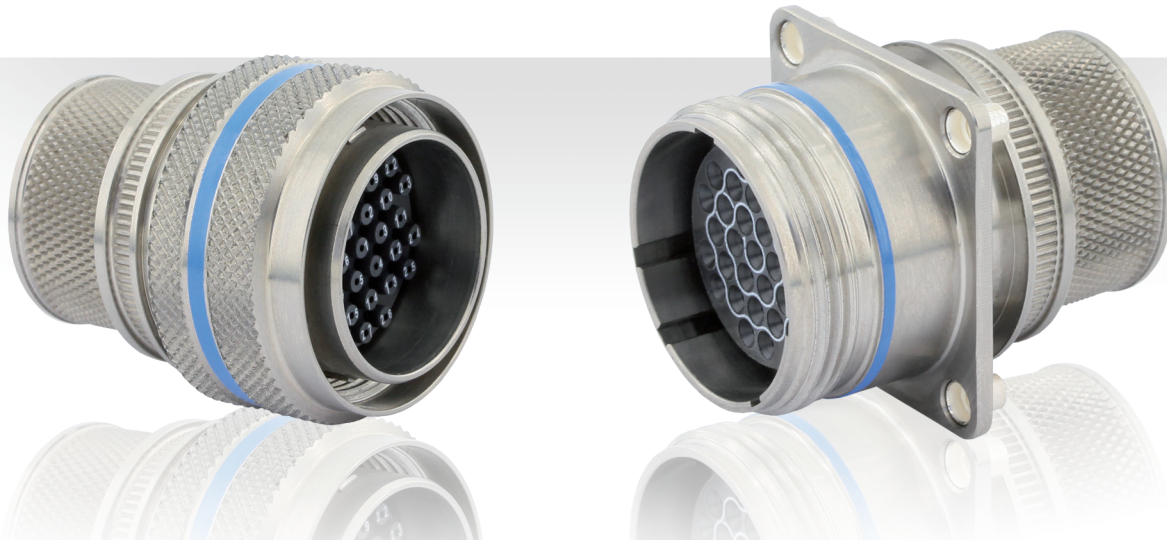


8535/8536 Series Integrated Backshell Connectors

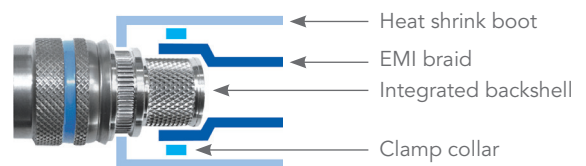


Integrated Backshell Fire Proof Connector

Stainless steel screw coupling connector designed for use in aviation harsh environments. Perfect for engines and landing gear.

Harsh environment connector ■ High vibration resistance.
High temperature resistance (260° C).
Fire proof (1100° C).

Integrated backshell ■ Compact and lightweight.
Direct connection of the EMI braid and heat shrink boot on connector:



8536/ESC16: Blind mate connection version.

Fully interchangeable and intermateable ■ 8535 Series with BACC63 CM/CN, EN2997, MIL-C-83723 Series III & ESC10 connectors.
8536 Series with ESC11 connectors.

Fully qualified ■ Per ESC15 and ESC16 standards.
Per the new EN2997 issue, including the very high vibration «KV Class» version.

Description

- Stainless steel screw coupling connector designed for use in aviation engine harsh environments:
 - High vibration resistance
 - High temperature resistance 200°C / 260°C
 - Fire proof 1100°C
- Integrated backshell for compact and light weight applications, with the possibility to have a full scoop proof connection (8536 Series / ESC16 Series).
- Qualified to ESC15 (8535 Series) and ESC16 (8536 Series) standard, and per the new EN2997 issue.
- Fully interchangeable:
 - 8535 Series with BACC 63 CM-CN, EN2997 & ESC10 connectors
 - 8536 Series with ESC11 connectors
- 8535 Series intermateable with BACC 63 CM-CN
- Large array of crimp contacts: (same as for 8533 Series)
 - Standard size 12, 16 and 20 contacts
 - Thermocouple size 12, 16 and 20 contacts



Technical features

Mechanical

- **Shell:** Passivated stainless steel.
- **Grommet and seal:** Silicone elastomer.
- **Insulator:** Thermoplastic.
- **Contact body:** Copper Alloy.
- **Contact plating:** Gold Over Nickel.
- **Contact retention:**
 - . Size 20: 90 N
 - . Size 16: 110 N
 - . Size 12: 130 N
- **Mating cycles:** 500 coupling operation.
- **Vibration & shock:**
 - . According to JES290-083: 41 grms, 2x 8 hours (ES class)
 - . According to JES290-102: 35 grms, 60 hours (KV class)
 - . According to EN2591: 5Hz to 2000Hz at 1G²/Hz (2x8 hours)

Electrical

- **Dielectric withstanding:**

Altitude	Service
Alt ground	1500 Vrms
15 000 m	600 Vrms
21 000 m	400 Vrms
33 000 m	200 Vrms
- **Insulation Resistance:** 5000 MΩ at 500 Vdc.
- **Max current rating per contact:**
 - . Size 20: 7.5 A
 - . Size 16: 13 A
 - . Size 12: 23 A
- **Contact resistance:**
 - . initial contact resistance at ambient temperature as per EN 2997 and EN315

Contact size	20	16	12
Resistance mΩ	7.3	3.8	3.5
- **Electrical continuity:** 5mΩ with RFI shielding.
- **Shielding:** to 100 MHz at 1 GHz attenuation 65 dB.

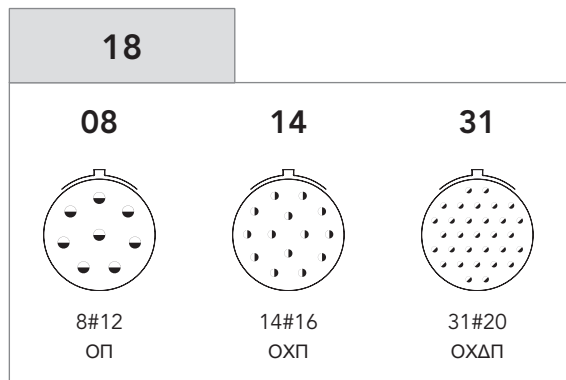
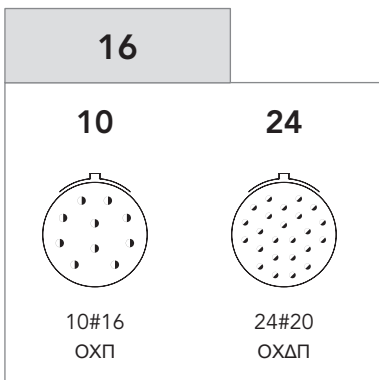
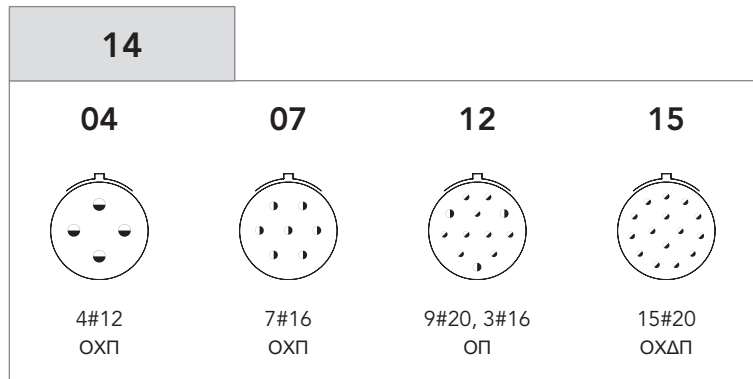
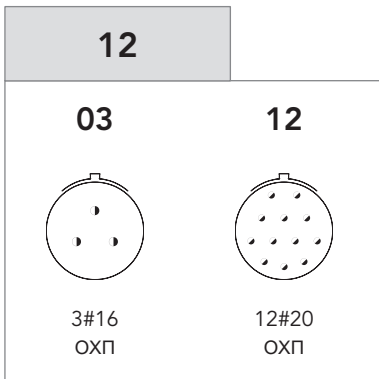
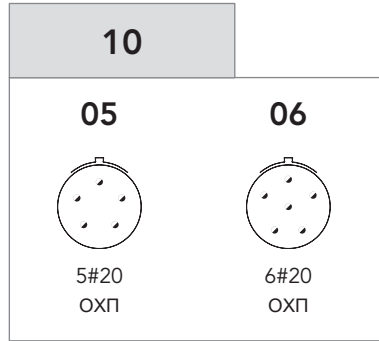
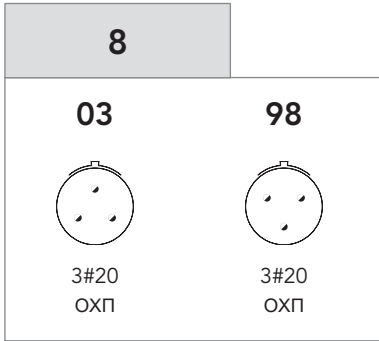
Environmental

- **Temperature range:** - 60°C +260°C
- **Leakage as per 2591-312:**
 - Method B differential pressure: 100kPa
 - Maximum leakage flow: 16x10⁻⁶ m³/h
- **Salt Spray:** 500 hours.
- **Fire resistance as per EN 2591-318:**
 - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
 - MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243

Contact layouts

Legend:

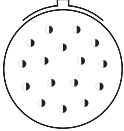
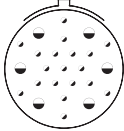
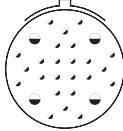
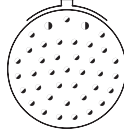
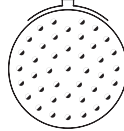
- O - 8535
- X - ESC15
- Δ - 8536 / ESC16
- Π - EN2997



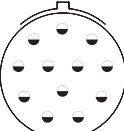
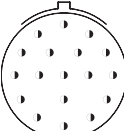
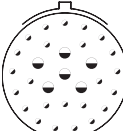
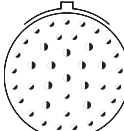
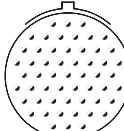
Legend:

- O - 8535
- X - ESC15
- Δ - 8536 / ESC16
- Π - EN2997

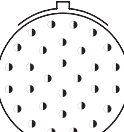
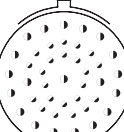
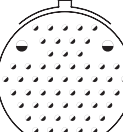
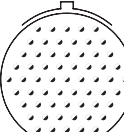
20

16	25	28	39	41
				
16#16 OΠ	19#20, 6#12 OΠ	24#20, 4#12 OΠ	37#20, 2#16 OXΔΠ	41#20 OXΔΠ

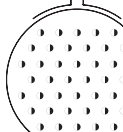
22

12	19	32	39	55
				
12#12 OΠ	19#16 OXΠ	26#20, 6#12 OΠ	27#20, 12#16 OΠ	55#20 OXΔΠ

24

30	43*	57*	61
			
30#16 OXΠ	23#20, 20#16 O	55#20, 2#12 O	61#20 OXΔΠ

28

42

42#16 OXΠ

* Please consult us.

Ordering information

SOURIAU 8535 part numbers

Basic Series: ESC15 / EN2997 type	8535	3ES	18	14	S	N
Class & Shell type:						
Integrated backshell stainless steel shell with knurl type 1: (see p.7 for knurl description)						
AES: 260°C square flange receptacle						
CES: 260°C plug with RFI screening ring						
DES: 260°C square flange receptacle with clinch nut*						
EES: 260°C plug without RFI screening ring						
OKS: 200°C square flange receptacle						
OKV: 260°C square flange receptacle, high vibration						
3KS: 200°C plug with RFI screening ring						
3KV: 260°C plug with RFI screening ring, high vibration						
4KV: 260°C plug without RFI screening ring, high vibration						
5KS: 200°C square flange receptacle with clinch nut*						
5KV: 260°C square flange receptacle with clinch nut, high vibration						
Integrated backshell stainless steel shell with knurl type 2: (see p.7 for knurl description)						
0ES: 260°C square flange receptacle						
3ES: 260°C plug with RFI screening ring						
4ES: 260°C plug without RFI screening ring						
Shell size: See page 3						
Contact layout: See page 3						
Contact type:						
P: Pin						
S: Socket						
Orientation:						
N, 6, 7, 8, 9 (see page 9)						
Specification:						
empty: Delivered with contacts						
L: Delivered without contacts						

Note: aluminum version, please consult us.

* Please consult us.

SOURIAU 8536 part numbers

Basic Series: ESC16 scoop proof type	8536	3ES	18	14	S	N
Class & Shell type:						
Integrated backshell stainless steel shell with knurl type 1: (see p.7 for knurl description)						
4KV: 260°C plug without RFI screening ring, high vibration						
5KV: 260°C square flange receptacle with clinch nut, high vibration						
Integrated backshell stainless steel shell with knurl type 2: (see p.7 for knurl description)						
0ES: 260°C square flange receptacle						
3ES: 260°C plug with RFI screening ring						
4ES: 260°C plug without RFI screening ring						
Shell size: See page 3						
Contact layout: See page 3						
Contact type:						
P: Pin						
S: Socket						
Orientation:						
N, 6, 7, 8, 9 (see page 9)						
Specification:						
empty: Delivered with contacts						
L: Delivered without contacts						

ESC15/ESC16 Qualified product

Basic Series	ESC15	KE2	18	14	S	N	0
<p>ESC15: Integrated backshell ESC16: Integrated backshell, scoop proof version</p>							
<p>Class & Shell type: Integrated backshell stainless steel shell with knurl type 1: (see p.7 for knurl description) KV2: 260°C square flange receptacle, high vibration* KV4: 260°C square flange receptacle with clinch nut, high vibration KV7: 260°C plug without RFI screening ring, high vibration Integrated backshell stainless steel shell with knurl type 2: (see p.7 for knurl description) KE2: 260°C square flange receptacle KE7: 260°C plug without RFI screening ring SE7: 260°C plug with RFI screening ring</p>							
<p>Shell size: See page 3</p>							
<p>Contact layout: See page 3</p>							
<p>Contact type: P: Pin S: Socket</p>							
<p>Orientation: N, 6, 7, 8, 9 (see page 9)</p>							
<p>Mandatory variant identifier: 0: Delivered without contact (class KE & SE only) V: Delivered without contact (class KV only)</p>							

* Please consult us.

EN2997 Qualified product

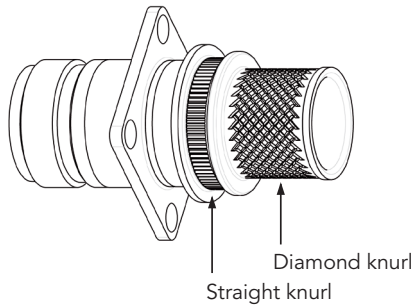
Basic Series	EN2997	SEA	18	14	F	N
<p>Class & Shell type: Integrated backshell stainless steel shell with knurl type 1: (see p.7 for knurl description) KEC: 260°C plug without RFI screening ring KVC: 260°C plug without RFI screening ring, high vibration SC: 200°C plug with RFI screening ring SEC: 260°C plug with RFI screening ring SVC: 260°C plug with RFI screening ring, high vibration* SA: 200°C square flange receptacle SEA: 260°C square flange receptacle SVA: 260°C square flange receptacle, high vibration* SD: 200°C square flange receptacle with clinch nut* SED: 260°C square flange receptacle with clinch nut* SVD: 260°C square flange receptacle with clinch nut, high vibration* Integrated backshell aluminum shell with knurl type 1: (see p.7 for knurl description) WSC: 175°C olive-green cadmium plug with RFI screening ring, conductive plating* RSC: 200°C nickel plug with RFI screening ring, conductive plating* WSA: 175°C olive-green cadmium square flange receptacle, conductive plating* RSA: 200°C nickel square flange receptacle, conductive plating*</p>						
<p>Shell size: See page 3</p>						
<p>Contact layout: See page 3</p>						
<p>Contact type: M: Male contact A: Connector delivered without male contact F: Female contact B: Connector delivered without female contact</p>						
<p>Orientation: N, 6, 7, 8, 9 (see page 9)</p>						

* Please consult us.

Knurl description

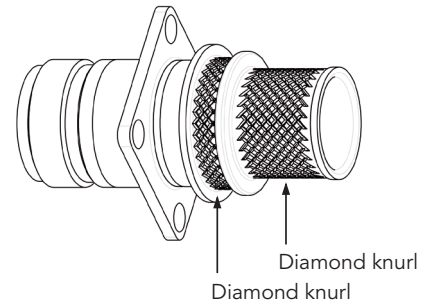
Knurl Type 1

- Conform to:
- EN2997
 - ESC15/ESC16
- High vibration



Knurl Type 2

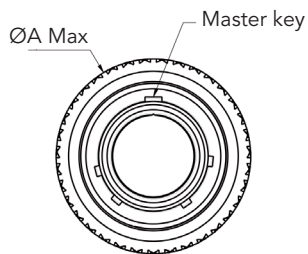
- Conform to:
- ESC15/ESC16



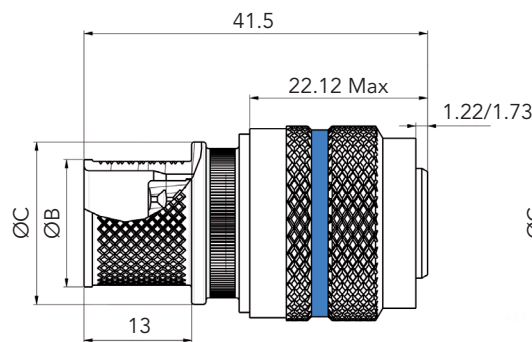
Dimensions

Plug - 8535/ESC15/EN2997 model 8536/ESC16

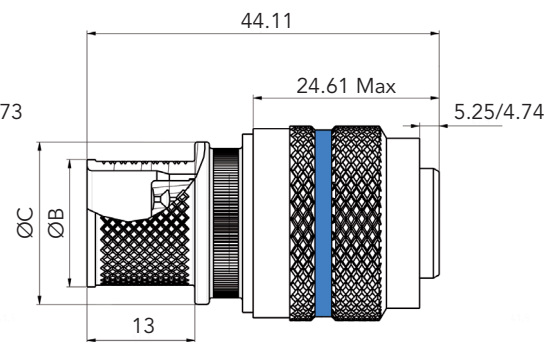
Front face view



8535/ESC15/EN2997C



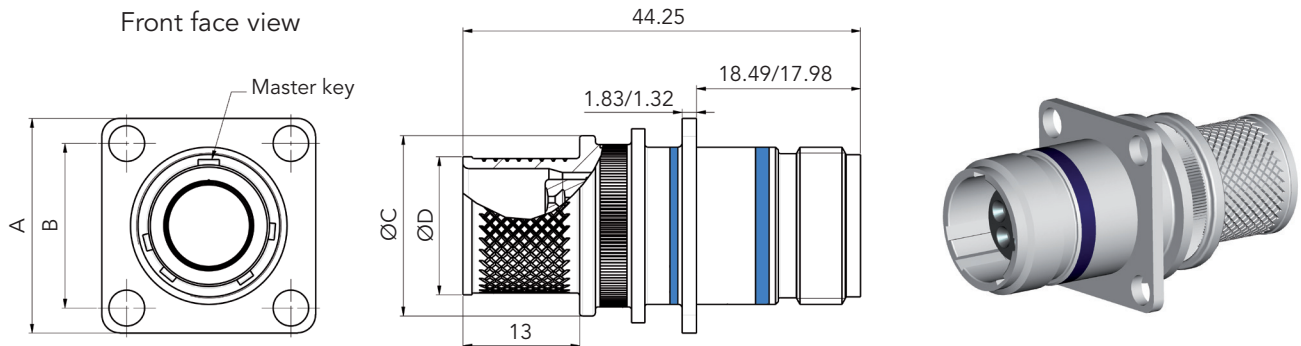
8536/ESC16



Shell size	08	10	12	14	16	18	20	22	24	28
ØA Max	21.30	24.89	29.59	31.24	34.42	37.34	41.91	44.07	47.24	55.24
ØB ^{±0.1}	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.47	41.92
ØC ^{±0.1}	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60

Tolerance on linear dimensions shall be ±0.25 unless otherwise specified.

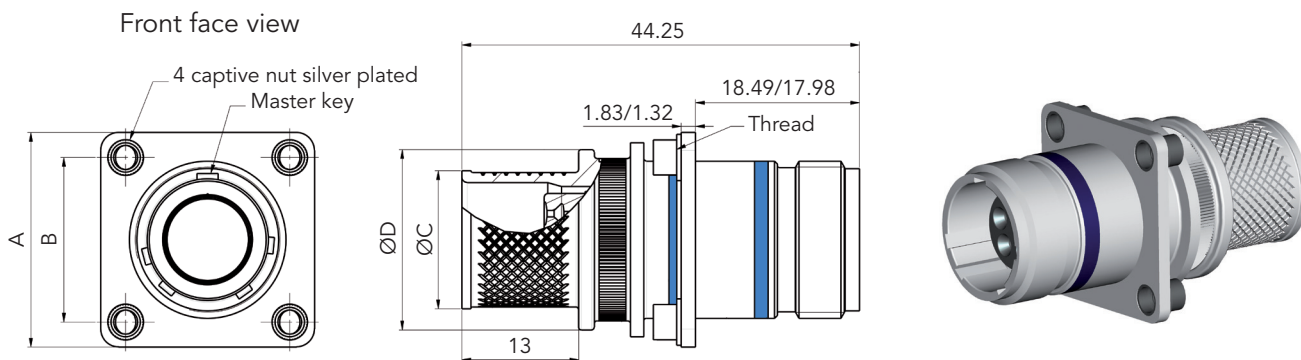
Square Flange Receptacle - 8535/ESC15/EN2997 model 8536/ESC16



Shell size	08	10	12	14	16	18	20	22	24	28
A ^{±0.13}	20.62	23.80	26.19	28.57	31.75	34.11	36.50	39.67	43.26	50.80
B ^{±0.13}	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
ØC ^{±0.1}	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.57	41.92
ØD ^{±0.1}	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60

Tolerance on linear dimensions shall be ±0.25 unless otherwise specified.

Square Flange Receptacle With Clinch Nut - 8535/ESC15/EN2997 model 8536/ESC16



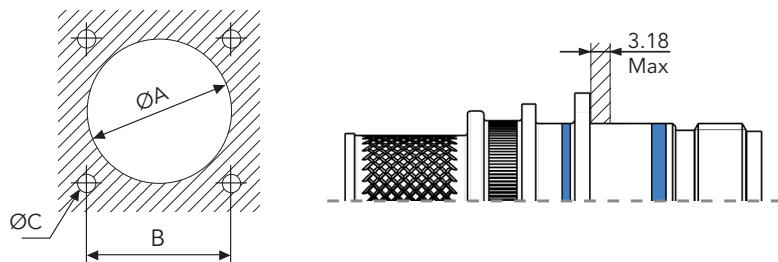
Shell size	08	10	12	14	16	18	20	22	24	28
A ^{±0.13}	20.62	23.80	26.19	28.57	31.75	34.11	36.50	39.67	43.26	50.80
B ^{±0.13}	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
ØC ^{±0.1}	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.57	41.92
ØD ^{±0.1}	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60
Thread BS1580 Class 3B	0.1120-40UNC								0.1380-32UNC	

Tolerance on linear dimensions shall be ±0.25 unless otherwise specified.

Note: All dimensions are in millimeters (mm). Knurl design vary according to norm.

Panel Cut Out (Receptacle Shell Type 0 and 5)

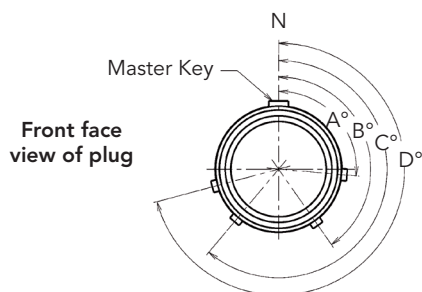
Square flange receptacle



Shell size	A min	B	C
08	15.80	15.09	3.20
10	18.70	18.26	
12	23.40	20.62	
14	24.90	23.01	
16	28.30	24.61	
18	31.10	26.97	
20	34.50	39.36	3.80
22	37.50	31.75	
24	40.60	34.92	
28	48.00	39.67	

Note: All dimensions are in millimeters (mm)

Orientation



8535/ESC15 / EN2997

Shell size	Angles	N	6	7	8	9
08 & 10	A°	105	102	80	35	64
	B°	140	132	118	140	155
	C°	215	248	230	205	234
	D°	265	320	312	275	304
12 to 28	A°	105	18	92	84	24
	B°	140	149	152	152	135
	C°	215	192	222	204	199
	D°	265	259	342	334	240

8536/ESC16

Shell size	Angles	N	6	7	8	9
08 & 10	A°	95	40	48	85	56
	B°	145	112	130	155	126
	C°	220	228	242	220	205
	D°	255	258	280	325	296
12 to 28	A°	95	101	18	26	120
	B°	145	168	138	156	161
	C°	220	211	208	208	225
	D°	255	342	268	276	336

Connector weights

Shell size	Mass max. (g) less contact	
	Square flange	Plug
	Stainless steel	Stainless steel
8	25	45
10	40	62
12	48	71
14	60	85
16	70	100
18	81	113
20	89	125
22	101	141
24	110	157
28	135	192

Mass of crimp contacts

Contact size	Mass (g)	
	Pin	Socket
20	0.24	0.29
16	0.53	0.59
12	1.15	1.28

For further information contact us at technical.emear@souriau.com (Europe - Asia - Africa)
technical.americas@souriau.com (North America)
 or visit our web site www.souriau.com