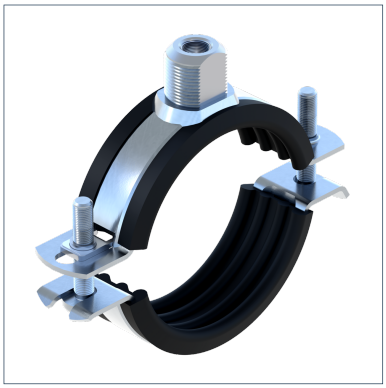
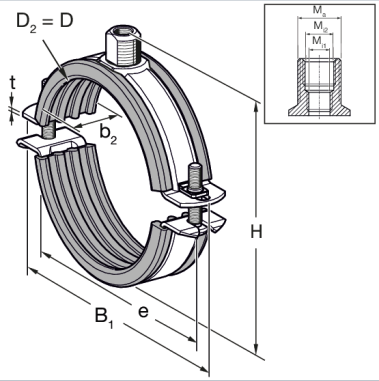
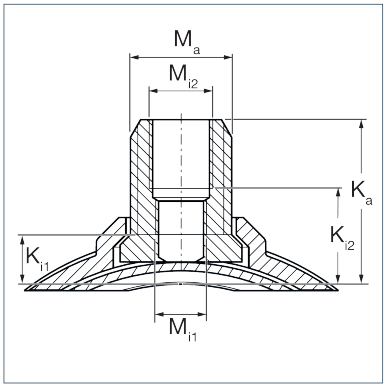
Pipe Clamp RATIO S









General Information

Suitable for installing pipe systems required for all M&E services. For connection options without adapter, see drawing. With Adapter: M12, M16, R 1/2', R 3/4', R 1'. Designed for soundproof ceiling, floor and wall mounting also for the sound insulation requirements according DIN 4109. With sticked interlocking lining, which prevents from accidental loss of lining and allows easy turning and slipping of the pipe during assembly.

Installation

Tightening torques:

Size [mm]	Tightening torque [Nm]
12 - 90	2
108 - 170	3

Mechanical Properties

Insertion isolation	18 dB(A)

Material Properties

Halogen-free	0
UV-resistant	0

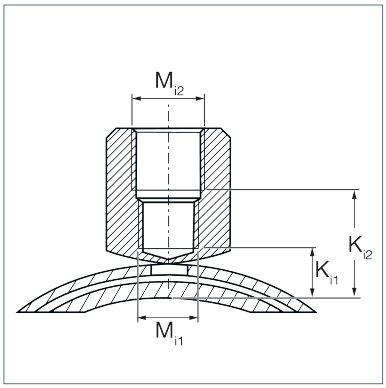
Material

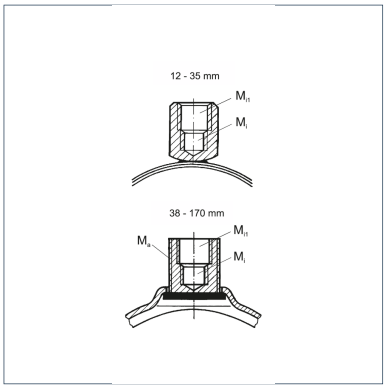
Primary element material	steel
Isolating element material	SBR/EPDM
Connecting element material	steel
Surface finish	electro galvanized (Fe//Zn)
Corrosion protection class	C2

Forces

Type	-V{Z,perm.}
RATIO S 12- 20	0.80 kN
RATIO S 21- 27	0.80 kN
RATIO S 28- 35	0.80 kN
RATIO S 38- 45	1.30 kN
RATIO S 48- 56	1.30 kN
RATIO S 57- 63	1.30 kN
RATIO S 64- 71	1.30 kN
RATIO S 73- 80	1.30 kN

Pipe Clamp RATIO S





Type	-V{Z,perm.}
RATIO S 83- 90	1.30 kN
RATIO S 108-114	2.20 kN
RATIO S 116-125	2.20 kN
RATIO S 127-135	2.20 kN
RATIO S 140-146	2.20 kN
RATIO S 159-170	2.20 kN

Note on loadings

The recommended load is calculated using specific statistical methods relating to break load and is designed to restrict deflection to 1.5 mm or 2 % of the maximum applicable clamping diameter.

Fire resistance

Type	Fire Resistance 30 min	Fire Resistance 60 min	Fire Resistance 90 min	Fire Resistance 120 min
RATIO S 12-20	0.22 kN	0.1 kN	0.06 kN	0.03 kN
RATIO S 21-27	0.22 kN	0.1 kN	0.06 kN	0.03 kN
RATIO S 28-35	0.22 kN	0.1 kN	0.06 kN	0.03 kN
RATIO S 38-45	0.22 kN	0.1 kN	0.06 kN	0.03 kN
RATIO S 48-56	0.22 kN	0.1 kN	0.06 kN	0.03 kN
RATIO S 57-63	0.38 kN	0.18 kN	0.1 kN	0.07 kN
RATIO S 64-71	0.38 kN	0.18 kN	0.1 kN	0.07 kN
RATIO S 73-80	0.38 kN	0.18 kN	0.1 kN	0.07 kN
RATIO S 83-90	0.47 kN	0.22 kN	0.13 kN	0.08 kN
RATIO S 108-114	0.56 kN	0.31 kN	0.21 kN	0.15 kN
RATIO S 116-125	0.56 kN	0.31 kN	0.21 kN	0.15 kN
RATIO S 127-135	0.56 kN	0.31 kN	0.21 kN	0.15 kN
RATIO S 140-146	0.56 kN	0.31 kN	0.21 kN	0.15 kN
RATIO S 159-170	0.56 kN	0.31 kN	0.21 kN	0.15 kN

Pipe Clamp RATIO S

Types

Type	Size min.	Size max.	DN	Thread connection	Weight	Quantity	Part number
RATIO S 12-20	12.00 mm	20.00 mm	DN 10 (3/8")	M8/M10	0.059 kg/pcs.	100 pcs.	154804
RATIO S 21-27	21.00 mm	27.00 mm	DN 20 (3/4")	M8/M10	0.067 kg/pcs.	100 pcs.	154813
RATIO S 28-35	28.00 mm	35.00 mm	DN 25 (1")	M8/M10	0.075 kg/pcs.	100 pcs.	154822
RATIO S 38-45	38.00 mm	45.00 mm	DN 32 (1 1/4")	M8/M10/M16	0.087 kg/pcs.	50 pcs.	154831
RATIO S 48-56	48.00 mm	56.00 mm	DN 40 (1 1/2")	M8/M10/M16	0.101 kg/pcs.	50 pcs.	154840
RATIO S 57-63	57.00 mm	63.00 mm	DN 50 (2")	M8/M10/M16	0.117 kg/pcs.	50 pcs.	154859
RATIO S 64-71	64.00 mm	71.00 mm		M8/M10/M16	0.130 kg/pcs.	25 pcs.	154868
RATIO S 73-80	73.00 mm	80.00 mm	DN 65 (2 1/2")	M8/M10/M16	0.142 kg/pcs.	25 pcs.	154877
RATIO S 83-90	83.00 mm	90.00 mm	DN 80 (3")	M8/M10/M16	0.220 kg/pcs.	25 pcs.	154886
RATIO S 108-114	108.00 mm	114.00 mm	DN 100 (4")	M8/M10/M16	0.322 kg/pcs.	25 pcs.	154895
RATIO S 116-125	116.00 mm	125.00 mm		M8/M10/M16	0.371 kg/pcs.	25 pcs.	154901
RATIO S 127-135	127.00 mm	135.00 mm		M8/M10/M16	0.397 kg/pcs.	25 pcs.	154910
RATIO S 140-146	140.00 mm	146.00 mm	DN 125 (5")	M8/M10/M16	0.417 kg/pcs.	25 pcs.	154929
RATIO S 159-170	159.00 mm	170.00 mm	DN 150 (6")	M8/M10/M16	0.432 kg/pcs.	25 pcs.	154938

Dimensions

Type	B1	b2	D	D2	e	H	Ma	Mi1	Mi2	t	Ki1	Ki2	Ka
RATIO S 12- 20	56 mm	24.5 mm	17 mm	17 mm	40 mm	48.5 mm		M8	M10	1.5 mm	9.44 mm	16.67 mm	
RATIO S 21- 27	64 mm	24.5 mm	25 mm	25 mm	48 mm	56.5 mm		M8	M10	1.5 mm	9.44 mm	16.67 mm	
RATIO S 28- 35	76 mm	24.5 mm	32 mm	32 mm	60 mm	63.5 mm		M8	M10	1.5 mm	9.44 mm	16.67 mm	
RATIO S 38- 45	85 mm	24.5 mm	44 mm	44 mm	70 mm	72.5 mm	M16	M8	M10	1.5 mm	7.59 mm	14.63 mm	23.33 mm
RATIO S 48- 56	96 mm	24.5 mm	54 mm	54 mm	80 mm	82.5 mm	M16	M8	M10	1.5 mm	7.59 mm	14.63 mm	23.33 mm

Pipe Clamp RATIO S

Type	B1	b2	D	D2	e	H	Ma	Mi1	Mi2	t	Ki1	Ki2	Ka
RATIO S 57- 63	106 mm	24.5 mm	60 mm	60 mm	90 mm	88.5 mm	M16	M8	M10	1.5 mm	7.59 mm	14.63 mm	23.33 mm
RATIO S 64- 71	118 mm	24.5 mm	72 mm	72 mm	104 mm	100.5 mm	M16	M8	M10	1.5 mm	7.59 mm	14.63 mm	23.33 mm
RATIO S 73- 80	124 mm	24.5 mm	78 mm	78 mm	110 mm	106.5 mm	M16	M8	M10	1.5 mm	7.59 mm	14.63 mm	23.33 mm
RATIO S 83- 90	140.5 mm	30.5 mm	89.4 mm	89.4 mm	123 mm	120.5 mm	M16	M8	M10	2 mm	10.14 mm	17.19 mm	24.78 mm
RATIO S 108-114	182 mm	34.5 mm	116.2 mm	116.2 mm	161 mm	147.5 mm	M16	M8	M10	2 mm	10.39 mm	17.99 mm	25.4 mm
RATIO S 116-125	194 mm	34.5 mm	128.2 mm	128.2 mm	173 mm	159.5 mm	M16	M8	M10	2 mm	10.39 mm	17.99 mm	25.4 mm
RATIO S 127-135	204 mm	34.5 mm	138.2 mm	138.2 mm	183 mm	169.5 mm	M16	M8	M10	2 mm	10.39 mm	17.99 mm	25.4 mm
RATIO S 140-146	214 mm	34.5 mm	148.2 mm	148.2 mm	193 mm	179.5 mm	M16	M8	M10	2 mm	10.39 mm	17.99 mm	25.4 mm
RATIO S 159-170	234 mm	34.5 mm	172.2 mm	172.2 mm	213 mm	203.5 mm	M16	M8	M10	2 mm	10.39 mm	17.99 mm	25.4 mm

Certification

This product has been awarded the RAL quality marks "pipe supports" and "fire-tested pipe supports" and is subject to continuous external monitoring according to RAL GZ-655.