

## Clamps to DIN 3015

DIN 3015-1 Light Range

DIN 3015-2 Heavy Range

DIN 3015-3 Twin Clamps

### General

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

It offers several advantages:

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

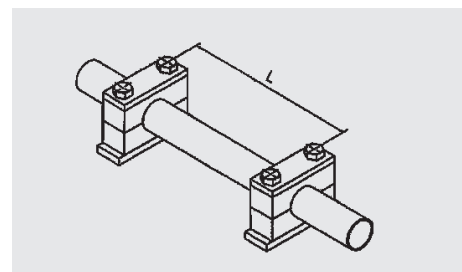
### Assembly

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

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

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

### Recommended distance between pipe supports



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

## Material properties of clamps to DIN 3015

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

## Bolt torque rating to DIN 3015 Part 10

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

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

## Packing details for light range DIN 3015 Part 1

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

## Packing details for heavy range DIN 3015 Part 2

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

## Packing details for twin clamps DIN 3015 Part 3

Twin clamp	Pairs of clamp jaws		Weld and cover plates			Bolts	
	Box (pairs)		Box (pieces)		Bag (pieces)	Box (pieces)	Bag (pieces)
	PP, PA	AL	AP	DP			
1	1000	50	200	250	50	500	50
2	750	50	100	200	50	500	50
3	500	50	100	200	50	500	50
4	250	25	100	100	25	200	25
5	250	25	100	100	25	200	25
TMV 6 / TM6					50		
TM 8					25		
Stacking bolt the same as normal bolts							

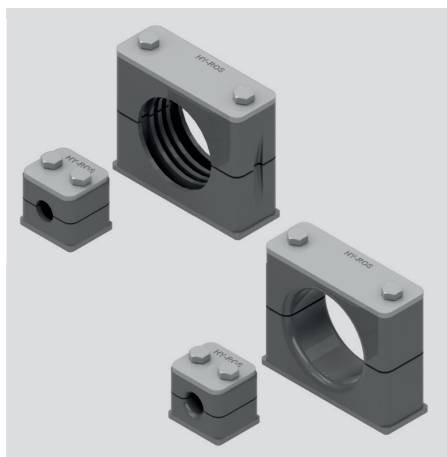
**Note:** Only available in given pack sizes

## Metric / imperial conversion table

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

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

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



## Light Range to DIN 3015 Part 1

HRL, HRGL

Size	Pipe outside Ø [mm]
0	6.4
	8
	9.5
	10
	12
1	6
	6.4
	8
	9.5
	10
2	12
	12.7
	13.7
	14
	15
3	16
	17.1
	18
	19
	20
4	21.3
	22
	23
	25
	25.4
5	26.9
	28
	30
	32
	33.7
6	35
	38
	40
	42
	44.5
7	48.3
	50.8
	57.2
	60.3
	63.5
8	70.0
	73.0
	76.1
	88.9
	101.6

### Model code (also order example)

HRL 2 A 16 PP ST M BL

#### Designation

HRL = HY-ROS clamp, light range with ribbed internal surface  
HRGL = HY-ROS clamp, light range with smooth internal surface

#### Size

0 = size 0  
1 = size 1  
2 = size 2  
up to size 8

#### Model for complete clamps

(pair of clamp jaws not mentioned)

A = with weld plate, cover plate and hex. head bolt  
AV = with extended weld plate, cover plate and hex. head bolt  
A1 = with cover plate and hex. head bolt  
A1TM = with cover plate, hex. head bolt and mounting rail nut  
B = with weld plate, hex. socket cap bolt and washer  
BV = with extended weld plate, hex. socket cap bolt and washer  
B1 = with hex. socket cap bolt and washer  
B1TM = with hex. socket cap bolt, washer and mounting rail nut  
C = with weld plate, slotted-head bolt and washer  
CV = with extended weld plate, slotted-head bolt and washer  
C1 = with slotted-head bolt and washer  
C1TM = with slotted-head bolt, washer and mounting rail nut  
D = with stacking bolt and safety plate

#### Pipe diameter

#### Material of clamp jaws

PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3  
TPE = thermoplastic elastomer  
AL = aluminium (sizes 0, 7, 8 on request)

#### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

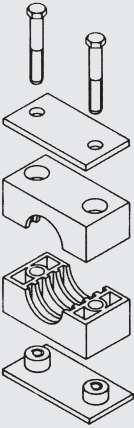
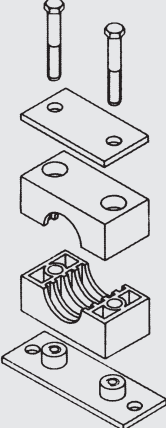
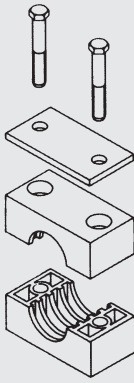
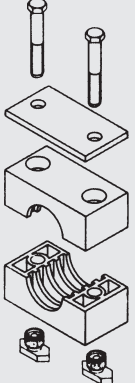
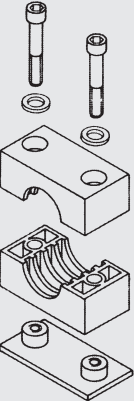
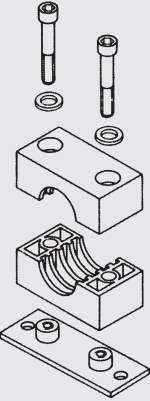
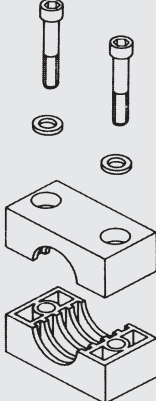
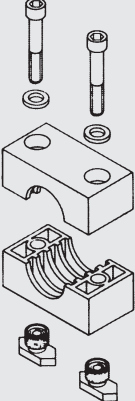
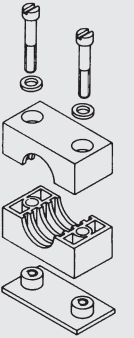
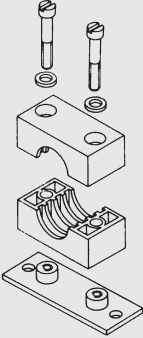
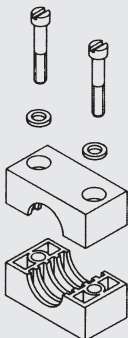
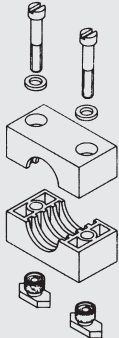
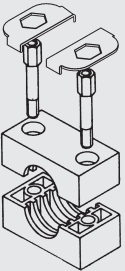
#### Thread type

M = metric thread

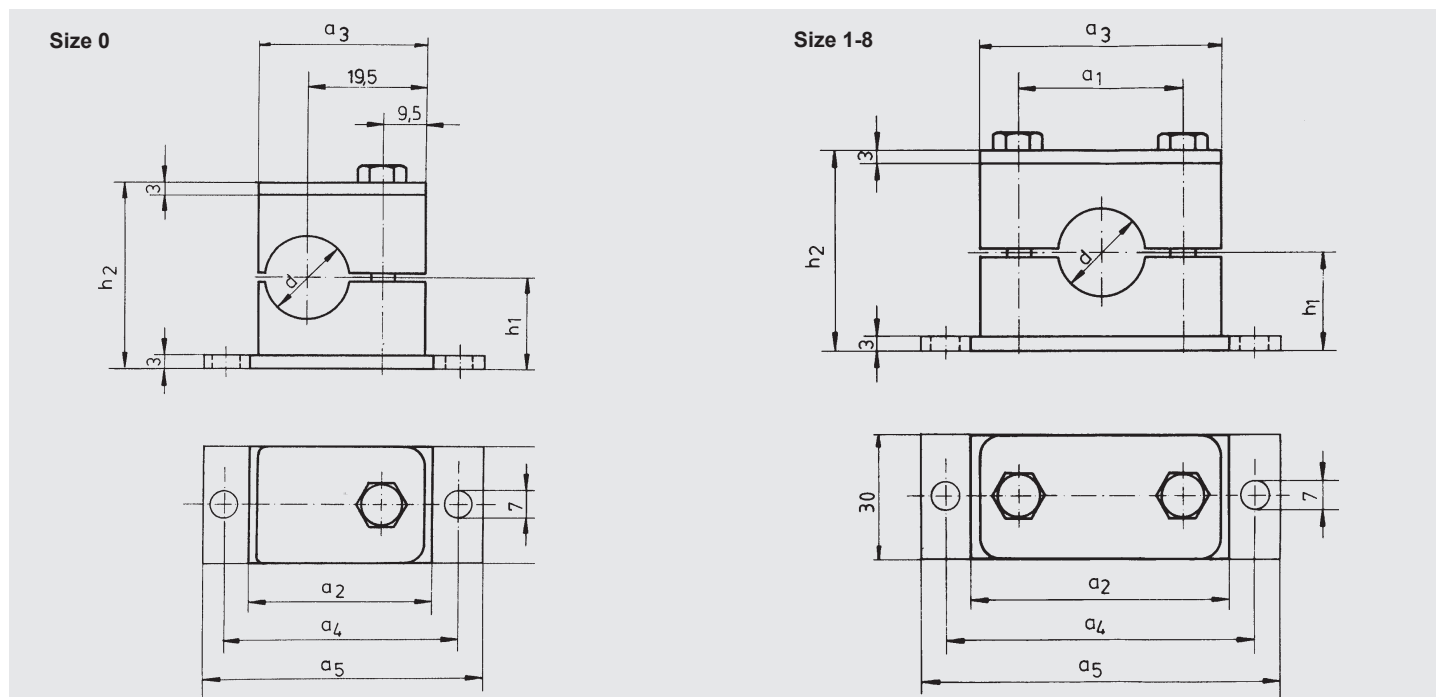
#### Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts zinc-plated  
ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated  
Others on request

Models for light range DIN 3015 Part 1

<p><b>Model A</b> Size 0 - 8</p> 	<p><b>Model AV</b> Size 0 - 8</p> 	<p><b>Model A1</b> Size 0 - 8</p> 	<p><b>Model A1TM</b> Size 0 - 8</p> 
<p><b>Model B</b> Size 0 - 8</p> 	<p><b>Model BV</b> Size 0 - 8</p> 	<p><b>Model B1</b> Size 0 - 8</p> 	<p><b>Model B1TM</b> Size 0 - 8</p> 
<p><b>Model C</b> Size 0 - 6</p> 	<p><b>Model CV</b> Size 0 - 6</p> 	<p><b>Model C1</b> Size 0 - 6</p> 	<p><b>Model C1TM</b> Size 0 - 6</p> 
<p><b>Model D</b> Size 0 - 6</p> 	<p><b>Note:</b> No washers are required in the AL version for series B and C.</p>		

## Dimensions for light range DIN 3015 Part 1



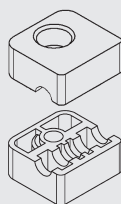
Size	Dimensions [mm]							Hex. head	Hex. socket	Stud	Slotted head
	a1	a2	a3	a4	a5	h1	h2	ISO 4014	ISO 4762	DIN 938	ISO 1207
0	-	30	28	44	58	16	32	M6 x 30	M6 x 20	M6 x 20	M6 x 20
1	20	36	36	50	64	16	32	M6 x 30	M6 x 20	M6 x 20	M6 x 20
2	26	42	40	56	70	19.5	39	M6 x 35	M6 x 25	M6 x 25	M6 x 25
3	33	50	48	64	78	20.5	41	M6 x 40	M6 x 30	M6 x 30	M6 x 30
4	40	60	57	73	87	24	48	M6 x 45	M6 x 35	M6 x 35	M6 x 35
5	52	72	70	86	100	32	64	M6 x 60	M6 x 50	M6 x 50	M6 x 50
6	66	88	86	100	116	36	72	M6 x 70	M6 x 60	M6 x 60	M6 x 60
7	94	122	121	136	150	51.5	103	M6 x 100	M6 x 85	-	-
8	120	148	147	162	178	64	128	M6 x 125	M6 x 110	-	-

NOTE: For sizes 7 and 8, the cover plate and weld plate are 5 mm thick.

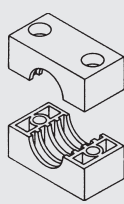
# Individual parts for light range DIN 3015 Part 1

## Pair of clamp jaws, ribbed (HRL...KP...)

Size 0

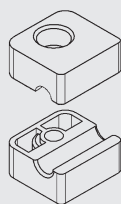


Size 1 - 8

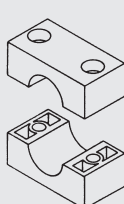


## Pair of clamp jaws, smooth (HRL...KP...)

Size 0



Size 1 - 8



## Model code

(also order example)

HRL 3 KP 23 PP

### Range

HRL = HY-ROS clamp, light range with ribbed internal surface  
HRGL = HY-ROS clamp, light range with smooth internal surface

### Size

(as per dimensions)

### Designation

KP = pair of clamp jaws

### Pipe diameter

### Material of clamp jaws

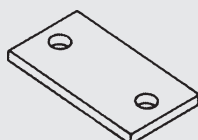
PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3  
TPE = thermoplastic elastomer  
AL = aluminium (sizes 0, 7, 8 on request)

## Cover plate (DP)

Size 0



Size 1 - 8



## Model code

(also order example)

HRL 3 DP ST ZN

### Range

HRL = HY-ROS light range

### Size

(as per dimensions)

### Designation

DP = cover plate

### Material of steel parts

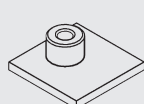
ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Plating of steel parts

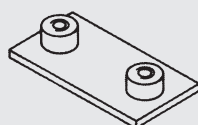
BL = unplated  
Others on request

## Weld plate (AP)

Size 0

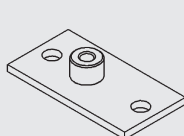


Size 1 - 8

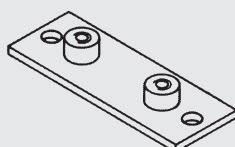


## Extended weld plate (APV)

Size 0



Size 1 - 8



## Model code

(also order example)

HRL 2 AP ST M BL

### Range

HRL = HY-ROS light range

### Size

(as per dimensions)

### Designation

AP = weld plate  
APV = extended weld plate

### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

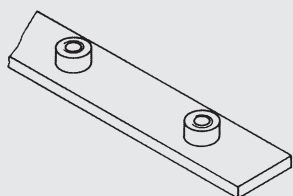
### Thread type

M = metric thread

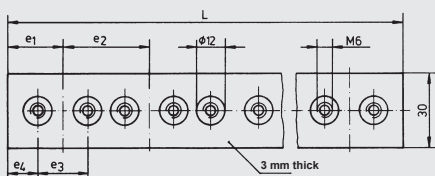
### Plating of steel parts

BL = unplated  
Others on request

## Interconnecting weld plate (RAP)



### Dimensions



## Model code (also order example)

HRL 2a RAP ST M BL

### Range

HRL = HY-ROS light range

### Size

(as per dimensions)

### Designation

RAP = interconnecting weld plate

### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

### Thread type

M = metric thread

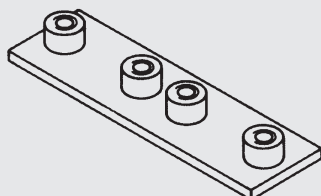
### Plating of steel parts

BL = unplated

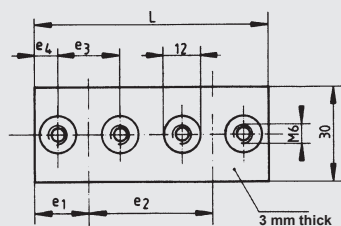
Others on request

Size	Number of clamps	Dimensions [mm]				
		e1	e2	e3	e4	L
0	10	-	30	-	-	298
1b	10	17	40	20	7	394
2a	10	20	43	26	7	427
2b	10	20	52	26	7	508
3a	10	24	52	33	7.5	516
3b	10	24	75	33	7.5	723
4	5	28.5	60	40	8.5	297
5	5	35	75	52	9	370
6	5	43	90	66	10	446

## Double weld plate (DAP)



### Dimensions



## Model code (also order example)

HRL 2a DAP ST M BL

### Range

HRL = HY-ROS light range

### Size

(as per dimensions)

### Designation

DAP = double weld plate

### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

### Thread type

M = metric thread

### Plating of steel parts

BL = unplated

Others on request

Size	Number of clamps	Dimensions [mm]				
		e1	e2	e3	e4	L
0	2	-	-	30	9.5	63
1b	2	18	40	20	8	75
2a	2	21.5	43	26	8.5	86
2b	2	21	52	26	8	94
3a	2	26	52	33	9.5	104
3b	2	25	75	33	8.5	125
4	2	28.5	60	40	8.5	117
5	2	35	75	52	9	145
6	2	43	90	66	10	176

## Bolts

Hex. head bolt ISO 4014



Hex. socket cap bolt  
ISO 4762



Slotted-head bolt ISO 1207



## Model code

(also order example)

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

### Range

6kt-shr.ISO4014 = hex. head bolt to ISO 4014  
Zyl-shr.ISO4762 = hex. socket cap bolt to ISO 4762  
Zyl-shr.ISO1207 = slotted-head bolt to ISO 1207

### Size

ISO4014	ISO4762	ISO1207	for HRL size
M6 x 30	M6 x 20	M6 x 20	0+1
M6 x 35	M6 x 25	M6 x 25	2
M6 x 40	M6 x 30	M6 x 30	3
M6 x 45	M6 x 35	M6 x 35	4
M6 x 60	M6 x 50	M6 x 50	5
M6 x 70	M6 x 60	M6 x 60	6
M6 x 100	M6 x 85	-	7
M6 x 125	M6 x 110	-	8

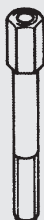
### Bolt quality

8.8 = to ISO 4014, ISO 4762  
4.6 = to ISO 1207

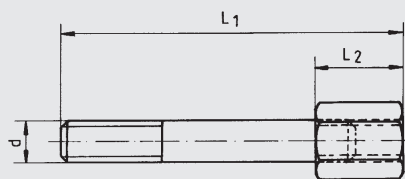
### Bolt plating

A3B = zinc-plated  
Others on request

## Stacking bolt (AF)



### Dimensions



Size	Dimensions [mm]		
	L1	L2	L3
0+1	34	14	M6
2	39	14	M6
3	44	14	M6
4	49	14	M6
5	64	14	M6
6	74	14	M6

NOTE: Size 7 + 8 on request

## Model code

(also order example)

HRL 4 AF ST M ZN

### Range

HRL = HY-ROS light range

### Size

(as per dimensions)

### Designation

AF = stacking bolt

### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Thread type

M = metric thread

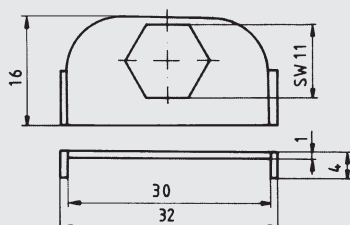
### Plating of steel parts

ZN = zinc-plated  
Others on request

## Safety plate (SIP)



### Dimensions (for all sizes)



## Model code

(also order example)

HRL 0 SIP ST ZN

### Range

HRL = HY-ROS light range

### Size

0 = for all sizes

### Designation

SIP = safety plate

### Material of steel parts

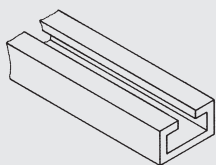
ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Plating of steel parts

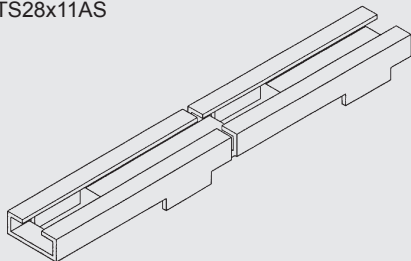
ZN = zinc-plated  
Others on request

## C mounting rail (TS)

C mounting rail TS

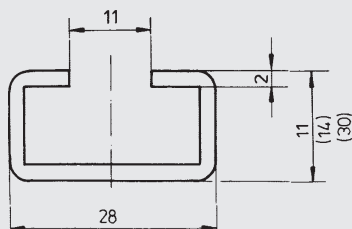


C mounting rail with weld struts  
TS28x11AS

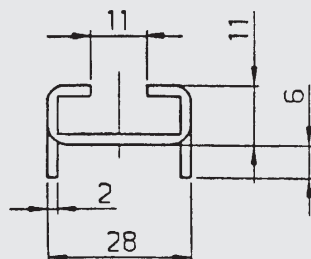


### Dimensions

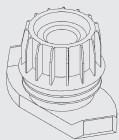
C mounting rail TS  
available in 1 m and 2 m pieces



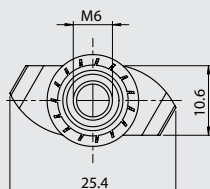
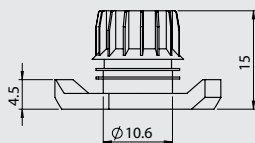
C mounting rail with weld struts  
available in 1 m pieces



## Mounting rail nut (TM)



### Dimensions



## Model code

(also order example)

HRL TS28x11 ST BL 1m

### Range

HRL = HY-ROS light range

### Model

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

### Material of steel parts

ST = steel  
AL = aluminium (on request)  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Plating of steel parts

BL = unplated  
ZN = zinc-plated  
Others on request

### Length

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

## Model code

(also order example)

HRL TMV6 ST ZN

### Range

HRL = HY-ROS light range

### Designation

TMV6 = mounting rail nut with anti-twist protection, size M6 (standard)  
TM6 = mounting rail nut without anti-twist protection, size M6

### Material of steel parts

ST = steel  
A4 = stainless steel (on request)

### Plating of steel parts

ZN = zinc-plated  
Others on request

## NOTE

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department.

Users bear the responsibility in all cases for determining the product's suitability in 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.

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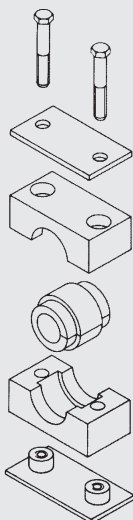


## Light Range with Elastomer Insert to DIN 3015 Part 1

HREL, HRERL

Size	d internal surface smooth [mm]	d internal surface ribbed [mm]
4	6	-
	8	-
	10	10
	12	12
	12.7	-
	14	14
	15	15
	16	16
	17.2	17.2
	18	-
	19	-
6	20	20
	21.3	-
	22	22
	23	-
	25	25
	26.9	-
	28	28
	30	30
	32	-

### Model A Size 4, 6



### Model code

(also order example)

HREL 4 A 16 PP ST M BL

#### Designation

HREL = HY-ROS clamp, light range,  
elastomer insert with smooth internal surface  
HRERL = HY-ROS clamp, light range,  
elastomer insert with ribbed internal surface

#### Size

4 = size 4  
6 = size 6

#### Model for complete clamps

(pair of clamp jaws not mentioned)

A = with elastomer insert, weld plate,  
cover plate and hex. head bolt

#### Pipe diameter

#### Material of clamp jaws

PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

#### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

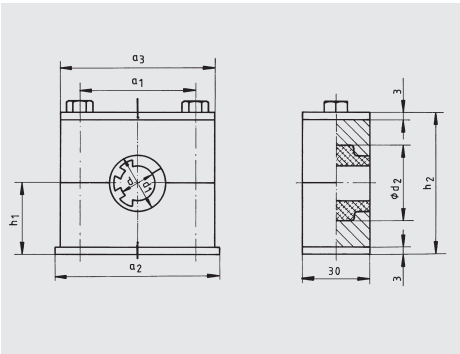
#### Thread type

M = metric thread

#### Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts zinc-plated  
Others on request

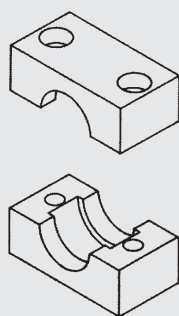
1



1

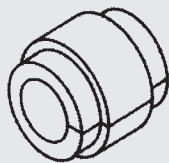
**Pair of clamp jaws (KP)**

Size 4, 6



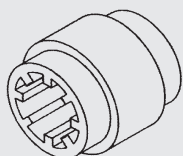
**Elastomer insert smooth  
(HRES...EE...)**

Size 2/4L, 3/6L



**Elastomer insert ribbed  
(HRERS...EE...)**

Size 2/4L, 3/6L



Size	Dimensions [mm]							Hex. head	Hex. socket	Stud	Slotted head
	d1	d2	a1	a2	a3	h1	h2	ISO 4014	ISO 4762	DIN 938	ISO 1207
4	25.5	31	40	59	57	23.5	47	M6 x 45	M6 x 35	M6 x 35	M6 x 35
6	39	46	66	88	86	35.5	71	M6 x 70	M6 x 60	M6 x 60	M6 x 60

## Model code

(also order example)

HREL 4 KP PP

## Range

HREL = HY-ROS clamp, light range, with elastomer insert

## Size

4 = size 4

6 = size 6

### Designation

KP = pair of clamp jaws

### Material of clamp jaws

PP = polypropylene

PA = polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

## Model code

(also order example)

**HRES 2/4L EE 16 TPE**

## Range

HRES = elastomer insert, internal surface smooth

HRERS = elastomer insert, internal surface ribbed

## Size

2/4L = size 2 (HRS), size 4 (HRL)

3/6L = size 3 (HRS), size 6 (HRL)

### Designation

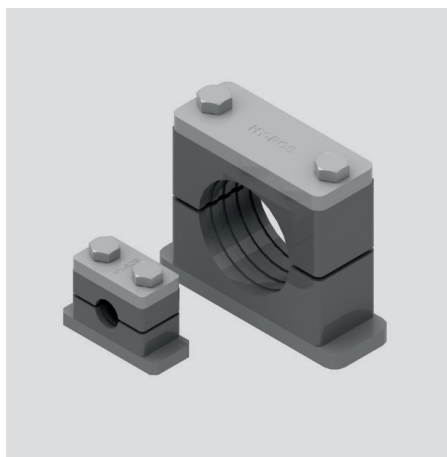
EE = elastomer insert

### Pipe diameter

(as per dimensions)

### Insert material

TPE = thermoplastic elastomer



## Heavy Range to DIN 3015 Part 2

HRS, HRGS

Size	Pipe outside Ø [mm]	
1	6	13.7
	6.4	14
	8	15
	9.5	16
	10	17.1
	12	18
2	12.7	
	19	25.4
	20	26.9
	21.3	28
	22	30
3	25	35
	30	38
	32	40
	33.7	42
4	30	55
	38	57
	42	60.3
	44.5	63.5
	48.3	65
	50.8	70
5	38	76.1
	65	80
	70	88.9
	73	
6	65	114.3
	96	127
	101.6	
	108	
7	90	
	136	
	139.7	
	168	
8	168	
	177.8	
	193.7	
	219.1	
9	219.1	
	244.5	
	273	
	323.9	
10	355.6	
	406.4	

### Model code

(also order example)

HRS 2 A 30 PP ST M BL

### Designation

HRS = HY-ROS clamp, heavy range with ribbed internal surface

HRGS = HY-ROS clamp, heavy range with smooth internal surface (on request)

### Size

1 = size 1

2 = size 2

3 = size 3

up to size 10

### Model for complete clamps

(pair of clamp jaws not mentioned)

A = with weld plate, cover plate and hex. head bolt

AV = with extended weld plate, cover plate and hex. head bolt

A1 = with cover plate and hex. head bolt

A1TM = with cover plate, hex. head bolt and mounting rail nut  
(only up to size 4)

B = with weld plate, hex. socket cap bolt and washer  
(only up to size 7)  
material of clamp jaws AL

D = with stacking bolt and safety plate  
(only up to size 7)

G = with double weld plate, double cover plate and hex. head bolt

### Pipe diameter

### Material of clamp jaws

PP = polypropylene

PA = polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

TPE = thermoplastic elastomer

AL = aluminium

### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

### Thread type

M = metric thread

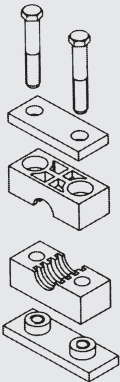
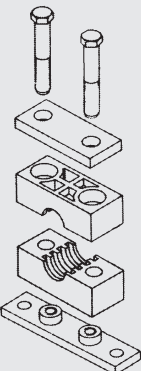
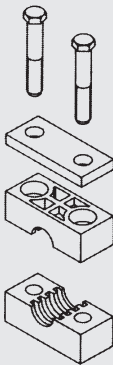
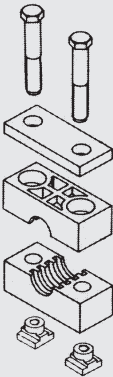
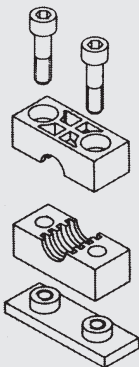
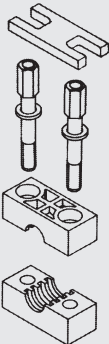
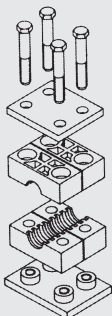
### Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts unplated  
(from size 8 cover plate unplated)

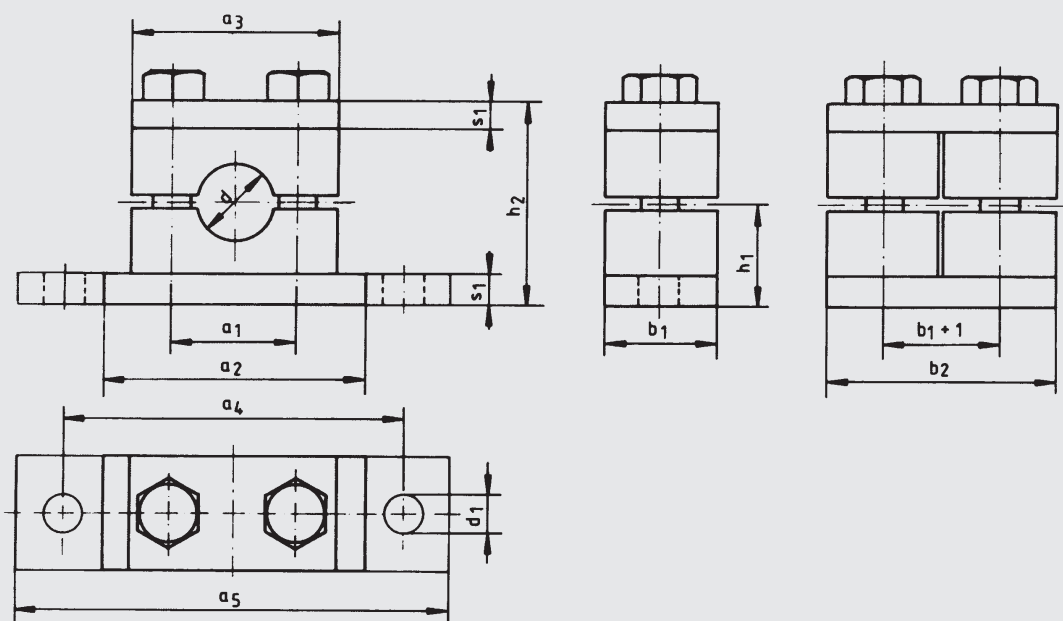
BL/ZN = weld plate unplated, cover plate zinc-plated, bolts zinc-plated

ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated

# Models for heavy range DIN 3015 Part 2

<p><b>Model A</b> Size 1 - 10</p> 	<p><b>Model AV</b> Size 1 - 10</p> 	<p><b>Model A1</b> Size 1 - 10</p> 	<p><b>Model A1TM</b> Size 1 - 4</p> 
<p><b>Model B</b> Size 1 - 7</p> 	<p><b>Note:</b> No washers are required in the AL version for series B.</p>		
<p><b>Model D</b> Size 1 - 7</p> 			
<p><b>Model G</b> Size 1 - 10</p> 			

## Dimensions for heavy range DIN 3015 Part 2

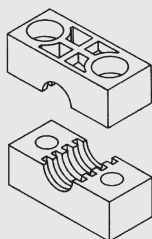


Size	Dimensions [mm]												Hex. head	Hex. socket
	a1	a2	a3 PA, PP	a3 AL	a4	a5	b1	b2	h1	h2	s1	s2	ISO 4014	ISO 4762
1	33	73	55	57	85	113	30	60	24	48	8	11	M10 x 45	M10 x 25
2	45	85	70	70	97	125	30	60	32	64	8	11	M10 x 60	M10 x 40
3	60	100	85	85	112	140	30	60	38	76	8	11	M10 x 70	M10 x 50
4	90.5	140	115	119	160	190	45	90	54.5	109	10	14	M12 x 100	M12 x 80
5	122	180	152	160	205	240	60	120	70	140	10	18	M16 x 130	M16 x 110
6	168	225	205	215	270	310	80	160	100	200	15	22	M20 x 190	M20 x 150
7	205	270	252	258	320	370	90	180	115	230	15	26	M24 x 220	M24 x 180
8	265	340	320	323	-	-	120	240	160	320	25	-	M30 x 300	-
9	395	520	466	475	-	-	160	324	235	470	30	-	M30 x 450	-
10	530	680	630	630	-	-	180	364	295	590	30	-	M30 x 560	-

## Individual parts for heavy range DIN 3015 Part 2

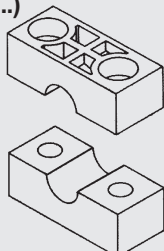
### Pair of clamp jaws, ribbed (HRS...KP...)

Size 1 - 10



### Pair of clamp jaws, smooth (HRGS...KP...)

Size 1 - 10



### Model code

(also order example)

HRS 3 KP 23 PP

#### Range

HRS = HY-ROS clamp, heavy range with ribbed internal surface  
HRGS = HY-ROS clamp, heavy range with smooth internal surface

#### Size

(as per dimensions)

#### Designation

KP = pair of clamp jaws

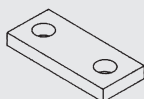
#### Pipe diameter

#### Material of clamp jaws

PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3  
TPE = thermoplastic elastomer  
AL = aluminium (not for HRGS)

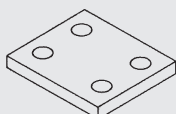
### Cover plate (DP)

Size 1 - 10



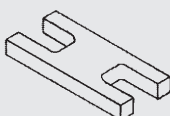
### Double cover plate (DDP)

Size 1 - 10



### Safety plate (SIP)

Size 1 - 7



### Model code

(also order example)

HRS 2 DP ST BL

#### Range

HRS = HY-ROS heavy range

#### Size

(as per dimensions)

#### Designation

DP = cover plate  
DDP = double cover plate  
SIP = safety plate (only up to size 7)

#### Material of steel parts

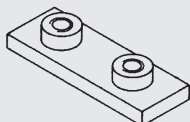
ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

#### Plating of steel parts

BL = unplated  
ZN = zinc-plated (only up to size 7)

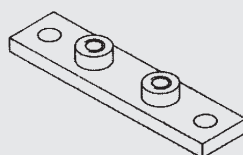
### Weld plate (AP)

Size 1 - 10



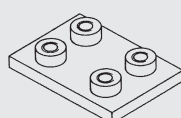
### Extended weld plate (APV)

Size 1 - 10



### Double weld plate (DAP)

Size 1 - 10



### Model code

(also order example)

HRS 2 AVP ST M BL

#### Range

HRS = HY-ROS heavy range

#### Size

(as per dimensions)

#### Designation

AP = weld plate  
APV = extended weld plate  
DAP = double weld plate

#### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

#### Thread type

M = metric thread

#### Plating of steel parts

BL = unplated  
ZN = zinc-plated

## Bolts

**Hex. head bolt ISO 4014**  
HRS size 1 -10



**Hex. socket cap bolt ISO 4762**  
HRS size 1 -7



## Model code

(also order example)

**6kt-shr.ISO4014 - M10 x 70 - 8.8 A3B**

### Range

6kt-shr.ISO4014 = hex. head bolt to ISO 4014

Zyl-shr.ISO4762 = hex. socket cap bolt to ISO 4762

### Size

ISO4014	ISO4762*	for HRS size
M10 x 45	M10 x 25	1
M10 x 60	M10 x 40	2
M10 x 70	M10 x 50	3
M12 x 100	M12 x 80	4
M16 x 130	M16 x 110	5
M20 x 190	M20 x 150	6
M24 x 220	M24 x 180	7
M30 x 300		8
M30 x 450		9
M30 x 560		10

\* only AL version

### Bolt quality

8.8 = to ISO 4014, ISO 4762

### Bolt plating

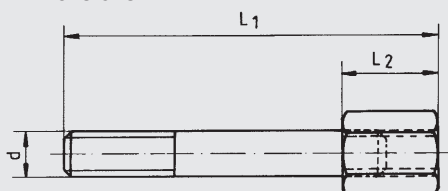
no details = unplated

A3B = zinc-plated

## Stacking bolt (AF)



### Dimensions



Size	Dimensions [mm]		
	L1	L2	d
1	50	25	M10
2	65	25	M10
3	75	25	M10
4	106	26	M12
5*	145	35	M16
6*	200	50	M20
7*	236	56	M24

\* without washer

## Model code

(also order example)

**HRS 5 AF16 ST M ZN**

### Range

HRS = HY-ROS heavy range

### Size

(as per dimensions)

### Designation

AF10 = stacking bolt M10

AF12 = stacking bolt M12

AF16 = stacking bolt M16

AF20 = stacking bolt M20

AF24 = stacking bolt M24

### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

### Thread type

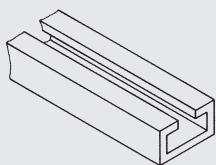
M = metric thread

### Plating of steel parts

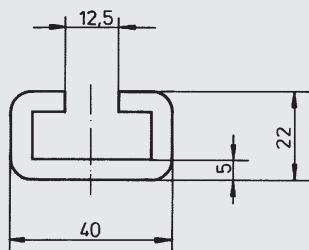
BL = unplated

ZN = zinc-plated

## C mounting rail (TS)

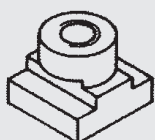


### Dimensions



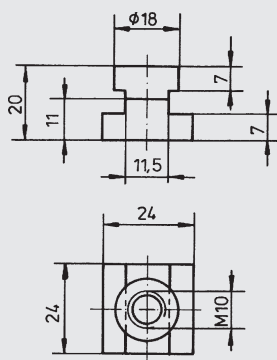
Note:  
available in 1 m and 2 m pieces

## Mounting rail nut (TM)

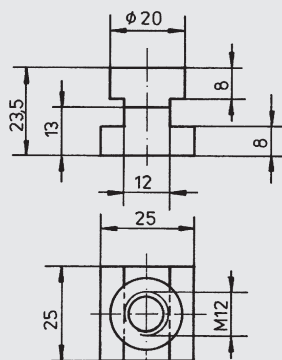


### Dimensions

Mounting rail nut TM10



Mounting rail nut TM12



## Model code (also order example)

HRS TS40x22 ST BL 2m

### Range

HRS = HY-ROS heavy range

### Model

TS40x22 = C mounting rail 40x22

### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Plating of steel parts

BL = unplated  
ZN = zinc-plated

### Length

1 m  
2 m  
Other lengths on request

## Model code (also order example)

HRS TM10 ST M ZN

### Range

HRS = HY-ROS heavy range

### Designation

TM10 = mounting rail nut size M10  
TM12 = mounting rail nut size M12

### Material of steel parts

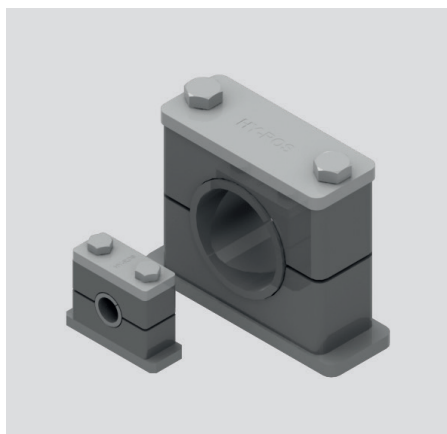
ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Thread type

M = metric thread

### Plating of steel parts

ZN = zinc-plated  
Others on request



## Heavy Range with Elastomer Insert to DIN 3015 Part 2

HRES, HRERS

Size	d internal surface smooth [mm]	d internal surface ribbed [mm]
2	6	-
	8	-
	10	10
	12	12
	12,7	-
	14	14
	15	15
	16	16
	17,2	17,2
	18	-
	19	-
3	20	20
	21,3	-
	22	22
	23	-
	25	25
	26,9	-
	28	28
	30	30
4	32	-
	33,7	-
	35	-
	38	38
	40	-
	42	42
	45,5	44,5
	48	48
	51	-
	53,4	-
5	56,4	57
	60	-
	65	-
	70	-
	73	-
6	76	76
	83	-
	89	89
	94	-
7	101	-
	108	108
	114	-
	133	-
	140	-

### Model code (also order example)

HRES 2 A 16 PP ST M BL

#### Designation

HRES = HY-ROS clamp, heavy range,  
elastomer insert with smooth internal surface  
HRERS = HY-ROS clamp, heavy range,  
elastomer insert with ribbed internal surface

#### Size

2 = size 2  
3 = size 3  
4 = size 4  
5 = size 5  
6 = size 6  
7 = size 7

#### Model for complete clamps

(pair of clamp jaws not mentioned)

A = with elastomer insert, weld plate,  
cover plate and hex. head bolt

#### Pipe diameter

#### Material of clamp jaws

PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

#### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

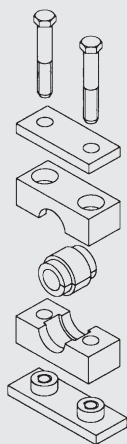
#### Thread type

M = metric thread

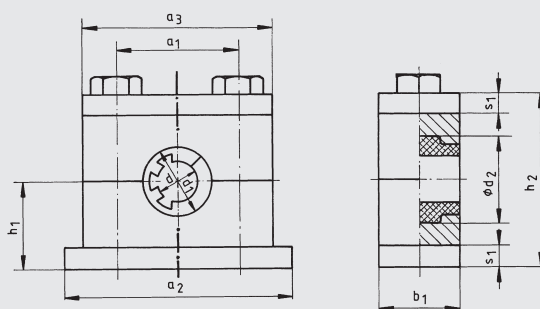
#### Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts unplated  
BL/ZN = weld plate unplated, cover plate zinc-plated, bolts zinc-plated  
ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated

## Model A Size 2 - 7



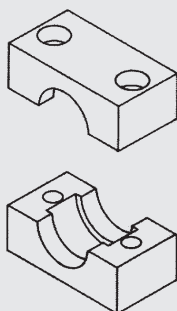
## Dimensions



Size	Dimensions [mm]									Hex. head ISO 4014
	d1	d2	b1	h1	h2	a1	a2	a3	s1	
2	25.5	31	30	31	62	45	85	70	8	M10 x 60
3	39	46	30	37	74	60	100	85	8	M10 x 70
4	65	74	45	53.5	107	90.5	140	115	10	M12 x 100
5	89	98	60	68.5	137	122	180	152	10	M16 x 130
6	116	132	80	98.5	197	168	225	205	15	M20 x 190
7	154	168	90	113.5	227	205	270	252	15	M24 x 220

## Individual parts

### Pair of clamp jaws (KP) Size 2 - 7



### Model code

(also order example)

HRES 4 KP PP

#### Range

HRES = HY-ROS clamp, heavy range, with elastomer insert

#### Size

2 = size 2  
3 = size 3  
4 = size 4  
5 = size 5  
6 = size 6  
7 = size 7

#### Designation

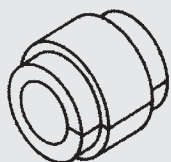
KP = pair of clamp jaws

#### Material of clamp jaws

PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

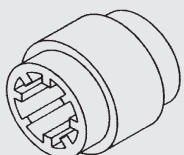
### Elastomer insert smooth (HRES...EE...)

Size 2/4L, 3/6L, 4, 5, 6, 7



### Elastomer insert ribbed (HRERS...EE...)

Size 2/4L, 3/6L, 4, 5, 6, 7



### Model code

(also order example)

HRES 2/4L EE 16 TPE

#### Range

HRES = elastomer insert, internal surface smooth  
HRERS = elastomer insert, internal surface ribbed

#### Size

2/4L = size 2 (HRS), size 4 (HRL)  
3/6L = size 3 (HRS), size 6 (HRL)  
4 = size 4  
5 = size 5  
6 = size 6  
7 = size 7

#### Designation

EE = elastomer insert

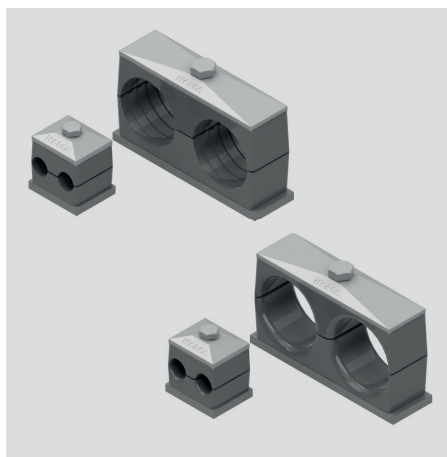
#### Pipe diameter

(as per dimensions)

#### Insert material

TPE = thermoplastic elastomer  
NBR\* = acrylonitrile butadiene elastomer

\* only sizes 5 - 7



## Twin Clamps to DIN 3015 Part 3

HRZ, HRGZ

Size	Pipe outside Ø [mm]
1	6
	6.4
	8
	9.5
	10
	12
2	12.7
	13.7
	14
	15
	16
	17.1
3	18
	19
	20
	21.3
	22
	23
4	25
	25.4
	26.9
	28
5	30
	32
	33.7
	35
	38
	40
	42

### Model code

(also order example)

HRZ 2 A 16-16 PP ST M BL

#### Designation

HRZ = HY-ROS twin clamp with ribbed internal surface

HRGZ = HY-ROS twin clamp with smooth internal surface

#### Size

1 = size 1

2 = size 2

up to size 5

#### Model for complete clamps

(pair of clamp jaws not mentioned)

A = with weld plate, cover plate and hex. head bolt

A1 = with cover plate and hex. head bolt

A1TM = with cover plate, hex. head bolt and mounting rail nut

D = with stacking bolt and safety plate

#### Pipe diameter

(specification of each Ø as per pipe outside Ø)

#### Material of clamp jaws

PP = polypropylene

PA = polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

TPE = thermoplastic elastomer

#### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

#### Thread type

M = metric thread

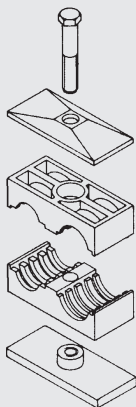
#### Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts zinc-plated (only model A)

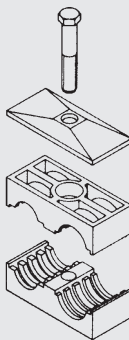
ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated

Models for twin clamps to DIN 3015 Part 3

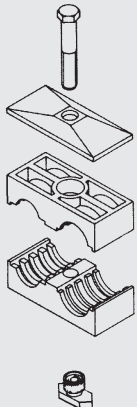
Model A  
Size 1 - 5



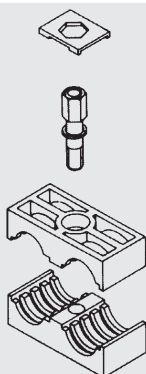
Model A1  
Size 1 - 5



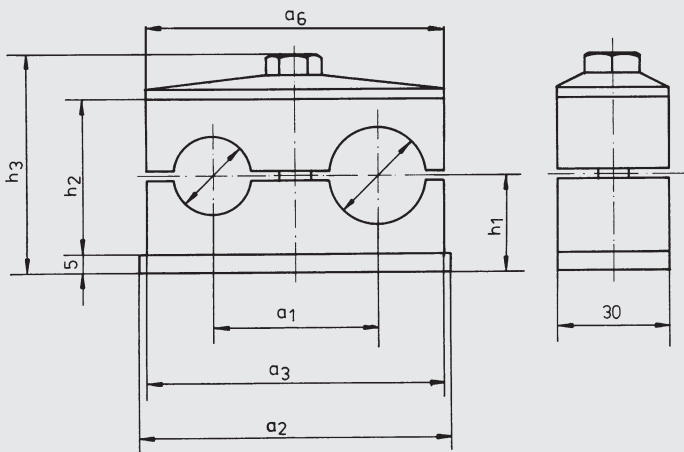
Model A1TM  
Size 1 - 5



Model D  
Size 1 - 5



Dimensions

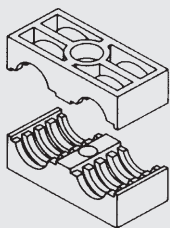


Size	Dimensions [mm]							Hex. head bolt ISO 4014
	a1	a2	a3	a6	h1	h2	h3	
1	20	37	36	34	18.5	27	43	M6 x 35
2	29	55	53	51	18	26	43.5	M8 x 35
3	36	70	67	64	23.5	37	54.5	M8 x 45
4	45	85	82	78	26	42	59.5	M8 x 50
5	56	110	106	102	32	54	71.5	M8 x 60

## Individual parts for twin clamps DIN 3015 Part 3

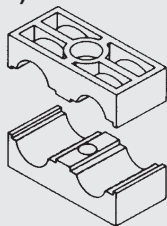
### Pair of clamp jaws, ribbed (HRZ...KP...)

Size 1 - 5



### Pair of clamp jaws, smooth (HRGZ...KP...)

Size 1 - 5



### Model code

(also order example)

HRZ 3 KP 23-23 PP

#### Range

HRZ = HY-ROS twin clamp with ribbed internal surface  
HRGZ = HY-ROS twin clamp with smooth internal surface

#### Size

1 = size 1  
2 = size 2  
up to size 5

#### Designation

KP = pair of clamp jaws

#### Pipe diameter

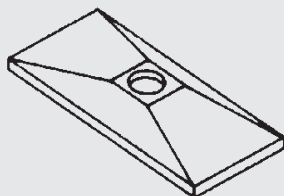
(specification of each Ø as per pipe outside Ø)

#### Material of clamp jaws

PP = polypropylene  
PA = polyamide  
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3  
TPE = thermoplastic elastomer  
Others on request

### Cover plate (DP)

Size 1 - 5



### Model code

(also order example)

HRZ 3 DP ST BL

#### Range

HRZ = HY-ROS twin clamp

#### Size

(as per dimensions)

#### Designation

DP = cover plate

#### Material of steel parts

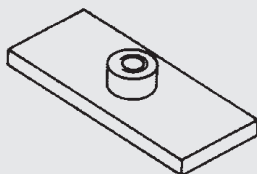
ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

#### Plating of steel parts

BL = unplated  
Others on request

### Weld plate (AP)

Size 1 - 5



### Model code

(also order example)

HRZ 2 AP ST M BL

#### Range

HRZ = HY-ROS twin clamp

#### Size

(as per dimensions)

#### Designation

AP = weld plate

#### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

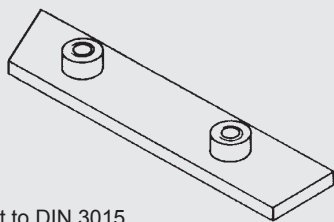
#### Thread type

M = metric thread

#### Plating of steel parts

BL = unplated  
Others on request

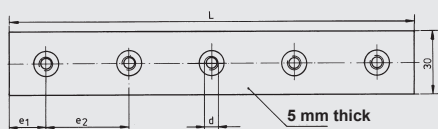
## Interconnecting weld plate (RAP)\*



\*not to DIN 3015

### Dimensions

Size	Number of clamps	Dimensions [mm]			
		L1	L2	L	d
1	5	18	40	196	M6
2	5	28	58	288	M8
3	5	35	72	358	M8
4	5	43	90	446	M8
5	5	55	112	558	M8

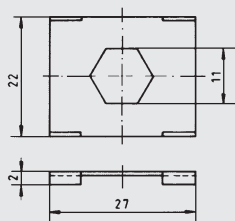


## Safety plate (SIP)

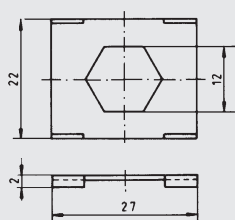


### Dimensions

Size 1



Size 2 - 5



## Model code (also order example)

HRZ 2 RAP ST M BL

### Range

HRZ = HY-ROS twin clamp

### Size

(as per dimensions)

### Designation

RAP = interconnecting weld plate

### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

### Thread type

M = metric thread

### Plating of steel parts

BL = unplated

Others on request

## Model code (also order example)

HRZ 2-5 SIP ST ZN

### Range

HRZ = HY-ROS twin clamp

### Size

1 = size 1

2-5 = size 2-5

### Designation

SIP = safety plate

### Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

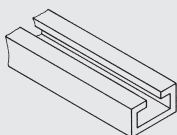
### Plating of steel parts

ZN = zinc-plated

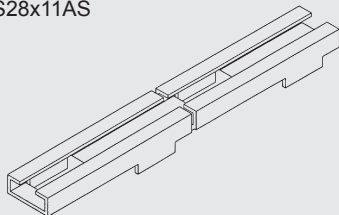
Others on request

## C mounting rail (TS)

C mounting rail TS

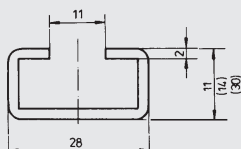


C mounting rail with weld struts  
TS28x11AS

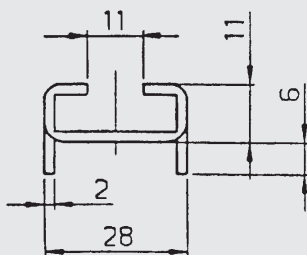


### Dimensions

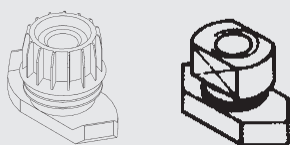
C mounting rail TS  
available in 1 m and 2 m pieces



C mounting rail with weld struts  
available in 1 m pieces



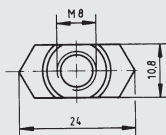
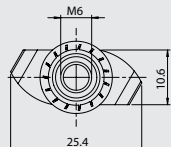
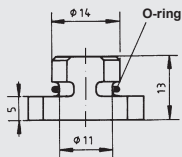
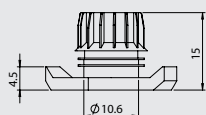
## Mounting rail nut (TM)



### Dimensions

Size 1 (TMV6)

Size 2 - 5 (TM8)



## Model code

(also order example)

HRL TS28x11 ST BL 1m

### Range

HRL = HY-ROS light range

### Model

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

### Material of steel parts

ST = steel  
AL = aluminium (on request)  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Plating of steel parts

BL = unplated  
ZN = zinc-plated  
Others on request

### Length

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

## Model code

(also order example)

HRL TMV6 ST ZN

### Range

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

### Designation

TMV6 = mounting rail nut with anti-twist protection, M6 (only size 1)  
TM6 = mounting rail nut without anti-twist protection, M6 (only size 1)  
TM8 = mounting rail nut M8 (from size 2)

### Material of steel parts

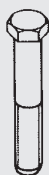
ST = steel  
A4 = stainless steel (on request)

### Plating of steel parts

ZN = zinc-plated  
Others on request

## Bolts

**Hex. head bolt ISO 4014**  
HRZ size 1 - 5



## Model code

(also order example)

6kt-shr.ISO4014 - M6 x 35 - 8.8 A3B

### Range

6kt-shr.ISO4014 = hex. head bolt to ISO 4014

### Size

ISO4014	for HRZ size
M6 x 35	1
M8 x 35	2
M8 x 45	3
M8 x 50	4
M8 x 60	5

### Bolt quality

8.8 = to ISO 4014

### Bolt plating

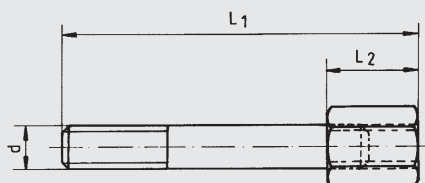
no details = unplated  
A3B = zinc-plated

## Stacking bolt (AF)

HRZ size 1 - 5



### Dimensions



Size	Dimensions [mm]		
	L1	L2	d
1	34	14	M6
2	33	13	M8
3	44	15	M8
4	49	15	M8
5	62	15	M8

## Model code

(also order example)

HRZ 4 AF ST M ZN

### Range

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

### Size

	for HRZ size
0+1	1
2	2
up to size 5	

### Designation

AF = stacking bolt

### Material of steel parts

ST = steel  
A2 = stainless steel (on request)  
A4 = stainless steel (on request)

### Thread type

M = metric thread

### Plating of steel parts

ZN = zinc-plated  
Others on request

## NOTE

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department. Users bear the responsibility in all cases for determining the product's suitability in 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.

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