

Cables, Flanges, Quick Locks, Spring-loaded Cables

Industrial X-Ray

Overview

Technical Data Cables

	L3/75	U3/100
Rated voltage	75 kVDC	100 kVDC
Nominal outside diameter	16.7 mm	20 mm
Coverage shielding braid	>95%	>95%
Conductor resistance Bare Conductor @ 20°C	6.6 mΩ/m	6.6 mΩ/m
Conductor resistance Red & White Cond. @ 20°C	9.5 mΩ/m	9.5 mΩ/m
Minimum bending radius (dynamic)	66 mm	80 mm
Insulation resistance (wires to shield)	$>1 \times 10^{12} \Omega \cdot m$	$\geq 5 \times 10^{12} \Omega \cdot m$
Capacitance (wires to shield)	135 pF/m	136 pF/m
Max. operating temperature	70° C	+70° C

Configurations with COMET Tubes

CABLE	MXR-75	MXR-101	CXR-10X	CXR-150	MXR-160	MXR-225
L3/75	CA11					
U3/100		R10	R10			
N3/160				R24	R24	
P3/250						R24
F3/300						
CABLE FLANGE ORDERING NO.						
651142		■				
10001700			■			
10001710						
10001711				■		
10001756					■	■
651136						
10001710						
20038982						
LOCKING DEVICE ORDERING NO.						
941002					■	■
940303				■		
651053				■	■	■

Compatibility Cable / Plug

CABLE	CA11	R10	R24	R24 RA	R28	R28 RA
L3/75 cable	75 kV	75 kV	75 kV	75 kV	–	–
U3/100 cable	–	100 kV	100 kV	100 kV	–	–
N3/160 cable	–	–	160 kV	160 kV	160 kV	160 kV
P3/250 cable	–	–	225 kV	225 kV	225 kV	225 kV
F3/300 cable	–	–	–	–	–	–

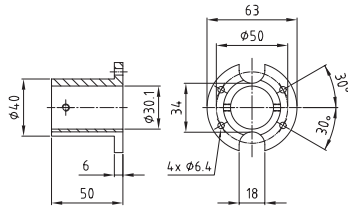
Within the high voltage system the part with the lowest specified high voltage rating defines the maximum allowed voltage.



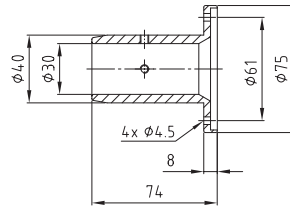
Flanges

R10 cable flange

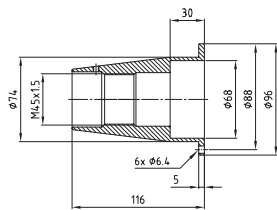
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R10 cable flange

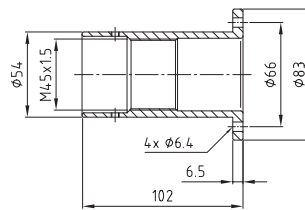
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R24 cable flange

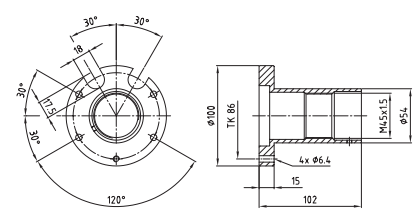
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R24 cable flange

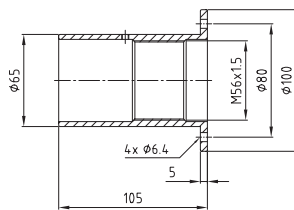
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R24 cable flange

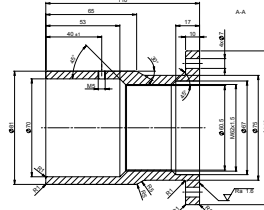
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R28 cable flange

10001710


R30 cable flange

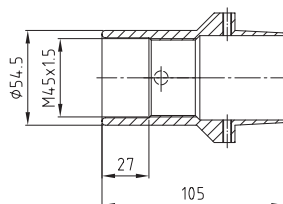
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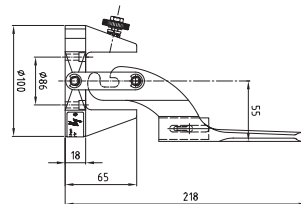
Locking Devices

R24 clamping sleeve

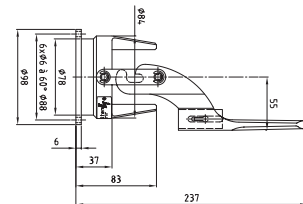
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R24 locking device

941002

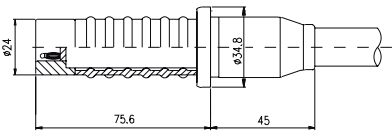

R24 locking device

940303

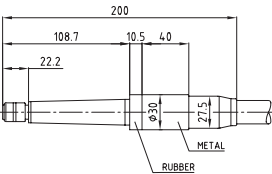


Plugs

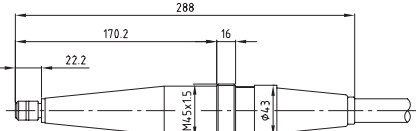
CA11 with L3 cable



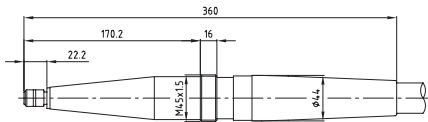
R10 with U3 cable



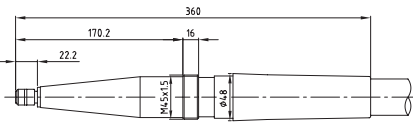
R24 with U3 cable



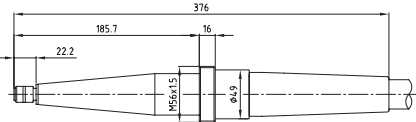
R24 with N3 cable



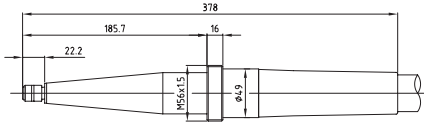
R24 with P3 cable



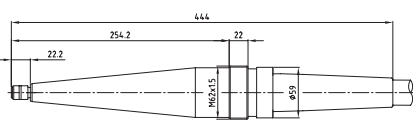
R28 with N3 cable



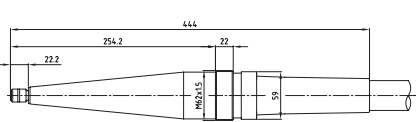
R28 with P3 cable



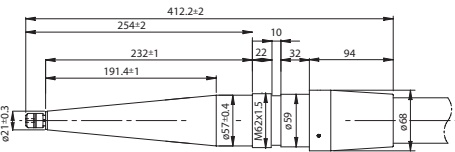
R30 with N3 cable



R30 with P3 cable



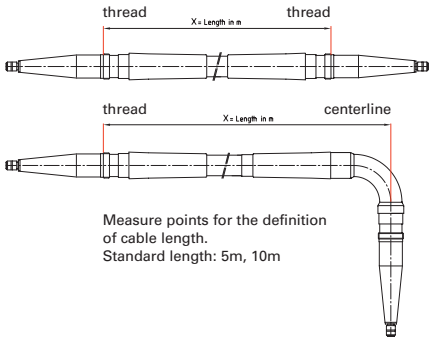
R30 with F3 cable

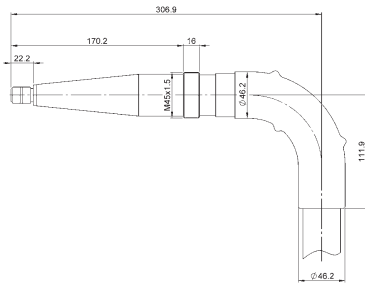
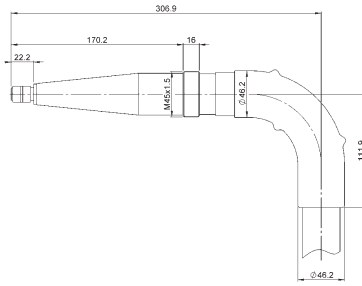
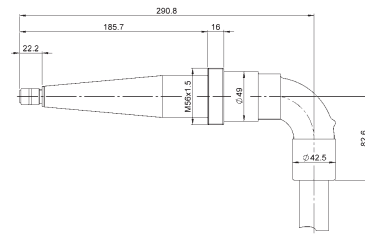
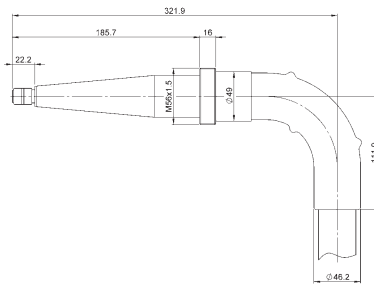
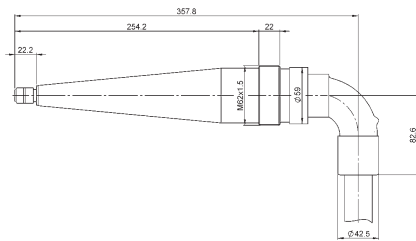
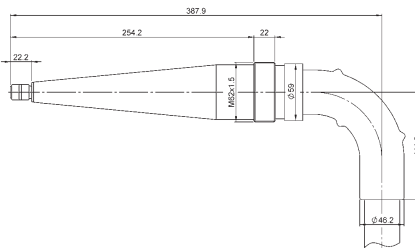


Ordering Example

	cable	plug	plug	length
Cable	N3/160	R24	R24 RA	5 m
Flange	10001756			

Example: 160 kV cable with straight and rectangular connector, length 5m with a flange for MXR-160.



R24 RA with N3 cable**R24 RA with P3 cable****R28 RA with N3 cable****R28 RA with P3 cable****R30 RA with N3 cable****R30 RA with P3 cable**

Springloaded cables (maintenance reduced)

	U3/100	N3/160	P3/250
Rated voltage	100 kVDC	160 kVDC	250 kVDC
Nominal outside diameter	20 mm +/- 0.5 mm	29.3mm +/- 1.5 mm	36 mm +/- 1.5 mm
Coverage shielding braid	>95%	>95%	>80%
Conductor resistance Bare Conductor @ 20°C	6.6 mΩ/m	6.6 mΩ/m	6.6 mΩ/m
Conductor resistance Red & White Cond. @ 20°C	9.5 mΩ/m	11.4 mΩ/m	11.4 mΩ/m
Minimum bending radius (dynamic)	80 mm	120 mm	148 mm
Insulation resistance (wires to shield)	≥5x10 ¹² Ω·m	≥1x10 ¹² Ω·m	≥1x10 ¹² Ω·m
Capacitance (wires to shield)	136 pF/m	126 pF/m	107 pF/m
Max. operating temperature	+70°C	+70°C	+70° C

Combinations

CABLE	R24SL	R24SLRA	R28SL	R28SLRA	R30SL	R30SLRA
U3/160 cable	100 k	100 kV	–	–	–	–
N3/160 cable	160 kV	160 kV	160 kV	–	–	–
P3/250 cable	225 kV	225 kV	225 kV	225 kV	–	–

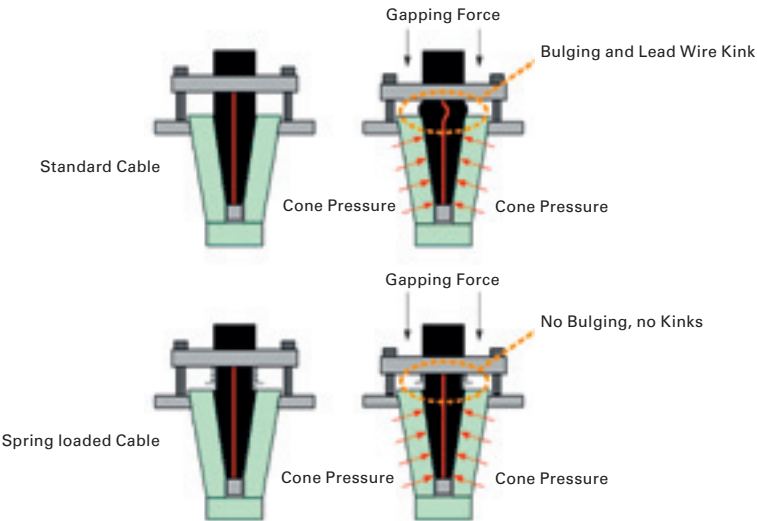
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Mechanical Spring

Elastomeric Spring

Difference, Effects and Benefits



Advantage of Spring loaded Cable

What is different?

- Spring-loaded cables replace the elastomeric spring by a mechanical spring

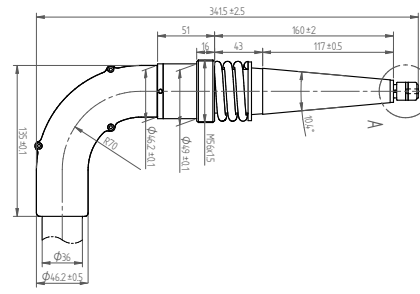
What is different?

- Constant pressure in the receptacle over time since the metal section of the cable replaces the region where bulging normally occurs
- Gapping becomes less critical
- No over-gapping possible
- Reduction of discharges in the interface
- Improved field distribution at the transition cable – receptacle
- Eliminates need of re-gapping 24 hours after initial installation

How do you benefit?

All of this results in:

- Higher system up-time
- Lower installation costs
- Lower maintenance costs
- Longer lifetime of cable and tube







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