

Fiber optic cabling systems for deployable field communication MASTERLINE Mobile

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HUBER+SUHNER has a proven track-record in temporarily set-up fiber optical communication networks, e.g. for the broadcast industry, in disaster recovery and industrial applications. The need for mobility of temporarily set-up communication networks poses high challenges to the products in terms of high tensile loading, severe crush occurrences and repeated coiling capability. The MASTERLINE Mobile deals perfectly with these challenges thanks to HUBER+SUHNERs highly flexible and yet robust field-cables. The specially designed field-cables provide excellent broadcast signal quality in demanding environments where other fiber optical cables are likely to fail.



MASTERLINE Mobile Classic (MLMC)

MASTERLINE Mobile Classic (MLMC) is a pre-terminated fiber optic cable systems built with mobile field cables. The mobile field cable provides the required flexibility and coiling capability for repeated spooling and unspooling on reels. MASTERLINE Mobile Classic is available with standard indoor connector like ST, LSH (E-2000™), SC and others. MASTERLINE Mobile Classic is supplied on a suitable mobile spool. We offer a range of metallic and plastic cable deployment reels with different spooling capacities. All reels are specially designed for use with fiber optic cables. Minimum cable bending radii are maintained at all times in order to prevent increased attenuation even in coiled condition of the MASTERLINE Mobile.

Features

- «Plug and play» fiber optical cable system spooled on cable deployment reels
- Robust field-cable with excellent coiling capability
- Available with a broad range of indoor connectors
- Available on different cable deployment reel types
- Fast deployment of temporary fiber optic connectivity
- Ideal for media broadcasting, disaster recovery or industrial applications
- Robust protection tube for connector

Fiber Optic cable

HUBER+SUHNER's mobile field cable provides the required flexibility and coiling capability for repeated spooling and unspooling on mobile reels. Other fiber optic cables might also be possible to use, please contact your local sales representative.

Mobile field cables



Features

- Excellent coiling capability
- High chemical resistance against acids and alkalis
- For high mechanical and thermal stability
- Halogen free and non-corrosive fire gases
- High crush resistance
- UV-protected, suitable for outdoor use
- Single-mode and multimode

Design

Cable design	2, 4, 8 and 12 tight tubes
Strain relief	aramide yarn
Jacket material	TPU
Jacket colour	black

Specification

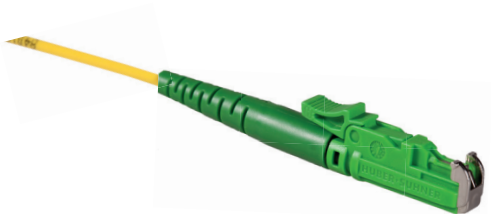
Number of Fiber		2	4	8	12	
Jacket Ø	mm	5.6	5.6	6.8	8.0	
Tube Ø	mm	0.9	0.9	0.9	0.9	coloured
Approx. weight	kg/km	24	26	40	53	

Mechanical properties

Tensile strength	during installation	N	4000	4000	4000	4000	IEC 60794-1-2 E1	
	in service	N	2000	2000	2000	2000		
Min. bend radius	during installation	mm	90	90	90	120	IEC 60794-1-2 E11	
	in service	mm	45	45	45	80		
Crush resistance	short-term	E9 G50	N/dm	21 000 19 000	21 000 19 000	21 000 19 000	10 000 10 000	IEC 60794-1-2 E3
	long-term	E9 G50	N/dm	6000 8000	6000 8000	6000 2000	2000 2000	
Repeated bending	r=50 mm, weight = 2 kg r=80 mm, weight = 5 kg		cycles	20 000	20 000	20 000	20 000	IEC 60794-1-2 E6
Flexing	r=100 mm, weight = 1 kg r=120 mm, weight = 2 kg r=80 mm, weight = 1.5 kg		cycles	100 000	100 000	100 000	100 000	IEC 60794-1-2 E8
Impact resistance	Wp = 2.21 J		impacts	300	300	300	300	IEC 60794-1-2 E4
Coiling capability	length= 500 m/r=45 mm length= 500 m/r=80 mm length= 100 m/r=80 mm		cycles	5	5	5	5	HUBER+SUHNER

Fiber Optic connector

LSH (E-2000™) connector



Features

- Automatic metal shutter in connector and adaptor for dust protection and laser safety
- One-piece design for easy termination
- Colour coding of connector and adaptor
- Mechanical coding of connector and adaptor
- Ideal for High-Power applications
- Switchable duplex clips

Specifications

Compliance	IEC 61754 - 15, TIA 604 - 16
Technology	full ceramic ferrule (2.5 mm) and sleeve
Tuning	in 60° steps
Operating temperature	-40 to +85 °C
Flammability	UL 94 V-0
Durability	min. 1000 mating cycles

ST connectors



Features

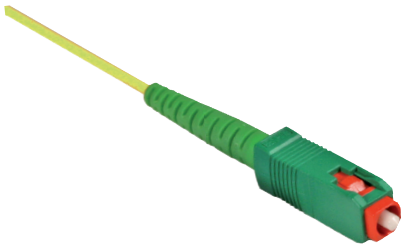
- Bayonet nut connector
- One-piece design
- ST security with integrated strain relief

Specifications

Compliance	IEC 61754-2, TIA 604-2
Technology	full ceramic ferrule (2.5 mm)
Strain relief	100 N
Operating temperature	-40 °C to +85 °C
Durability	min. 1000 mating cycles
Material	brass nickel plated

Fiber Optic connector

SC connector



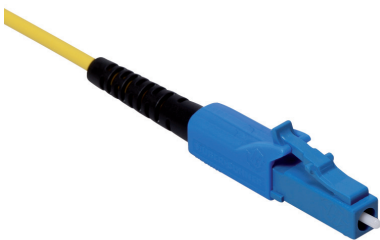
Features

- Push-pull connector
- One-piece design for easy and quick termination
- High mechanical and thermal resistance according to Telcordia GR-326-CORE

Specifications

Compliance	IEC 61754-4, TIA 604-3
Technology	full ceramic ferrule (2.5 mm) and sleeve (SM)
Tuning	in 45° steps
Mechanical resistance	100 N tensile load
Operating temperature	-40 to +85°C
Flammability	UL 94 V-0
Durability	min. 1000 mating cycles

LC-HQ push-pull (UPC) connector



Features

- Push-pull mechanism for best handling and high packing density
- Patented (US 8.221.007)
- Two connections in one SC-shaped adaptor
- One-piece design for easy termination
- Short rigid length
- Switchable duplex connectors

Specifications

Compliance	IEC 61754-20, TIA 604-10-A
Technology	full ceramic ferrule (1.25 mm)
Tuning	in 45° steps
Operating temperature	-40 to +85 °C
Flammability	UL 94 V-0
Durability	min. 1000 mating cycles

Fan-out with protection tube

The single fiber optic cables of the fan-out have a black PUR jacket with 2.7 mm diameter. The longest length of the fan-out is 1165 mm and has a graduation of 65 mm. For installation purposes the fan-out legs and fiber optic connectors are protected by a robust protection tube. It provides a solid crush- or step-protection of the connectors and seals the fan-outs from any water ingress (IP67). The pulling eye allows to pull-in the cable system.



Fan-out





	2 fiber	4 fiber	8 fiber	12 fiber
Longest length	1165 mm			
Shortest length	1100 mm	970 mm	710 mm	450 mm
Graduation	65 mm			
Jacket material	Black PUR			
Cable diameter	5.6 mm	5.6 mm	6.8 mm	8.0 mm

Protection tube

	2 fiber	4 fiber	8 fiber	12 fiber
Ingress protection	IP67			
Maximum tensile strength	450 N			
Crush resistance	1000 N/dm			
Pulling tube diameter	23.5 mm		31 mm	

Cable reel with cable – ready for use

Ordering information

Connector	Number of fibers	Cable length	Reel type	Item No. single-mode (E9/125, G.652.D)	Item No. multimode (G50/125, OM2)	
 LSH APC (E-2000™)	2	150 m	MRPO 290	85099227	85099261	
		300 m	MRPS 400	85099228	85099262	
	4	150 m	MRPO 290	85099229	85099263	
		300 m	MRPS 400	85099230	85099264	
	8	150 m	MRPO 290	85099231	85099265	
		300 m	MRPO 485	85099232	85099266	
	12	150 m	MRPS 400	85099233	85099267	
		300 m	MRMS 680	85099234	85099268	
	 ST	2	150 m	MRPO 290	85099235	85099269
			300 m	MRPS 400	85099236	85099270
4		150 m	MRPO 290	85099237	85099271	
		300 m	MRPS 400	85099238	85099272	
8		150 m	MRPO 290	85099239	85099273	
		300 m	MRPO 485	85099240	85099274	
12		150 m	MRPS 400	85099241	85099275	
		300 m	MRMS 680	85099242	85099276	
 SC		2	150 m	MRPO 290	85099243	85099277
			300 m	MRPS 400	85099244	85099278
	4	150 m	MRPO 290	85099245	85099279	
		300 m	MRPS 400	85099246	85099280	
	8	150 m	MRPO 290	85099247	85099281	
		300 m	MRPO 485	85099248	85099282	
	12	150 m	MRPS 400	85099249	85099283	
		300 m	MRMS 680	85099250	85099284	
	 LC-HQ push-pull (UPC)	2	150 m	MRPO 290	85099251	85099285
			300 m	MRPS 400	85099252	85099286
4		150 m	MRPO 290	85099253	85099287	
		300 m	MRPS 400	85099254	85099288	
8		150 m	MRPO 290	85099255	85099289	
		300 m	MRPO 485	85099256	85099290	
12		150 m	MRPS 400	85099257	85099291	
		300 m	MRMS 680	85090529	85099292	

Options:

- Other connectors available
- Other lengths available with consideration of the reel capacity

Contact your local sales representative for MASTERLINE Mobile Classic with above mentioned options



MASTERLINE Mobile Extreme (MLME)

MASTERLINE Mobile Extreme (MLME) is a pre-terminated fiber optic cable systems built with mobile field cables. The mobile field cable provides the required flexibility and coiling capability for repeated spooling and unspooling on cable deployment reels. MASTERLINE Mobile Extreme is available with outdoor connectors ODC-2, ODC-4, Q-ODC-2 and Q-ODC-12. MASTERLINE Mobile Extreme is supplied on a suitable mobile spool. We offer a range of metallic and plastic cable deployment reels with different spooling capacities. All reels are specially designed for use with fiber optic cables. Minimum cable bending radii are maintained at all times in order to prevent increased attenuation even in coiled condition of the MASTERLINE Mobile.

Features

- «Plug and play» fiber optical cable system spooled on cable deployment reels
- Robust field-cable with excellent coiling capability
- Available with a broad range of outdoor connectors
- Available on different cable deployment reel types
- Fast deployment of temporary fiber optic connectivity
- Ideal for media broadcasting, disaster recovery or industrial applications

Fiber Optic cable

HUBER+SUHNER's mobile field cable provides the required flexibility and coiling capability for repeated spooling and unspooling on mobile reels. Other fiber optic cables might also be possible to use, please contact your local sales representative.

Mobile field cables



Features

- Excellent coiling capability
- High chemical resistance against acids and alkalis
- For high mechanical and thermal stability
- Halogen free and non-corrosive fire gases
- High crush resistance
- UV-protected, suitable for outdoor use
- Single-mode and multimode

Design

Cable design	2, 4, 8 and 12 tight tubes
Strain relief	aramide yarn
Jacket material	TPU
Jacket colour	black

Specification

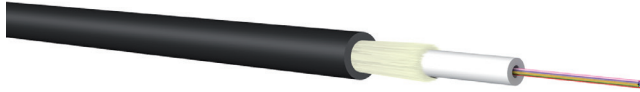
Number of Fiber		2	4	8	12	
Jacket Ø	mm	5.6	5.6	6.8	8.0	
Tube Ø	mm	0.9	0.9	0.9	0.9	coloured
Approx. weight	kg/km	24	26	40	53	

Mechanical properties

Tensile strength	during installation	N	4000	4000	4000	4000	IEC 60794-1-2 E1	
	in service	N	2000	2000	2000	2000		
Min. bend radius	during installation	mm	90	90	90	120	IEC 60794-1-2 E11	
	in service	mm	45	45	45	80		
Crush resistance	short-term	E9 G50	N/dm	21 000 19 000	21 000 19 000	21 000 19 000	10 000 10 000	IEC 60794-1-2 E3
	long-term	E9 G50	N/dm	6000 8000	6000 8000	6000 2000	2000 2000	
Repeated bending	r=50 mm, weight = 2 kg r=80 mm, weight = 5 kg		cycles	20 000	20 000	20 000	20 000	IEC 60794-1-2 E6
Flexing	r=100 mm, weight = 1 kg r=120 mm, weight = 2 kg r=80 mm, weight = 1.5 kg		cycles	100 000	100 000	100 000	100 000	IEC 60794-1-2 E8
Impact resistance	Wp = 2.21 J		impacts	300	300	300	300	IEC 60794-1-2 E4
Coiling capability	length= 500 m/r=45 mm length= 500 m/r=80 mm length= 100 m/r=80 mm		cycles	5	5	5	5	HUBER+SUHNER

Fiber Optic cable

Rugged multi-fiber loose tube cable for MLME with Q-ODC-12 connector



Features

- Metal and jelly free cable
- Rodent-protected, glass-armoured
- For mobile applications
- Longitudinal and transversal watertight cable
- Single-mode and multimode

Design

Cable design	dry multi-fiber loose tube with 2 up to 24 fibers
Strain relief and rodent protection	glass-roving
Jacket material	TPU
Jacket colour	black

Specification

Number of fiber	mm	2 to 24	
Jacket Ø	mm	7.0	
Tube Ø	mm	2.8	coloured
Approx. weight	kg/km	44	

Mechanical properties

Tensile strength	during installation	N	2500	IEC 60794-1-2 E1
	in service	N	1500	
Min. bend radius	during installation	mm	50	IEC 60794-1-2 E11
	in service	mm	70	
Crush resistance	short-term	N/dm	9000	IEC 60794-1-2 E3
	long-term	N/dm	2000	
Impact resistance	Wp = 1.5 J	impacts	100	IEC 60794-1-2 E4
Repeated bending	r = 50 mm, weight = 2 kg	cycles	10 000	IEC 60794-1-2 E6
Flexing	r = 120 mm velocity = 1.4 m/s	cycles	100 000	IEC 60794-1-2 E8
Water penetration	h = 1 m, 24 h, p < 3 m		p	IEC 60794-1-2 F5B

Fiber Optic connector

ODC-2



Features

- 2 fibers, single-mode or multimode
- Compact design with 2 x 1.25 mm ferrules
- Built-in socket with square or hexagonal flange
- Extension connector for cable chaining
- Screwed locking mechanism
- Easy and safe installation
- Waterproof, dust proof and corrosion resistant
- Waterproof protection caps
- EMI protected
- RoHs compliant
- Full compatibility with previous version
- Fulfills performance standard IEC 61753-1 Cat. E

Specifications

Technology		full ceramic ferrule and sleeve
Housing material		nickel-plated brass
Mechanical performance	ODC-2 plug	≤ 800 N tensile load ≤ 30 N static side load
Installation torque force	min. 1 Nm	max. 2 Nm
Operating temperature ¹⁾	IEC 61300-2-22	-40 up to +85 °C
Mating durability		1000 cycles ²⁾
Ingress protection (mated)	IEC 60529	IP 68
Salt mist	IEC 61300-2-26	30 days passed
Vibration	IEC 61300-2-1	passed 10 to 500 Hz/10 g
Shock	IEC 61300-2-9	passed 100 g

¹⁾ depending on cable type

²⁾ with repeated cleaning

MASTERLINE Mobile Extreme is available with outdoor connectors ODC-2, ODC-4, Q-ODC-2 and Q-ODC-12.

Fiber Optic connector

ODC-4



Features

- 4 fibers, single-mode or multimode
- Compact design with 4 × 1.25 mm ferrules
- Built-in socket with square or hexagonal flange
- Extension connector for cable chaining
- Screwed locking mechanism
- Easy and safe installation
- Waterproof, dust proof and corrosion resistant
- Waterproof protection caps
- EMI protected
- RoHs compliant
- Full compatibility with previous version
- Fulfills performance standard IEC 61753-1 Cat. E

Specifications

Technology		full ceramic ferrule and sleeve
Housing material		nickel-plated brass
Mechanical performance	ODC-4 plug	≤ 800 N tensile load ≤ 30 N static side load
Installation torque force	min. 1 Nm	max. 2 Nm
Operating temperature ¹⁾	IEC 61300-2-22	-40 up to +85 °C
Mating durability		1000 cycles ²⁾
Ingress protection (mated)	IEC 60529	IP68
Salt mist	IEC 61300-2-26	30 days passed
Vibration	IEC 61300-2-1	passed 10 to 500 Hz/10 g
Shock	IEC 61300-2-9	passed 100 g

¹⁾ depending on cable type

²⁾ with repeated cleaning

Fiber Optic connector

Q-ODC-2 outdoor connector



Features

- 2 fibers, single-mode or multimode
- Compact design with 2 × 1.25 mm ferrules
- Built-in socket with square flange
- Extension connector for cable chaining
- Robust push-pull coupling mechanism - two clearly defined mating states
- Highest outdoor installation safety
- Waterproof, dust proof and corrosion resistant
- Waterproof protection caps available
- EMI protected
- RoHs compliant
- Fulfills performance standard IEC 61753-1 Cat. E

Specifications

Technology		full ceramic ferrule and sleeve
Housing material		nickel-plated brass
Mating mechanism		push-pull with two clearly defined states
Mechanical performance	Q-ODC plug	≤ 450 N tensile load ≤ 30 N static side load
	Q-ODC socket	≤ 30 N tensile load
Operating temperature ¹⁾	IEC 61300-2-22	-40 up to +85 °C
Mating durability	IEC 61300-2-2	200 cycles ²⁾
Ingress protection (mated)	IEC 60529	IP67
Salt mist	IEC 61300-2-26	30 days passed
Vibration	IEC 61300-2-1 IEC 61373	passed 10 to 500 Hz/10 g passed category 1A/B, 2, 3
Shock	IEC 61300-2-9 IEC 61373	passed 50 g passed category 1, 2

¹⁾ depending on cable type

²⁾ with repeated cleaning

Fiber Optic connector

Q-ODC-12 / Q-ODC-24 outdoor connector



Features

- Up to 24 fibers, single-mode or multimode
- Compact design with MT ferrules
- Built-in socket with square flange/hexagonal flange
- Extension connector for cable chaining
- Robust push-pull coupling mechanism - two clearly defined mating states
- Highest outdoor installation safety
- Waterproof, dust proof and corrosion resistant
- Waterproof protection caps available
- RoHs compliant

Specifications

Technology		plastic ferrule (PPS)
Housing material		nickel-plated brass
Mating mechanism		push-pull with two clearly defined states
Mechanical performance	Q-ODC plug	≤ 500 N tensile load ≤ 30 N static side load
	Q-ODC socket	≤ 30 N static side load
Operating temperature ¹⁾	IEC 61300-2-22	-40 up to +85 °C
Mating durability	IEC 61300-2-2	100 cycles ²⁾
Ingress protection (mated)	IEC 60529	IP68 (3 m/30 days)
Salt mist	IEC 61300-2-26	30 days passed
Vibration	IEC 61300-2-1	passed 10 to 500 Hz/10 g
Shock	IEC 61300-2-9	passed 50 g
	IEC 61373	passed category 1, 2

¹⁾ depending on cable type

²⁾ with repeated cleaning

Fan-out for MLME

MASTERLINE Mobile Extreme with 2 connectors have a divider into 2 fan-out with 5.0 mm diameter and black PUR jacket. The longest length of the fan-out is 550 mm. For installation purposes the fan-out legs and fiber optic connectors are protected by a robust protection tube. It provides a solid crush- or step-protection of the connectors and seals the fan-outs from any water ingress (IP67). The pulling eye allows to pull-in the cable system.



Fan-out

	2x ODC-2 or 2 x Q-ODC-2	2 x ODC-4
Longest length	550 mm	550 mm
Shortest length	450 mm	450 mm
Graduation	100 mm	100 mm
Jacket material	Black PUR	Black PUR
Cable diameter	5.6 mm	6.8 mm

Cable reel with cable – ready for use

Ordering information

Connector	Number of fibers	Cable length	Reel type	Item No. single-mode (E9/125, G.652.D)	Item No. multimode (G50/125, OM2)
	2	150 m	MRPO 290	85100158	85100144
		300 m	MRPS 400	85100159	85100145
	4	150 m	MRPO 290	85100160	85100146
		300 m	MRPS 400	85100161	85100147
	4	150 m	MRPO 290	85100162	85100148
		300 m	MRPS 400	85100163	85100149
	8	150 m	MRPO 290	85100164	85100150
		300 m	MRPO 485	85100165	85100151
	2	150 m	MRPO 290	85100166	85100152
		300 m	MRPS 400	85100167	85100153
	4	150 m	MRPO 290	85100168	85100154
		300 m	MRPS 400	85100169	85100155
	12	150 m	MRPS 400	85100170	85100156
		300 m	MRMS 680	85100171	85100157

Options:




- Other connectors available
- Other lengths available with consideration of the reel capacity

Contact your local sales representative for MASTERLINE Mobile Classic with above mentioned options



Cable deployment reels

With our MASTERLINE Mobile Classic we provide a range of metallic and plastic cable deployment reels with different spooling capacities. All reels are specially designed for use with fiber optic cables. Minimum cable bending radii are maintained at all times in order to prevent increased attenuation even in coiled condition of the MASTERLINE Mobile.

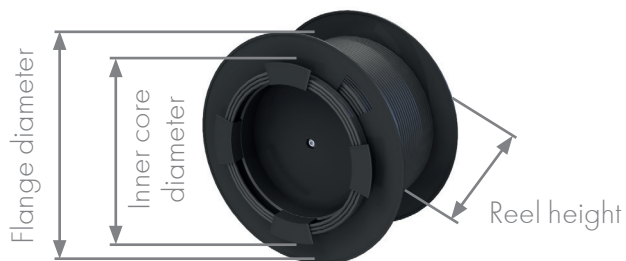
	MRPO 290 * 85093524	MRPS 400 84018827	MRPO 485 * 85093525
			

Cable capacity at cable Ø			
5.6 mm	290 m	400 m	485 m
6.0 mm	275 m	350 m	460 m
6.8 mm	235 m	285 m	405 m
7.0 mm	225 m	260 m	390 m
8.0 mm	175 m	200 m	310 m

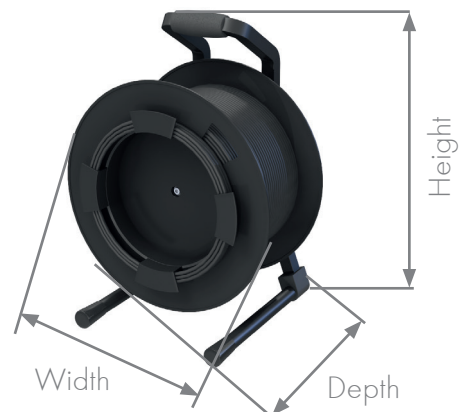
Reel								
Inner core diameter	A	203 mm	A	295 mm		A	203 mm	
Reel height		198 mm		220 mm			213 mm	
Flange diameter		430 mm		440 mm			430 mm	
Width	B	520 mm	B	400 mm	C	550 mm	B	520 mm
Height		556 mm		555 mm		916 mm		556 mm
Depth		322 mm		320 mm		400 mm		398 mm
Material	Reinforced polymer		Special rubber			Reinforced polymer		
Colour	black		black			black		
Weight (without cable)	7.2 kg		7.0 kg			7.3 kg		

Carrier			
Type	Frame with handle	Frame with handle and optional with wheels and long handle	Frame with handle

A



B



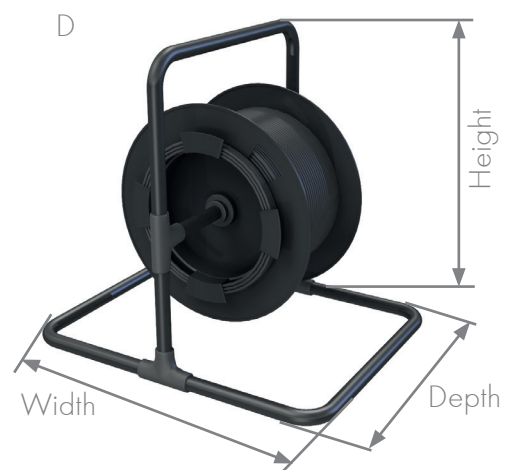
* Available without carrier frame (reel only)

	MRMS 680	MRPO 720 *	MRPO 975 *
	85090463	85093526	85093527
			

Cable capacity at cable Ø			
5.6 mm	680 m	720 m	975 m
6.0 mm	590 m	685 m	850 m
6.8 mm	460 m	585 m	660 m
7.0 mm	435 m	560 m	625 m
8.0 mm	330 m	435 m	475 m





Reel								
Inner core diameter	A	320 mm			A	270 mm		
Reel height		195 mm				404 mm		
Flange diameter		580 mm				432 mm		
Width	B	460 mm	C	550 mm	D	533 mm	D	533 mm
Height		720 mm		915 mm		574 mm		574 mm
Depth		260 mm		350 mm		635 mm		635 mm
Material	Steel powder coated			Reinforced polymer			Reinforced polymer	
Colour	black			black			black	
Weight (without cable)	12 kg			9.6 kg			9.8 kg	

Carrier			
Type	Frame with handle and optional with wheels		Frame with handle



* Available without carrier frame (reel only)

Accessories

Description	Weight	Item No.	
Solid rubber wheels and long handle for MRPS 400	2.5 kg	84018981	
Trolley for reel MRMS 680 Solid rubber wheels	4.0 kg	85090573	
Carrier for MRPO 290 Aluminium tubular frame with splint	2.1 kg	85096702	
Carrier for MRPO 485 Aluminium tubular frame with splint	2.1 kg	85096708	
Carrier for MRPO 720 Aluminium tubular frame with splint	4.1 kg	85096709	
Carrier for MRPO 975 Aluminium tubular frame with splint	4.1 kg	85096710	

Further Catalogues

All our Catalogues are updated regularly. They are available in electronic format and can be accessed from our main HUBER+SUHNER homepage.

Simply go to the Downloads section and select "Fiber Optics" and "Catalogues" to filter down your search.

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