



Connectors for Navy Applications
and Heavy Duty Industries

MSH/MPH series



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MSH/MPH series



Introduction

MSH and MPH series cylindrical connectors comply with environmental tests of French standard NFC 93422 and satisfy the requirements of marine specification 538c AGB/T. They are listed in GAM T1 and MAT 6840005.

• Two series are available:

Series	Shell	Remarks
MSH	Treated aluminium alloy	HALOGEN free
MPH	Bronze	HALOGEN free

These series are available with 8 shell sizes and large variety of layouts including signal, power and RF conntacts.



• New Cadmium Free plating available for MSH series:

- MSH Aluminium shells plated with Tin over nickel to be compliant with ROHS requiremer



MSH/MPH series



Applications

The highly robust design of MSH/MPH series makes them particularly suited for naval and heavy-duty industry applications.

Navy



- upper decks
- radars
- monitoring and power supply racks
- platform
- armament systems

Offshore industry



- platform
- gas or petrol exploitation
- heavy plant
- power units

Ground-based armament



- power supply units
- shelters
- communications networks
- artillery
- radars

Rail transport



- inter-carriage connections
- power supply racks
- trackside beacons
- power supply units

Heavy duty industry



- steel industry
- shipbuilding
- petrochemicals
- power industry
- mining

Construction industry



- cranes
- heavy plant
- tunneling machines
- concreting
- power supply units

MSH/MPH series



Features and benefits

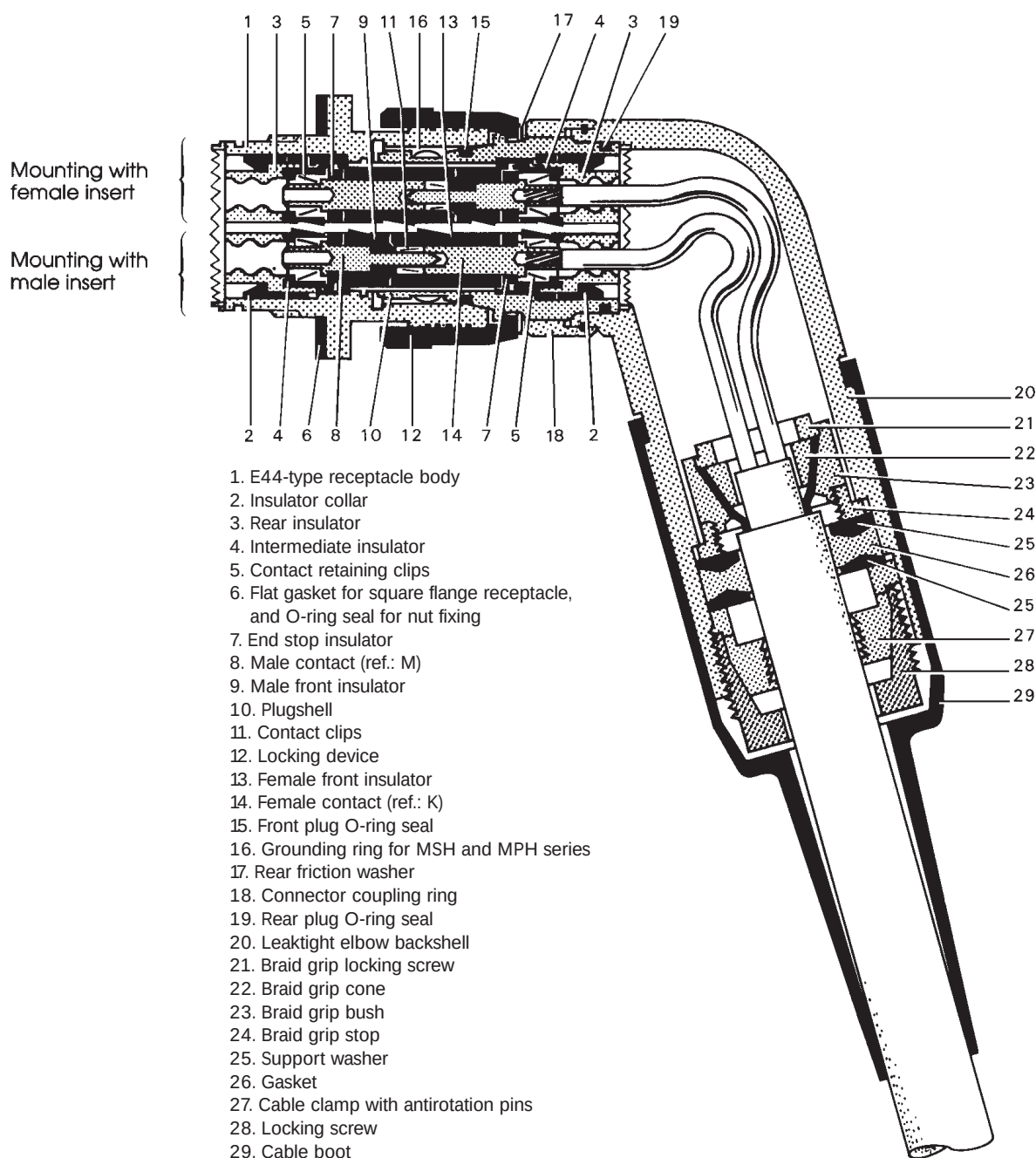
The very ruggedized design of MSH/MPH series brings the following benefits :

	Features	Benefits
Mechanical	• Square threaded screw coupling (plug on receptacle). • Conical coupling interface.	• High vibration and shock withstanding. • Suitable for Harsh Environment application (railways, mining, public works...).
	• Special cone-design on backshell for cable braid retention.	• Extreme resistance to pull out or transverse forces on cable (80 kg).
	• 5 key mechanical polarisation. • Scoop proof shells.	• Reliable and safe mating.
Environmental	• Oring sealing between plug and receptacle. • Packing seal on backshell to cable interface. • Cable boot on backshell interface.	• High performance sealing: - permanent IP68, - Permanent water immersion up to 2 meters, - Compliance with main Marine and Heavy Industries cable.
	• Tin plated Aluminium or Marine bronze shells	• High corrosion resistance (salt spray, sea water, sand, dust, hydrocarbons fluids...). • RoHS compliant.
Electrical	• Dismountable crimp contacts.	• Easy wiring.
	• Growding ring on plug side.	• EMI/RFI/protection.

MSH/MPH series



Description



- Eight shell sizes, numbered 16-17-18-20-22-24-26-28.
- Assembly and removal of push-on contacts into the insulator via the rear of the shell.
- Assembly and removal of screw contacts via the rear of the insulator.

- Leaktight sealing caps for plugs and receptacles.
- Watertightness of shells and accessories via O-ring seals (15 and 19).
- Seal with the cable via cable gland-type elastomer seal (26).

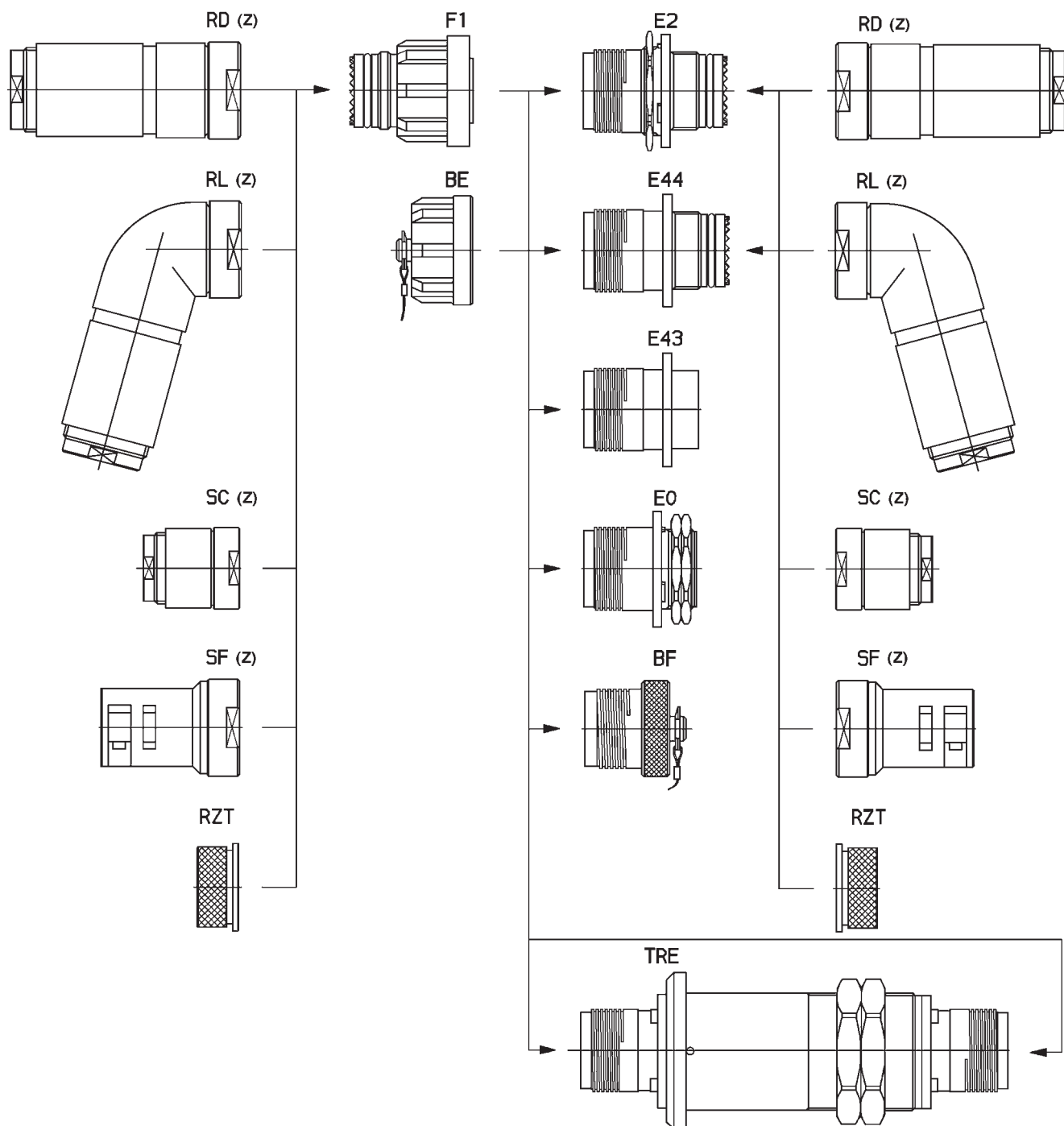
- Cable held at 3 levels: cable clamp (27 and 28), cable gland (25 and 26), braid grip (21, 22, 23 and 24).
- Cable boot (29) for limiting the radius of curvature of the cable on leaving the connector.

MSH/MPH series



General configuration

For single or multi-contact signal, coaxial and power layouts with pins of less than 8 mm diameter.



To order accessory only : add Z suffix to the P/N.

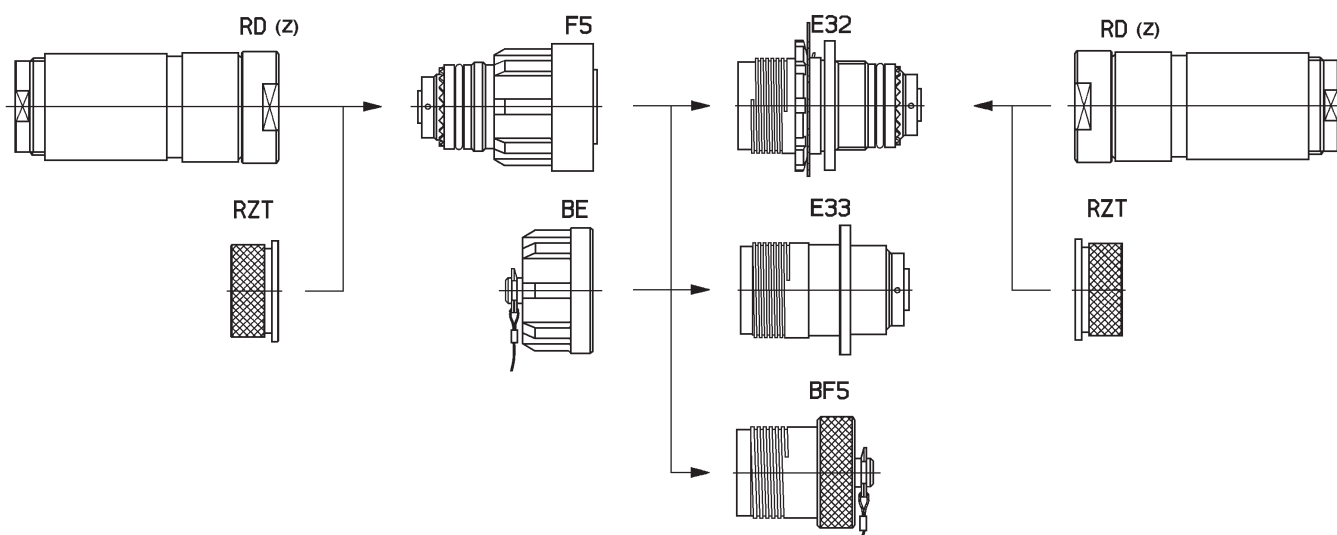
See glossary page 9.

MSH/MPH series



Single contact connectors configuration

For single contact power layouts with pins between 10 mm and 25 mm in diameter.



To order accessory only : add Z suffix to the P/N.

Glossary

Series		MSH		MPH	
Shell type					
Standard shell	Plug	FZ	F1	FZ	F1
	Receptacle, front axial nut	E2		E2	
	Receptacle, 4-screw fixing	E44		E44	
	Receptacle, no accessory options, 4-screw fixing	E43		E43	
	Receptacle, no accessory options, rear axial nut	E0		E0	
	Bulkhead	TRE		-	
	Plug sealing cap	BF		BF	
	Plug sealing cap with eyelet lanyard	BFC		BFC	
	Receptacle sealing cap	BE		BE	
	Receptacle sealing cap with ring lanyard	BEB(A)		BEB(A)	
	Receptacle sealing cap with eyelet lanyard	BEC		BEC	
(A) For E2-type receptacle.					
Long shell power single contact	Plug		F5		F5
	Receptacle, front axial nut		E32		E32
	Receptacle, 4-screw fixing	(6)	E33		E33
	Plug sealing cap		BF5		BF5
	Plug sealing cap with lanyard		BF5C		BF5C
Accessories(1)					
Leaktight straight backshell		RD(3)			
Leaktight elbow backshell ⁽²⁾		RL(3)			
Non-leaktight cable clamp ⁽²⁾		SC(3)			
Non-leaktight wire grip ⁽²⁾		SF(3)			
Thread mask backshell		RZT			

MSH/MPH series



Characteristics

Mechanical

- **Shells**

- Series MSH: aluminum alloy.
- Protection:
 - Tin plated on nickel underlayer;
 - Nickel: 10 μm
 - Tin: 35 μm .



- or cadmium plated bichromated-treated on nickel under layer (standard)
- Series MPH: marine bronze.

- **Seal and cable boot**

- Elastomer.

- **Flexible insulation, front and rear**

- Silicone elastomer.

- **Rigid insulation**

- Polyoxy phenylene reinforced PPOm.

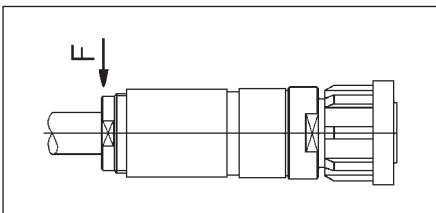
- **Contacts**

- Copper or copper alloy.
- Protection : gold plating on nickel for contacts $\leq \varnothing 8$.
- Silver on nickel for contacts $> \varnothing 8$.

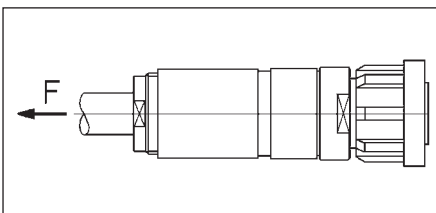
- **Mechanical endurance**

- 200 to 500 locking/unlocking cycles (depending on size).

- **Charge in cantilever: $\leq 800 \text{ N}$**



- **Cable pulling: $\leq 800 \text{ N}$**



- **Free fall: 2,5 m**

- Trampling: $\leq 80 \text{ kg}$.

Electrical

- **Withstand voltage:**

- At normal pressure
- 1500 V between contacts size 20,
- 2500 V for the other contacts.

- **Insulation resistance:**

- Cabled plug : $\geq 10^4 \text{ M}\Omega$
- Cabled receptacle : $\geq 10^4 \text{ M}\Omega$
- Coupled connectors : $\geq 5.10^3 \text{ M}\Omega$

- **Metallization Resistance:**

- On coupled connectors between the receptacle plate and rear of plugshell : $\leq 2.5 \text{ m}\Omega$

Environmental

- **Operating temperature:**

- 55°C to +125°C.

- **Immersion resistance:**

- 0.2 bars, serie MSH - 2 bars, serie MPH.

- **Impact:**

- 100 g - 11 ms - 2 impacts/direction/ axes.

- **Vibrations:**

- 0.35 mm during 1 h - sweep from 5 to 55 Hz on the 3 axis.

- **Salt spray:**

- Series MSH: 6 x 48 h cycles.
- Series MPH: 20 x 48 h cycles.

- **Humid heat: 56 days at 40°C.**

- **Resistance to liquids:**

- Kerosene, JP4, 35A, 3515 - oronire and skydrol 508/A.

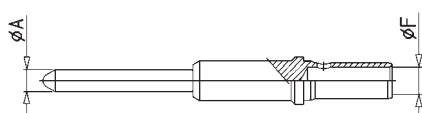
- **NBC Protection:** Resistant to decontaminating agents.

MSH/MPH series

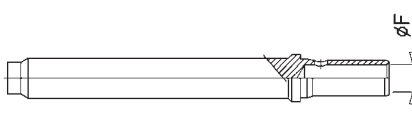


Contacts

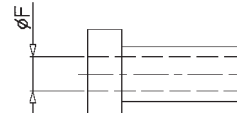
Crimp contacts



Pin



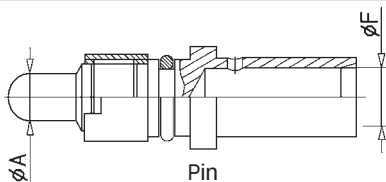
Socket



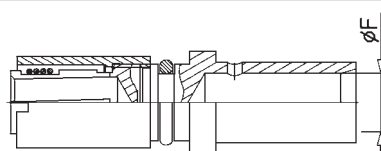
Reducing sleeve

Type	Size	Part number	Max. current A	Contact resistance mΩ	Permissible cables		Ø A contact	Ø F barrel
					Section mm ²	AWG gage		
Male	20	M-20-MS	7	≤ 2	0,38 to 0,93	22 to 18	1,6	1,35
Female		K-20-MS						
Male	16	M-16-MS	13	≤ 1,5	0,93 to 1,91	18 to 14	1,6	2,00
Female		K-16-MS						
Male	12	M-12-MS	20	≤ 1,2	1,91 to 0,3,18	14 to 12	2,4	2,55
Female		K-12-MS						
Reducing sleeves	20	MKMS-20-28			0,1 to 0,15	28 to 26		0,65
		MKMS-20-24			0,21 to 0,38	24 to 22		0,95
	16	MKMS-16-26			0,15 to 0,6	26 to 20		1,2
		MKMS-12-22			0,1 to 0,38	28 to 22		0,9
	12	MKMS-12-18			0,38 to 0,93	22 to 18		1,40
		MKMS-12-16			0,6 to 1,34	20 to 16		1,70

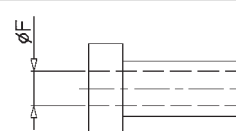
Power crimp contacts



Pin



Socket



Reducing sleeve

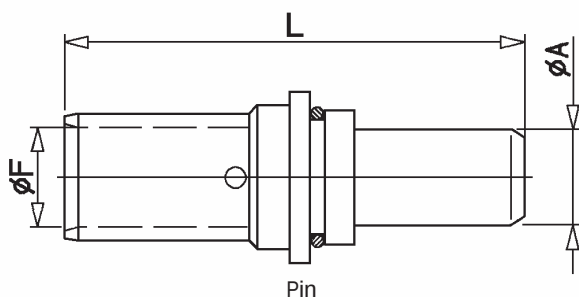
Type	Size	Part number	Max. current A	Contact resistance mΩ	Permissible cables Section mm ²		Ø A contact	Ø F barrel
					Flexible	Extra flexible		
Male	8	M-8-MS	45	≤ 1	5,15 to 10	3,18 to 6	3,6	4,4
Female		K-8-MS						
Male	6	M-6-MS	75	≤ 0,8	10	6	4,6	5
Female		K-6-MS						
Male	6E	M-6E-MS			16	10		5,5
Female		K-6E-MS						
Male	25C	M-25C-MS	120	≤ 0,5	25	16	6,7	7,7
Female		K-25C-MS						
Male	25CE	M-25CE-MS			35	25		9
Female		K-25CE-MS						
Male	50MC	M-MS-50MC	170	≤ 0,3	50	40	8	10,3
Female		K-MS-50MC						
Réducing sleeve	8	MK-MS-8-12			3,18 to 5,15			3,4

MSH/MPH series

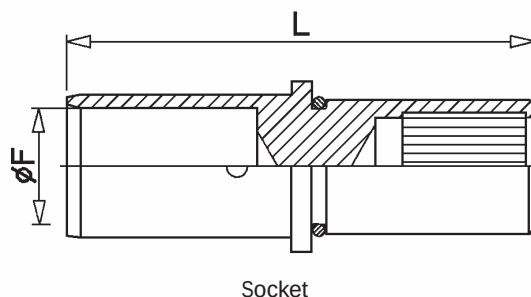


Contacts

Power single crimp contact



Pin



Socket

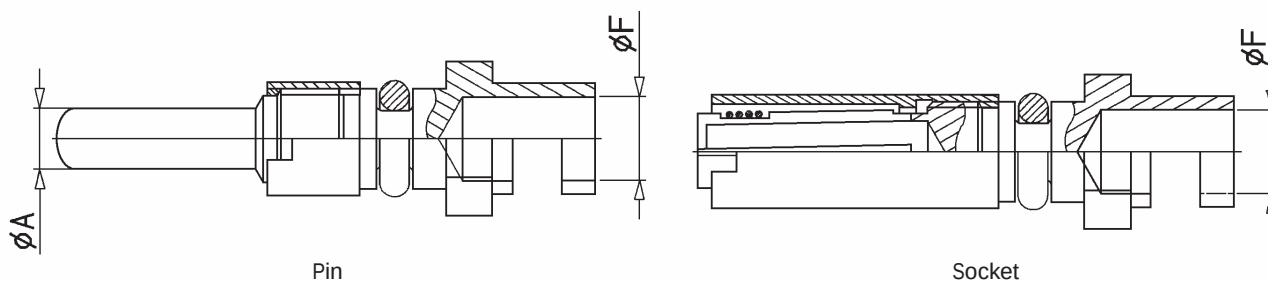
Type	Size	Part number	Max. current A	Contact resistance mΩ	Permissible cables Section mm²		Ø A contact	Ø F barrel	L Max	
					Flexible	Extra flexible				
Male	50C	M-50C-MS	235	≤ 0,08	50	45	10	10,8	65	
Female		K-50C-MS							66	
Male	50CE	M-50CE-MS			60	50		11,8	65	
Female		K-50CE-MS							66	
Male	70C	M-70C-MS	291		70	60		12,5	65	
Female		K-70C-MS							66	
Male	70CE	M-70CE-MS			95	70		14,5	65	
Female		K-70CE-MS							66	
Male	95C	M-95C-MS	352	≤ 0,05	95	70	14	14,5	68	
Female		K-95C-MS							66	
Male	95CE	M-95CE-MS			120	95		17	68	
Female		K-95CE-MS							69	
Male	185C	M-185C-MS	535		≤ 0,03	185	150	18	20,5	70
Female		K-185C-MS								71
Male	185CE	M-185CE-MS				240	185		23	70
Female		K-185CE-MS								71
Male	300C	M-300C-MS	723	≤ 0,02		300	240	25	26	80
Female		K-300C-MS								81
Male	300CE	M-300CE-MS				350	300		28	80
Female		K-300CE-MS								81

MSH/MPH series



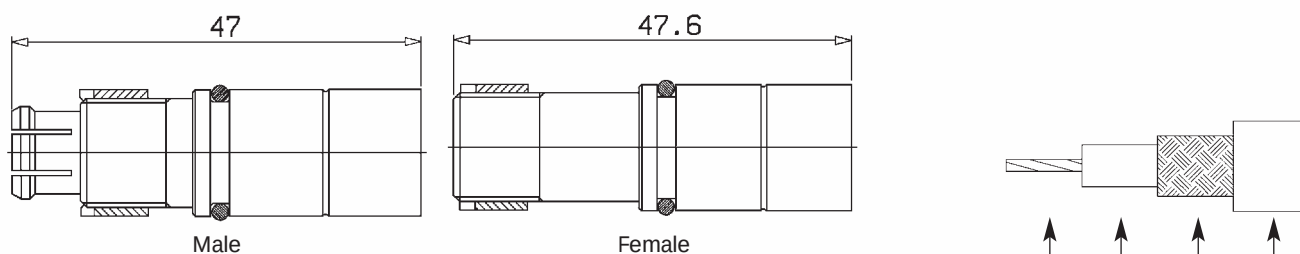
Contacts

Power solder contacts



Type	Size	Part number	Max. current A	Contact resistance mΩ	Permissible cables	Ø A contact	Ø F barrel
					Section mm²		
Male	6MC	M-MS-6MC	27	≤ 1	5,94 Max.	2,8	3,4
Female		K-MS-6MC					
Male	10MC	M-MS-10MC	45	≤ 1	10,5 Max.	3,6	5
Female		K-MS-10MC					
Male	16MC	M-MS-16MC	65	≤ 0,8	15,82 Max.	4,6	6
Female		K-MS-16MC					
Male	25MC	M-MS-25MC	90	≤ 0,8	24,62 Max.	5,7	7,8
Female		K-MS-25MC					
Male	35MC	M-MS-35MC	120	≤ 0,5	34,67 Max.	6,7	9
Female		K-MS-35MC					

Watertight coaxial contacts



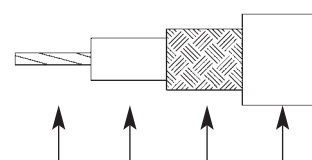
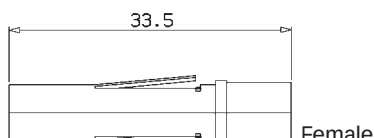
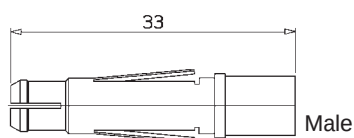
Male part number	Female part number	Impedance Ω	Withstand voltage, Sea level Vrms 50 Hz	Max Current A	Insulation resistance MΩ	Contact resistance MΩ	Part number of permissible cables			Ø A max.	Ø B max.	Ø C max.	Ø D max.
							MIL C17	NFC 93.550	Marine 599a TQL/TR				
CM-50A-MSH	CK-50A-MSH	50	2500	12	> 5000	≤ 3	/	/	50MSB	1,9	7,6	8,6	11
CM-75A-MSH	CK-75A-MSH	75	2700	5		≤ 4	/	/	75MSB	1			

MSH/MPH series



Contacts

Standard - watertight - coaxial contacts



Male part number	Female part number	Impedance Ω	Withstand voltage, Sea level Vrms 50 Hz	Max Current A	Insulation resistance MΩ	Contact resistance MΩ	Part number of permissible cables			Ø A max.	Ø B max.	Ø C max.	Ø D max.
							MIL C17	NFC 93.550	Marine 599a TQL/TR				
CM-501-MS	CK-501-MS	50	1200	4	> 5000	≤ 5	RG58	KX2 ⁽¹⁾ KX15	50PPN	1,1	3,1	4,1	6,5
CM-502-MS	CK-502-MS						RG122						
CM-507-MS	CK-507-MS						RG174 RG316	KX3 KX22	50RPN 50RT				
CM-508-MS	CK-508-MS						RG178	KX21					
							RG223 RG142	KX23	50PSB		3,1	4,3	6,5
CM-751-MS	CK-751-MS	75	1500	2,5	> 5000	≤ 8	RG59	KX6	75PPN	0,7	3,8	4,6	6,5
CM-752-MS	CK-752-MS						RG140	KX25	75PD				
CM-758-MS	CK-758-MS						RG302						
							RG179						
OBT-CM-MS	OBT-CK-MS	Sealing plug											

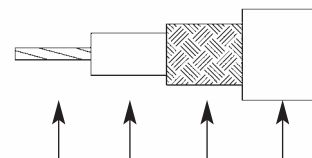
(1) Withdrawn from spécification NFC93550; replaced by KX15.

Miniature - non-watertight - coaxial contacts



Male

Female



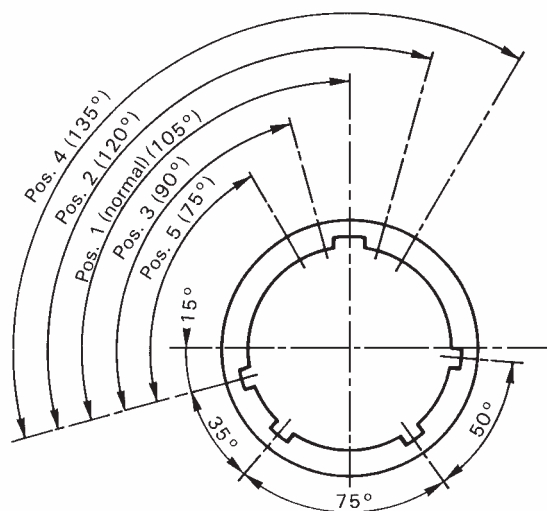
Male part number	Female part number	Impedance Ω	Withstand voltage, Sea level Vrms 50 Hz	Max Current A	Insulation resistance M Ω	Contact resistance M Ω	Part number of permissible cables			$\varnothing$ A max.	$\varnothing$ B max.	$\varnothing$ C max.	$\varnothing$ D max.
							MIL C17	NFC 93.550	Marine 599a TQL/TR				
CM-511-MS ⁽¹⁾	CK-511-MS ⁽¹⁾	50	600	2	> 5000	≤ 12	RG178	KX21		0,3	0,9	1,7	2
CM-512-MS ⁽¹⁾	CK-512-MS ⁽¹⁾						RG174	KX3	50RPN	0,5	1,6	2,2	2,8
CM-512-MS ⁽¹⁾	CK-512-MS ⁽¹⁾						RG316	KX22	50RT				
CM-521-MS ⁽²⁾	CK-521-MS ⁽²⁾						RG178	KX21					
							RG174	KX3	50RPN	0,5	1,6	2,2	2,8
							RG316	KX22	50RT				

(1) "RADIAL" crimp contacts. (2) "RAYCHEM" thermo-soldering contacts.

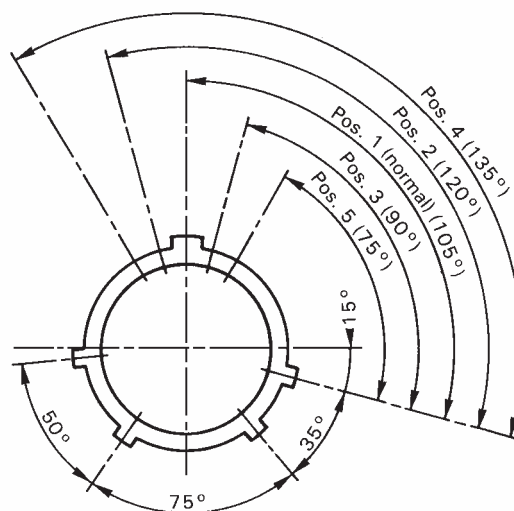
MSH/MPH series



Polarization keys



Viewed from receptacle mating



Viewed from plug mating

Cable code

Cable code	Shell size	16	17	18	20	22	24	26	28
A0				22,2 to 23,1		29,2 to 30,2		34 to 35,4	
A		14,5 to 16	17,5 to 19	20,5 to 22,2	25,5 to 27	27,5 to 29,2	30,5 to 32	32,5 to 34	40,5 to 42
A1		13 to 14,5	17 to 17,5	19 to 20,5	24 to 25,5	26 to 27,5	29 to 30,5	31 to 32,5	39 to 40,5
B		12 to 13	15 to 16	17,5 to 19	22,5 to 24	24,5 to 26	27,5 to 29	29,5 to 31	37,5 to 39
B1		11 to 12	14 to 15	16 to 17,5	21 to 22,5	23 to 24,5	26 to 27,5	28 to 29,5	36 to 37,5
C		10 to 11	13 to 14	14,5 to 16	19,5 to 21	21,5 to 23	24,5 to 26	26,5 to 28	34,5 to 36
C1		9 to 10	12 to 13	13 to 14,5	18 to 19,5	20 to 21,5	23 to 24,5	25 to 26,5	33 to 34,5
D		8 to 9	11 to 12	12 to 13	16,5 to 18	18,5 to 20	21,5 to 23	23,5 to 25	31,5 to 33
D1		7 to 8	10 to 11	11 to 12	15 to 16,5	17 to 18,5	20 to 21,5	22 to 23,5	30 to 31,5
E		6 to 7	9 to 10	10 to 11	13,5 to 15	15,5 to 17	18,5 to 20	20,5 to 22	28,5 to 30
E1		5 to 6	8 to 9	9 to 10	12 to 13,5	14 to 15,5	17 to 18,5	19 to 20,5	27 to 28,5
F			7 to 8	8 to 9	10,5 to 12	12,5 to 14	15,5 to 17	17,5 to 19	25,5 to 27
F1			6 to 7	7 to 8	9 to 10,5	11 to 12,5	14 to 15,5	16 to 17,5	24 to 25,5
G									22,5 to 24
G1									21 to 22,5

MSH/MPH series



References

Series	MSH	MPH	E2	RL	M	22	MSH MPH	37-20	RST	A1	T	P3	A
Shell type													
Plug	FZ	F1											
Receptacle, front axial nut	E2	E2											
Receptacle, 4-screw fixing	E44	E44											
Receptacle, no accessory options, 4-screw fixing	E43	E43											
Receptacle, no accessory options, rear axial nut	E0	E0											
Bulkhead	TRE	-											
Plug sealing cap	BF	BF											
Plug sealing cap with eyelet lanyard	BFC	BFC											
Receptacle sealing cap	BE	BE											
Receptacle sealing cap with ring lanyard	BEB(A)	BEB(A)											
Receptacle sealing cap with eyelet lanyard	BEC	BEC											
(A) For E2-type receptacle.													
Long shell power single contact													
Plug	F5	F5											
Receptacle, front axial nut	E32	E32											
Receptacle, 4-screw fixing	(6) E33	E33	(6)										
Plug sealing cap	BF5	BF5											
Plug sealing cap with lanyard	BF5C	BF5C											
Accessories(1)													
Leaktight straight backshell		RD(3)											
Leaktight elbow backshell(2)		RL(3)											
Non-leaktight cable clamp(2)		SC(3)											
Non-leaktight wire grip(2)		SF(3)											
Thread mask backshell		RZT											
Insulation type(6)													
Male		M											
Female		K											
Shell size													
16-17-18-20-22-24-26-28		XX											
Connector series													
MSH connectors													
MPH connectors													
Halogen free		XXX											
Contact layout(6)													
Number/size of contact see § layout		XX-XX											
Braid grip(1) (for RD and RL)													
With braid grip		RST											
Without braid grip		Y											
With braid grip power single contact		PST											
Cable code(1) (for RD, RL and SC)													
A to E1 see § cable codes		XX											
Cable boot(1) (for RD and RL)													
With cable boot		T											
Without cable boot (no mention)		-											
Polarization key(6)													
Normal P1													
Other position P2-P3-P4-P5 see § polarization key		PX											
Surface treatment													
Tin plated(7)		A											
Cadmium-plated bichromate-treated		-											
Olive drab		014											

(1) Leave a blank if the connector has no accessories - (2) Cannot be fitted to long single-contact power shell - (3) Add Z to the part number for accessory orders only -

(4) Do not use with contacts $\varnothing A > 3,6$ - (5) Leave a blank for accessories only or sealing caps - (6) Consult us for availability.

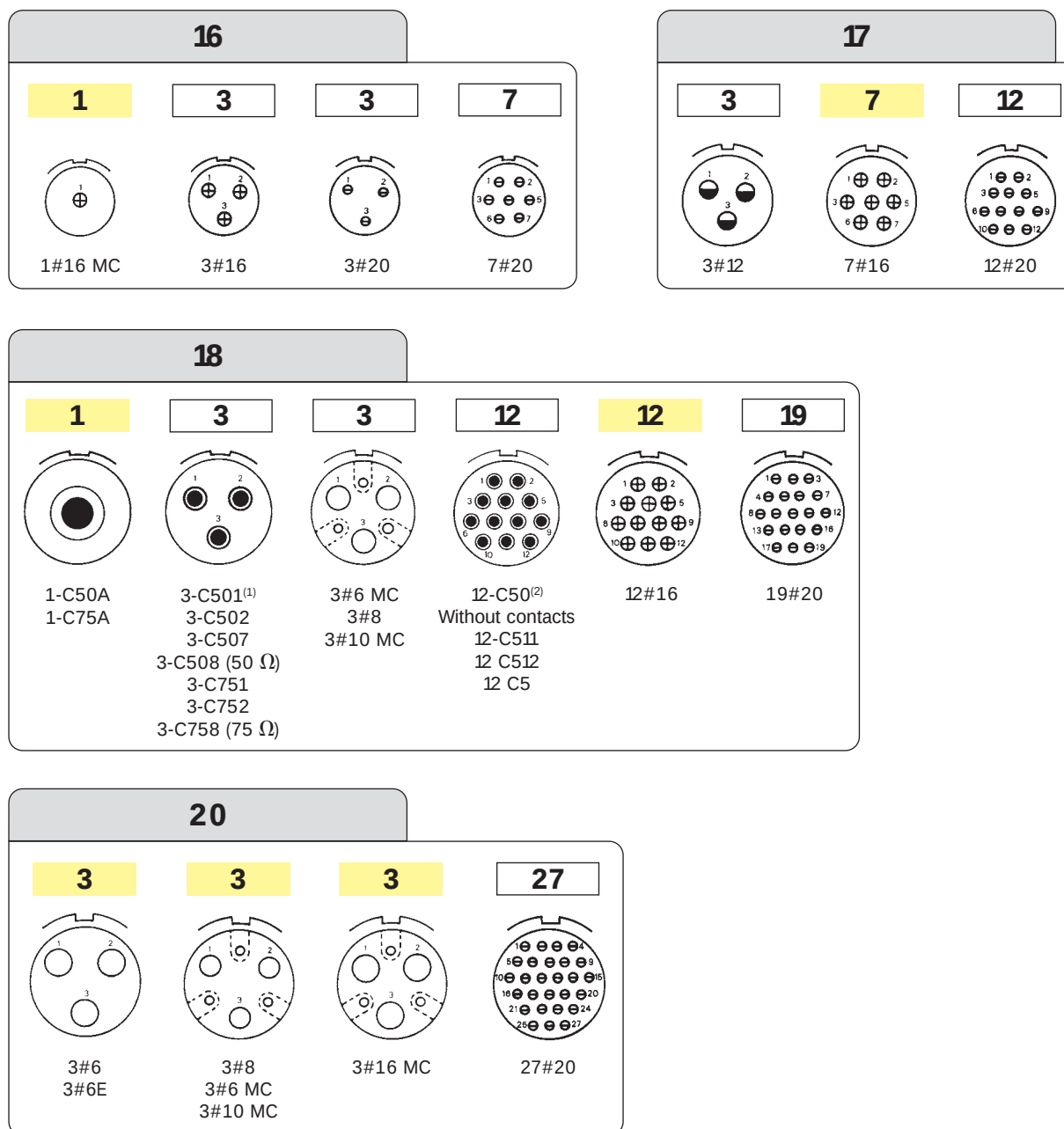
(7) New plating in compliance with ROHS legislation.

MSH/MPH series



Contact layouts (standard shell)

Viewed from male connectors mating (The main polarization key is shown in the "normal" position).



Legend

Grounding contacts
 Standard AGB/T 538
 Non standard

Note : Do not use insulators with contacts from Ø A > 3,6 in plugs fitted with an elbow backshell RL (z)

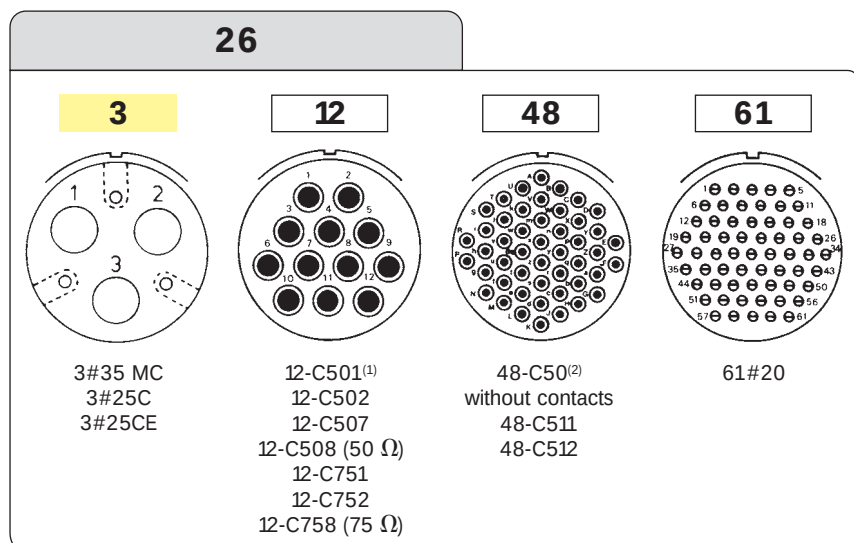
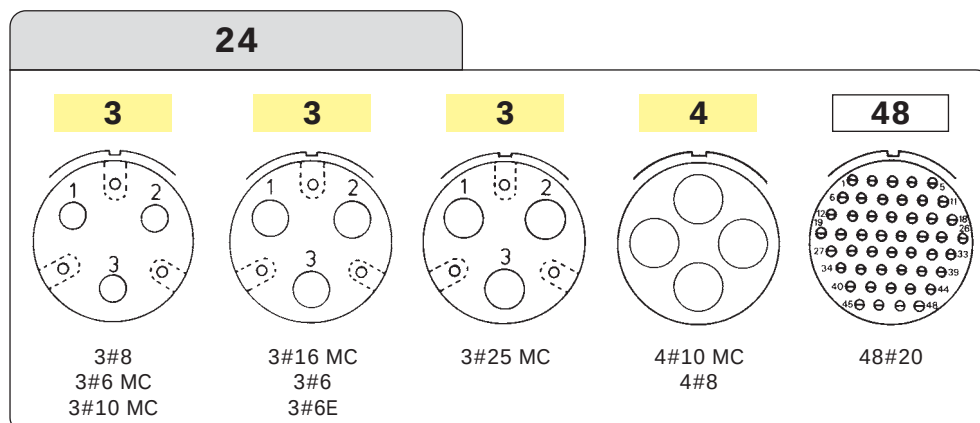
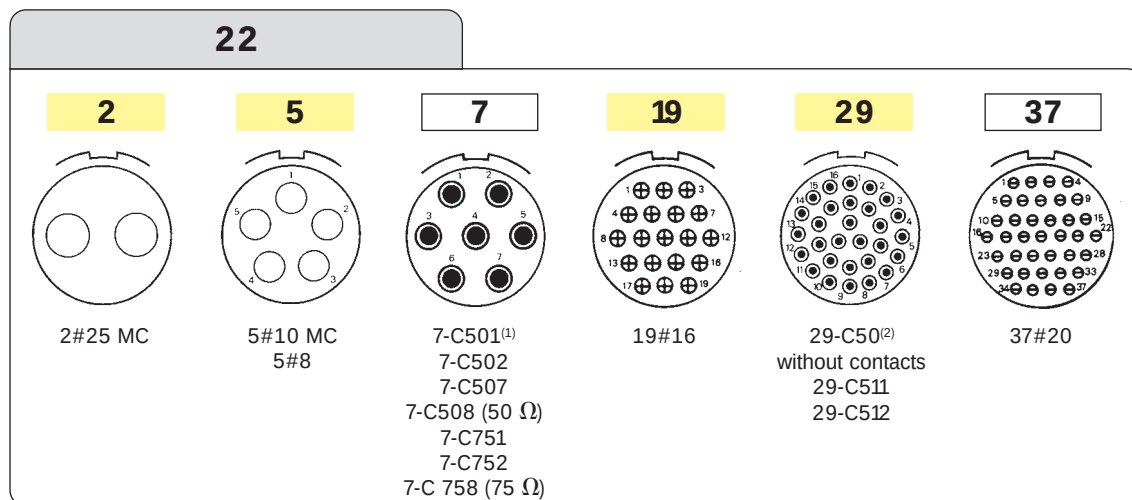
(1) See § Standard coaxial contacts - (2) See § Miniature coaxial contacts

MSH/MPH series



Contact layouts (standard shell)

Viewed from male connectors mating (The main polarization key is shown in the "normal" position).



Grounding contacts Standard AGB/T 538 Non standard

Note : Do not use insulators with contacts from Ø A > 3,6 in plugs fitted with an elbow backshell RL (z)

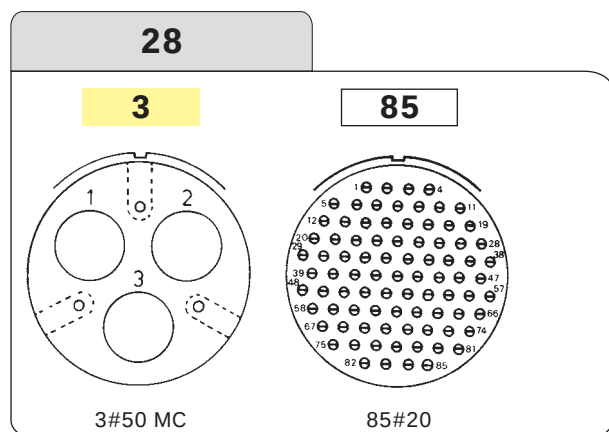
(1) See § Standard coaxial contacts - (2) See § Miniature coaxial contacts

MSH/MPH series



Contact layouts (standard shell)

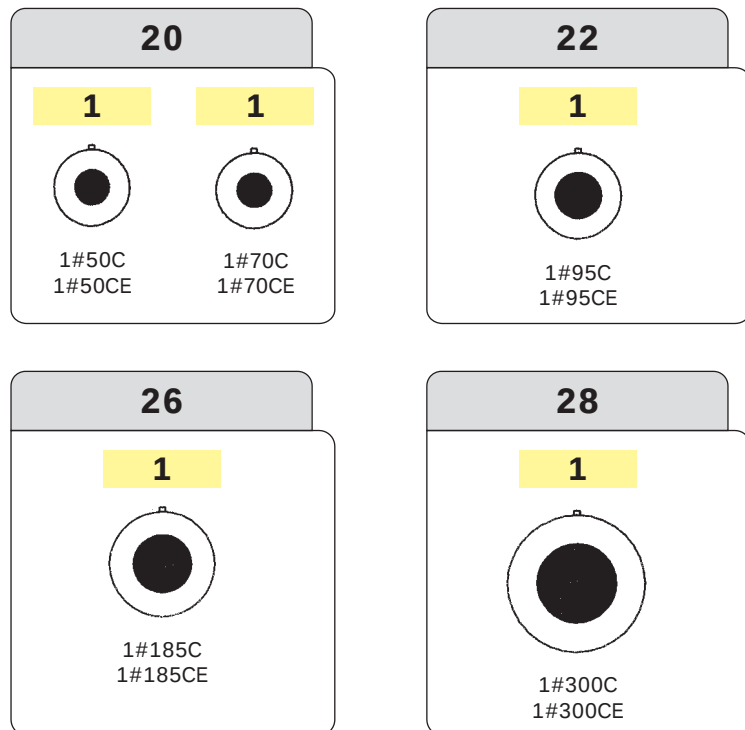
Viewed from male connectors mating (The main polarization key is shown in the "normal" position).



Grounding contacts

Note : Do not use insulators with contacts from $\varnothing A > 3,6$ in plugs fitted with an elbow backshell RL (z).

Power single contact layouts (long shell)



Note : Do not use elbow backshell RL(z) or cable-clamp SC (z) or wire-grip SF(z) with these layouts.

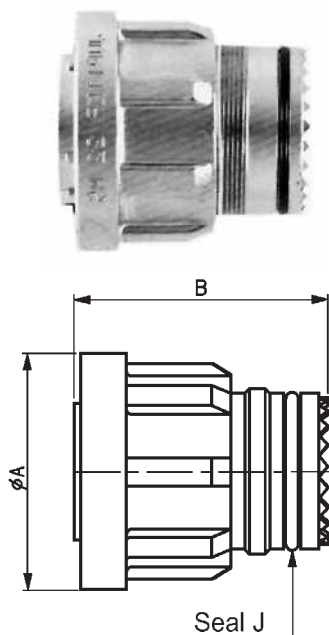
Standard AGB/T 538 Non standard

MSH/MPH series



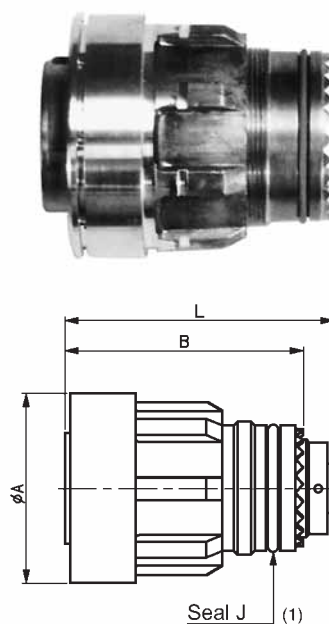
Dimensions

Standard plugs: FZ or F1



Shell size	$\varnothing A$	B	"J" seal	Internal seal (coupling)
16	35	53	$\varnothing 1,78 \times 18,77$	$\varnothing 1,78 \times 17,17$
17	39	53	$\varnothing 1,78 \times 21,95$	$\varnothing 1,78 \times 20,35$
18	43	53	$\varnothing 1,78 \times 26,70$	$\varnothing 1,78 \times 25,12$
20	48	53	$\varnothing 1,78 \times 29,87$	$\varnothing 1,78 \times 28,30$
22	52	53	$\varnothing 1,78 \times 33,05$	$\varnothing 1,78 \times 31,47$
24	56	53	$\varnothing 1,78 \times 34,65$	$\varnothing 1,78 \times 34,65$
26	59	53	$\varnothing 1,80 \times 37,40$	$\varnothing 1,80 \times 37,40$
28	74	53,5	$\varnothing 1,78 \times 50,52$	$\varnothing 1,78 \times 50,52$

Power single contact plug: F5



Size	$\varnothing A$	B	L maxi
20	48	61	70
22	52	61	72
26	59	61	74
28	74	61,5	84

(1) See standard (plug)

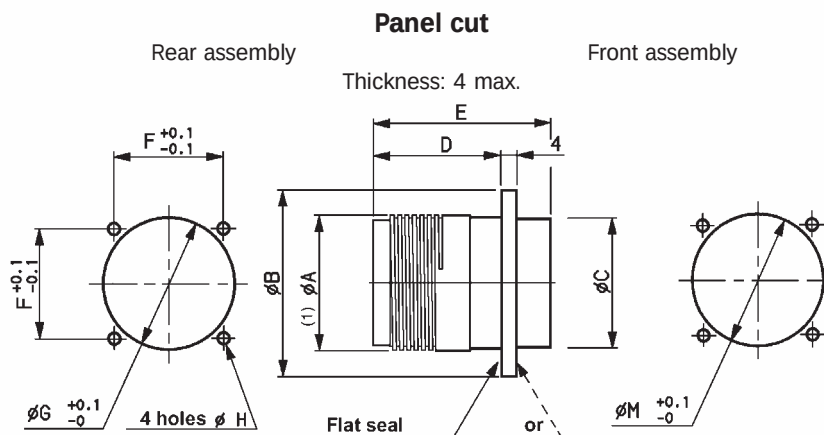
MSH/MPH series



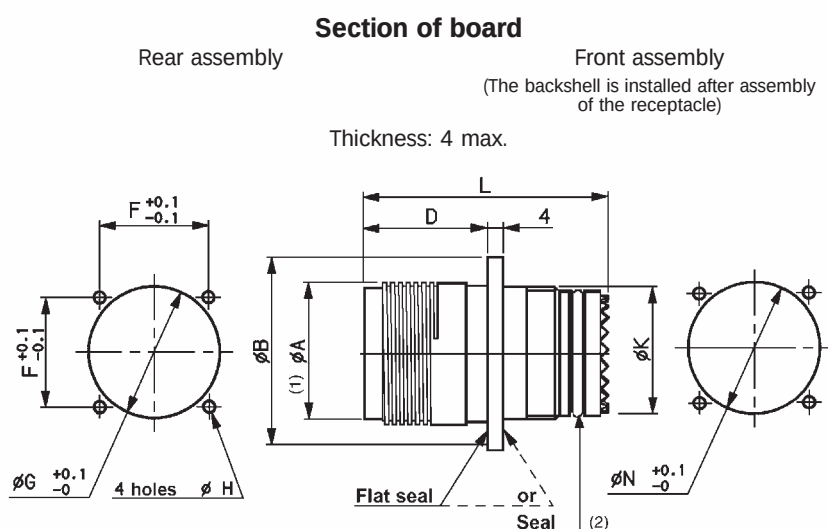
Dimensions

Standard receptacle E43 - E44

E43



E44



(1) For thread pitch values, see bulkheads table.

(2) For "J" seal dimensions, see plugs F1 and FZ table.

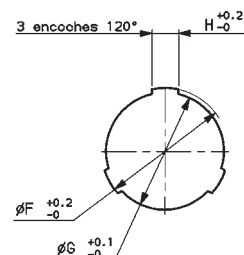
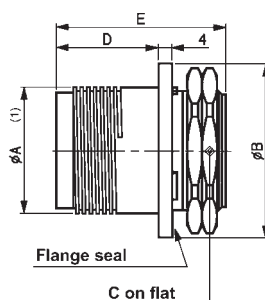
Shell Size	(1) ϕA Max	ϕB	ϕC Max	D	E	F	ϕG	ϕH	ϕK Max	L	ϕM	ϕN
16	26,1	38	25,1	33,5	46,5	22	26,2	3,2	24,3	70	25,2	24,4
17	30,1	45	30,2	33,5	46,5	27	30,2	3,2	27,8	70	30,3	27,9
18	34,4	46	33,6	33,5	46,5	28	34,5	3,2	32,3	66,5	33,7	32,4
20	37,4	49	36,4	33,5	46,5	30	37,5	3,2	35,3	70	36,5	35,4
22	41,5	53	40,6	33,5	46,5	33	41,6	3,2	38,3	70	40,7	38,4
24	44,4	56	43,5	33,5	46,5	35	44,5	3,2	41,8	70	43,6	41,9
26	47,2	59	46,3	33,5	46,5	37	47,3	3,2	44,8	70	46,4	44,9
28	62,5	78	59,8	34	50	48,5	62,6	5,2	58,3	70,5	59,9	58,4

MSH/MPH series



Dimensions

Standard receptacle E0

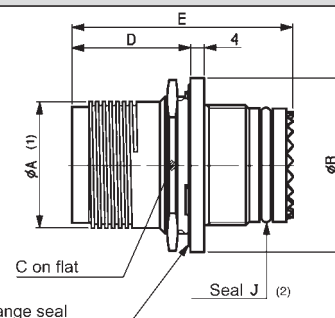
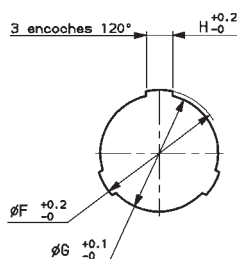
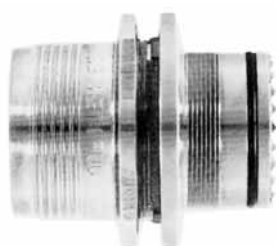


Panel thickness: 2-6 mm

(1) For thread pitch values, see bulkhead table.

Shell Size	Ø A Max	Ø B	C	D	E	Ø F +0,1 0	Ø G +0,1 0	Ø H +0,2 0	Flange seal
16	26,1	38	32	27,5	46	27	25	6	Ø 2,62 x 29,82
17	30,1	42	36	27,5	46	30	28	6	Ø 2,62 x 32,99
18	34,4	46	40	27,5	46	34	32	6	Ø 2,62 x 36,17
20	37,4	49	44	27,5	46	38	36	6	Ø 2,62 x 40,95
22	41,5	53	47	27,5	46	41	39	6	Ø 2,62 x 42,52
24	44,4	56	52	27,5	46	45	43	6	Ø 2,62 x 47,29
26	47,2	59	55	27,5	46	48	46	6	Ø 2,62 x 50,47
28	62,5	74	67	28	48,5	59	57	6	Ø 3,00 x 62,00

Standard receptacle E2



Panel thickness: 2-6 mm

(1) For thread pitch values, see bulkhead table.

(2) For "J" seal dimensions, see plug F1 and FZ table.

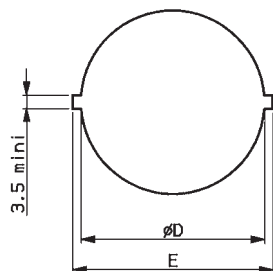
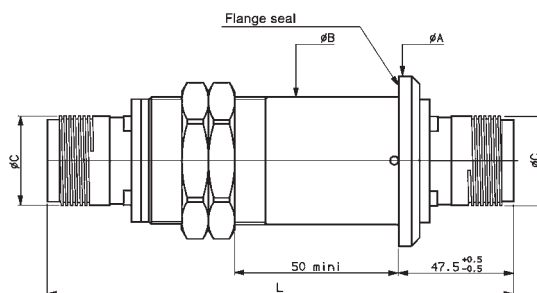
Shell Size	Ø A Max	Ø B	C	D	E	Ø F +0,1 0	Ø G +0,1 0	Ø H +0,2 0	Flange seal
16	26,1	41	36	33,5	60	30	28	6	Ø 2,62 x 32,99
17	30,1	45	40	33,5	60	34	32	6	Ø 2,62 x 36,17
18	34,4	49	44	33,5	60	38	36	6	Ø 2,62 x 40,95
20	37,4	52	47	33,5	60	41	39	6	Ø 2,62 x 42,52
22	41,5	56	52	33,5	60	45	43	6	Ø 2,62 x 47,29
24	44,4	59	55	33,5	60	48	46	6	Ø 2,62 x 50,47
26	47,2	62	58	33,5	60	52	50	6	Ø 2,62 x 53,64
28	62,5	78	73	34	60	67	65	6	Ø 2,62 x 67,95

MSH/MPH series



Dimensions

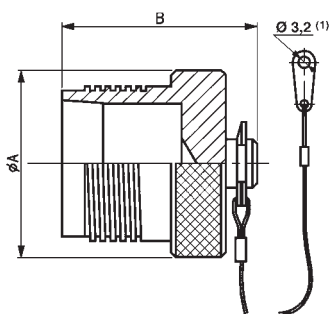
Standard bulkhead TRE



Shell Size	Ø A	Ø B	Ø C max.	Pitch P	Ø D +0,1 0	Ø E +0,2 0	Flange seal	L ⁽¹⁾
16	56	40	26,1	2	40,2	44,5	Ø 3,00 x 46,00	190-240
17	63	47	30,1	2	47,2	51,5	Ø 3,00 x 53,10	180
18	64	48	34,4	2	48,2	52,5	Ø 2,00 x 54,00	180-190-220
20	67	51	37,4	2	51,2	55,5	Ø 2,80 x 57,00	180-220
22	71	55	41,5	2	55,2	59,5	Ø 2,40 x 61,60	180
24	74	58	44,4	2	58,2	62,5	Ø 2,40 x 64,60	180
26	77	61	47,2	2	61,2	65,5	Ø 2,50 x 67,00	180
28	96	80	62,5	3	80,2	84,5	Ø 2,50 x 87,20	240

(1) Please consult us regarding references other length.

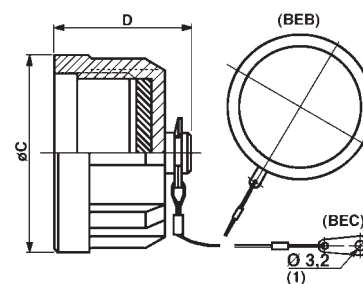
Standard sealing caps BF and BE



Ref. BF (without lanyard).
Ref. BFC (with eyelet lanyard).
Note : lanyard length : 280 mm.

Example of sealing cap part number :
BFC 18 MS.

(1) Except size 28 : Ø 5,2.



Ref. BE (without lanyard)
Ref. BEC (with eyelet lanyard)
Ref. BEB (with ring lanyard for receptacle E2)

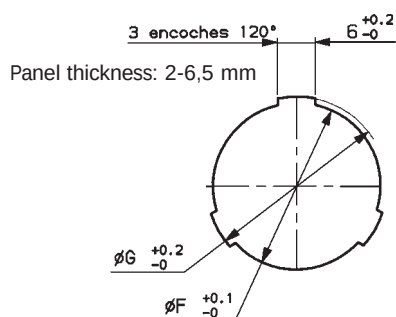
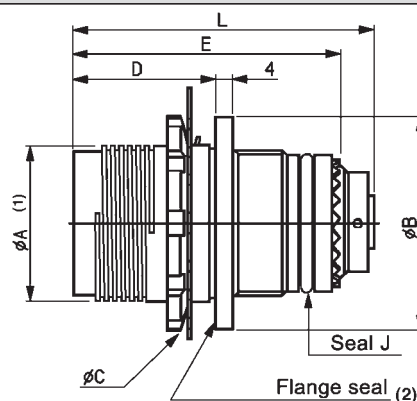
Shell size	16	17	18	20	22	24	26	28
Ø A	33	37	41	46	50	54	57	72
B	43	43	43	43	43	43	43	43
Ø C	35	39	43	48	52	56	59	74
D	36	36	36	36	36	36	36	36

MSH/MPH series



Dimensions

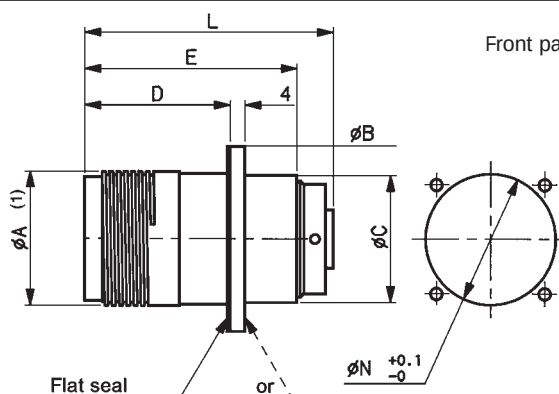
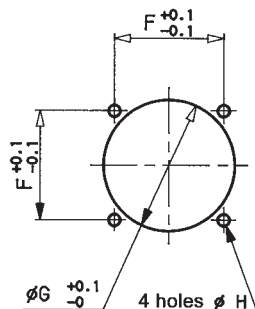
Power single contact receptacle E32



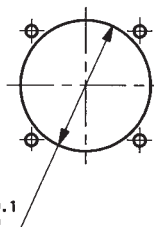
Shell size	ϕA	ϕB	ϕC	D	E	ϕF	ϕG	L Max.
20	37,5	51	53	42,5	68	39	41	73,5
22	41,5	55	57	42,5	68	43	45	76,5
26	47	62	64	42,5	68	50	52	78,5
28	62,5	77	79	43,5	68,5	65	67	88,5

Power single contact receptacle E33

Rear panel mounting.
Thickness: 4 maxi.



Front panel mounting.



Consult us for availability.

(1) For thread pitch values, see bulkhead table.

(2) For "J" seal dimensions, see table for plugs F1 and FZ.

Size	ϕA max.	ϕB	ϕC max.	D	E	F	ϕG	ϕH	L Max.	ϕN
20	37,4	49	36,4	41,5	78	30	37,5	3,2	73,5	36,5
22	41,5	53	40,6	41,5	78	33	41,6	3,2	76,5	40,7
26	47,2	59	46,3	41,5	78	37	47,3	3,2	78,5	46,4
28	62,5	78	59,8	42	78	48,5	62,6	5,2	88,5	59,9

MSH/MPH series



Dimensions

Power single contact plug sealing cap BF5

Example of part number:

BF5

18

MSH

Shell

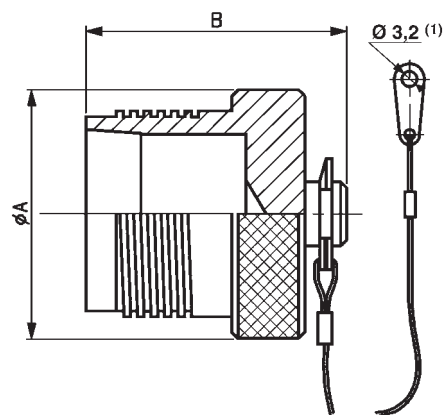
Series

Note: Single contact power receptacles use standard receptacle sealing caps.

Reference BF5 (without lanyard)

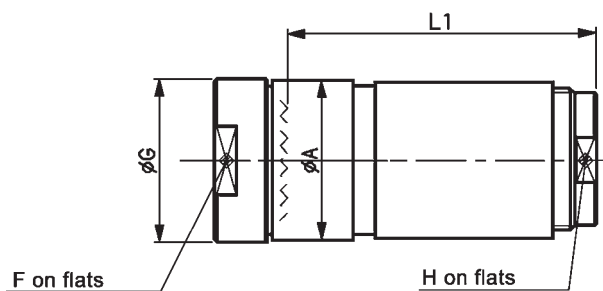
Reference BF5C (with lanyard)

(1) Except size 28 : $\varnothing$ 5,2.



Shell size	20	22	26	28
$\varnothing$ A	46	50	57	72
B	51	51	51	51

Straight watertight backshell RDZ



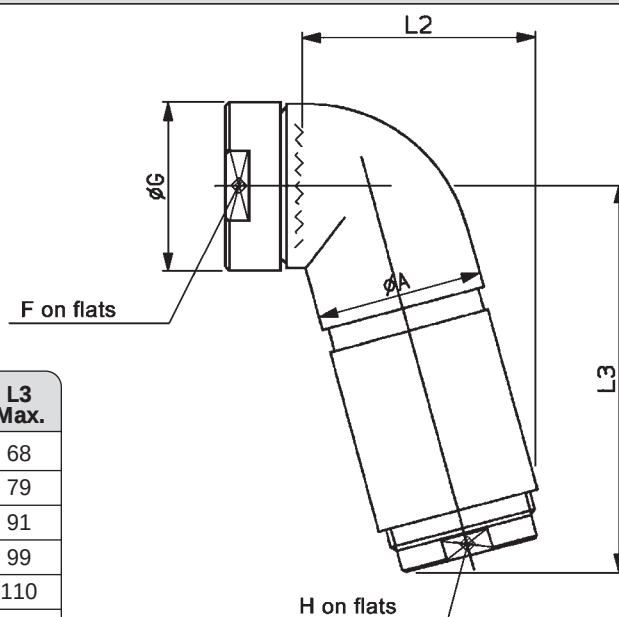
Shell size	F over flat	$\varnothing$ G	H over flat	$\varnothing$ A	L1 Max.
16	27	31	21	30	55
17	30	35	24	34	65
18	35	39	28	38	77
20	40	44	33	43	82
22	42	47	35	46	92
24	46	50	38	50	104
26	48	54	40	53	112
28	62	68	52	68	134

MSH/MPH series



Dimensions

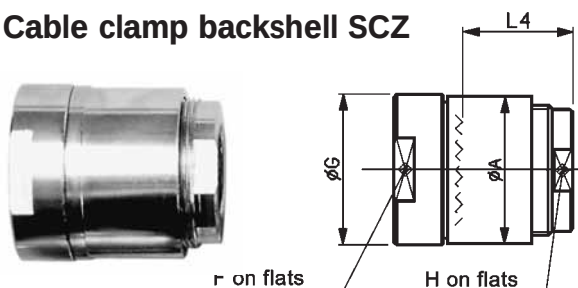
Elbow watertight backshell RLZ



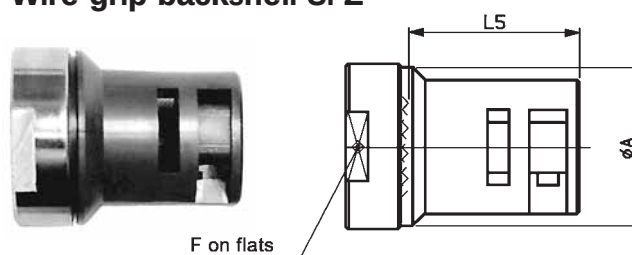
Shell size	F over flat	Ø G	H over flat	Ø A	L2 Max.	L3 Max.
16	27	31	21	30	36	68
17	30	35	24	34	42	79
18	35	39	28	38	50	91
20	40	44	33	43	59	99
22	42	47	35	46	64	110
24	46	50	38	50	73	122
26	48	54	40	53	77	130
28	62	68	52	68	96	157

Backshells

Cable clamp backshell SCZ

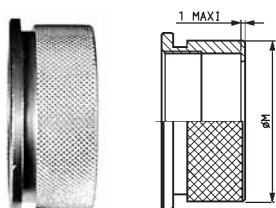


Wire grip backshell SFZ



Thread mask connection RZT

(Please consult us regarding supply of thermoretractable sleeve).



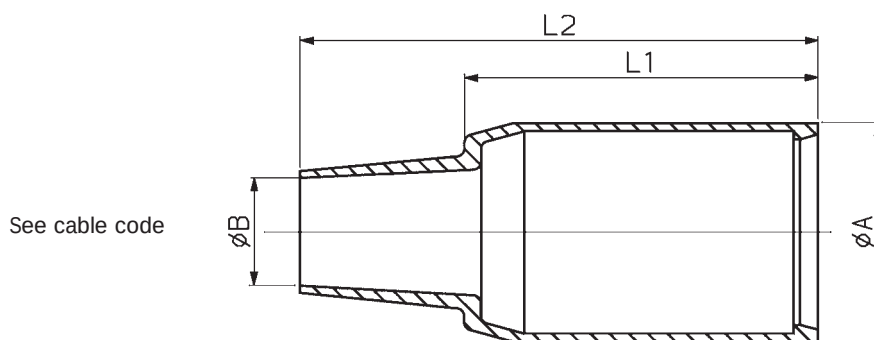
Shell size	L4 Max.	L5 Max.	Ø M
16	26	35	28
17	31	37	32,5
18	31	38	36
20	31	39	41
22	31	40	43
24	39	33	47
26	39	40	50
28	58	36	64

MSH/MPH series



Spare parts

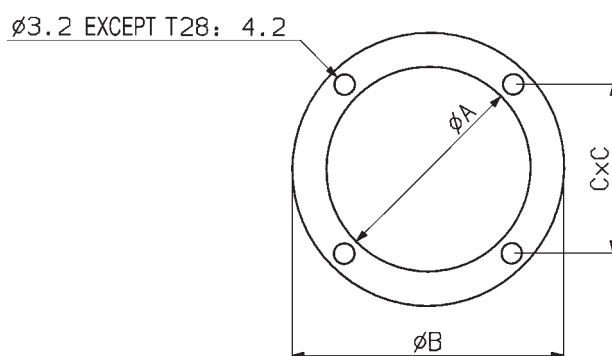
Cable boot T



Example of part number:	T	18	MSH	A1
Cable boot				
Shell size				
Series see & part number				
Cable code (A to E1) see & cable code				

Shell size	16	17	18	20	22	24	26	28
Ø A	30	34	38	43	46	50	53	68
Ø B min.	7	10	11	15	17	20	22	27
Ø B max.	16	19	22	27	29	32	34	42
L1	48	57	65	69	76	83	89	99
L2	90	105	120	126	140	150	160	180

Receptacle gasket



Example of part number:	RE	18	MSH	2
Receptacle part				
Shell size				
Series see & part number				
Gasket order number				

Shell size	16	17	18	20	22	24	26	28
Ø A	25	30	33,5	36	40,5	43,5	46	60
Ø B	37,8	45	46	49	53	56	59	78
C	22	27	28	30	33	35	37	48

MSH/MPH series



Tools

Installation of contacts 12, 16 and 20



Contact type	Crimping tool	Turret	Installation and removal		Removal tool	
			Standardized plastic	Metal	Female	Male
20	BUCHANAN M 22520/1-01	M22520/MS JUPITER	MS 27534-20	OUT MB DB 20	OUT DB 16/20 K	OUT DB 16/20 M
16			MS 27534-16	OUT MB DB 16		
12			MS 27534-12	OUT MB DB 12		

Installation of power contacts (multi)



Contact type	Crimping tool	Positioner or dies	Locking wrench	
			Male	Female
M K 8 MS	BUCHANAN TGV 300	Positionneur JAT T810 G	OUT DBV M 10 MC	OUT DBV K 10 MC
M K 6 MS	MACATRACTION TR 461 N	MECATRACTION ELS 460	OUT DBVM 16 MC	OUT DBV K 16 MC
M K 6 EMS				
M K MS 6 MC	Soldering type		OUT DBVM 6 MC	OUT DBV K 6 MC
M K MS 10 MC			OUT DBVM 10 MC	OUT DBV K 10 MC
M K MS 16 MC			OUT DBVM 16 MC	OUT DBV K 16 MC
M K MS 25 MC			OUT DBVM 25 MC	OUT DBV K 25 MC
M K MS 35 MC			OUT DBVM 35 MC	OUT DBV K 35 MC
M K MS 50 MC	MECATRACTION TR 461 N	MECATRACTION TN 50-460	OUT DBVM 50 MC	OUT DBV K50 MC
M K 25 C-MS		MECATRACTION TN 25-460	OUT DBVM 35 MC	OUT DBV K 35 MC
M K 25 CE-MS		MECATRACTION TN 35-460	OUT DBVM 35 MC	OUT DBV K 35 MC

MSH/MPH series



Tools

Installation of single power contacts



Contact type	Nominal section	Crimping tool	Dies	Pin wrench
M K 50 C MS	50 mm ²	MECATRACTION TR 1461	TN 50-460 MECATRACTION	DIN 1810 B 25-28
M K 50 CEMS	60 mm ²		TN 60-460 MECATRACTION	
M K 70 C MS	70 mm ²		TN 70-460 MECATRACTION	
M K 70 CEMS	95 mm ²		TN 95-20	DIN 1810 B 30-32
M K 95 C MS	95 mm ²		TN 95-20	
M K 95 CEMS	120 mm ²		TN 120-20	DIN 1810 B 34-36
M K 185 C MS	185 mm ²		TN 185-20	
M K 185 CEMS	240 mm ²		TN 240-20	DIN 1810 B 45-50
M K 300 C MS	300 mm ²	Pump + jack Mécattraction V20	TN 300-20	
M K 300 CEMS	300 mm ²		TN 300-20	

Installation of screw coaxial contacts



Contact type	Crimping tool	Dies	Locking wrench
CM 50A MSH	BUCHANAN M 22520 / 5-01 or M 22910 / 7-01	BUCHANAN M 22520 / 5-21 or M 22910 / 7-24	JUPITER OUT DBCX MSH
CK 50A MSH			
CM 75A MSH			
CK 75A MSH			

MSH/MPH series



Tools

Installation of standard coaxial contacts



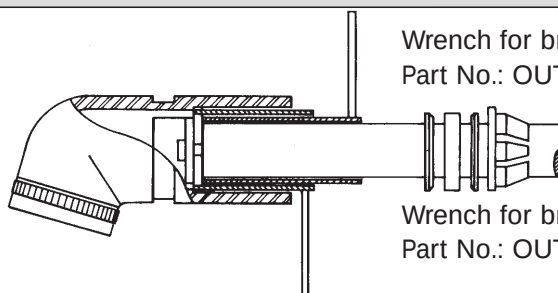
Contact type	Crimping tool	Dies	Removal
CM 50 * MS	BUCHANAN M 22520 / 5-01	BUCHANAN M 22520 / 5-45B	JUPITER OUT DBCX MSH
CK 50 * MS		or	
CM 75 * MS	or M 22910 / 7-01	or	
CK 75 * MS		M 22910 / 7-18	

Installation of miniature coaxial contacts



Contact type	Central contact	External contact	Removal
CM 511 MS CM 512 MS	Pince BUCHANAN M 22520 / 2-01	Pince BUCHANAN M 22520 / 4-01	JUPITER OUT DBMNCX
CK 511 MS CK 512 MS	+ Positioner M 22520 / 2-04	+ Positioner M 22520 / 4-02	
CM 521 MS CK 521 MS	Please consult us		

Clamping of braid grip



Wrench for braid grip bush.
Part No.: OUT-XX MS 17⁽¹⁾

Wrench for braid grip stop.
Part No.: OUT-XX MS 19⁽¹⁾

(1) XX = Connector size

MSH/MPH series



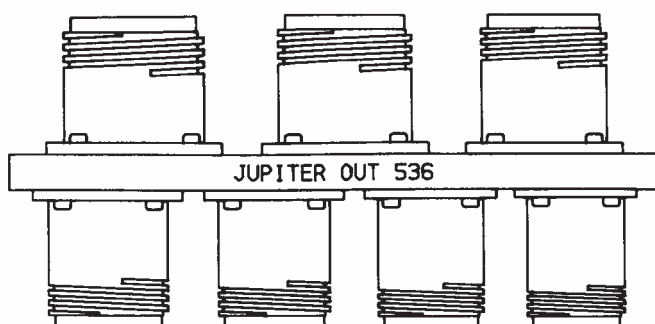
Tools

Tightening of plug locking nut

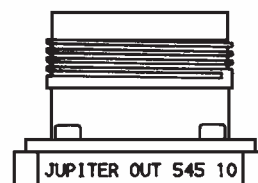
Manual tightening Part No. 771.20.42
Tightening using torque wrench Part No. OUT 522/20.42
(FACOM R305D or J305D).



Tightening support receptacle

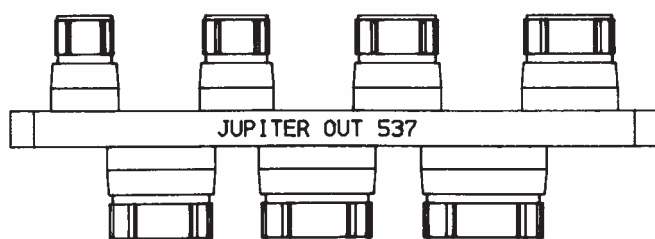


Size 16 to 26 - Réf.: OUT 536

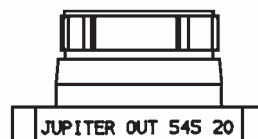


Size 28 - Réf.: OUT 545-10

Tightening support plug



Réf.: OUT 537



Réf.: OUT 545-20

Tightening torques (mN)

Shell size	16	17	18	20	22	24	26	28
Plug locking device coupling	10	13	16	18	18	20	22	25
Receptacle and bulkhead nuts	14	16	18	20	20	22	24	30

MSH/MPH series



Wiring instructions gage 12, 16 and 20 contact connectors

- Use the crimping tool and positioner specified.
Adjust the positioner to the wire gage.
- Strip the wire to 7 mm.
- Insert the stripped end of the wire, placing the insulator against the rear of the contact. Check that the conductor is visible through the contact sight hole.
- Fully open the crimping tool.
- Insert the contact and the wire into the crimping tool.
- Fully close the crimping tool, and allow it to open.
- Check that the contact is correctly crimped. The wire must be visible through the contact sight hole, and the wire insulator must be up against the rear of the contact.

For crimping of coaxial contacts, depending on the cables used, see the technical instructions supplied with each delivery of MS coaxial connectors.

Stripping

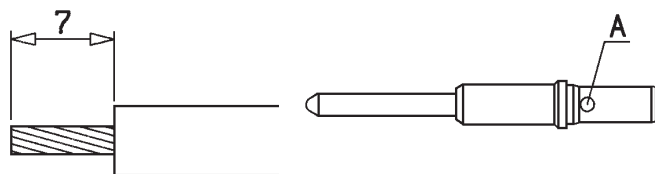


Fig. 1

A = "Sight hole" for checking the presence of the conductor before and after crimping.

Installing and removing crimped contacts

- The use of plastic tools is recommended.
- The use of mechanical tools requires special care to avoid.

Plastic tools

Installation:

- Insert the wire into the channel on the plastic tool.
- Slide the tool along the wire to the stop on the contact shoulder. Keep the wire taut so that the tool remains against the contact.
- Insert the contact into the housing from the rear of the connector, and push the tool in as far as it will go, until the contact locks.
- Remove the tool.
- Pull gently on the wire to check that the contact is firmly attached.

Removal:

- Insert the wire into the channel on the plastic tool.
- Slide the tool along the wire so that it enters the connector insulator and comes to a stop against the rear contact shoulder.
- Remove the tool and the contact at the same time.
- If there is any resistance before freeing the contact, move the tool backwards, without removing it altogether, turn it slightly, and put it back in.

Metal contacts

Installation

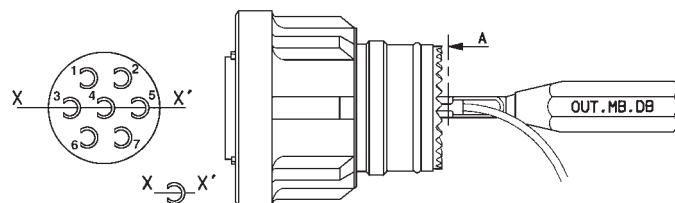


Fig. 2

Insert the contacts into the insulator from the rear by pushing them in using tool OUT-MB-DB, with the part number corresponding to the gage of the contact used (fig. 5). This tool must be aligned such that its XX axis is parallel with the marking on the insulator (fig. 2). It is recommended that the assembly tool be lubricated before each use.

- If slight resistance encountered, do not force the tool, but check that it is perpendicular to the plane of the insulator.
- **Never turn the tool in the insulator.**

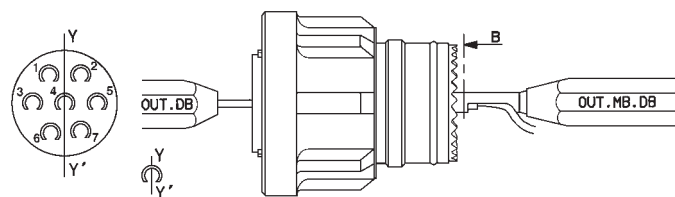


Fig. 3

Insert the tool OUT.MB.DB appropriate to the contact gage from the rear, aligned such that its YY axis is perpendicular to the marking on the insulator (fig. 5), in order to free the contact. Once this tool is in place, with its opening always pointing down in relation to the number, push the contact out using the corresponding OUT.DB tool.

Note : the same care should be taken as with installation of contacts.

Cable stripping

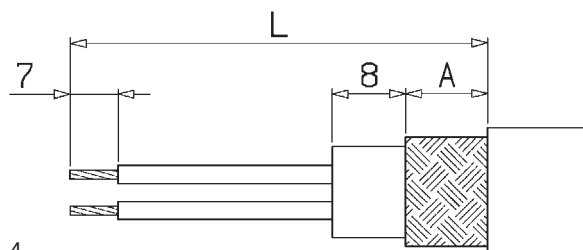


Fig. 4

Shell size	16	17	18	20	22	24	26	28
a	10	10	10	10	10	10	13	15
Straight backshell L	56	61	71	76	84	89	96	96
Elbow backshell L	79	94	109	119	134	144	154	169

MSH/MPH series



Assembly

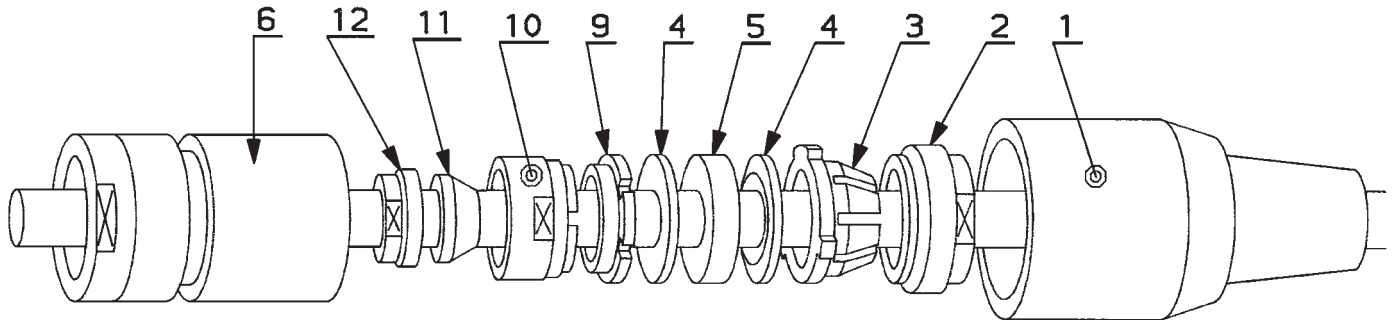


Fig. 5

Thread the following onto the wire, in the order shown in fig.2:

- the cable boot (1)
- the locking screw (2)
- the crimping tool (3)
- the support washer (4)
- the sealing washer (5)
- the front support washer (4)
- the slotted nut (9)
- the grip bush (10)

Strip the cable in accordance with the table above and fig.4.

Move the braid aside, and slide the cone (11) under the braid.
Bring the grip bush (10) up to the cone (11) and firmly tighten the screw (12) into the grip bush (10).

Crimp the contacts to the end of the conductor wires. Before each crimping (or each soldering in the case of soldering contacts), check that the conductor wire is clearly visible in the sight hole (Fig. 1).

Insert the cable into the connector, having taken care to bundle the contacts using adhesive tape or another suitable system.

- Insert the contacts in accordance with the procedure described above.
- Move the connector forward, and tighten the nut, checking that the toothing is functioning correctly (position elbow connectors according to direction; nuttorque following table here after).

It is advisable to fit the plug to a dummy receptacle for all screw and nut tightening operations.

Connecting nut torque

Shell size	16	17	18	20	22	24	26	28
Torque (mN)	10	13	16	20	22	25	28	30

MSH/MPH series



Recommended connectors for Marine halogen free cables

"Marine" standards	Number of pairs	Core		Ø (mm) over :			Connector size	Layout	Cable code
		Ø approx.	Section (mm²)	Leaktight sheath	Armor	External sheath			
(1)	3	0,75	0,34	10,5	12,5	14,5	16	7 x 20	A1
	7	0,75	0,34	14,1	16,1	18,5	18	19 x 20	B
	13	0,75	0,34	19	20,8	24	20	27 x 20	A1
	18	0,75	0,34	22	24	27	22	37 x 20	A1
	28	0,75	0,34	26,6	28,6	32	26	61 x 20	A1
	1	1,07	0,75	6,3	8,6	10,5	16	3 x 20	C
	3	1,07	0,75	11,2	13	15,2	16	7 x 20	A
	7	1,07	0,75	15,3	17,1	20,3	18	19 x 20	A1
	13	1,07	0,75	20,7	22,5	25,7	22	37 x 20	B
	18	1,07	0,75	24,3	26,1	29,7	24	48 x 20	A1
	28	1,07	0,75	29,5	31,3	34,9	28	85 x 20	C
In these connectors, all shielding is linked to a single pin.									
(1)	3	0,75	0,34	10,5	12,5	14,5	17	12 x 20	B1
	7	0,75	0,34	14,1	16,1	18,5	20	27 x 20	C1
	13	0,75	0,34	19	20,8	24	24	48 x 20	C1
	18	0,75	0,34	22	24	27	26	61 x 20	C
	28	0,75	0,34	26,6	28,6	32	28	85 x 20	D
	1	1,07	0,75	6,3	8,6	10,5	16	3 x 20	C
	3	1,07	0,75	11,2	13	15,2	17	12 x 20	B
	7	1,07	0,75	15,3	17,1	20,3	20	27 x 20	C
	13	1,07	0,75	20,7	22,5	25,7	24	48 x 20	C
	18	1,07	0,75	24,3	26,1	29,7	26	61 x 20	B
	28	1,07	0,75	29,5	31,3	34,9	28	85 x 20	C
In these connectors, each shielding is linked to a different pin.									
(2)	3	0,75	0,34	8,5	10,5	12,5	16	7 x 20	B
	7	0,75	0,34	11	13	15	18	19 x 20	C
	13	0,75	0,34	15,1	17,1	19,5	20	27 x 20	C
	18	0,75	0,34	17	19	22,5	22	37 x 20	C
	28	0,75	0,34	21	23	26	26	61 x 20	C1
	3	1,07	0,75	9,5	11,1	14	16	7 x 20	A1
	7	1,07	0,75	12,6	14,2	17,5	18	19 x 20	B1
	13	1,07	0,75	16,9	18,5	22,5	20	27 x 20	B1
	18	1,07	0,75	19,4	21	24,5	22	37 x 20	B
	28	1,07	0,75	23,4	25	29,5	26	61 x 20	B1

(1) 6145DJ - Multipair cables (armored, shielded pairs) 250 MZH.

(2) 6145DJ - Multipair cables (armored, non-shielded pairs) 250 MZH.

MSH/MPH series



Recommended connectors for Marine halogen free cables

"Marine" standards	Number of pairs	Core		Ø (mm) over :			Connector size	Layout	Cable code
		Ø approx.	Section (mm²)	Leaktight sheath	Armor	External sheath			
(3)	3	0,75	0,34	6,2	8,2	10,2	16	3 x 20	C
	7	0,75	0,34	7,8	9,8	11,8	16	7 x 20	B1
	12	0,75	0,34	9,5	11,6	14	17	12 x 20	B1
	19	0,75	0,34	10,9	12,7	15,3	18	19 x 20	C1
	27	0,75	0,34	13	14,8	18	20	27 x 20	
	37	0,75	0,34	15	17	20	22	37 x 20	
	48	0,75	0,34	16,5	18,5	21,5	24	48 x 20	D
	61	0,75	0,34	18,5	20,5	23,5	26	61 x 20	D
	3	1,07	0,75	6,9	8,7	10,9	16	3 x 20	B
	5	1,07	0,75	8,1	10,1	12,3	16	5 x 20	A1
	7	1,07	0,75	8,5	10,3	12,9	16	7 x 20	A1
	12	1,07	0,75	11,1	12,9	15,5	17	12 x 20	A1
	19	1,07	0,75	12,8	14,6	17,8	18	19 x 20	A1
	27	1,07	0,75	15,4	17,2	20,4	20	27 x 20	B
	37	1,07	0,75	17	18,8	22	22	37 x 20	B1
	48	1,07	0,75	18,9	20,7	23,9	24	48 x 20	B1
	61	1,07	0,75	20,7	22,5	25,7	25	61 x 20	B1
(4)	3	0,75	0,34	5,2	7,2	9,2	16	3 x 20	C1
	7	0,75	0,34	6,8	8,8	10,8	16	7 x 20	C
	12	0,75	0,34	8,6	10,6	13	17	12 x 20	C
	19	0,75	0,34	10,1	11,9	14,5	18	19 x 20	C1
	27	0,75	0,34	12,5	14,5	17,5	20	27 x 20	D
	37	0,75	0,34	14	16	19	22	37 x 20	D
	48	0,75	0,34	15,5	17,5	20,5	24	48 x 20	D1
	61	0,75	0,34	17,5	19,5	22,5	26	61 x 20	D1
	3	1,07	0,75	6,1	7,9	10,1	16	3 x 20	B1
	5	1,07	0,75	7,5	9,3	11,5	16	5 x 20	B
	7	1,07	0,75	7,7	9,5	12,1	16	7 x 20	A1
	12	1,07	0,75	10,3	12,1	14,7	17	12 x 20	A1
	19	1,07	0,75	12	13,8	17	18	19 x 20	B
	27	1,07	0,75	14,6	16,4	19,6	20	27 x 20	B1
	37	1,07	0,75	16,2	18	21,2	22	37 x 20	B1
	48	1,07	0,75	18,1	19,9	23,1	24	48 x 20	C
	61	1,07	0,75	19,9	21,7	24,9	25	61 x 20	C
(5)	3	1,07	0,75	-	-	8,5	16	3 x 20	D
	7	1,07	0,75	-	-	10	16	7 x 20	C
	12	1,07	0,75	-	-	12,5	17	12 x 20	C1
(6)	3	1,5	1,4	9,2	11,2	13,6	16	3 x 16	A1
	3	2	2,5	10,3	12,3	14,7	17	3 x 12	B1
	3	2,5	4	11,4	13,4	15,8	17	3 x 12	B
	3	3,1	5,9	13,7	15,7	18,1	20	3 x 6 MC	C1
	3	4,3	10,2	17,6	19,6	22,6	20	3 x 10 MC	B
	3	5,2	16,1	19,7	21,7	24,7	20	3 x 16 MC	A1
	3	6,7	27,2	23	25	28	24	3 x 25 MC	B
	3	7,7	34,9	23,3	25,3	28,3	26	3 x 35 MC	B1
	3	9,4	49,6	27,5	29,5	32,5	28	3 x 50 MC	D
	3	10,7	68	31,8	33,8	37,2	28	3 x 50 MC	B1
(7)	1	5,2	16,1	10,2	12,2	14,6	16	1-6E	A
	1	9,4	49,6	15	17	20	20	1-50C	C
	1	10,7	68	16,7	18,7	21,7	20	1-70C	B1
	1	12,5	92	19	21	24	22	1-95C	B1
	1	14,4	122	21,4	23,4	26,4	22	1-95CE	A1
	1	17,6	183	25,4	27,4	30,4	26	1-185C	B
	1	23,2	316	31,3	33,3	36,7	28	1-300C	B1

(3) 6145DJ - Multiconductor cables (armored, shielded) - (4) 6145DJ - Multiconductor cables (armored, non-shielded) - (5) 6145DJ - Multiconductor cables (non-armored, non-shielded) - (6) 6145DK - 3-conductor cables (armored) - (7) 6145DK - 1-conductor cable (armored)

MSH/MPH series



Dimensions

Recommended connectors for marine coaxial cables

MN 6145 CA : Normal coaxial and multicoaxial cables

Number	Impedance Ω	Coaxial			Cable Ø			Series size	Layout	Cable code
		Ø of central conductor (mm)	Ø over insulation (mm)	Ø over ext. sheath (mm)	Over leaktight sheath (mm)	Over armor (mm)	over ext. sheath (mm)			
3	50	0,9	2,95	5,2	15,9	17,5	20,5	18	3 x C 50	A
7	50	0,9	2,95	5,2	20,4	22	25	22	7 x C 50	B
12	50	0,9	2,95	5,2	25,9	27,5	30,5	26	12 x C 50	B
3	75	0,6	3,7	6,1	18,4	20	23	22	7 x C 75	A0
7	75	0,6	3,7	6,1	23,4	25	28	22	7 x C 75	A
7	50	0,48	1,5	3	13,4	15	18	22	7 x C 50	D1
12	50	0,48	1,5	3	16,9	18,5	21,5	26	12 x C 50	D 1

Specific connectors and accessories

The following products were manufactured by our design offices to meet the specific requirements of some connector users. Please consult us for further details.

- Minibus series - volume CAT 380 A650
- Impedance adapter caps - volume CAT 380 A550
- Bus series - volume CAT 380 A600
- Modules for passive shunts - volume CAT 380 A500

Option	Use	Specification
MSO	Aluminium connector for fibre-optic cable	593-TQL/TR of STCAN
MPO	Bronze connector for fibre-optic cable	593-TQL/TR of STCAN
MPF	Bronze connector for fire-resistant flexible or rigid cable (AGB/T/200°)	MAT 684 - 0004
Double water-tightness elbows	Aluminium shell, halogen free Bronze shell, halogen free	MAT 684 - 0005

Please note that we are also able to carry out other specific studies - consult us for détails.

MSH/MPH series



Product offering

Souriau's global offer includes 5 product lines to meet marine / oceanography markets requirements and very severe industry environments.

Subsea and marine conditions

3 basic families of products for deep immersion and shallow water applications.



M
nickel aluminium bronze
> 2.000 m
(2850 PSI)



TP
brass
300 m
(425 PSI)



U
stainless steel
300 m
(425 PSI)

Saline and hostile weather conditions

2 basic families of products for surface and wet applications.



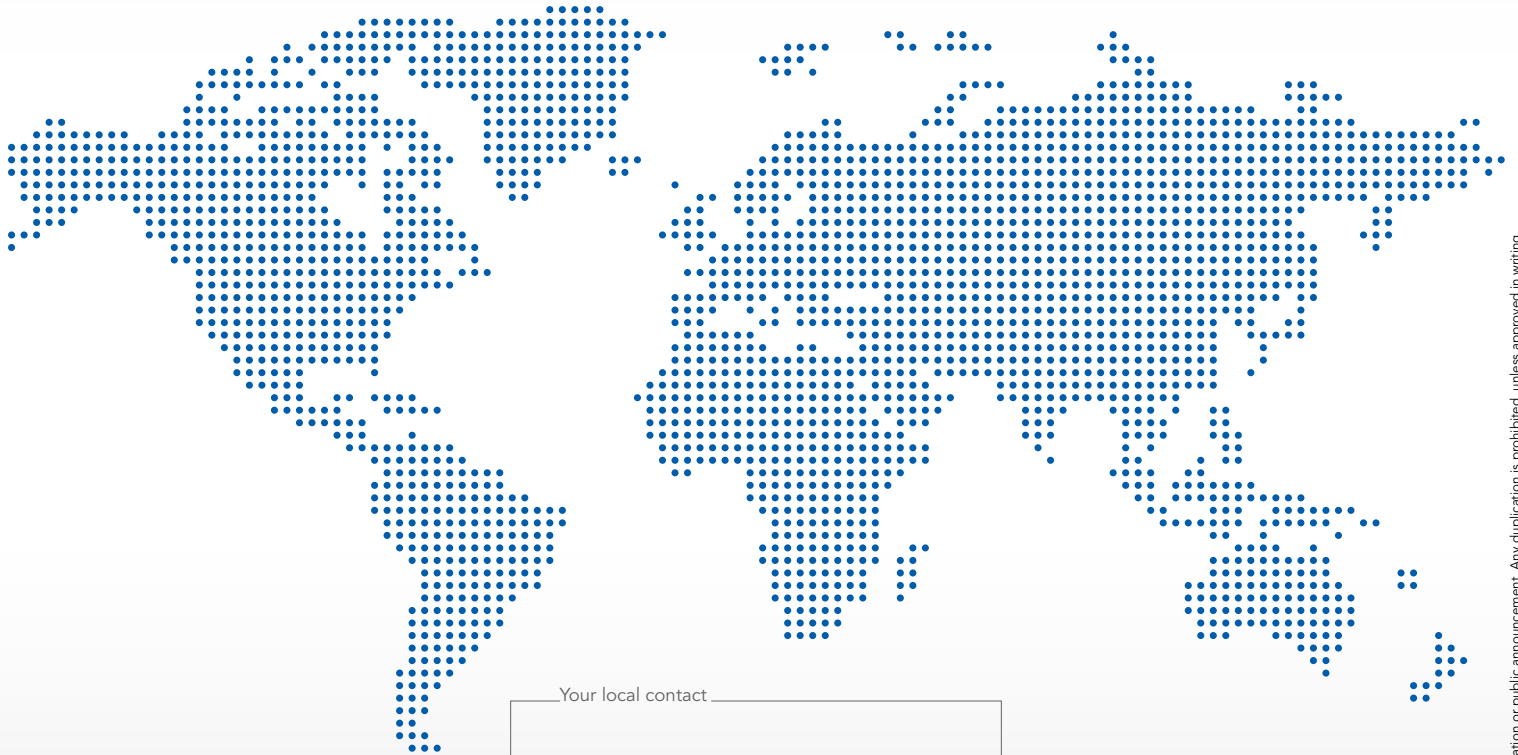
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nickel aluminium bronze
4 m (6 PSI)



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