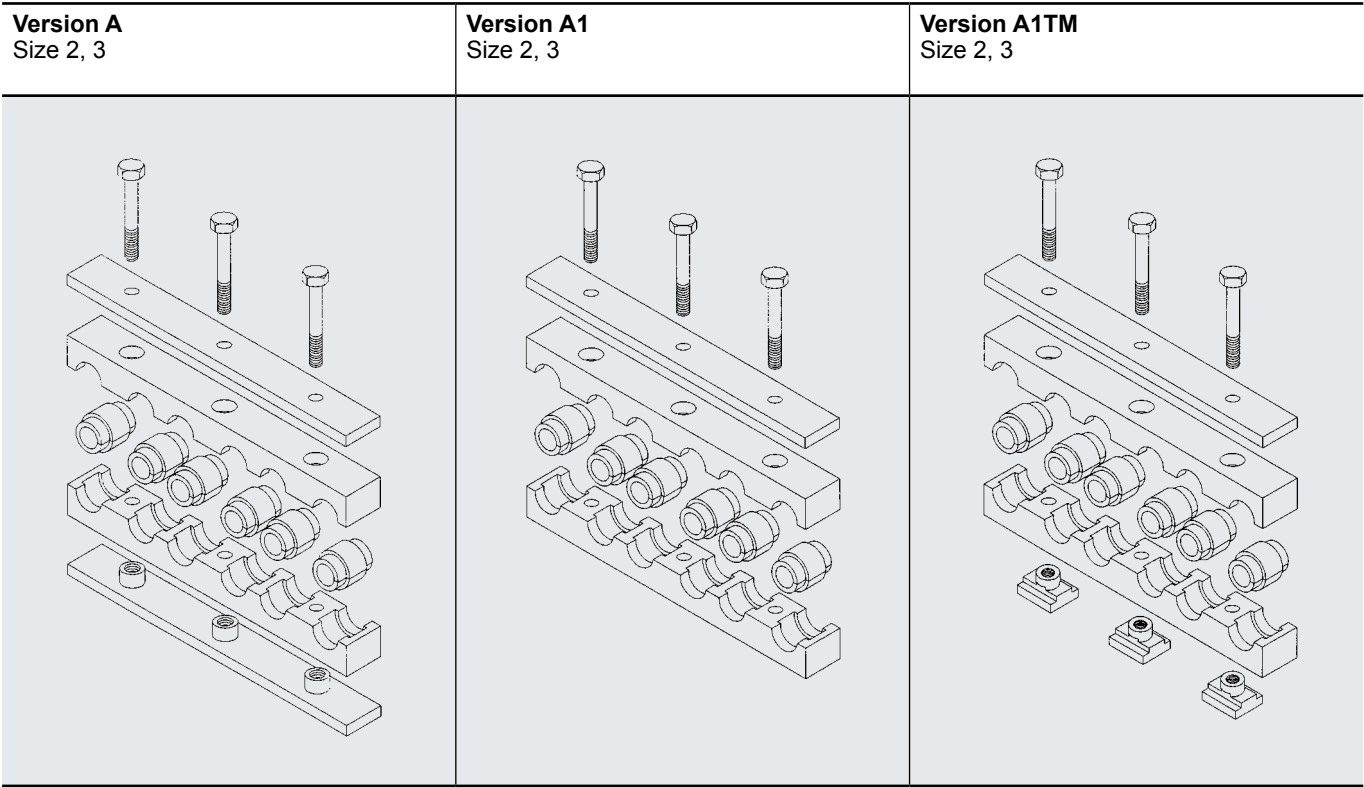
Size	d1	d2	A1	A2	B	L	H	C	S
2	25.5	31	34	46	30	187	23	80	3
3	39	46	50	60	30	244	30	110	3

6 cables with 3 mounting screws



Size	d1	d2	A1	A2	B	L	H	C	S
2	25.5	31	34	46	30	243	23	80	3
3	39	46	50	60	30	335	30	110	3

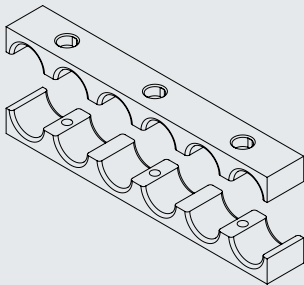
FLEX series strip versions



Size	Number and diameter of cables	Component length L [mm]	/	Number of mounting screws
2	2 x D	83	/	1
	2 x D	107	/	2
	3 x D	135	/	2
	4 x D	163	/	2
	4 x D	187	/	3
	6 x D	243	/	3
3	2 x D	115	/	1
	2 x D	134	/	2
	3 x D	179.5	/	2
	4 x D	225	/	2
	4 x D	244	/	3
	6 x D	335	/	3

Individual parts

Pair of clamping jaws
(HRRLE...KP...)
Size 2, 3



Model code

(also order example)

HRRLE 2 KP 4x16 PP 163/2 HV

Series

HRRLE = HY-ROS series strip with elastomer insert

Size

(as per dimensions)

Designation

KP = Pair of clamping jaws

Number of cables x diameter d1

(as per versions)

Material of clamping jaws

PP = Polypropylene

PA = Polyamide

Component lengths / number of mounting screws

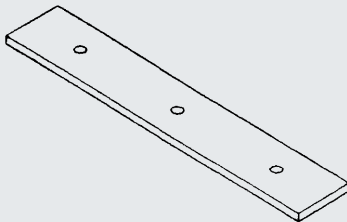
(as per versions)

Colour

not specified = black

HV = orange

Cover plate
(HRRLE...DP...)
Size 2, 3



Model code

(also order example)

HRRLE 2 DP 30x3x187 / 3 ST ZN

Series

HRRLE = HY-ROS series strip with elastomer insert

Size

(as per dimensions)

Designation

DP = Cover plate

Component width B x component thickness S x component length L

(as per dimensions)

Number of mounting screws

(as per versions)

Material of steel parts

ST = Steel

A2 = Stainless steel (on request)

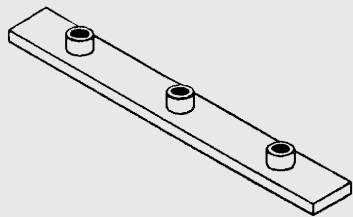
A4 = Stainless steel (on request)

Surface of steel parts

ZN = Galvanised

Individual parts

Weld plate
(HRRLE...AP...)
Size 2, 3



Model code

(also order example)

HRRLE 3 AP 30x3x225 / 2 ST M8 BL

Series

HRRLE = HY-ROS series strip with elastomer insert

Size

(as per dimensions)

Designation

AP = Weld plate

Component width B x component thickness S x component length L

(as per dimensions)

Number of mounting screws

(as per versions)

Material of steel parts

- ST = Steel
- A2 = Stainless steel (on request)
- A4 = Stainless steel (on request)

Thread type

M8 = Metric thread M8 (for size 2+3)

Surface of steel parts

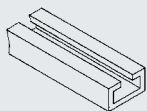
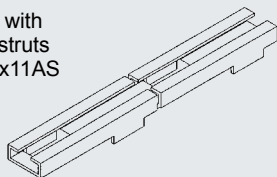
- BL = Blank
- ZN = Galvanised

Note: Blank components may exhibit flash rust.

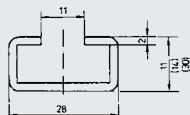
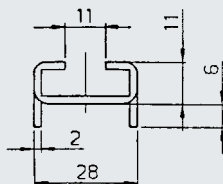
Individual parts

C-rail (TS)

C-rail TS

C-rail with
weld struts
TS28x11AS

Dimensions

C-rail TS 1 m and 2 m unit lengths
availableC-rail with weld struts
1 m unit length available

Model code

(also order example)

HRL TS28x11 ST BL 1m

Series

HRL = HY-ROS light series

Version

TS28x11 = C-rail 28x11
 TS28x14 = C-rail 28x14
 TS28x30 = C-rail 28x30
 TS28x11AS = C-rail 28x11 with weld struts

Material of steel parts

ST = Steel
 AL = Aluminium (on request)
 A2 = Stainless steel (on request)
 A4 = Stainless steel (on request)

Surface of steel parts

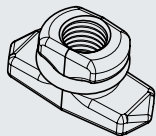
BL = Blank
 ZN = Galvanised
 Others on request

Overall length

1 m
 2 m (not for C-rail with weld struts)
 Other lengths on request

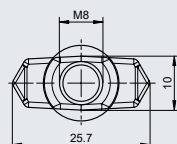
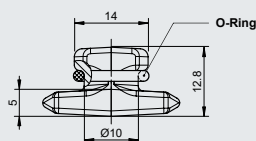
Note: Blank components may exhibit flash rust.

Rail nut (TM)



Dimensions

Size 2 – 3 (TM8)



Model code

(also order example)

HRL TM8 ST ZN

Size

HRL = HY-ROS light series, for size 1
 HRZ = HY-ROS twin clamp, from size 2

Designation

TM8 = Rail nut M8 (from size 2)

Material of steel parts

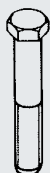
ST = Steel
 A4 = Stainless steel (on request)

Surface of steel parts

ZN = Galvanised
 Others on request

Individual parts

Hexagon head bolt ISO 4014



Model code

(also order example)

6kt-shr.ISO4014 - M8 x 70 - 8.8 A3B

Series

6kt-shr.ISO4014 = Hexagon head bolt as per ISO 4014

Size

	For HRRLE size
M8 x 55	2
M8 x 65	3

Bolt quality

8.8 = As per ISO 4014

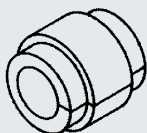
Surface of screw

Not specified = Blank
A3B = Galvanised

Notice: Blank components may exhibit flash rust.

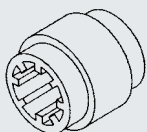
Elastomer insert, smooth (HRES...EE...)

Size 2/4L, 3/6L



Elastomer insert, ribbed (HRRS...EE...)

Size 2/4L, 3/6L



Model code

(also order example)

HRES 2/4L EE 16 TPE

Series

HRES = Elastomer insert, smooth inner surface
HRRS = Elastomer insert, ribbed inner surface

Size

2/4L = Size 2
3/6L = Size 3

Designation

EE = Elastomer insert

Cable diameter

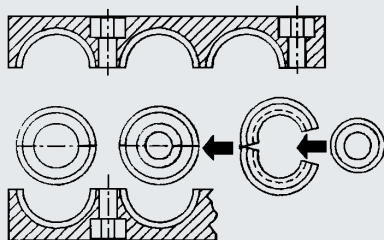
(as per dimensions)

Material of insert

TPE = Thermoplastic elastomer

Reducing adapter (HRES...RE...)

Size 3/2



Elastomer insert Reducing adapter with elastomer insert

Model code

(also order example)

HRES 3/2 RE PP

Series

HRES = Elastomer insert

Size

3/2 = Size 3 is reduced to size 2

Designation

RE = Reducing adapter

Material of reducing adapter

PP = Polypropylene
PA = Polyamide

HIGH VOLTAGE corrugated conduit clamp



A corrugated conduit protects laid cables/cables to be laid and lines from high mechanical loads, environmental influences and thermal influences such as moisture and heat.

The HYDAC corrugated tube clamp has been offering you a secure mounting solution for your corrugated conduits since 2008 and ensures a flexible (rotatable) yet secure fixing.

Diameter range:
16 – 55 mm,
Others on request

Note:
Installation is similar to the installation variants of the DIN 3015 clamps (see also brochure 8.183 "DIN 3015").

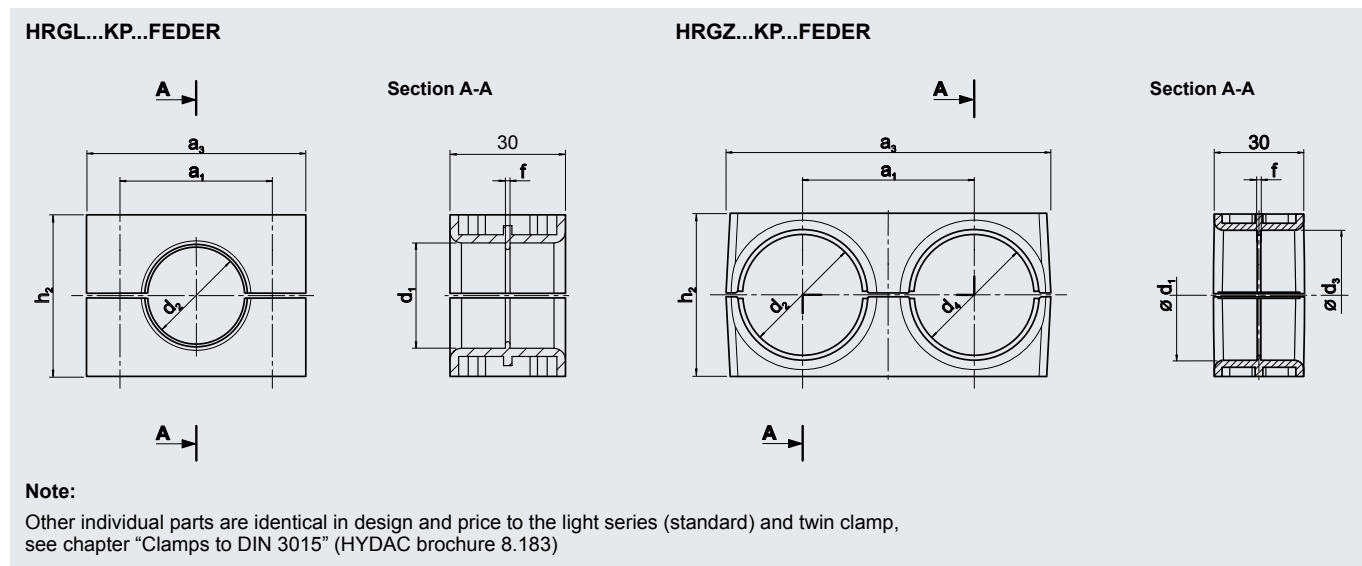
Model code

(also order example)

	HRGL	4	KP	28.5	PA	FEDER	D25.2	HV
Series								
HRGL	= HY-ROS clamp, light series with smooth inner surface							
HRGZ	= HY-ROS clamp, twin clamp with smooth inner surface							
Size (as per dimensions)								
Designation								
KP	= Pair of clamping jaws							
Pipe diameter								
Material of clamping jaws								
PP	= Polypropylene							
PA	= Polyamide							
Version								
FEDER	= Clamping jaws with circumferential rib							
Inner diameter (FEDER) (as per dimensions)								
Colour								
Not specified	= black							
HV	= orange							

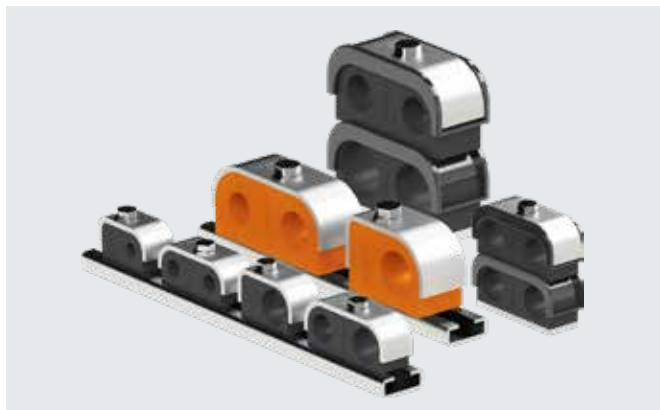
PP and PA are available as self-extinguishing versions on request.

Dimensions



Series	Size	Ød1	Ø d2	Ø d3	Ø d4	h2	a3	a1	f
HRGL	2	15.8	14.0	-	-	33.0	41	26	0.8
	3	21.2	18.2	-	-	37.0	48	33	
		22.0	20.0	-	-				
	4	28.5	25.2	-	-	42.0	57	40	1.2
	5	34.4	31.0	-	-	58.0	70	52	
		42.4	39.2	-	-				
	6	42.4	39.2	-	-	65.2	86	66	
		54.4	50.6	-	-				
HRGZ	5	34.4	31.0	34.4	31.0	54.0	106	56	1.2
		42.4	39.2	42.4	39.2				

HIGH VOLTAGE Buegu clamp



The Buegu clamp is designed for individual cables and line pairs with a diameter range of 6 – 32 mm.

The clamp can also be used for line pairs with different diameters. The rubber body makes the clamp exceptional at damping noise and vibrations.

The special design of the clamp ensures a permanently effective tightening torque and, as a result, defined compression of the rubber body. It is small by design and bridges tolerance fluctuations in your high-voltage lines.

Size	External cable diameter d1 - d2* [mm]	
0A	6	
	8	
	10	
	12	
0B	10	
	12	
	14	
	15	
	16	
	18	
	19	
	20	
0C	21.3	
	22	
	23	
	25	
	25.4	
	28	
	30	
	32	
1	6	- 6
	8	- 8
	10	- 10
	12	- 12
2	10	- 10
	12	- 12
	15	- 15
	16	- 16
	17.1	- 17.1
	18	- 18
	19	- 19
	20	- 20
3	21.3	- 21.3
	22	- 22
	23	- 23
	25	- 25
	25.4	- 25.4
	28	- 28
	30	- 30
	32	- 32

* Other diameter combinations available on request

Model code

(also order example)

HRBGS 1 A1 12-12 TPE ST M BL HV

Designation

HRBGS = HY-ROS Buegu clamp

Size

0A = Size 0A
0B = Size 0B
0C = Size 0C
1 = Size 1
2 = Size 2
3 = Size 3

Version for complete clamps

A = With weld plate, rubber part, sleeve, mounting plate and hexagon head bolt
A1 = With rubber part, sleeve, mounting plate and hexagon head bolt
A1TM = With rubber part, sleeve, mounting plate, hexagon head bolt and rail nut
(C-rail is not part of the scope of delivery for this version)

Diameter

Specification of individual diameter according to external cable diameter
(Size 0 one specification, size 1-3 two specifications)

Material of rubber part

TPE = Thermoplastic elastomer (Standard: 73° Shore A)

Material of steel parts

ST = Steel
A4 = Stainless steel (on request)

Thread type

M = Metric thread

Surface of steel parts

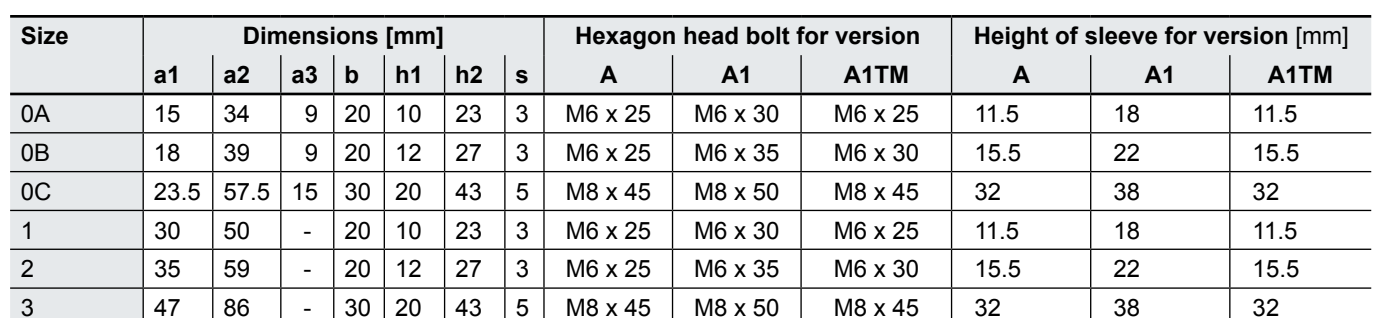
BL = Blank weld plate; clip, sleeve and screw galvanised
ZN = Galvanised

Colour

not specified = black
HV = orange

Note: Blank components may exhibit flash rust.

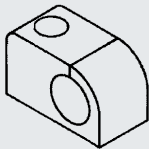
Dimensions



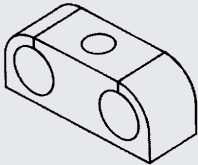
Individual parts

Rubber part (GT)

Size 0A, 0B, 0C



Size 1, 2, 3



Model code

(also order example)

HRBGS **0A** **GT** **12** **TPE** **HV**

Series

HRBGS = HY-ROS Buegu clamp

Size

0A, 0B, 0C, 1, 2, 3

Designation

GT = Rubber part

Diameter

Specification of individual diameter according to external cable diameter
(Size 0 one specification, size 1-3 two specifications)

Material of clamping element

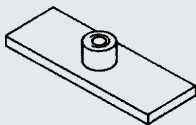
TPE = Thermoplastic elastomer (Standard: 73° Shore A)

Colour

Not specified = black

HV = orange

Weld plate (AP)



Model code

(also order example)

HRBGS **0A** **AP** **ST** **M** **BL**

Series

HRBGS = HY-ROS Buegu clamp

Size

0A, 0B, 0C, 1, 2, 3

Designation

AP = Weld plate

Material of steel parts

ST = Steel

A4 = Stainless steel (on request)

Thread type

M = Metric thread

Surface of steel parts

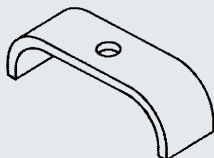
BL = Blank

ZN = Galvanised

Note: Blank components may exhibit flash rust.

Individual parts

Mounting plate (BUE)



Model code

(also order example)

HRBGS 3 BUE ST ZN

Series

HRBGS = HY-ROS Buegu clamp

Size

0A, 0B, 0C, 1, 2, 3

Designation

BUE = Mounting plate

Material of steel parts

ST = Steel

A4 = Stainless steel (on request)

Surface of steel parts

ZN = Galvanised

Sleeve (HUE)



Model code

(also order example)

HRBGS HUE 11.5 ST ZN

Series

HRBGS = HY-ROS Buegu clamp

Designation

HUE = Sleeve

Overall length

(Overall length depends on size and version of Buegu clamp)

Material of steel parts

ST = Steel

A4 = Stainless steel (on request)

Surface of steel parts

ZN = Galvanised

Hexagon head bolt (Hexagon head bolts as per ISO 4014 / 4017)



Model code

(also order example)

6kt-shr.ISO4014 - M6 x 30 - 8.8 A3B

Series

6kt-shr.ISO4014 = Hexagon head bolt as per ISO 4014

6kt-shr.ISO4017 = Hexagon head bolt as per ISO 4017

Size

ISO4014	ISO4017
M6 x 30	M6 x 25
M6 x 35	
M8 x 45	
M8 x 50	

Bolt quality

8.8 = As per ISO 4014, ISO 4017

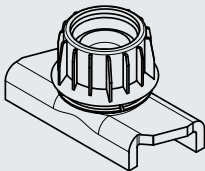
Surface of screw

A3B = Galvanised

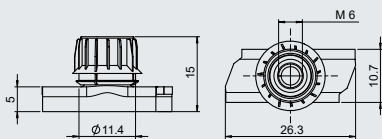
Others on request

Individual parts

Rail nut (TM)



Dimensions



Model code

(also order example)

HRL TMV6 ST ZN

Series

HRL = HY-ROS light series

Designation

TMV6 = Rail nut with twist lock, size M6 (standard)

TM6 = Rail nut without twist lock, size M6

Material of steel parts

ST = Steel

A4 = Stainless steel (on request)

Surface of steel parts

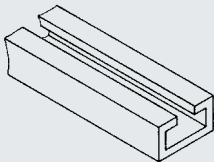
ZN = Galvanised

Others on request

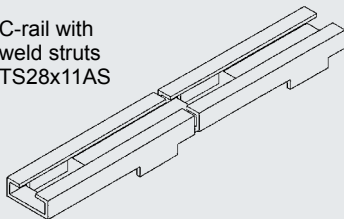
Accessories

C-rail (TS)

C-rail TS

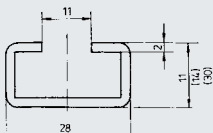


C-rail with
weld struts
TS28x11AS

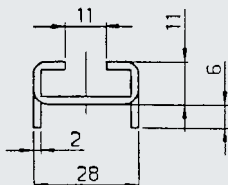


Dimensions

C-rail TS
1 m and 2 m unit lengths available



C-rail TS
with weld struts AS
1 m unit length available



Model code

(also order example)

HRL TS28x11 ST BL 1m

Series

HRL = HY-ROS light series

Version

TS28x11 = C-rail 28x11

TS28x14 = C-rail 28x14

TS28x30 = C-rail 28x30

TS28x11AS = C-rail 28x11 with weld struts

Material of steel parts

ST = Steel

AL = Aluminium (on request)

A2 = Stainless steel (on request)

A4 = Stainless steel (on request)

Surface of steel parts

BL = Blank

ZN = Galvanised

Others on request

Overall length

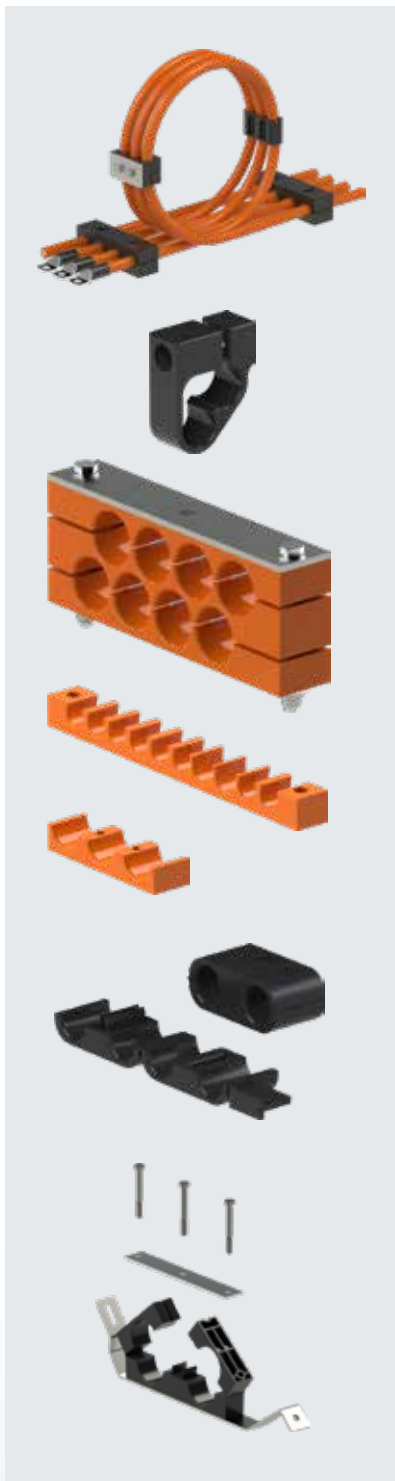
1 m

2 m (not for C-rail with weld struts)

Other lengths on request

Note: Blank components may exhibit flash rust.

Special solutions



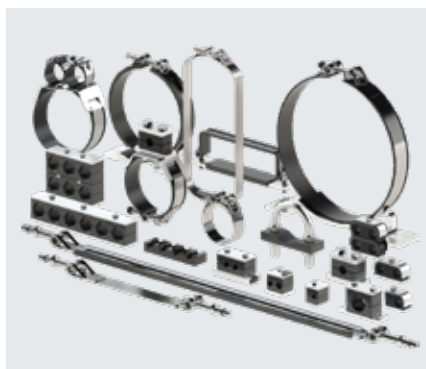
Customised solutions for your platform

- At any time on request
- Speedy sample delivery

Product advantages:

- Bundled, tidy and safe laying system
- Space-saving, compact arrangement
- Simple and rapid installation
- Easy to maintain (on site)
- Shorter installation times
- Vibration, shock and noise damping
- Compensation of cable tolerances
- Solutions available for common cable diameters
- Tool-free solutions available (clip clamps)
- Rapid installation with retaining function for final assembly possible after cable laying
- Spacers available
- Solutions tested for fire and short circuits are available
- Catalogue goods, but also customised fastening solutions from a single source
- All plastics available in self-extinguishing versions on request

Other HYDAC mounting solutions



Limitless possibilities for:

- Accumulators
- Cylinders
- Air tanks
- Fuel tanks
- Catalytic converters
- Coolers
- Exhaust systems
- Battery holders
- Diesel particle filters
- as well as pipes and hoses



Our DIN 3015 standard clamp is also available for your cables from stock – with a smooth inner surface or elastomer inserts.



Other mobile brochures:

- Mounting solutions for mobile applications, brochure no. EN 6.110.0
- Mounting solutions for CO₂-neutral vehicles, brochure no. EN 6.187.0



Contact us today

Would you like more information about our mounting solutions?
Check out our website or get in touch with us.



Tel.: +49 6897 509-01



E-mail: accessories@hydac.com



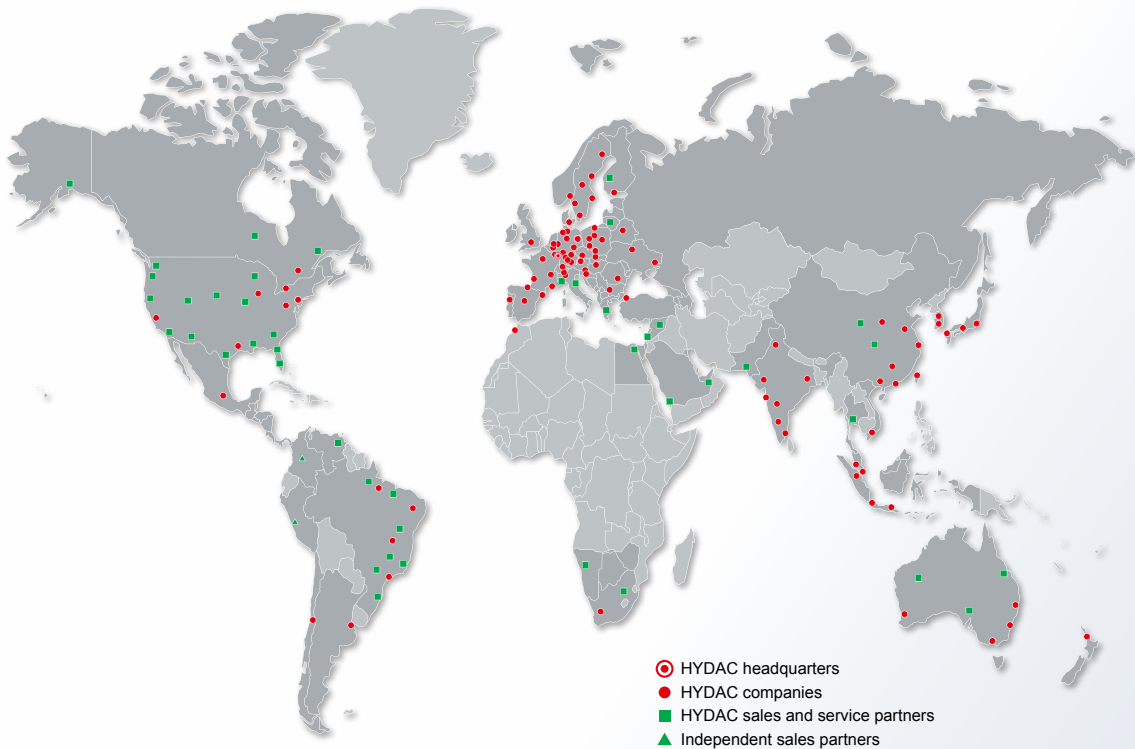
Web: www.hydac.com

HYDAC is your development partner

With over 60 years of expertise in fluid technology, hydraulics and electronics and considerable skills in innovation, we are dedicated to the technologies of the future.

Around 10,000 employees, 50 subsidiaries and more than 500 sales and service partners ensure that HYDAC is on hand to help you as a reliable partner worldwide. The product range extends from components through subsystems right up to complex drive units with closed-loop-control for mobile and stationary systems. We also offer our customers a wide range of technical services relating to HYDAC Fluid Engineering for hydraulic oil, lubricants, cooling lubricants and water.

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Note

The information in this brochure relates to the operating conditions and fields of application described. For applications and/or operating conditions not described, please contact the relevant technical department. The operator is always responsible for determining the product suitability for the specific application. Figures given for product characteristics are average values for a new product which are subject to an ageing process. Subject to technical modifications and errors.

