



## Integrated Backshell Fire Proof Connector

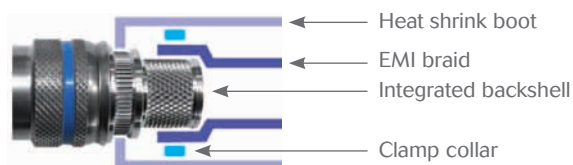
Stainless steel screw coupling connector designed for use in aviation harsh environments. Perfect for engines and landing gear.

**Harsh environment connector**

High vibration resistance.  
High temperature resistance (260° C).  
Fire proof (1100° C).

**Integrated backshell**

Compact and light weight.  
Direct connection of the EMI braid and heat shrink boot on connector:



Blind mate connection possibility (8536 Series / ESC16 Series).

**Fully interchangeable and intermateable**

8535 Series with BACC 63 CM-CN, EN2997, MIL-C-83723 Series III & ESC10 connectors.  
8536 Series with ESC11 connectors.

**Fully qualified**

Per Rolls Royce ESC15 and ESC16 standards.  
Per the on going new EN2997 issue, including the very high vibration «KV Class» version.

# 8535/8536 Series

## Integrated Backshell Connectors



### Description

- **Stainless steel screw coupling connector designed for use in aviation engine harsh environments:**
  - High vibration resistance
  - High temperature resistance (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 Rolls-Royce ESC15 (8535 Series) and ESC16 (8536 Series) standard, and per the on going new EN2997 issue.**
- **Fully interchangeable and intermateable:**
  - 8535 Series with BACC 63 CM-CN, EN2997, MIL-C-83723 Series III & ESC10 connectors
  - 8536 Series with ESC11 connectors
- **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: 111 N
  - . Size 12: 133 N
- **Mating cycles:**
  - . 500 mating / unmating operation.
- **Vibration & shock:**
  - . According to JES290-083: 41 grms, 2x 8 hours (ES class)
  - . According to JES290-102: 35 grms, 60 hours (KV class)

#### 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:**
  - . 1 mΩ.
- **Electrical continuity:**
  - . 5mΩ with RFI shielding.
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB.

#### Environmental

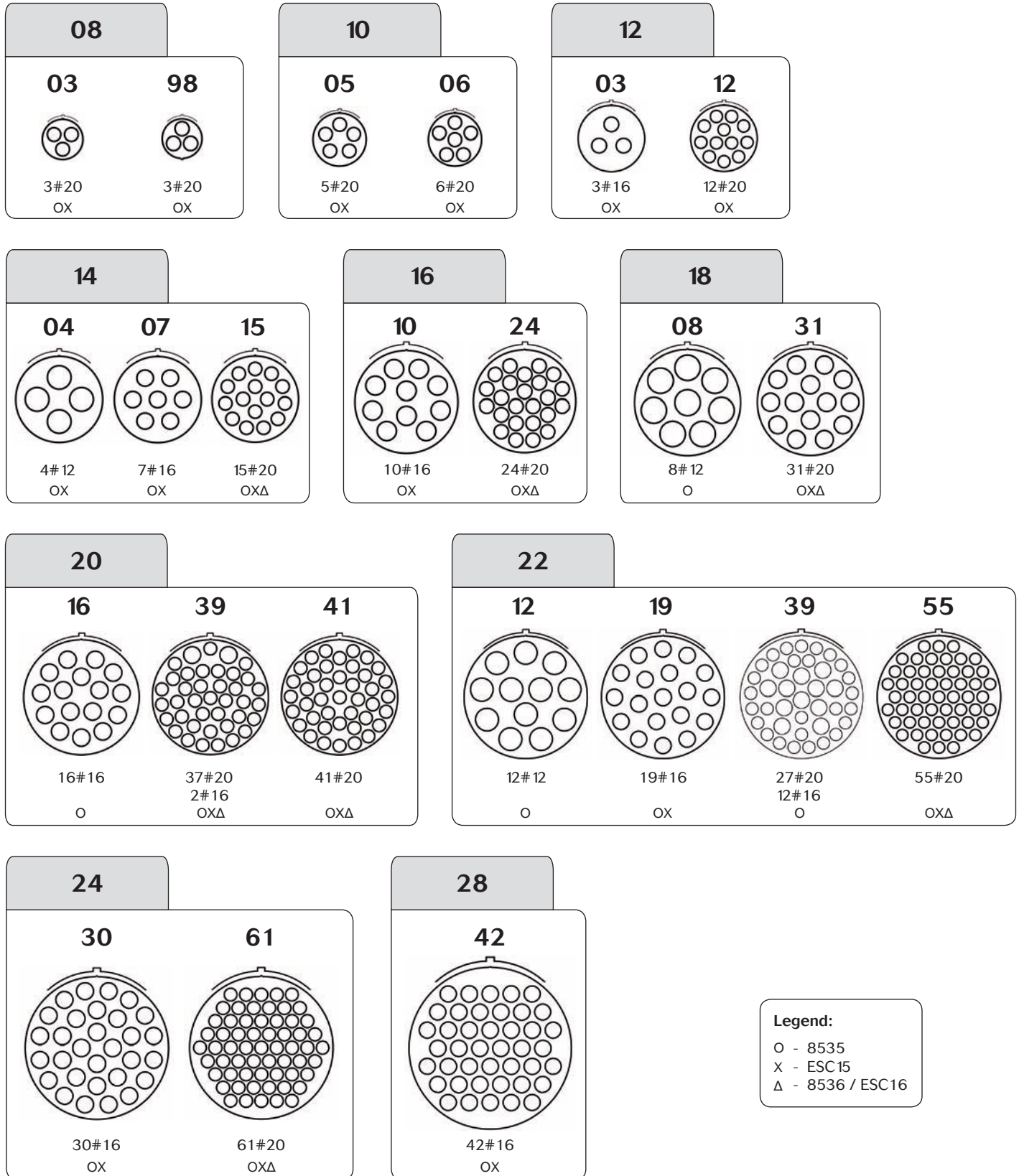
- **Temperature range:**
  - . - 60°C +260°C
- **Leakage:**
  - . as per 2591-312:
    - Method B differential pressure: 100kPa
    - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt Spray:**
  - . 500 hours.
- **Fire resistance:**
  - . as per EN 2591-318:
    - 6 min under a 1100°C 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

# 8535/8536 Series

## Integrated Backshell Connectors



### Contact layouts



# 8535/8536 Series

## Integrated Backshell Connectors



### Ordering information

#### Souriau part numbers

<b>Basic Series</b>	<b>8535</b>	<b>3</b>	<b>ES</b>	<b>18</b>	<b>14</b>	<b>S</b>	<b>N</b>	<b>L</b>
<b>8535:</b> ESC15 / EN2997 type <b>8536:</b> ESC16 scoop proof type								
<b>Shell type:</b>								
0: Square flange receptacle without clinch nut 3: Plug with RFI screening ring 4: Plug without RFI screening ring 5: Square flange receptacle with clinch nut								
<b>Connector class:</b>								
ES: 260°C firewall KV: 260°C firewall high vibration								
<b>Shell size:</b>								
08, 10, 12, 14, 16, 18, 20, 22, 24, 28								
<b>Contact layout</b> See page 3								
<b>Contact type:</b>								
P: Pin S: Socket								
<b>Orientation:</b>								
N, 6, 7, 8, 9 (see page 7)								
<b>Specification:</b>								
L: Delivered without contacts								

#### ESC15/ESC16 Qualified product

<b>Basic Series</b>	<b>ESC15</b>	<b>KE</b>	<b>7</b>	<b>18</b>	<b>14</b>	<b>S</b>	<b>N</b>	<b>0</b>
<b>ESC15</b> <b>ESC16:</b> scoop proof								
<b>Connector class:</b>								
KE: 260°C firewall without RFI screening ring SE: 260°C firewall with RFI screening ring KV: 260°C firewall high vibration, without RFI screening ring								
<b>Shell type:</b>								
2: Square flange receptacle without clinch nut 4: Square flange receptacle with clinch nut 7: Plug								
<b>Shell size:</b>								
08, 10, 12, 14, 16, 18, 20, 22, 24, 28								
<b>Contact layout</b> See page 3								
<b>Contact type:</b>								
P: Pin S: Socket								
<b>Orientation:</b>								
N, 6, 7, 8, 9 (see page 7)								
<b>Variant identifier:</b>								
0: Delivered without contact (class KE & SE) V: Delivered without contact (class KV)								

# 8535/8536 Series

## Integrated Backshell Connectors



### EN2997 Qualified product (qualification on going)

Basic Series	EN2997	SE	A	18	14	F	N
<b>Connector class:</b>							
SE: Stainless steel 260°C firewall plug with RFI screening ring							
<b>Shell type:</b>							
A: Square flange receptacle with integrated backshell							
C: Plug with integrated backshell							
D: Square flange receptacle with clinch nut							
<b>Shell size:</b>							
08, 10, 12, 14, 16, 18, 20, 22, 24, 28							
<b>Contact layout:</b>							
See page 3							
<b>Contact type:</b>							
M: Pin							
A: Delivered without male contact							
F: Socket							
B: Delivered without female contact							
<b>Orientation:</b>							
N, 6, 7, 8, 9 (see page 7)							

## Dimensions

**Plug (Shell type 3 and 4)**  
**8535/ESC15 / EN2997 C model**  
**8536/ESC16**

Front face view

ØA Max

Master key

8535/ESC15

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 <sup>±0.1</sup>	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.47	41.92
ØC <sup>±0.1</sup>	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.

Note: All dimensions are in millimeters (mm)

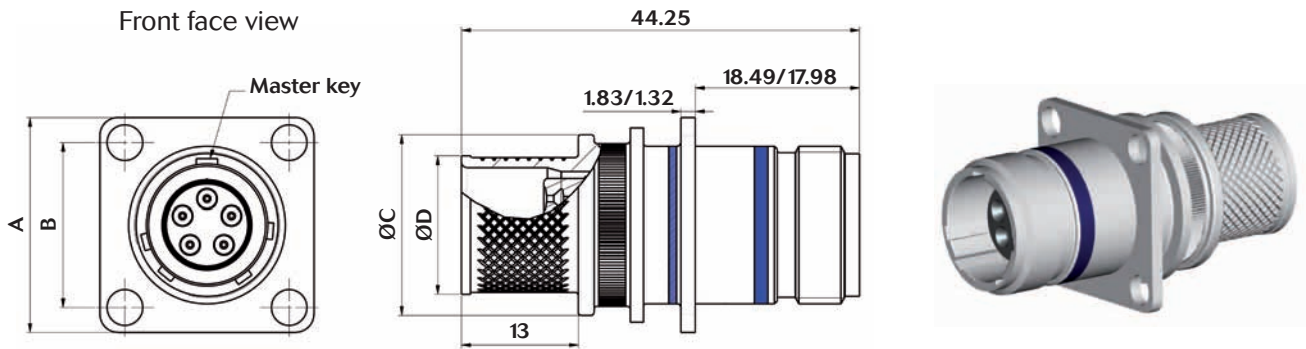


# 8535/8536 Series

## Integrated Backshell Connectors



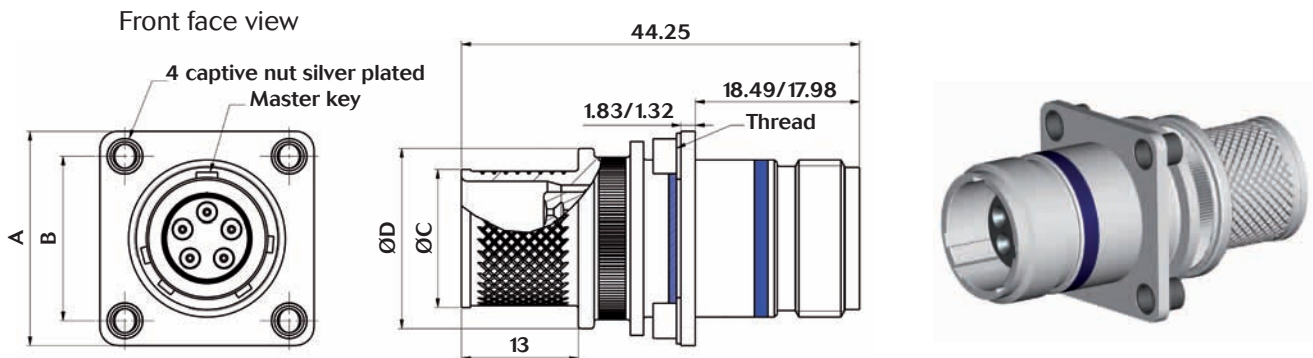
### Square Flange Receptacle Without Clinch Nut (Shell Type 0) 8535/ESC15 / EN2997 A model 8536/ESC16



Shell size	08	10	12	14	16	18	20	22	24	28
A $\pm 0.13$	20.62	23.80	26.19	28.57	31.75	34.11	36.50	39.67	43.26	50.80
B $\pm 0.13$	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
ØC $\pm 0.1$	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.57	41.92
ØD $\pm 0.1$	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  $\pm 0.25$  unless otherwise specified.

### Square Flange Receptacle With Clinch Nut (Shell Type 5) 8535/ESC15 / EN2997 D model 8536/ESC16



Shell size	08	10	12	14	16	18	20	22	24	28
A $\pm 0.13$	20.62	23.80	26.19	28.57	31.75	34.11	36.50	39.67	43.26	50.80
B $\pm 0.13$	15.09	18.26	20.62	23.01	24.61	26.97	29.36	31.75	34.92	39.67
ØC $\pm 0.1$	12.10	15.32	18.27	21.45	24.62	26.04	29.22	32.40	35.57	41.92
ØD $\pm 0.1$	18.70	19.60	22.00	26.10	28.60	29.80	33.60	36.70	42.10	46.60
Thread BS 1580 Class 3B	0.1120-40UNC								0.1380-32UNC	

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

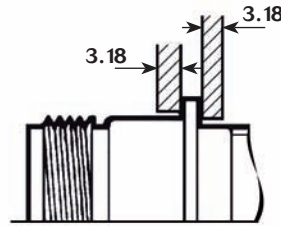
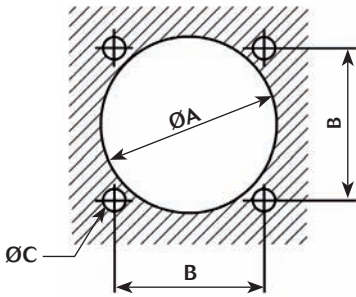
Note: All dimensions are in millimeters (mm)

# 8535/8536 Series

## Integrated Backshell Connectors



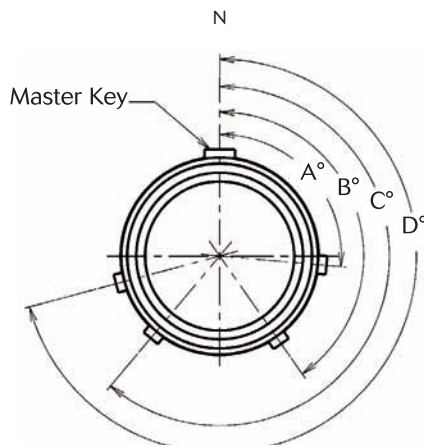
### Panel Cut Out (Receptacle Shell Type 0 and 5)



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	

## Orientation

### Orientation



Front face view of plug

#### 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

Note: All dimensions are in millimeters (mm)

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### Connector weights

Mass max. (g) less contact		
Shell size	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

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or visit our web site [www.souriau.com](http://www.souriau.com)