

# **CEEP** ALFA<sup>1</sup>R CONNECTORS

Series 92





## Heavy Duty

Our Alfa'r Series 92 circular connectors are constructed with a robust metal housing and a range of plating options. With over 40 different planforms available in a variety of formats we have a solution to meet most needs.

## Waterproof









Rated to IP68 when mated. Accustomed to harsh industrial use and saline environments. These connectors have been serving the Marine industry as an example for over 40 years.

## Reliable

Outstanding functionality. A tried and tested interconnect solution proven to last the test of time. Designed for multiple mating cycles and regular use.

## Technical Data:

Mechanical attributes:	
<b>Shell</b>	Aluminium Alloy
<b>Plating</b>	Nickel (0) Conductive Black (2) Non-Conductive/Non-Corrosive Nickel Zinc (4) Conductive/Non-Corrosive
<b>Insulator</b>	Thermostable, Silicone, Thermoplastic, PPS
<b>Contacts</b>	Copper Alloy & Gold on Nickel
<b>Waterproof</b>	IP68 Conforming to IEC 529 / EN60529:1991 (from factory & mated)

Electrical data:								
Contact Type	Solder				Crimp			
<b>Symbol</b>								
<b>Ø Male Contact</b>	1	1.5	3	5	1	1.5	3	5.75
<b>Working Current</b>	7.5	10	25	50	7.5	10	25	80
<b>Max Wire Section (mm<sup>2</sup>)</b>	0.75	1.75	5.1	13	0.75	2.5	4	16
<b>Contact Resistance (mΩ)</b>	≤5				≤5			

Environmental elements:								
Insulator Material	Thermoset		Thermoplastic		Neoprene		PPS	
	Min	Max	Min	Max	Min	Max	Min	Max
<b>Operating Temperature</b>	-40°C	85°C	-25°C	90°C	-55°C	125°C	-53°C	220°C
<b>Standard Cable Gland</b>	Maximum Temperature			85°C *				

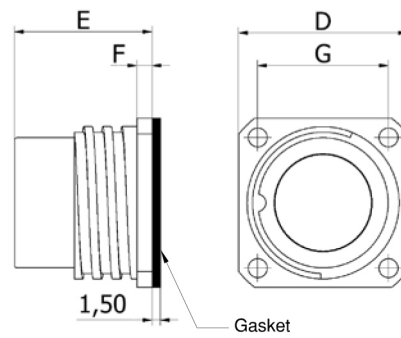
\*Higher temperatures available on request

Shell protection (conforming to ASTM B 117-73):		
<b>Resistance to Saline Atmosphere</b>	600 hours	Only with plating codes 2 and 4

9 2 S

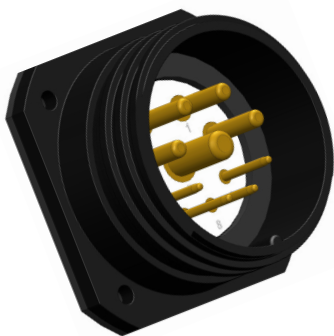


Female Receptacle

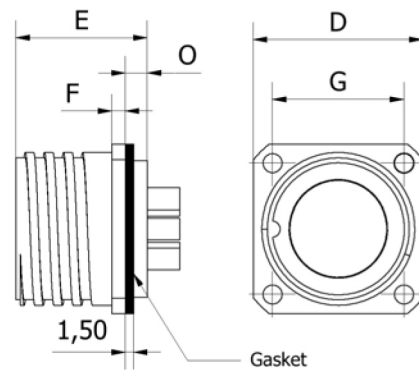


	D	E	F	G
T-10	25	24.5	2.5	19
T-20	31	25	2.5	24
T-30	46	25.2	2.7	34
T-40	56	25.2	2.7	41

9 2 P



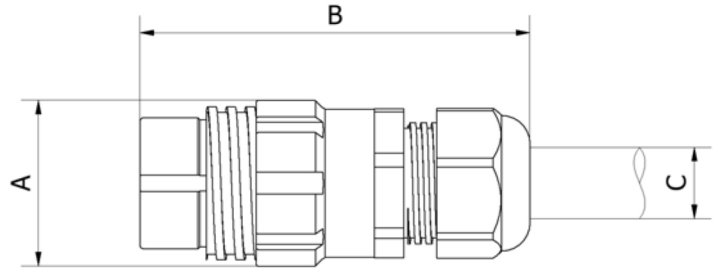
Male Receptacle



	D	E	F	G	O
T-10	25	22	2.5	19	5
T-20	31	24	2.5	24	4
T-30	46	24	2.7	34	3.9
T-40	56	24	2.7	41	3.9

9 1 S

Female Extender

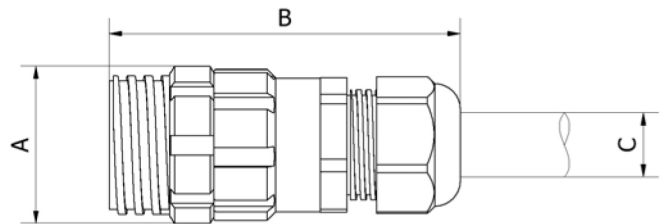


	A	B (mm)		Size	ØC		Cable Clamp Ref
		Min	Max		Min	Max	
T-10	23.5	63	68.5	M-16	4.5	10	D
T-20	30.5	72	78	M-20	5	10	A
					7	13	B
T-30	45	72	81.5	M-32	5	15	B
					10	21	C
					18	25	D
T-40	57	95.5	106.5	M-40	11*	23	A
					19	28	B
					22	32	D

\*With silicone reducer

9 1 P

Male Extender

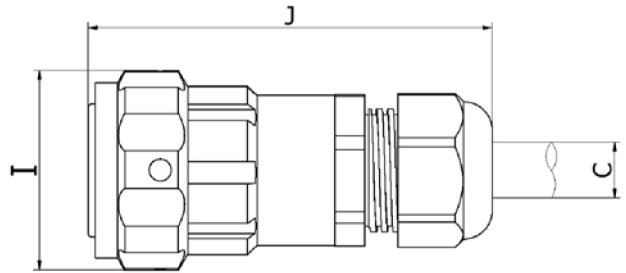


	A	B (mm)		Size	ØC		Cable Clamp Ref
		Min	Max		Min	Max	
T-10	24	59.5	65	M-16	4.5	10	D
T-20	32	72.5	78.5	M-20	5	10	A
					7	13	B
T-30	46	72.5	82	M-32	5	15	B
					10	21	C
					18	25	D
T-40	62	96	107	M-40	11*	23	A
					19	28	B
					22	32	D

\*With silicone reducer

9 6 S

Straight Female Plug

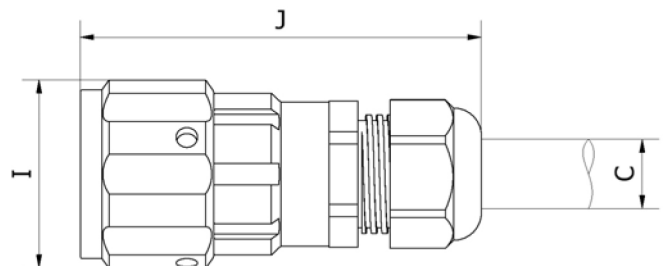


	I	J (mm)		Size	ØC		Cable Clamp Ref
		Min	Max		Min	Max	
T-10	27	58	63.5	M-16	4.5	10	D
T-20	36.5	68.5	74.5	M-20	5	10	A
					7	13	B
T-30	52	68.5	78	M-32	5	15	B
					10	21	C
					18	25	D
T-40	64.5	92	103	M-40	11*	23	A
					19	28	B
					22	32	D

\*With silicone reducer

9 6 P

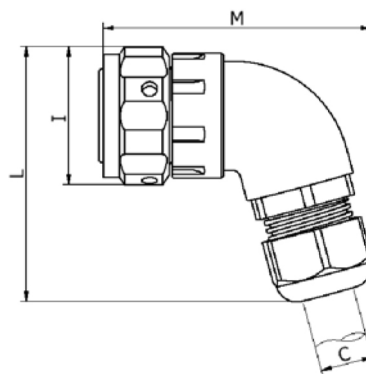
Straight Male Plug



	I	J		Size	ØC		Cable Clamp Ref
		Min	Max		Min	Max	
T-10	27	65	70.5	M-16	4.5	10	D
T-20	36.5	76	82	M-20	5	10	A
					7	13	B
T-30	52	76	85.5	M-32	5	15	B
					10	21	C
					18	25	D
T-40	64.5	99	110	M-40	11*	23	A
					19	28	B
					22	32	D

9 8 S

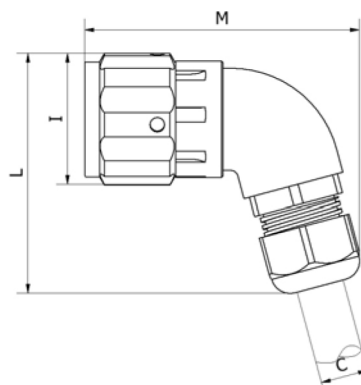
Female Angled Plug



	I	M		L		Size	ØC		Cable Clamp Ref
		Min	Max	Min	Max		Min	Max	
T-10	27	54.5	56	53	59	M-16	4.5	10	D
T-20	36.5	68.5	70	60	66	M-20	5	10	A
							7	13	B
T-30	52	78.5	81	72.5	81.5	M-32	5	15	B
							10	21	C
							18	25	D
T-40	64.5	92	95.5	93.5	104	M-40	11*	23	A
							19	28	B
							22	32	D

9 8 P

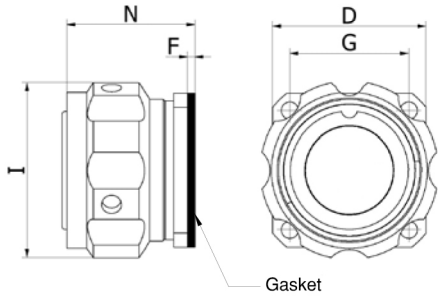
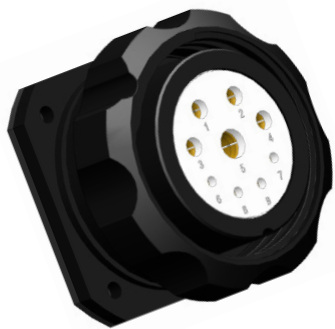
Male Angled Plug



	I	M		L		Size	ØC		Cable Clamp Ref
		Min	Max	Min	Max		Min	Max	
T-10	27	61.5	63	53	59	M-16	4.5	10	D
T-20	36.5	75.5	77.5	60	65.5	M-20	5	10	A
							7	13	B
T-30	52	85.5	88	72	81.5	M-32	5	15	B
							10	21	C
							18	25	D
T-40	64.5	99	102	93.5	104	M-40	11*	23	A
							19	28	B
							22	32	D

9 9 S

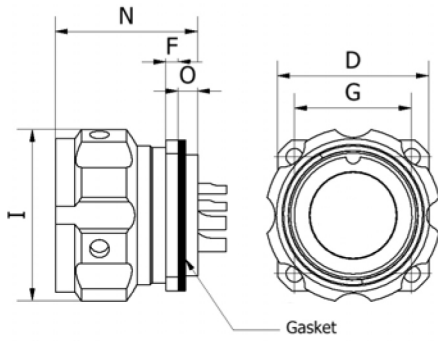
Female Receptacle with Coupling Nut



	D	F	G	I	N
T-10	25	2.5	19	27	24.5
T-20	31	2.5	24	36.5	25.2
T-30	46	2.7	34	52	25.2
T-40	56	2.7	41	64.5	25.2

9 9 P

Male Receptacle with Coupling Nut

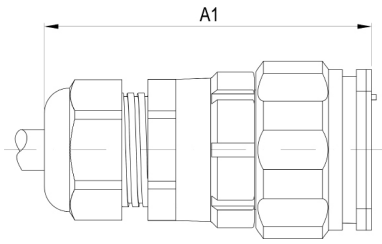


	D	F	G	I	N	O
T-10	25	2.5	19	27	30	5
T-20	31	2.5	24	36.5	30.5	4
T-30	46	2.7	34	52	30.5	3.9
T-40	56	2.7	41	64.5	30.5	3.9

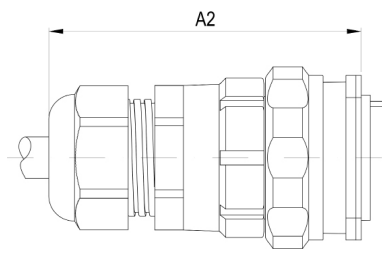


# Dimensions of Mated Connectors:

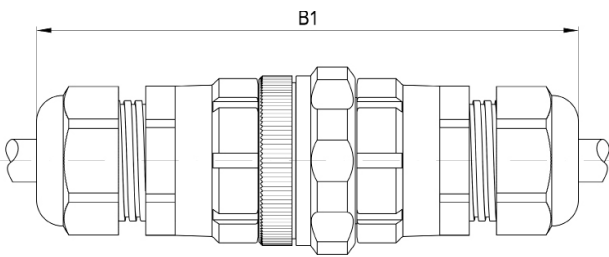
9 6 P & 9 2 S



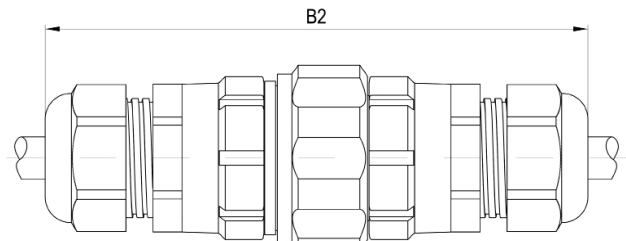
9 6 S & 9 2 P



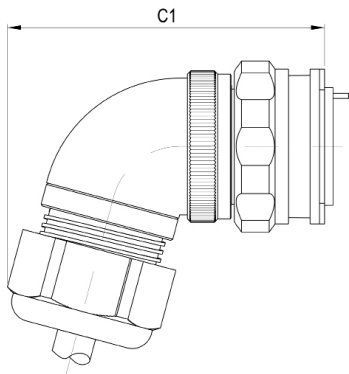
9 1 P & 9 6 S



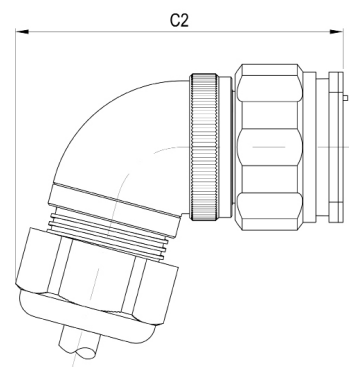
9 1 S & 9 6 P



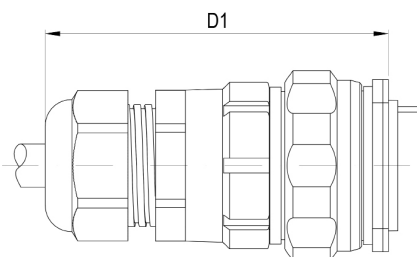
9 8 S & 9 2 P



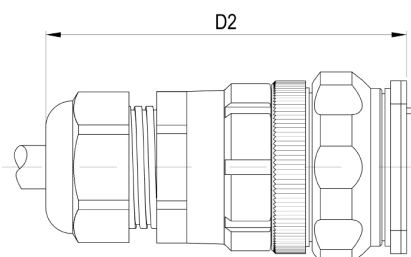
9 8 P & 9 2 S



9 1 S & 9 9 P



9 1 P & 9 9 S



## Dimensions of Mated Connectors continued...

	Size	Cable Clamp	A1	A2	B1	B2	C1	C2	D1	D2
<b>T-10</b>	M-16	D	73	67	109	112	63	69	71	74
<b>T-20</b>	M-20	A / B	84	78	129	129	78	85	80	87
<b>T-30</b>	M-32	C / D	-	-	-	-	91	97	-	-
		F / G	92	86	146	151	-	-	92	95
		J	96	90	154	159	-	-	96	99
<b>T-40</b>	M-40	A / B	-	-	-	-	98	104	-	-
		D	-	-	-	-	105	111	-	-
		E	108	101	180	179	-	-	106	111
		L	115	108	194	193	-	-	113	118



## Bespoke Solutions

Looking for an alternative cable gland? We have a number of options available for you including

## EMI/RFI Shielding

for those applications which require earth continuity or

## Spiral Glands

offering a good degree of cable support and flexibility. Please contact our sales department for further information.

**Female Connector Formats:**



**Extender**

see page 5



**Receptacle**

see page 4



**Extender with Long Backshell**



**Straight Plug**

see page 6



**Straight plug with Long Backshell**



**Angled Plug**

see page 7



**Receptacle with Coupling Ring**

see page 8

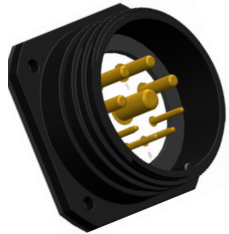


# Male Connector Formats continued...



Extender

see page 5



Receptacle

see page 4



Extender with Long Backshell



Straight Plug

see page 6



Straight Plug with Long Backshell



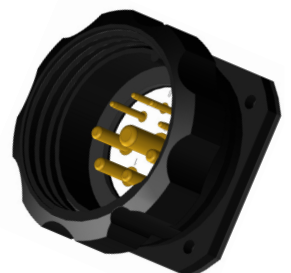
Angled Plug

see page 7



Receptacle with Coupling Ring

see page 8




# Planforms - Solder Contacts:


T-10			T-20			T-30			T-40		
	13U 270 TS	1,400		22B 490 TS	2,100		32F 525 TS	1,750		47M 420 TS	2,500
	14V 225 TS	1,400		23C 440 TS	1,400		34H 490 TS	1,750		48M 420 TS	2,500
	17P 150 TS	1,050		23AL 540 TS	1,750		37Y 470 TS	1,750		413AB 420 TS	1,750
				25D 370 TS	1,400		39J 450 TS	1,750		419AR 400 TS	1,750
				25S 370 TS	1,400		315K 355 TS	1,750		422AC 355 TS	1,750
				26R 300 TS	1,400		319L 390 TS	1,750		424AA 355 TS	1,750
				27E 370 TS	1,400		337P 175 N	2,100		439R 270 TS	1,750
				27X 300 TS	1,400					443AP 300 TS	1,750
				28T 270 TS	1,400						
				29AE 280 TS	1,400						
				210AO 280 TS	1,050						
				212AF 270 TS	1,050						
				213AN 270 TS	1,050						
				222P 150 N	1,050						

# Planforms - Crimp Contacts:

**T-10**




**19CD**  
150 1,050  
TP




**114CD**  
150 1,050  
TP


**T-20**



**23CD**  
440 1,400  
TP




**28T**  
270 1,400  
TP




**222P**  
150 1,050  
N

**T-30**




**319CD**  
390 1,750  
TP




**337CD**  
175 2,100  
N


**T-40**




**43CX**  
580 2,100  
TP



**45CX**  
500 2,000  
TP



**419CD**  
400 1,750  
TP

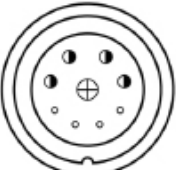


**434CD**  
455 1,750  
TP

Electrical data:								
	Solder Contacts				Crimp Contacts			
Symbol	●	○	◐	⊕	●	○	◐	⊕
Ø Male Contact (mm)	1	1.5	3	5	1	1.5	3	5.75
Working Current (A)	7.5	10	25	50	7.5	10	25	80
Max Wire Section (mm <sup>2</sup> )	0.75	1.75	5.1	13	0.25 - 0.75	0.75 - 1.5 - 2.5	1 - 2.5 - 4	16
Contact Resistance (mΩ)	≤5				≤5			

## Crimp Contacts & Tools:

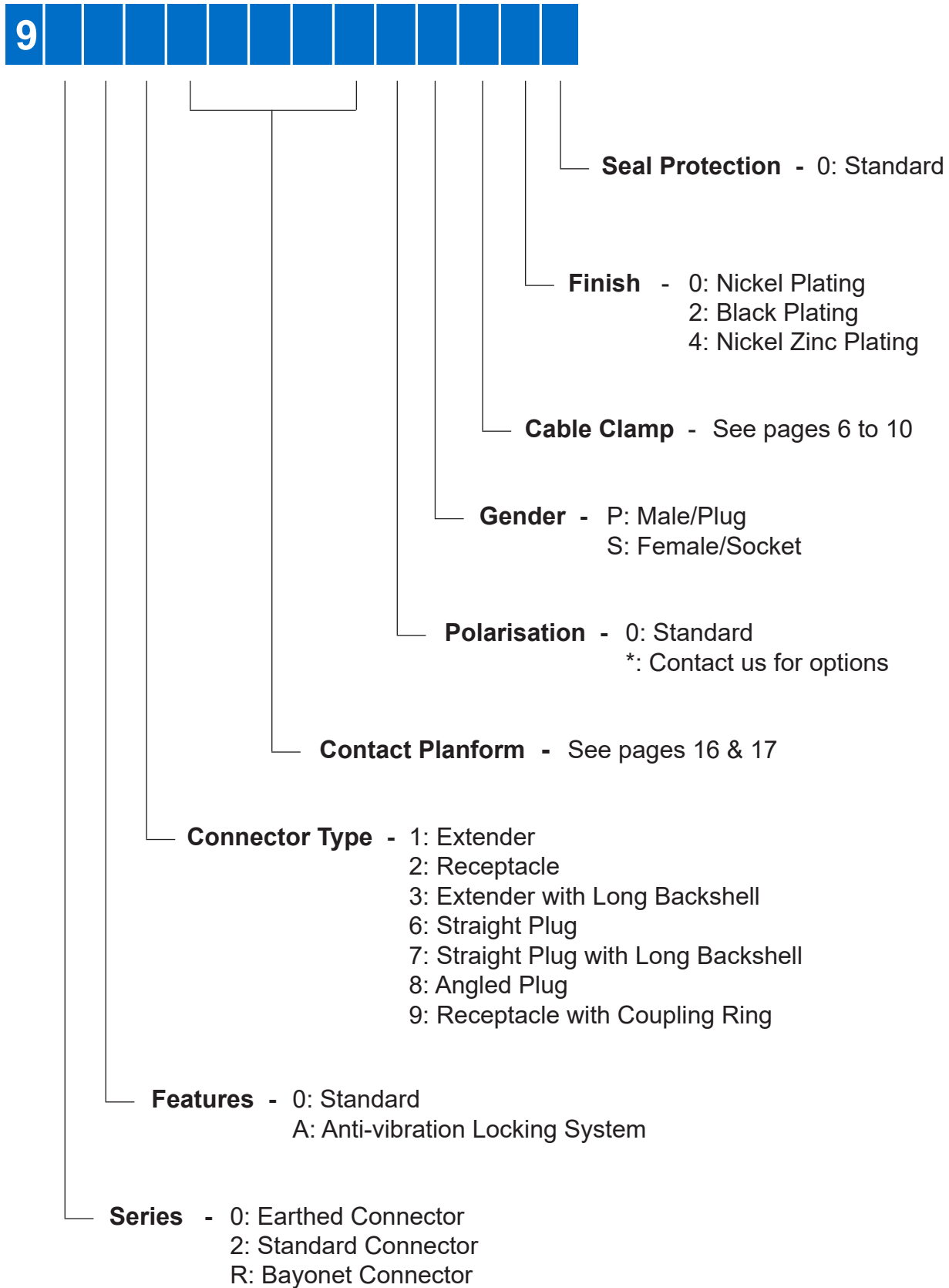
Planform	Wire Section		Contact part Number		Crimp Tools & Accessories				
	mm <sup>2</sup>	AWG	Male	Female	Simple Tool	Adjustable Tool	Positioner	Insertion	Extraction
<b>19CD</b> <b>114CD</b>	0.14-0.50 0.75-1	25-20 19-17	B-MC-10-02/05 B-MC-10-07/10	B-FC-10-02/05 B-FC-10-07/10	*Contact us	*Contact us	*Contact us	B-EIN-MT-10	B-EIN-MD-10
<b>28CD</b> <b>319CD</b> <b>434CD</b>	0.75 1.5 2.5	18-19 15-16 13-15	B-MC-15-07 B-MC-15-15 B-MC-15-25	B-FC-15-07 B-FC-15-15 B-FC-15-25	*Contact us	*Contact us	*Contact us	By hand	B-EIN-MD-15
<b>222CD</b> <b>337CD</b>	0.14-0.50 0.75-1	25-20 19-17	B-MC-10-01/05A B-MC-10-07/10A	B-FC-10-01/05A B-FC-10-07/10A	*Contact us	*Contact us	*Contact us	B-EIN-MT-10	B-EIN-MD-10
<b>23CD</b> <b>419CD</b>	1.5 2.5 4	16-15 14-15 12-11	B-MC-30-15 B-MC-30-25 B-MC-30-40	B-FC-30-15 B-FC-30-25 B-FC-30-40	*Contact us	*Contact us	*Contact us	By hand	B-EIN-MD-30
<b>43CX</b> <b>45CX</b>	16	5	B-MC-57-160	B-MC-57-160	*Contact us	*Contact us	*Contact us	By hand	B-EIN-MD-57



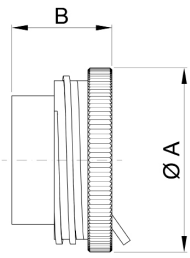
**39J** Insulator reference  
**450** Working voltage at sea level  
**1,750** Test voltage at sea level  
**TS** Insulator material (see table to right)

Thermostable	Neoprene	Thermoplastic
TS	N	TP

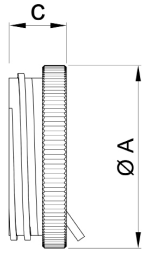
## Part Number Reference:



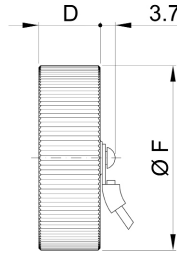
## Metal IP68 Caps:



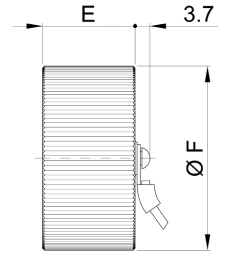
92T06 Plug



92T06 Socket



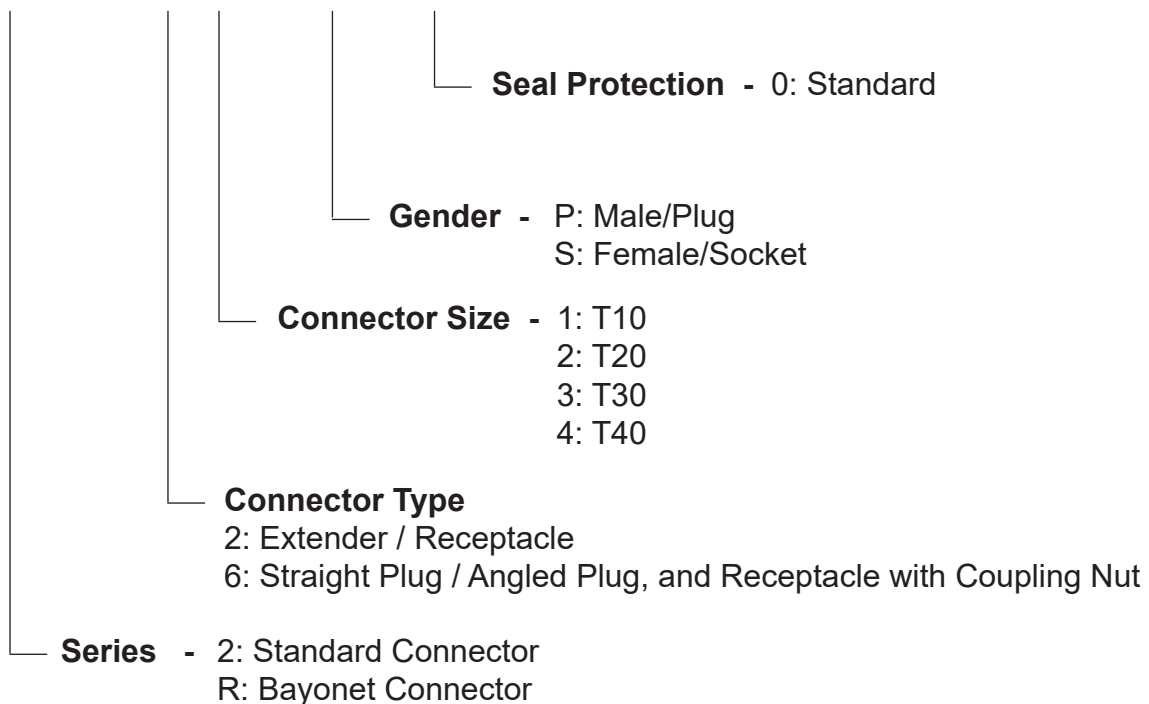
92T02 Plug



92T02 Socket



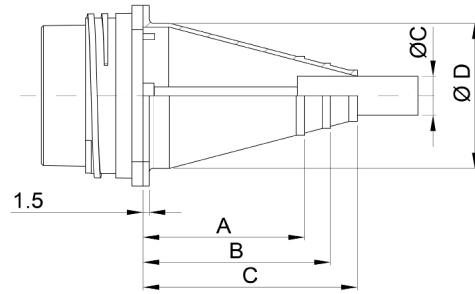
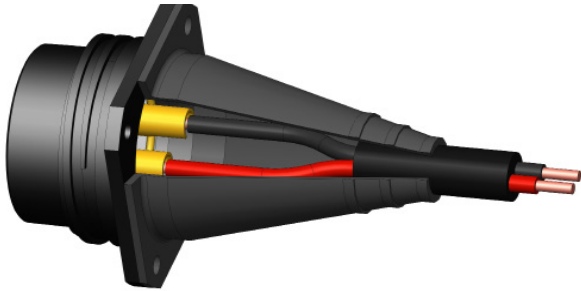
	Ø A	B	C	D	E	Ø F
<b>T-10</b>	25	23.5	14.5	13.5	23	25
<b>T-20</b>	32	25	25	16	23	32
<b>T-30</b>	46	25	25	16	23	46
<b>T-40</b>	62	23.8	23.8	15	23	57





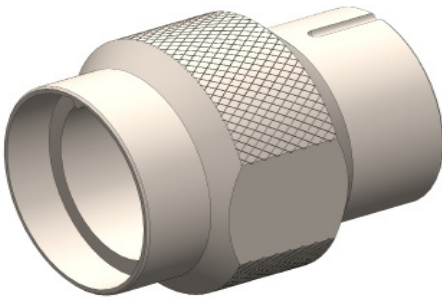
## Accessories:

### Splashproof Rubber Boot for Receptacles



Size	Part Number	Ø C						
		Ø D	A	B	E	A	B	D
T-10	92F021000	18	19.5	22.8	26	9	7.5	5.5
T-20	92F022000	27	27	34.5	42	14	10	6
T-30	92F023000	37	40	46.5	53	17	13.5	10
T-40	92F024000	47	34.5	49.5	64.5	30	22	14

### Assembly Tool



Size	Part Number	
T-10	92ATT10	All T10 Male & Female connectors
T-20	92ATT20	All T20 Male & Female connectors
T-30	92ATT30	All T30 Male & Female connectors
T-40	92ATT40	All T40 Male & Female connectors

## Other Ranges:

### Bayonet



Our range of high performance Bayonet Connectors allow for fast mating and un-mating together with superior resistance to vibrations. Environmentally tested to IP65. These rugged connectors are suitable for a multiple of industrial applications and couple up with a beautiful audible click.

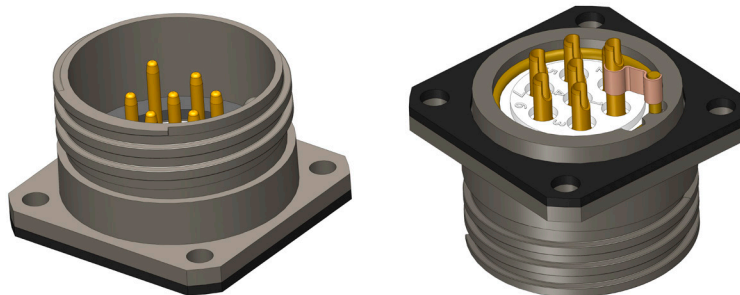
## Other Ranges continued...

### Anti-Vibration



Thanks to a simple yet effective anti-vibration mechanism, consisting of a coupling ring with teeth and a flexible steel tongue riveted to the receptacle, the mated connectors withstand severe vibrations. Utilised heavily in the railway industry.

### Series 90



Connectors from our Series 90 portfolio feature an extended earth pin (usually pin N°1) for a make first, break last connection. A conductive/non-corrosive plating is also available should these be used within a saline/marine environment.



**CEEP Connectors Limited**

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