

8535 - 8536

# Integrated Backshell Connector



## 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**

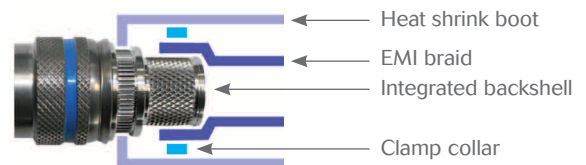


High vibration resistance.  
High temperature resistance (260° C).  
Fire proof (1100° C).

**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.



**SOURIAU**  
Connection Technology

# 8535 - 8536

## Integrated Backshell Connector



### 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

### Applications

- Engine
- Landing gear

### 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, 2x8 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 ≥ 65dB.

### Environmental

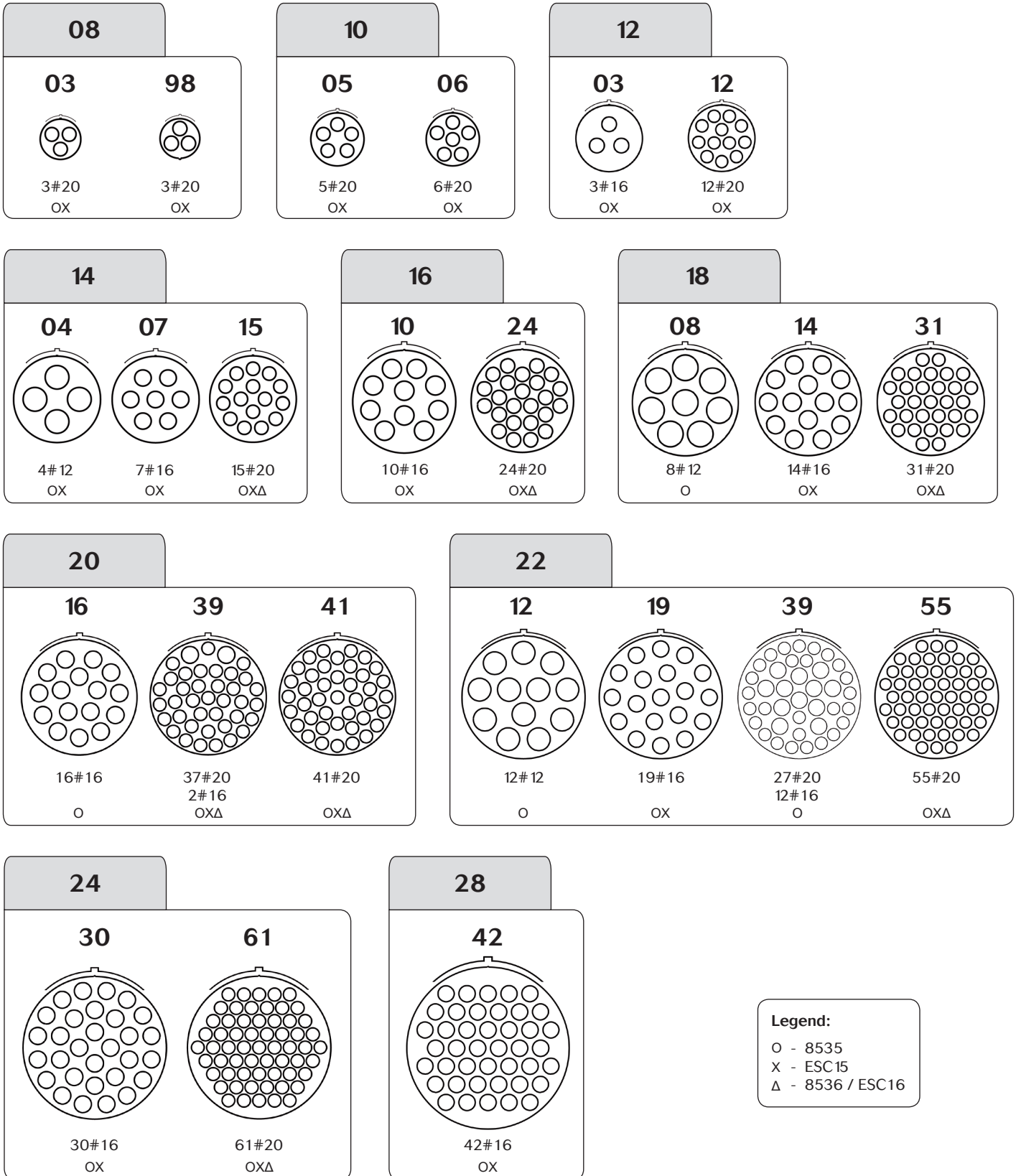
- **Temperature range:**
  - 60°C +260°C
- **Low pressure immersion:** Watertightness tested per EN2591-314
- **Salt Spray:** 500 hours.
- **Fire resistance:**
  - As per EN2591-318: 6 min under a 1100° C flame without electrical perturbation, plus 14 min with no flame propagation.

### Resistance to fluid

MIL-H 5606 - SKYDROL 500 B4-LD4  
 JP5-MIL-L7870A - MIL L 23699  
 MIL-L 7808 - MIL C 25769 - MIL-A 8243.



### Contact layouts



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### Ordering information

<b>Basic Series</b> 8535: ESC15 type 8536: ESC16 scoop proof type	8535	3	ES	18	14	S	N	L
<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								

<b>Basic Series</b> ESC15 ESC16: scoop proof	ESC15	KE	7	18	14	S	N	0
<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)								

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## Integrated Backshell Connector



### Dimensions

#### 8535/ESC15 Plug (Shell type 3 and 4)

Front Face View

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

#### 8535/ESC15 Square Flange Receptacle With Clinch Nut (Shell Type 5)

Front Face View

Shell size	Z ±0.13	ZA ±0.13	ØL ±0.1	ØM ±0.1	Thread ZF BS-1580 Class 3B
08	20.62	15.09	12.10	18.70	0.1120-40UNC
10	23.80	18.26	15.32	19.60	
12	26.19	20.62	18.27	22.00	
14	28.57	23.01	21.45	26.10	
16	31.75	24.61	24.62	28.60	
18	34.11	26.97	26.04	29.80	
20	36.50	29.36	29.22	33.60	0.1380-32UNC
22	39.67	31.75	32.40	36.70	
24	43.26	34.92	35.47	42.10	
28	50.80	39.67	41.92	46.60	

#### 8535/ESC15 Square Flange Receptacle Without Clinch Nut (Shell Type 0)

Front Face View

Shell size	Z ±0.13	ZA ±0.13	ØL ±0.1	ØM ±0.1
08	20.62	15.09	12.10	18.70
10	23.80	18.26	15.32	19.60
12	26.19	20.62	18.27	22.00
14	28.57	23.01	21.45	26.10
16	31.75	24.61	24.62	28.60
18	34.11	26.97	26.04	29.80
20	36.50	29.36	29.22	33.60
22	39.67	31.75	32.40	36.70
24	43.26	34.92	35.47	42.10
28	50.80	39.67	41.92	46.60

All dimensions are in mm

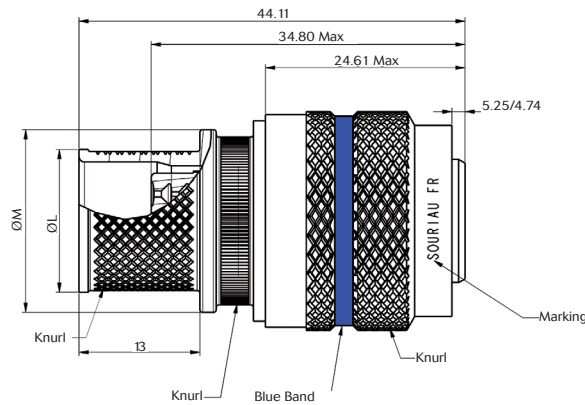
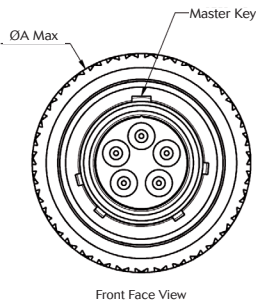
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## Integrated Backshell Connector



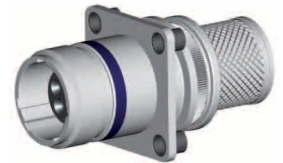
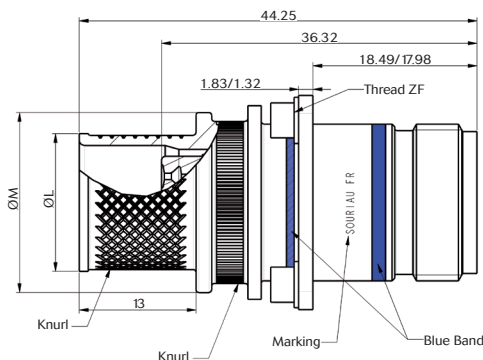
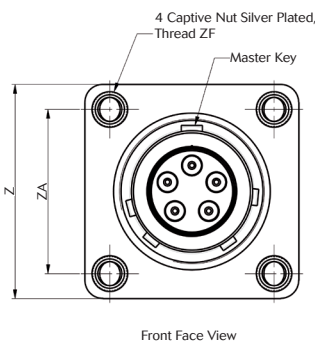
### Dimensions

#### 8536/ESC16 Plug (Shell type 3 and 4)



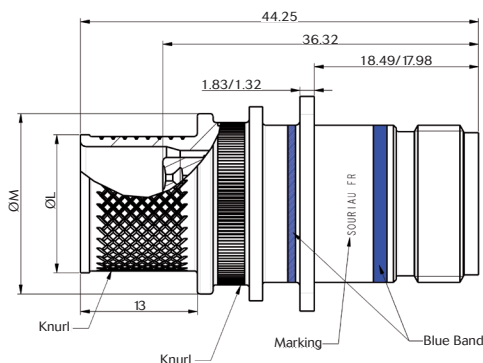
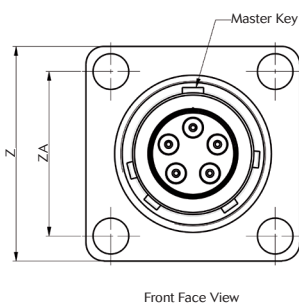
Shell size	ØA Max	ØL ±0.1	ØM ±0.1
08	21.30	12.10	18.70
10	24.89	15.32	19.60
12	29.59	18.27	22.00
14	31.24	21.45	26.10
16	34.42	24.62	28.60
18	37.34	26.04	29.80
20	41.91	29.22	33.60
22	44.07	32.40	36.70
24	47.24	35.47	42.10
28	55.24	41.92	46.60

#### 8536/ESC16 Square Flange Receptacle With Clinch Nut (Shell Type 5)



Shell size	Z ±0.13	ZA ±0.13	ØL ±0.1	ØM ±0.1	Thread ZF BS-1580 Class 3B
08	20.62	15.09	12.10	18.70	0.1120-40UNC
10	23.80	18.26	15.32	19.60	
12	26.19	20.62	18.27	22.00	
14	28.57	23.01	21.45	26.10	
16	31.75	24.61	24.62	28.60	
18	34.11	26.97	26.04	29.80	
20	36.50	29.36	29.22	33.60	0.1380-32UNC
22	39.67	31.75	32.40	36.70	
24	43.26	34.92	35.47	42.10	
28	50.80	39.67	41.92	46.60	

#### 8536/ESC16 Square Flange Receptacle Without Clinch Nut (Shell Type 0)



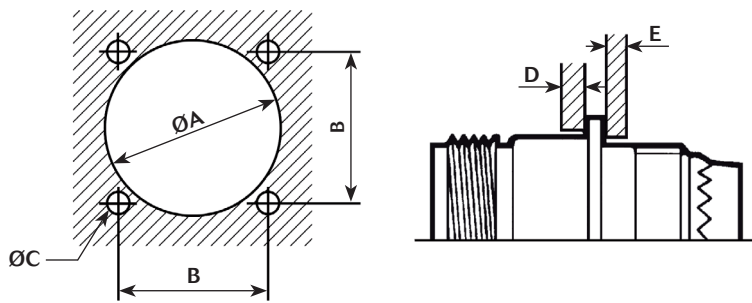
Shell size	Z ±0.13	ZA ±0.13	ØL ±0.1	ØM ±0.1
08	20.62	15.09	12.10	18.70
10	23.80	18.26	15.32	19.60
12	26.19	20.62	18.27	22.00
14	28.57	23.01	21.45	26.10
16	31.75	24.61	24.62	28.60
18	34.11	26.97	26.04	29.80
20	36.50	29.36	29.22	33.60
22	39.67	31.75	32.40	36.70
24	43.26	34.92	35.47	42.10
28	50.80	39.67	41.92	46.60

All dimensions are in mm

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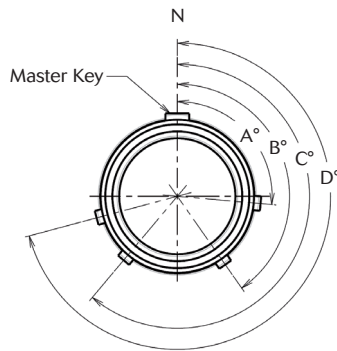
## Panel Cut Out (Receptacle Shell Type 0 and 5)



Shell size	A min	B	C	D max	E max
08	15.80	15.09	3.20	3.18	3.18
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			
22	37.50	31.75	3.80		
24	40.60	34.92			
28	48.00	39.67			

Dimensions in mm

## Orientation



Front face view of plug

### 8535/ESC15

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 thru 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 thru 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

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