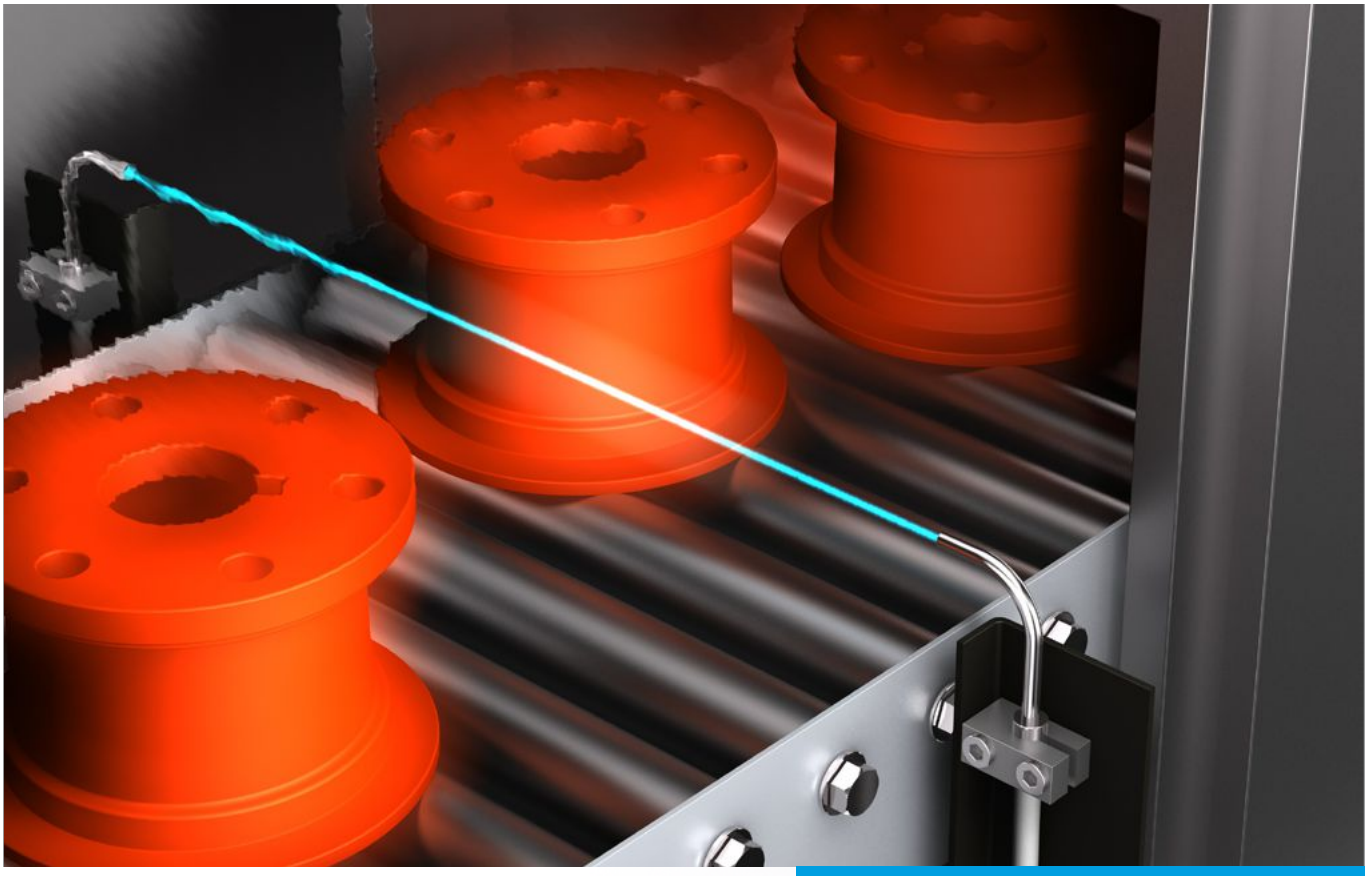
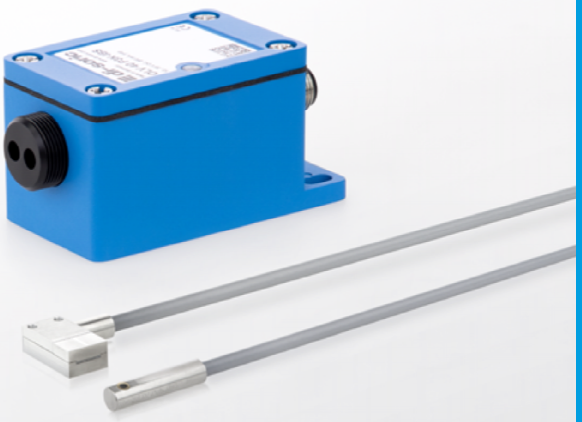
Glass fiber-optic sensors





Challenging applications with little installation space are the area of application of the fiber optic sensors from di-soric. The robust devices stand the test with oil just as reliably as with high mechanical loads and at high temperatures. Their large range is another important advantage.

OLV-G AMPLIFIER

Thanks to their stable metallic housing and the high protection class, the amplifiers in the OLV-G series are - ideal for handling challenging individual applications. The devices are operated through simple auto-teach.

CE

Technical data (typ.)	+20 °C, 24 V DC
Switching output	Transistor, pnp, 200 mA, NO/NC, switchable
Ambient temperature	-10 to +60 °C
Housing material	Die-cast zinc
Protection class	IP 65

	Housing design Size (mm)	Sensitivity adjustment by means of	Service voltage (V)	Switching frequency (kHz)	Infrared light, clocked	Red light, clocked	Green light, clocked	Switching hysteresis (%)	Temperature drift (%/K)	Ambient light immunity (kLx)	No-load current (mA)	Plug connector	Connection cable (optionally available)	Product description
OLV-G amplifiers for glass fiber optic cables														
	40 x 41 x 75	Potenti-ometer	12 to 35	1.5	■			10	0.3	20	55	M12	VK… /4	OLV 40 P3K-IBS
				1.5		■								OLV 41 P3K-IBS
				0.5			■							OLV 42 P3K-IBS
	40 x 41 x 75	Potenti-ometer	12 to 35	1.5	■			10	0.3	20	55	Clamps		OLV 40 P4K
						■								OLV 41 P4K
	40 x 41 x 75	Teach	10 to 35	1.5	■			12	0.1	50	45	M12	VK… /4	OLVTI 40 P3K-IBS
						■			0.25					OLVTI 41 P3K-IBS

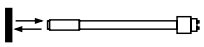
WRB GLASS FIBER OPTICS

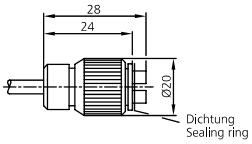
Our product portfolio of fiber optics includes high-quality fibers for large ranges, a high mechanical load and high temperatures.

CE

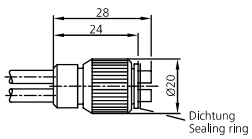
Technical data (typ.)	+20 °C, 24 V DC
Housing material	V2A
	Aluminum (…SQ… / … MQ… / WRB 220 SW)
Single fiber	50 µm
Opening angle	67°
Temperature resistance	-40 to +180 °C, for short periods up to +250 °C (silicone-metal sleeve)
	-40 to +180 °C, for short periods up to +300 °C (metal sleeve)

Diffuse sensors





through-beam sensors

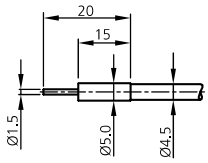
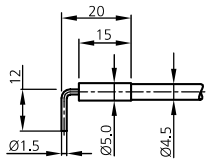
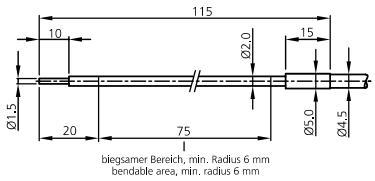
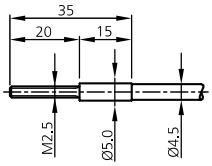
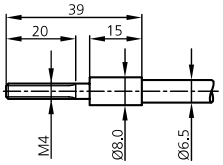
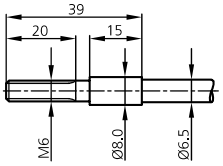
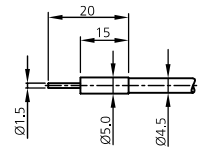
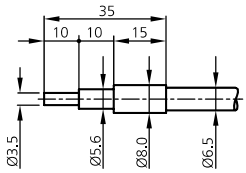


Installation instructions for glass fiber-optic cables

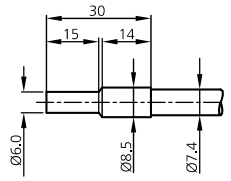
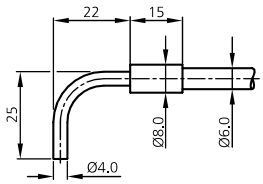
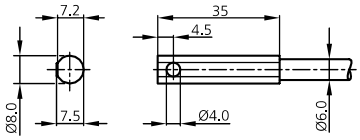
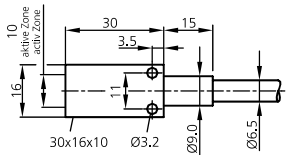
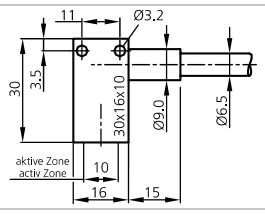
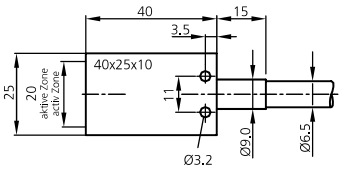
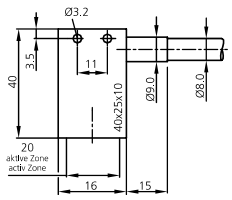
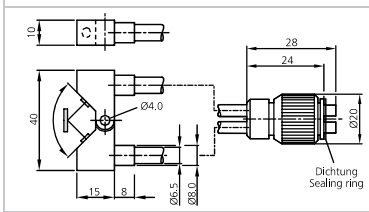
[1] For permanently installed fiber optic cables.

[2] All specified scan widths and ranges are average values associated with the fiber-optic amplifier in infrared light. If necessary, adjust the sensitivity range using the basic sensitivity potentiometer P2.
The specified scan widths and ranges are reduced to about 80% in red light and to about 30% in green light. The values also depend on the fiber-optic cable and on the object being scanned (size, shape, surface, color, etc.).

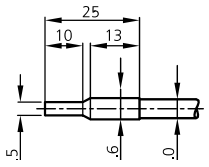
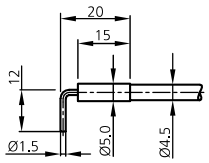
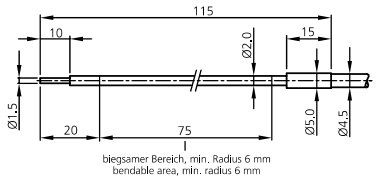
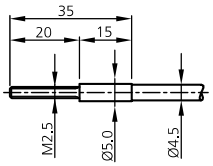
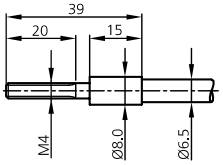
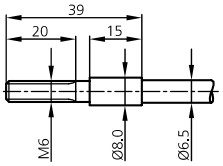
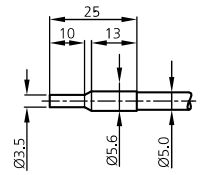
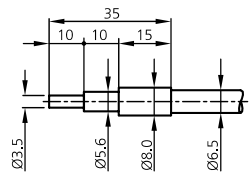
[3] With attachment optics and axial light aperture.
Only possible for fiber-optic cables of corresponding length.

	Fiber bundle	Scan width[2] (mm)	Cable jacket	Cable length (mm)	Bending radius	Protection class	Product description
Glass fiber-optic cable Diffuse sensor							
	Ø1.0	up to 20	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-1.5-1.0
				600			WRB 120 S-1.5-1.0
				1,000			WRB 130 S-1.5-1.0
	Ø1.0	up to 20	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-1.5-1.0
				600			WRB 120 M-1.5-1.0
				1,000			WRB 130 M-1.5-1.0
	Ø1.0	up to 15	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-90-1.5-1.0
				600			WRB 120 S-90-1.5-1.0
				1,000			WRB 130 S-90-1.5-1.0
	Ø1.0	up to 15	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-90-1.5-1.0
				600			WRB 120 M-90-1.5-1.0
				1,000			WRB 130 M-90-1.5-1.0
	Ø1.0	up to 20	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 SB-2.0-1.0
				600			WRB 120 SB-2.0-1.0
				1,000			WRB 130 SB-2.0-1.0
	Ø1.0	up to 20	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 MB-2.0-1.0
				600			WRB 120 MB-2.0-1.0
				1,000			WRB 130 MB-2.0-1.0
	Ø1.5	up to 30	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-M2.5-1.5
				600			WRB 120 S-M2.5-1.5
				1,000			WRB 130 S-M2.5-1.5
	Ø1.5	up to 30	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-M2.5-1.5
				600			WRB 120 M-M2.5-1.5
				1,000			WRB 130 M-M2.5-1.5
	Ø2.5	up to 85	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-M4-2.5
				600			WRB 120 S-M4-2.5
				1,000			WRB 130 S-M4-2.5
	Ø2.5	up to 85	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-M4-2.5
				600			WRB 120 M-M4-2.5
				1,000			WRB 130 M-M4-2.5
	Ø2.5	up to 85	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-M6-2.5
				600			WRB 120 S-M6-2.5
				1,000			WRB 130 S-M6-2.5
	Ø2.5	up to 85	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-M6-2.5
				600			WRB 120 M-M6-2.5
				1,000			WRB 130 M-M6-2.5
	Ø2.5	up to 85	Polyurethane metal sleeve	300	>5x tube Ø	IP 67	WRB 110 P-5.6-2.5
				600			WRB 120 P-5.6-2.5
				1,000			WRB 130 P-5.6-2.5
	Ø2.5	up to 85	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-8.0-2.5
				600			WRB 120 S-8.0-2.5
				1,000			WRB 130 S-8.0-2.5
	Ø2.5	up to 85	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-8.0-2.5
				600			WRB 120 M-8.0-2.5
				1,000			WRB 130 M-8.0-2.5

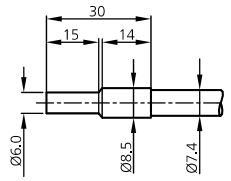
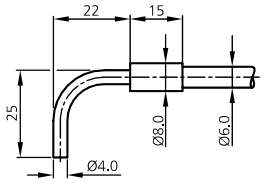
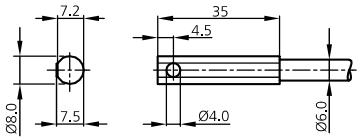
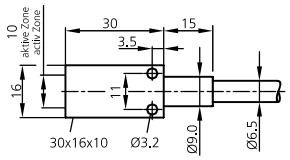
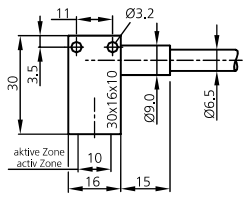
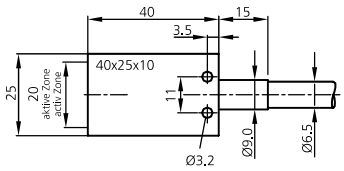
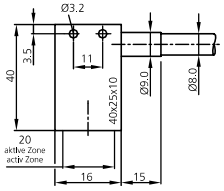
[1), 2)] and [3)] see “Installation instructions for glass fiber-optic cables” on page 107

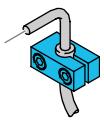
	Fiber bundle	Scan width[2] (mm)	Cable jacket	Cable length (mm)	Bending radius	Protection class	Product description
Glass fiber-optic cable Diffuse sensor							
	Ø4.0	up to 150	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-8.5-4.0
				600			WRB 120 S-8.5-4.0
				1,000			WRB 130 S-8.5-4.0
	Ø4.0	up to 150	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-8.5-4.0
				600			WRB 120 M-8.5-4.0
				1,000			WRB 130 M-8.5-4.0
	Ø2.5	up to 80	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 S-90-4.0-2.5
				600			WRB 120 S-90-4.0-2.5
				1,000			WRB 130 S-90-4.0-2.5
	Ø2.5	up to 80	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 M-90-4.0-2.5
				600			WRB 120 M-90-4.0-2.5
				1,000			WRB 130 M-90-4.0-2.5
	Ø2.5	up to 70	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 SR-8.0-2.5
				600			WRB 120 SR-8.0-2.5
				1,000			WRB 130 SR-8.0-2.5
	Ø2.5	up to 70	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 MR-8.0-2.5
				600			WRB 120 MR-8.0-2.5
				1,000			WRB 130 MR-8.0-2.5
	Ø0.6 (10x) Ø0.3 (10x)	up to 90	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 SQ-10-0.6
				600			WRB 120 SQ-10-0.6
				1,000			WRB 130 SQ-10-0.6
	Ø0.6 (10x) Ø0.3 (10x)	up to 90	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 MQ-10-0.6
				600			WRB 120 MQ-10-0.6
				1,000			WRB 130 MQ-10-0.6
	Ø0.6 (10x) Ø0.3 (10x)	up to 85	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 SQ-90-10-0.6
				600			WRB 120 SQ-90-10-0.6
				1,000			WRB 130 SQ-90-10-0.6
	Ø0.6 (10x) Ø0.3 (10x)	up to 85	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 MQ-90-10-0.6
				600			WRB 120 MQ-90-10-0.6
				1,000			WRB 130 MQ-90-10-0.6
	Ø0.6 (20x) Ø0.3 (20x)	up to 210	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 SQ-20-0.6
				600			WRB 120 SQ-20-0.6
				1,000			WRB 130 SQ-20-0.6
	Ø0.6 (20x) Ø0.3 (20x)	up to 210	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 MQ-20-0.6
				600			WRB 120 MQ-20-0.6
				1,000			WRB 130 MQ-20-0.6
	Ø0.6 (20x) Ø0.3 (20x)	up to 200	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 110 SQ-90-20-0.6
				600			WRB 120 SQ-90-20-0.6
				1,000			WRB 130 SQ-90-20-0.6
	Ø0.6 (20x) Ø0.3 (20x)	up to 200	metal sleeve	300	>10x tube Ø	IP 60	WRB 110 MQ-90-20-0.6
				600			WRB 120 MQ-90-20-0.6
				1,000			WRB 130 MQ-90-20-0.6
	Ø2.5	10 - 100	Silicone metal sleeve	600	>3x tube Ø	IP 67	WRB 220 SW

[1], [2] and [3] see “Installation instructions for glass fiber-optic cables” on page 107

	Fiber bundle	Scan width[2] (mm)	Cable jacket	Cable length (mm)	Bending radius	Protection class	Product description
Glass fiber-optic cable Through-beam sensors							
	Ø1.0	up to 150	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 S-1.5-1.0 WRB 220 S-1.5-1.0 WRB 230 S-1.5-1.0
	Ø1.0	up to 150	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 M-1.5-1.0 WRB 220 M-1.5-1.0 WRB 230 M-1.5-1.0
	Ø1.0	up to 120	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 S-90-1.5-1.0 WRB 220 S-90-1.5-1.0 WRB 230 S-90-1.5-1.0
	Ø1.0	up to 120	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 M-90-1.5-1.0 WRB 220 M-90-1.5-1.0 WRB 230 M-90-1.5-1.0
	Ø1.0	up to 150	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 SB-2.0-1.0 WRB 220 SB-2.0-1.0 WRB 230 SB-2.0-1.0
	Ø1.0	up to 150	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 MB-2.0-1.0 WRB 220 MB-2.0-1.0 WRB 230 MB-2.0-1.0
	Ø1.5	up to 250 (500)[3]	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 S-M2.5-1.5 WRB 220 S-M2.5-1.5 WRB 230 S-M2.5-1.5
	Ø1.5	up to 250 (500)[3]	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 M-M2.5-1.5 WRB 220 M-M2.5-1.5 WRB 230 M-M2.5-1.5
	Ø2.5	up to 900 (1,800)[3]	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 S-M4-2.5 WRB 220 S-M4-2.5 WRB 230 S-M4-2.5
	Ø2.5	up to 900 (1,800)[3]	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 M-M4-2.5 WRB 220 M-M4-2.5 WRB 230 M-M4-2.5
	Ø2.5	up to 900	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 S-M6-2.5 WRB 220 S-M6-2.5 WRB 230 S-M6-2.5
	Ø2.5	up to 900	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 M-M6-2.5 WRB 220 M-M6-2.5 WRB 230 M-M6-2.5
	Ø2.5	up to 85	Polyurethane metal sleeve	300 600 1,000	>5x[1] tube Ø	IP 67	WRB 210 P-5.6-2.5 WRB 220 P-5.6-2.5 WRB 230 P-5.6-2.5
	Ø2.5	up to 85	Silicone metal sleeve	300 600 1,000	>3x[1] tube Ø	IP 67	WRB 210 S-8.0-2.5 WRB 220 S-8.0-2.5 WRB 230 S-8.0-2.5
	Ø2.5	up to 85	metal sleeve	300 600 1,000	>10x[1] tube Ø	IP 60	WRB 210 M-8.0-2.5 WRB 220 M-8.0-2.5 WRB 230 M-8.0-2.5

[1], [2] and [3] see “Installation instructions for glass fiber-optic cables” on page 107

	Fiber bundle	Scan width[2] (mm)	Cable jacket	Cable length (mm)	Bending radius	Protection class	Product description
Glass fiber-optic cable Through-beam sensors							
	Ø4.0	up to 150	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 S-8.5-4.0
				600			WRB 220 S-8.5-4.0
				1,000			WRB 230 S-8.5-4.0
	Ø4.0	up to 150	metal sleeve	300	>10x tube Ø	IP 60	WRB 210 M-8.5-4.0
				600			WRB 220 M-8.5-4.0
				1,000			WRB 230 M-8.5-4.0
	Ø2.5	up to 900	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 S-90-4.0-2.5
				600			WRB 220 S-90-4.0-2.5
				1,000			WRB 230 S-90-4.0-2.5
	Ø2.5	up to 900	metal sleeve	300	>10x tube Ø	IP 60	WRB 210 M-90-4.0-2.5
				600			WRB 220 M-90-4.0-2.5
				1,000			WRB 230 M-90-4.0-2.5
	Ø2.5	up to 800	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 SR-8.0-2.5
				600			WRB 220 SR-8.0-2.5
				1,000			WRB 230 SR-8.0-2.5
	Ø2.5	up to 800	metal sleeve	300	>10x tube Ø	IP 60	WRB 210 MR-8.0-2.5
				600			WRB 220 MR-8.0-2.5
				1,000			WRB 230 MR-8.0-2.5
	Ø0.6 (10x) Ø0.3 (10x)	up to 700	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 SQ-10-0.3
				600			WRB 220 SQ-10-0.3
				1,000			WRB 230 SQ-10-0.3
	Ø0.6 (10x) Ø0.3 (10x)	up to 700	metal sleeve	300	>10x tube Ø	IP 60	WRB 210 MQ-10-0.3
				600			WRB 220 MQ-10-0.3
				1,000			WRB 230 MQ-10-0.3
	Ø0.6 (10x) Ø0.3 (10x)	up to 650	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 SQ-90-10-0.3
				600			WRB 220 SQ-90-10-0.3
				1,000			WRB 230 SQ-90-10-0.3
	Ø0.6 (10x) Ø0.3 (10x)	up to 650	metal sleeve	300	>10x tube Ø	IP 60	WRB 210 MQ-90-10-0.3
				600			WRB 220 MQ-90-10-0.3
				1,000			WRB 230 MQ-90-10-0.3
	Ø0.6 (20x) Ø0.3 (20x)	up to 1,200	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 SQ-20-0.3
				600			WRB 220 SQ-20-0.3
				1,000			WRB 230 SQ-20-0.3
	Ø0.6 (20x) Ø0.3 (20x)	up to 1,200	metal sleeve		>10x tube Ø	IP 60	
				600			WRB 220 MQ-20-0.3
				1,000			WRB 230 MQ-20-0.3
	Ø0.6 (20x) Ø0.3 (20x)	up to 1,100	Silicone metal sleeve	300	>3x tube Ø	IP 67	WRB 210 SQ-90-20-0.3
				600			WRB 220 SQ-90-20-0.3
				1,000			WRB 230 SQ-90-20-0.3
	Ø0.6 (20x) Ø0.3 (20x)	up to 1,100	metal sleeve	300	>10x tube Ø	IP 60	WRB 210 MQ-90-20-0.3
				600			WRB 220 MQ-90-20-0.3
				1,000			WRB 230 MQ-90-20-0.3



Accessories for glass fiber optic cables

see “Accessories for glass fiber optic cables”, page 205

[1], [2] and [3] see “Installation instructions for glass fiber-optic cables” on page 107