



# WetLink Penetrator (WLP) Technical Specifications

## Performance Characteristics<sup>1</sup>

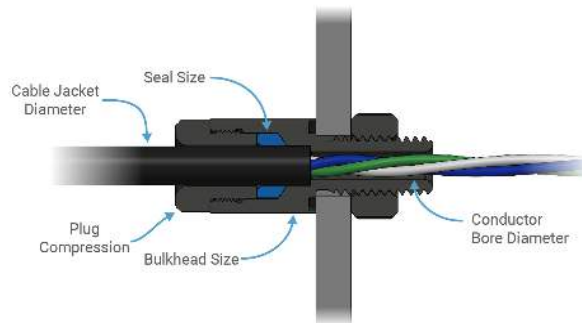
Maximum Tested Depth (seawater)	950 m / 3116 ft
Design Lifetime <sup>2</sup>	3 years or 500 cycles to rated depth

<sup>1</sup> For reference only, performance may vary depending on application and cable construction, it is the responsibility of the customer to determine suitability for their application  
<sup>2</sup> Design life was used to inform testing in an accelerated environment, does not reflect warranty period

Size Index

Seal Size	Bulkhead Sizes	Conductor Bore Diameter [mm]	Plug Compression	Jacket Diameter Range [mm]	Part Number
4.5	M06, M10	3.3 mm	High (HC)	4.0 ± 0.3	WLP-M06-4.5MM-HC WLP-M10-4.5MM-HC
			Low (LC)	4.5 ± 0.3	WLP-M06-4.5MM-LC WLP-M10-4.5MM-LC
5.5	M10	4.0 mm	High (HC)	5.0 ± 0.3	WLP-M10-5.5MM-HC
			Low (LC)	5.5 ± 0.3	WLP-M10-5.5MM-LC
6.5	M10	4.8 mm	High (HC)	6.0 ± 0.3	WLP-M10-6.5MM-HC
			Low (LC)	6.5 ± 0.3	WLP-M10-6.5MM-LC
7.5	M10	5.7 mm	High (HC)	7.0 ± 0.3	WLP-M10-7.5MM-HC
			Low (LC)	7.5 ± 0.3	WLP-M10-7.5MM-LC
8.5	M10	6.0 mm	High (HC)	8.0 ± 0.3	WLP-M10-8.5MM-HC
			Low (LC)	8.5 ± 0.3	WLP-M10-8.5MM-LC
9.5	M14	7.5 mm	High (HC)	9.0 ± 0.3	WLP-M14-9.5MM-HC
			Low (LC)	9.5 ± 0.3	WLP-M14-9.5MM-LC

<sup>1</sup> Jacket diameter range varies for foam jacketed cables, see guides for more details



Tools

Seal Size	Bulkhead Size	Bulkhead Wrench	Bulkhead/Nut Flat Size	Bulkhead Torque	Plug Wrench	Plug Hex Size	Plug Torque
4.5	M06	WL-M06-BULKHEAD-WRENCH	12 mm	1 N · m	WLP-11MM-PLUG-WRENCH	11 mm	14 N · m
4.5	M10	WL-M10-BULKHEAD-WRENCH	16 mm	3.5 N · m	WLP-11MM-PLUG-WRENCH	11 mm	14 N · m
5.5, 6.5, 7.5, 8.5	M10	WL-M10-BULKHEAD-WRENCH	16 mm	3.5 N · m	WLP-14MM-PLUG-WRENCH	14 mm	14 N · m
9.5	M14	WL-M14-BULKHEAD-WRENCH	20 mm	3.5 N · m	WLP-18MM-PLUG-WRENCH	18 mm	20 N · m

Tested Cables

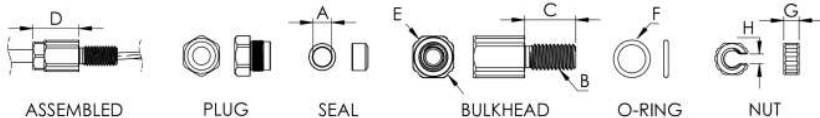
Part Number	Cable Part Name / Number	Manufacturer	Application	Jacket Diameter [mm]	Jacket Material	Conductors	Tested Current <sup>1</sup>	Nominal Voltage	Max Temp Recommended <sup>2</sup>
WLP-M06-4.5MM-HC WLP-M10-4.5MM-HC	Fathom Slim Tether (CAB-NBPUF-1UTP-26AWG-R3)	Blue Robotics	Tether	4.0	PUR Foam	1x UTP 26AWG	-	-	50°C
WLP-M06-4.5MM-LC WLP-M10-4.5MM-LC	Lumen/Gripper Cable (CAB-A-3-22AWG-R1)	Blue Robotics	Power / PWM	4.5	PUR	3x 22AWG	-	-	60°C
	Ping Cable (CAB-PUR-4-24AWG-R1)	Blue Robotics	Power / Serial	4.5	PUR	4x 24AWG	-	-	60°C
	Ping 360 Cable (CAB-PUR-3UTP-28AWG-R2)	Blue Robotics	Power / Ethernet	4.7	PUR	3x UTP 28AWG	-	-	50°C
WLP-M10-5.5MM-HC	chainflex® control cable CF9 (CF9-02-06)	IGUS	Power / Signal	5.0	TPE	6x 24AWG	-	300V	60°C
WLP-M10-5.5MM-LC	Etherline® (2170283)	LAPP	Cat5e	5.6	PUR	2x SFTP 26AWG	-	125V	60°C
WLP-M10-6.5MM-HC	Unitronic® (302206)	LAPP	Power / Signal	5.8	PVC	6x 22AWG	-	300V	60°C
WLP-M10-6.5MM-LC	T200 Thruster Cable (CAB-PUR-3-16AWG-R2)	Blue Robotics	Power	6.4	PUR	3x 16AWG	48A	-	60°C
	Etherline® (2170300)	LAPP	Cat5e	6.3	PUR	4x SFTP 26AWG	-	1000V	60°C
WLP-M10-7.5MM-HC	Fathom ROV Tether (CAB-NBPUF-4UTP-26AWG-R3)	Blue Robotics	Cat5 / Tether	7.6	PUR Foam	4x UTP 26AWG	-	-	50°C
WLP-M10-7.5MM-LC	Ethernet and Power Cable (CAB-PUR-2-22AWG-4UTP-26AWG-R1)	Blue Robotics	Cat5 + Power	7.5	PUR	4x UTP 26AWG + 2x 22AWG	-	-	60°C
WLP-M10-8.5MM-HC	chainflex® control cable CF9 (CF9-02-12)	IGUS	Power / Signal	7.7	TPE	12x 24AWG	-	300V	60°C
WLP-M10-8.5MM-LC	Power Cable, 2-conductor (CAB-A-2-12AWG)	Blue Robotics	Power	8.3	PUR	2x 12AWG	60A	-	60°C
WLP-M14-9.5MM-HC	T500 Thruster Cable (CAB-PUR-3-12AWG-R1)	Blue Robotics	Power	9.0	PUR	3x 12AWG	100A	-	60°C

<sup>1</sup> Current ratings evaluated at ambient temperatures in water

<sup>2</sup> Sustained high temperatures can lead to performance loss over long periods of time

Physical Properties

	M06	M10	M14
Bulkhead Size			
Seal Sizes (A)	4.5	4.5, 5.5, 6.5, 7.5, 8.5	9.5
Bulkhead Thread (B)	M6 x 1	M10 x 1.5	M14 x 1.5
Bulkhead Thread Length (C)	10 mm	20 mm	25 mm
Recommended Bulkhead Through Hole Size	6.2	10.2	14.2
Assembled Height from Endcap (D)	23.5 mm	18 - 26 mm	23 mm
Overall Outer Diameter (E)	13 mm	18 mm	22 mm
O-ring Size (F)	1.5x7 Buna-N 70A	-013 Buna-N 70A	1.5x15 Buna-N 70A
Nut Height (G)	4 mm	8 mm	8 mm
Nut Slot Width (H)	3.5 mm	5 mm	9 mm
Assembled air weight (no cable)	7.6 g	13.9 - 15.6 g	24.9 g
Assembled water weight (no cable)	5.1 g	10.2 - 10.7 g	16.4 g
Seal Material	FKM		
Seal Material Temperature Range	-25°C to 200°C		
Bulkhead & Plug Material	7075-T6 Aluminum, Anodized		



Test Procedure<sup>1</sup>

Minimum Number of Test Samples	36
Test Pressure	950 msw
Number of Cycles	500 cycles
Water Temperatures at Pressure	2°C to 40°C
Tested Current at Pressure (if applicable)	✓
Temperature Shock Cycling in Air	-30°C to 70°C
Cable Axial Strain (10 cycles)	3.5 to 7.5 kg
Cable Radial & Torsional Straining	✓
1000V Hipot Test & Continuity Test	✓
Accelerated Age Test	✓

<sup>1</sup> Test values shown for reference only, it is the responsibility of the customer to determine suitability for their application