



Page 1 of 24

**LIGHTWEIGHT ACCESSORIES FOR
RECTANGULAR, MICROMINIATURE, CONNECTORS
3401/029 AND 3401/077**

ESCC Detail Specification No. 3401/087

Issue 6	July 2025
---------	-----------



Document Custodian: European Space Agency – see <https://escies.org>

LEGAL DISCLAIMER AND COPYRIGHT

European Space Agency, Copyright © 2025, All rights reserved.

The European Space Agency disclaims any liability or responsibility, to any person or entity, with respect to any loss or damage caused, or alleged to be caused, directly or indirectly by the use and application of this ESCC publication.

This publication, without the prior permission of the European Space Agency and provided that it is not used for a commercial purpose, may be:

- copied in whole, in any medium, without alteration or modification.
- copied in part, in any medium, provided that the ESCC document identification, comprising the ESCC symbol, document number and document issue, is removed.

DOCUMENTATION CHANGE NOTICE

(Refer to <https://escies.org> for ESCC DCR content)

DCR No.	CHANGE DESCRIPTION
1741	Specification upissued to incorporate changes per DCR.

**TABLE OF CONTENTS**

1	GENERAL	5
1.1	SCOPE	5
1.2	COMPONENT TYPE VARIANTS	5
1.3	MAXIMUM RATINGS	5
1.4	PARAMETER DERATING INFORMATION (FIGURE 1)	5
1.5	PHYSICAL DIMENSIONS	5
2	APPLICABLE DOCUMENTS	5
3	TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS	5
4	REQUIREMENTS	22
4.1	GENERAL	22
4.2	DEVIATIONS FROM GENERIC SPECIFICATION	22
4.2.1	Deviations from Special In-Process Controls	22
4.2.2	Deviations from Final Production Tests (Chart II)	22
4.2.3	Deviations from Burn-in and Electrical Measurements (Chart III)	22
4.2.4	Deviations from Qualification Tests (Chart IV)	22
4.2.5	Deviations from Lot Acceptance Tests (Chart V)	22
4.3	MECHANICAL REQUIREMENTS	22
4.3.1	Dimension Check	22
4.3.2	Weight	22
4.4	MATERIALS AND FINISHES	22
4.4.1	Backshells	23
4.5	MARKING	23
4.5.1	General	23
4.5.2	The ESCC Component Number	23
4.5.3	Traceability Information	23
4.6	ELECTRICAL MEASUREMENTS (TABLES 2 AND 3)	23
4.7	BURN-IN AND ELECTRICAL MEASUREMENTS (TABLES 4 AND 5)	23
4.8	ENVIRONMENTAL AND ENDURANCE TESTS (TABLE 6)	23
	APPENDIX A	24

1 GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Lightweight Accessories for Rectangular, Microminiature Connectors (MDM and MDMA).

It shall be read in conjunction with ESCC Generic Specification No. [3401](#), the requirements of which are supplemented herein, and ESCC Detail Specifications Nos. [3401/029](#), [3401/032](#) and [3401/077](#).

1.2 COMPONENT TYPE VARIANTS

The type variants of accessories covered by this specification are given in Table 1(a).

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the accessories specified herein, are given in Table 1(b).

1.4 PARAMETER DERATING INFORMATION (FIGURE 1)

Not applicable.

1.5 PHYSICAL DIMENSIONS

The physical characteristics of the accessories specified herein are shown in Figure 2.

2 APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:

- (a) ESCC Generic Specification No. [3401](#), Connectors, Electrical, Non-filtered, Circular and Rectangular.
- (b) ESCC Detail Specification No. [3401/029](#), Connectors, Electrical, Rectangular, Microminiature, based On Type MDM.
- (c) ESCC Detail Specification No. [3401/032](#), Accessories for Connectors, Microminiature [3401/029](#), [3401/077](#) and Connector Savers [3401/041](#).
- (d) ESCC Detail Specification No. [3401/077](#), Connectors, Electrical, Rectangular, Microminiature, Removable Crimp Contacts, based On Type MDMA.

3 TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESCC Basic Specification No. [21300](#) shall apply.

TABLE 1(a) – TYPE VARIANTS

Variant No.	Description			Weight Max. (g)
	Type	Shell Size (1)	Finish (2)	
01	Backshell: Lightweight Top Circular Entry	9	Nickel	3
02	Backshell: Lightweight Top Circular Entry	15	Nickel	4
03	Backshell: Lightweight Top Circular Entry	21	Nickel	4
04	Backshell: Lightweight Top Circular Entry	25	Nickel	5
05	Backshell: Lightweight Top Circular Entry	31	Nickel	5
06	Backshell: Lightweight Top Circular Entry	37	Nickel	6
07	Backshell: Lightweight Top Circular Entry	51	Nickel	7
08	Backshell: Lightweight Top Circular Entry	9	Gold	3
09	Backshell: Lightweight Top Circular Entry	15	Gold	4
10	Backshell: Lightweight Top Circular Entry	21	Gold	5
11	Backshell: Lightweight Top Circular Entry	25	Gold	5
12	Backshell: Lightweight Top Circular Entry	31	Gold	6
13	Backshell: Lightweight Top Circular Entry	37	Gold	6
14	Backshell: Lightweight Top Circular Entry	51	Gold	7
15	Backshell: Lightweight Top Elliptical Entry	9	Nickel	3
16	Backshell: Lightweight Top Elliptical Entry	15	Nickel	4
17	Backshell: Lightweight Top Elliptical Entry	21	Nickel	5
18	Backshell: Lightweight Top Elliptical Entry	25	Nickel	5
19	Backshell: Lightweight Top Elliptical Entry	31	Nickel	6
20	Backshell: Lightweight Top Elliptical Entry	37	Nickel	7
21	Backshell: Lightweight Top Elliptical Entry	51	Nickel	7
22	Backshell: Lightweight Top Elliptical Entry	9	Gold	3
23	Backshell: Lightweight Top Elliptical Entry	15	Gold	4
24	Backshell: Lightweight Top Elliptical Entry	21	Gold	5
25	Backshell: Lightweight Top Elliptical Entry	25	Gold	5
26	Backshell: Lightweight Top Elliptical Entry	31	Gold	6
27	Backshell: Lightweight Top Elliptical Entry	37	Gold	7
28	Backshell: Lightweight Top Elliptical Entry	51	Gold	7

Variant No.	Description			Weight Max. (g)
	Type	Shell Size (1)	Finish (2)	
29	Backshell: Lightweight 45° Circular Entry	9	Nickel	4
30	Backshell: Lightweight 45° Circular Entry	15	Nickel	5
31	Backshell: Lightweight 45° Circular Entry	21	Nickel	6
32	Backshell: Lightweight 45° Circular Entry	25	Nickel	6
33	Backshell: Lightweight 45° Circular Entry	31	Nickel	7
34	Backshell: Lightweight 45° Circular Entry	37	Nickel	8
35	Backshell: Lightweight 45° Circular Entry	51	Nickel	8
36	Backshell: Lightweight 45° Circular Entry	9	Gold	4
37	Backshell: Lightweight 45° Circular Entry	15	Gold	5
38	Backshell: Lightweight 45° Circular Entry	21	Gold	6
39	Backshell: Lightweight 45° Circular Entry	25	Gold	7
40	Backshell: Lightweight 45° Circular Entry	31	Gold	7
41	Backshell: Lightweight 45° Circular Entry	37	Gold	8
42	Backshell: Lightweight 45° Circular Entry	51	Gold	9
43	Backshell: Lightweight 45° Elliptical Entry	9	Nickel	4
44	Backshell: Lightweight 45° Elliptical Entry	15	Nickel	5
45	Backshell: Lightweight 45° Elliptical Entry	21	Nickel	5
46	Backshell: Lightweight 45° Elliptical Entry	25	Nickel	6
47	Backshell: Lightweight 45° Elliptical Entry	31	Nickel	7
48	Backshell: Lightweight 45° Elliptical Entry	37	Nickel	8
49	Backshell: Lightweight 45° Elliptical Entry	51	Nickel	8
50	Backshell: Lightweight 45° Elliptical Entry	9	Gold	4
51	Backshell: Lightweight 45° Elliptical Entry	15	Gold	5
52	Backshell: Lightweight 45° Elliptical Entry	21	Gold	6
53	Backshell: Lightweight 45° Elliptical Entry	25	Gold	6
54	Backshell: Lightweight 45° Elliptical Entry	31	Gold	7
55	Backshell: Lightweight 45° Elliptical Entry	37	Gold	8
56	Backshell: Lightweight 45° Elliptical Entry	51	Gold	9
57	Backshell: Lightweight Top Circular Entry	69	Nickel	8
58	Backshell: Lightweight Top Circular Entry	100	Nickel	12
59	Backshell: Lightweight Top Circular Entry	69	Gold	8
60	Backshell: Lightweight Top Circular Entry	100	Gold	13
61	Backshell: Lightweight Top Elliptical Entry	69	Nickel	8
62	Backshell: Lightweight Top Elliptical Entry	100	Nickel	13
63	Backshell: Lightweight Top Elliptical Entry	69	Gold	9
64	Backshell: Lightweight Top Elliptical Entry	100	Gold	13

Variant No.	Description			Weight Max. (g)
	Type	Shell Size (1)	Finish (2)	
65	Backshell: Lightweight 45° Circular Entry	69	Nickel	9
66	Backshell: Lightweight 45° Circular Entry	100	Nickel	13
67	Backshell: Lightweight 45° Circular Entry	69	Gold	9
68	Backshell: Lightweight 45° Circular Entry	100	Gold	14
69	Backshell: Lightweight 45° Elliptical Entry	69	Nickel	11
70	Backshell: Lightweight 45° Elliptical Entry	100	Nickel	15
71	Backshell: Lightweight 45° Elliptical Entry	69	Gold	11
72	Backshell: Lightweight 45° Elliptical Entry	100	Gold	16
73	Backshell: Lightweight Top Circular Entry	51-2R	Nickel	8
74	Backshell: Lightweight Top Circular Entry	51-2R	Gold	8
75	Backshell: Lightweight Top Elliptical Entry	51-2R	Nickel	9
76	Backshell: Lightweight Top Elliptical Entry	51-2R	Gold	9
77	Backshell: Lightweight 45° Circular Entry	51-2R	Nickel	10
78	Backshell: Lightweight 45° Circular Entry	51-2R	Gold	10
79	Backshell: Lightweight 45° Elliptical Entry	51-2R	Nickel	10
80	Backshell: Lightweight 45° Elliptical Entry	51-2R	Gold	11
81	Backshell: Lightweight 45° Dual Top Circular Entry	9	Nickel	5
82	Backshell: Lightweight 45° Dual Top Circular Entry	15	Nickel	5
83	Backshell: Lightweight 45° Dual Top Circular Entry	21	Nickel	6
84	Backshell: Lightweight 45° Dual Top Circular Entry	25	Nickel	7
85	Backshell: Lightweight 45° Dual Top Circular Entry	31	Nickel	7
86	Backshell: Lightweight 45° Dual Top Circular Entry	37	Nickel	8
87	Backshell: Lightweight 45° Dual Top Circular Entry	51-2R	Nickel	9
88	Backshell: Lightweight 45° Dual Top Circular Entry	51	Nickel	8
89	Backshell: Lightweight 45° Dual Top Circular Entry	9	Gold	5
90	Backshell: Lightweight 45° Dual Top Circular Entry	15	Gold	5
91	Backshell: Lightweight 45° Dual Top Circular Entry	21	Gold	6
92	Backshell: Lightweight 45° Dual Top Circular Entry	25	Gold	7
93	Backshell: Lightweight 45° Dual Top Circular Entry	31	Gold	7
94	Backshell: Lightweight 45° Dual Top Circular Entry	37	Gold	8
95	Backshell: Lightweight 45° Dual Top Circular Entry	51-2R	Gold	9
96	Backshell: Lightweight 45° Dual Top Circular Entry	51	Gold	9

Variant No.	Description			Weight Max. (g)
	Type	Shell Size (1)	Finish (2)	
97	Backshell: Lightweight 90° Front Circular Entry	9	Nickel	4
98	Backshell: Lightweight 90° Front Circular Entry	15	Nickel	5
99	Backshell: Lightweight 90° Front Circular Entry	21	Nickel	5
100	Backshell: Lightweight 90° Front Circular Entry	25	Nickel	6
101	Backshell: Lightweight 90° Front Circular Entry	31	Nickel	7
102	Backshell: Lightweight 90° Front Circular Entry	37	Nickel	8
103	Backshell: Lightweight 90° Front Circular Entry	51-2R	Nickel	9
104	Backshell: Lightweight 90° Front Circular Entry	51	Nickel	8
105	Backshell: Lightweight 90° Front Circular Entry	9	Gold	4
106	Backshell: Lightweight 90° Front Circular Entry	15	Gold	5
107	Backshell: Lightweight 90° Front Circular Entry	21	Gold	6
108	Backshell: Lightweight 90° Front Circular Entry	25	Gold	6
109	Backshell: Lightweight 90° Front Circular Entry	31	Gold	7
110	Backshell: Lightweight 90° Front Circular Entry	37	Gold	8
111	Backshell: Lightweight 90° Front Circular Entry	51-2R	Gold	9
112	Backshell: Lightweight 90° Front Circular Entry	51	Gold	9
113	Backshell: Lightweight 90° Front Elliptical Entry	9	Nickel	4
114	Backshell: Lightweight 90° Front Elliptical Entry	15	Nickel	5
115	Backshell: Lightweight 90° Front Elliptical Entry	21	Nickel	5
116	Backshell: Lightweight 90° Front Elliptical Entry	25	Nickel	6
117	Backshell: Lightweight 90° Front Elliptical Entry	31	Nickel	7
118	Backshell: Lightweight 90° Front Elliptical Entry	37	Nickel	7
119	Backshell: Lightweight 90° Front Elliptical Entry	51-2R	Nickel	9
120	Backshell: Lightweight 90° Front Elliptical Entry	51	Nickel	8
121	Backshell: Lightweight 90° Front Elliptical Entry	9	Gold	4
122	Backshell: Lightweight 90° Front Elliptical Entry	15	Gold	5
123	Backshell: Lightweight 90° Front Elliptical Entry	21	Gold	6
124	Backshell: Lightweight 90° Front Elliptical Entry	25	Gold	6
125	Backshell: Lightweight 90° Front Elliptical Entry	31	Gold	7
126	Backshell: Lightweight 90° Front Elliptical Entry	37	Gold	7
127	Backshell: Lightweight 90° Front Elliptical Entry	51-2R	Gold	9
128	Backshell: Lightweight 90° Front Elliptical Entry	51	Gold	8

Variant No.	Description			Weight Max. (g)
	Type	Shell Size (1)	Finish (2)	
129	Backshell: Lightweight Closed Shorting Can	9	Nickel	4
130	Backshell: Lightweight Closed Shorting Can	15	Nickel	4
131	Backshell: Lightweight Closed Shorting Can	21	Nickel	5
132	Backshell: Lightweight Closed Shorting Can	25	Nickel	5
133	Backshell: Lightweight Closed Shorting Can	31	Nickel	5
134	Backshell: Lightweight Closed Shorting Can	37	Nickel	6
135	Backshell: Lightweight Closed Shorting Can	51-2R	Nickel	7
136	Backshell: Lightweight Closed Shorting Can	51	Nickel	6
137	Backshell: Lightweight Closed Shorting Can	9	Gold	4
138	Backshell: Lightweight Closed Shorting Can	15	Gold	4
139	Backshell: Lightweight Closed Shorting Can	21	Gold	5
140	Backshell: Lightweight Closed Shorting Can	25	Gold	5
141	Backshell: Lightweight Closed Shorting Can	31	Gold	6
142	Backshell: Lightweight Closed Shorting Can	37	Gold	6
143	Backshell: Lightweight Closed Shorting Can	51-2R	Gold	7
144	Backshell: Lightweight Closed Shorting Can	51	Gold	7
145	Backshell: Lightweight 45° Front Elliptical Entry	9	Nickel	4
146	Backshell: Lightweight 45° Front Elliptical Entry	15	Nickel	5
147	Backshell: Lightweight 45° Front Elliptical Entry	21	Nickel	5
148	Backshell: Lightweight 45° Front Elliptical Entry	25	Nickel	6
149	Backshell: Lightweight 45° Front Elliptical Entry	31	Nickel	6
150	Backshell: Lightweight 45° Front Elliptical Entry	37	Nickel	7
151	Backshell: Lightweight 45° Front Elliptical Entry	51-2R	Nickel	8
152	Backshell: Lightweight 45° Front Elliptical Entry	51	Nickel	8
153	Backshell: Lightweight 45° Front Elliptical Entry	9	Gold	4
154	Backshell: Lightweight 45° Front Elliptical Entry	15	Gold	5
155	Backshell: Lightweight 45° Front Elliptical Entry	21	Gold	5
156	Backshell: Lightweight 45° Front Elliptical Entry	25	Gold	6
157	Backshell: Lightweight 45° Front Elliptical Entry	31	Gold	7
158	Backshell: Lightweight 45° Front Elliptical Entry	37	Gold	7
159	Backshell: Lightweight 45° Front Elliptical Entry	51-2R	Gold	9
160	Backshell: Lightweight 45° Front Elliptical Entry	51	Gold	8
161	Backshell: Lightweight 45° Dual Top Circular Entry	69	Nickel	10
162	Backshell: Lightweight 45° Dual Top Circular Entry	100	Nickel	15
163	Backshell: Lightweight 45° Dual Top Circular Entry	69	Gold	10
164	Backshell: Lightweight 45° Dual Top Circular Entry	100	Gold	15

Variant No.	Description			Weight Max. (g)
	Type	Shell Size (1)	Finish (2)	
165	Backshell: Lightweight 90° Front Circular Entry	69	Nickel	10
166	Backshell: Lightweight 90° Front Circular Entry	100	Nickel	15
167	Backshell: Lightweight 90° Front Circular Entry	69	Gold	10
168	Backshell: Lightweight 90° Front Circular Entry	100	Gold	16
169	Backshell: Lightweight 90° Front Elliptical Entry	69	Nickel	10
170	Backshell: Lightweight 90° Front Elliptical Entry	100	Nickel	13
171	Backshell: Lightweight 90° Front Elliptical Entry	69	Gold	10
172	Backshell: Lightweight 90° Front Elliptical Entry	100	Gold	14
173	Backshell: Lightweight Closed Shorting Can	69	Nickel	7
174	Backshell: Lightweight Closed Shorting Can	100	Nickel	11
175	Backshell: Lightweight Closed Shorting Can	69	Gold	8
176	Backshell: Lightweight Closed Shorting Can	100	Gold	11
177	Backshell: Lightweight 45° Front Elliptical Entry	69	Nickel	9
178	Backshell: Lightweight 45° Front Elliptical Entry	100	Nickel	13
179	Backshell: Lightweight 45° Front Elliptical Entry	69	Gold	9
180	Backshell: Lightweight 45° Front Elliptical Entry	100	Gold	14

NOTES:

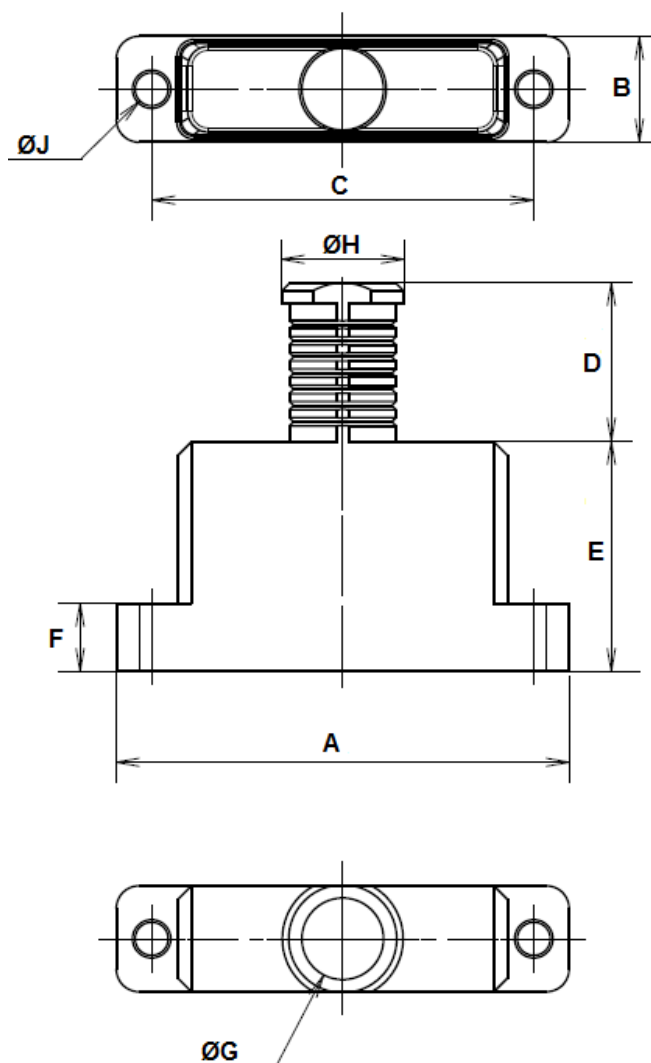
1. Variants 57 to 72, and 161 to 180 (shell sizes 69, 100) only apply to ESCC Detail Specification No. [3401/029](#).
2. See Para. 4.4.1.

TABLE 1(b) - MAXIMUM RATINGS

No.	Characteristic	Symbol	Maximum Rating	Unit
1	Operating Temperature Range	T _{op}	-55 to +125	°C
2	Storage Temperature Range	T _{stg}	-55 to +125	°C

FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) – BACKSHELL - LIGHTWEIGHT TOP CIRCULAR ENTRY

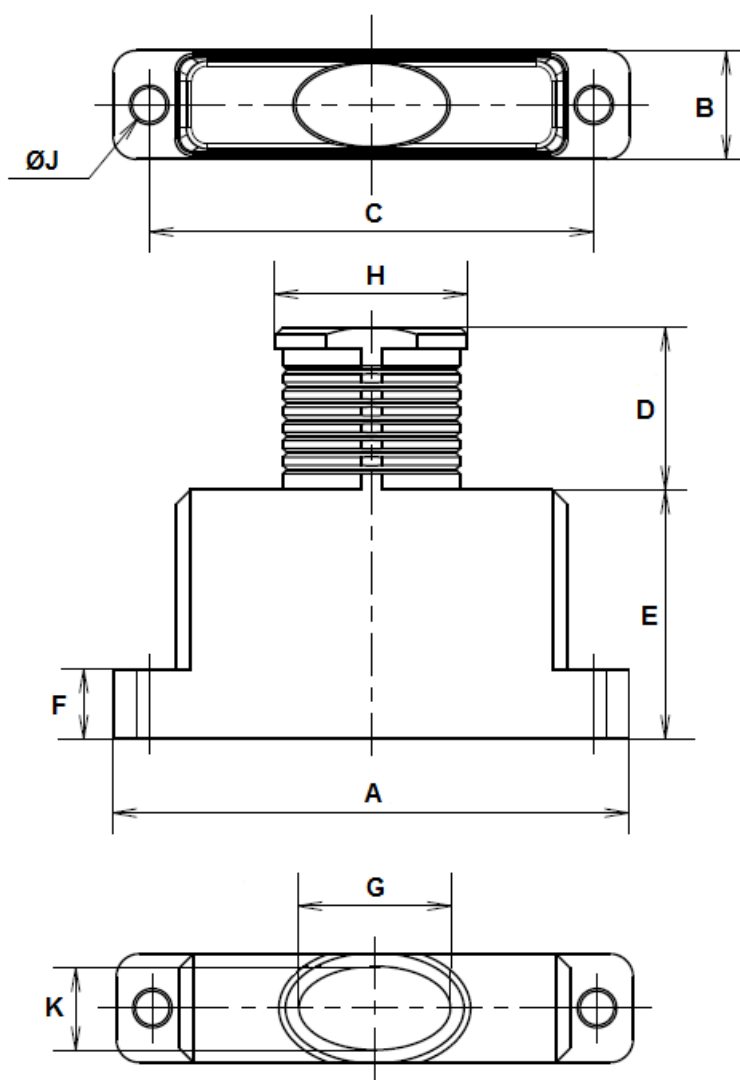


Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	ØG		ØH Max	ØJ	
				Min	Max				Min	Max		Min	Max
01, 08	9	19.94	8.1	14.22	14.48	11.7	10	5	5.8	6.2	9.2	2.35	2.45
02, 09	15	23.75	8.1	18.03	18.29	11.7	12	5	5.8	6.2	9.2	2.35	2.45
03, 10	21	27.56	8.1	21.84	22.1	11.7	14	5	5.8	6.2	9.2	2.35	2.45
04, 11	25	30.1	8.1	24.38	24.64	11.7	16	5	5.8	6.2	9.2	2.35	2.45
05, 12	31	33.91	8.1	28.19	28.45	11.7	17	5	5.8	6.2	9.2	2.35	2.45
06, 13	37	37.72	8.1	32	32.26	11.7	18	5	5.8	6.2	9.2	2.35	2.45
07, 14	51	36.45	9.1	30.73	30.99	11.7	19	5	6.8	7.2	10.2	2.35	2.45
57, 59	69	44.07	8.92	38.35	38.61	11.9	19.7	5	6.8	7.2	10.2	2.23	2.39
58, 60	100	55.12	10.74	45.59	45.85	11.9	21.3	5	8.1	8.5	11.5	3.73	3.86
73, 74	51-2R	46.55	8.1	40.89	41.15	11.7	22	5	5.8	6.2	9.2	2.35	2.45

NOTES:

- All dimensions are in millimetres.

FIGURE 2(b) – BACKSHELL - LIGHTWEIGHT TOP ELLIPTICAL ENTRY

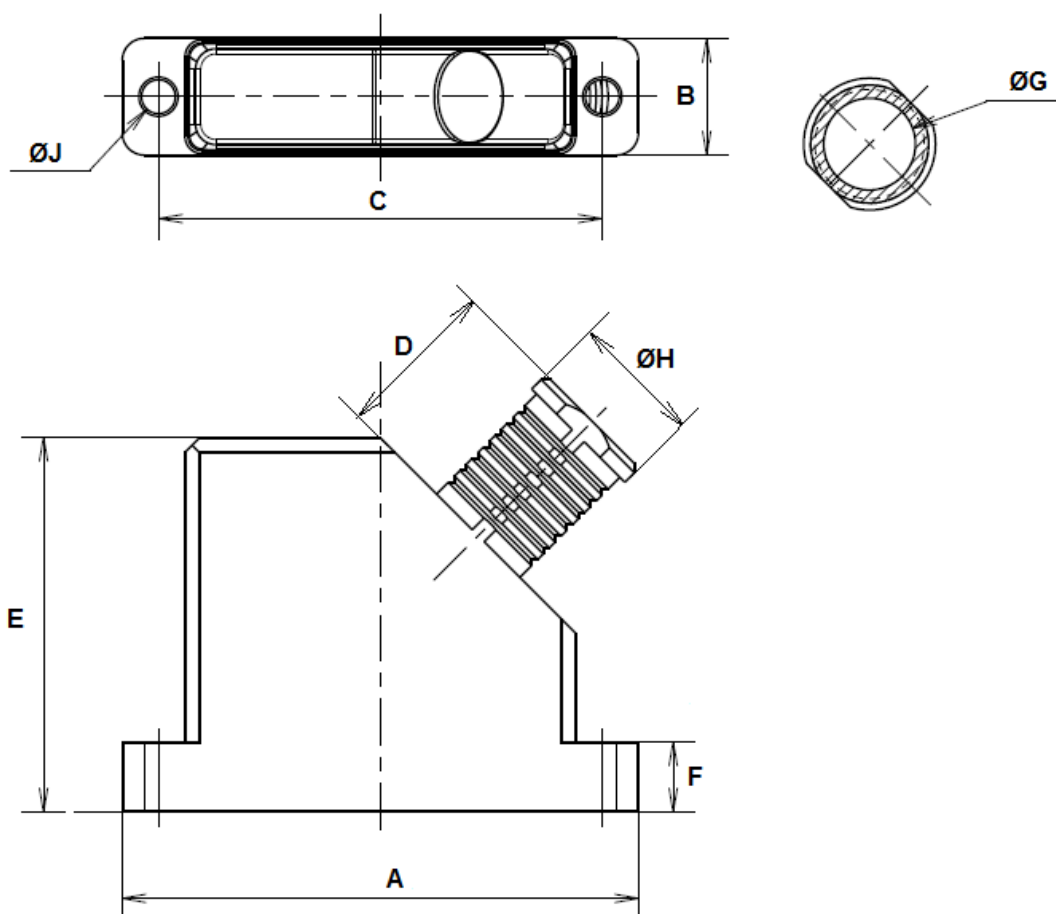


Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	G		H Max	ØJ		K	
				Min	Max				Min	Max		Min	Max	Min	Max
15, 22	9	19.94	8.1	14.22	14.48	11.7	10	5	7.7	8.1	11.1	2.35	2.45	5.8	6.2
16, 23	15	23.75	8.1	18.03	18.29	11.7	12	5	10.5	10.9	13.9	2.35	2.45	5.8	6.2
17, 24	21	27.56	8.1	21.84	22.1	11.7	14	5	14.8	15.2	18.2	2.35	2.45	5.8	6.2
18, 25	25	30.1	8.1	24.38	24.64	11.7	16	5	17.3	17.7	20.7	2.35	2.45	5.8	6.2
19, 26	31	33.91	8.1	28.19	28.45	11.7	17	5	20.6	21	24	2.35	2.45	5.8	6.2
20, 27	37	37.72	8.1	32	32.26	11.7	18	5	24.4	24.8	27.8	2.35	2.45	5.8	6.2
21, 28	51	36.45	9.1	30.73	30.99	11.7	19	5	23.2	23.6	26.6	2.35	2.45	6.8	7.2
61, 63	69	44.07	8.92	38.35	38.61	11.9	19.7	5	24.8	25.2	28.1	2.23	2.39	7.15	7.25
62, 64	100	55.12	10.74	45.59	45.85	11.9	21.3	5	25.8	26.2	29.2	3.73	3.86	8.25	8.35
75, 76	51-2R	46.55	8.1	40.89	41.15	11.7	22	5	29.8	30.2	33.2	2.35	2.45	5.8	6.2

NOTES:

1. All dimensions are in millimetres.

FIGURE 2(c) – BACKSHELL - LIGHTWEIGHT 45° CIRCULAR ENTRY

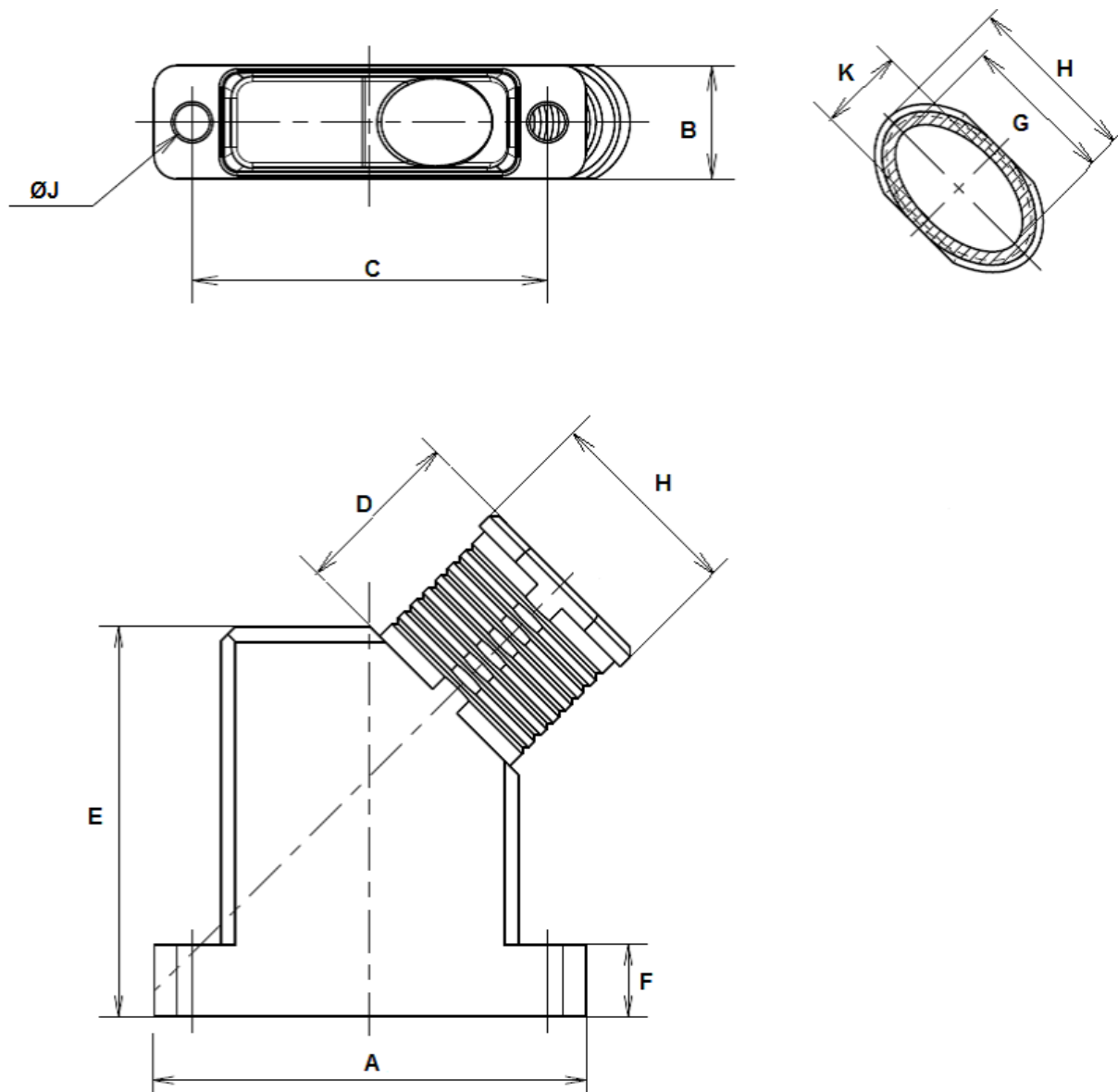


Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	ØG		ØH Max	ØJ	
				Min	Max				Min	Max		Min	Max
29, 36	9	19.94	8.1	14.22	14.48	11.7	21	5	5.1	5.5	8.5	2.35	2.45
30, 37	15	23.75	8.1	18.03	18.29	11.7	23	5	5.8	6.2	9.2	2.35	2.45
31, 38	21	27.56	8.1	21.84	22.1	11.7	24	5	5.8	6.2	9.2	2.35	2.45
32, 39	25	30.1	8.1	24.38	24.64	11.7	27	5	5.8	6.2	9.2	2.35	2.45
33, 40	31	33.91	8.1	28.19	28.45	11.7	28	5	5.8	6.2	9.2	2.35	2.45
34, 41	37	37.72	8.1	32	32.26	11.7	29	5	5.8	6.2	9.2	2.35	2.45
35, 42	51	36.45	9.1	30.73	30.99	11.7	30	5	6.8	7.2	10.2	2.35	2.45
65, 67	69	44.07	8.92	38.35	38.61	11.9	25.4	5	6.8	7.2	10.2	2.23	2.39
66, 68	100	55.12	10.74	45.59	45.85	11.9	27.4	5	8.1	8.5	11.5	3.73	3.86
77, 78	51-2R	46.55	8.1	40.89	41.15	11.7	35.1	5	5.8	6.2	9.2	2.35	2.45

NOTES:

1. All dimensions are in millimetres.

FIGURE 2(d) – BACKSHELL - LIGHTWEIGHT 45° ELLIPTICAL ENTRY

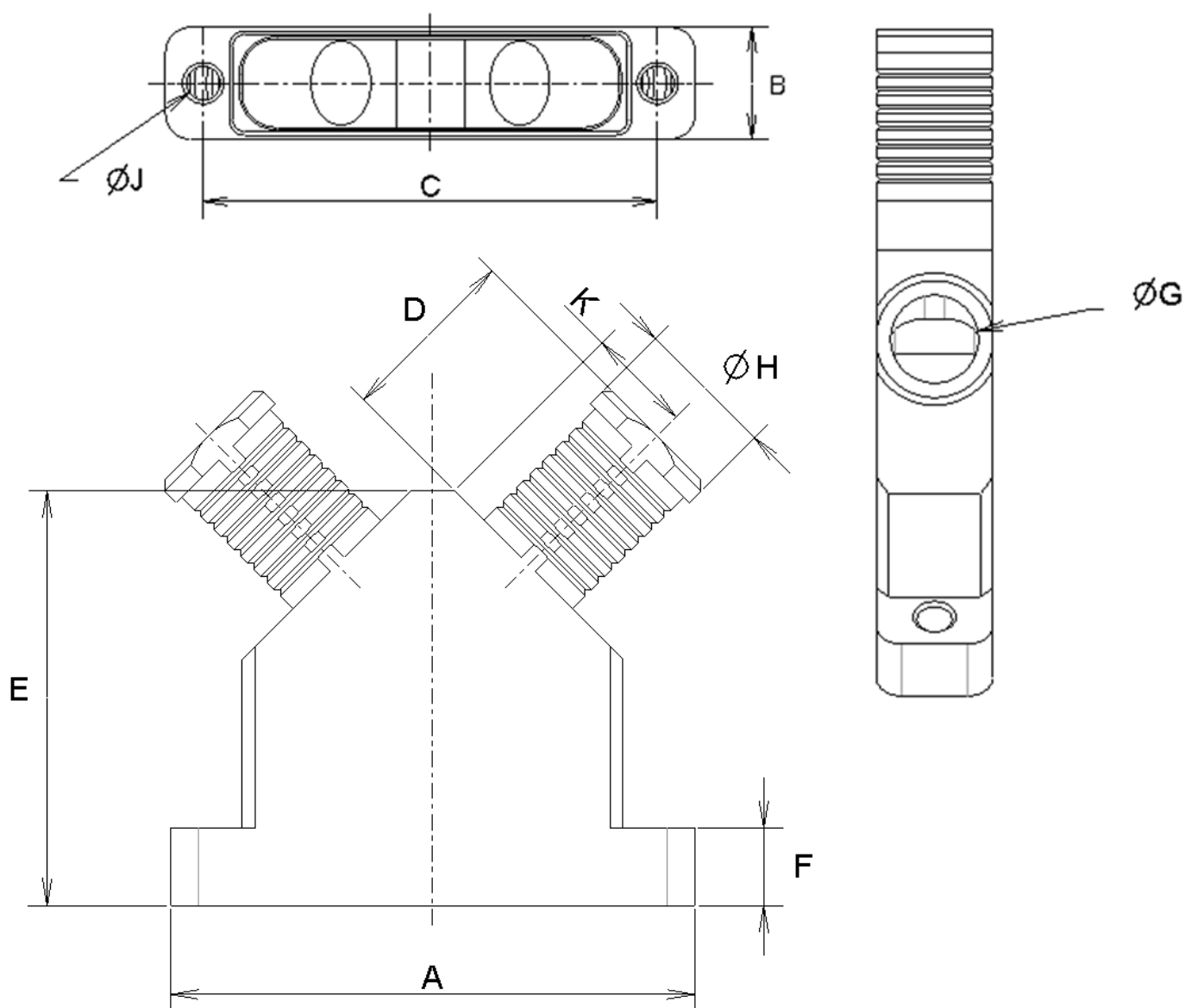


Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	G		H Max	ØJ		K	
				Min	Max				Min	Max		Min	Max	Min	Max
43, 50	9	19.94	8.1	14.22	14.48	11.7	21	5	4.8	5.2	8.2	2.35	2.45	5.8	6.2
44, 51	15	23.75	8.1	18.03	18.29	11.7	23	5	7.3	7.7	10.7	2.35	2.45	5.8	6.2
45, 52	21	27.56	8.1	21.84	22.1	11.7	24	5	9.3	9.7	12.7	2.35	2.45	5.8	6.2
46, 53	25	30.1	8.1	24.38	24.64	11.7	27	5	10.6	11	14	2.35	2.45	5.8	6.2
47, 54	31	33.91	8.1	28.19	28.45	11.7	28	5	12.3	12.7	15.7	2.35	2.45	5.8	6.2
48, 55	37	37.72	8.1	32	32.26	11.7	29	5	14.8	15.2	18.2	2.35	2.45	5.8	6.2
49, 56	51	36.45	9.1	30.73	30.99	11.7	30	5	16.8	17.2	20.2	2.35	2.45	6.8	7.2
69, 71	69	44.07	8.92	38.35	38.61	11.9	35.9	5	24.8	25.2	28.1	2.23	2.39	7.15	7.25
70, 72	100	55.12	10.74	45.59	45.85	11.9	36.9	5	25.8	26.2	29.2	3.73	3.86	8.25	8.35
79, 80	51-2R	46.55	8.1	40.89	41.15	11.7	35.1	5	17.8	18.2	21.2	2.35	2.45	5.8	6.2

NOTES:

- All dimensions are in millimetres.

FIGURE 2(e) – BACKSHELL - LIGHTWEIGHT 45° DUAL TOP CIRCULAR ENTRY

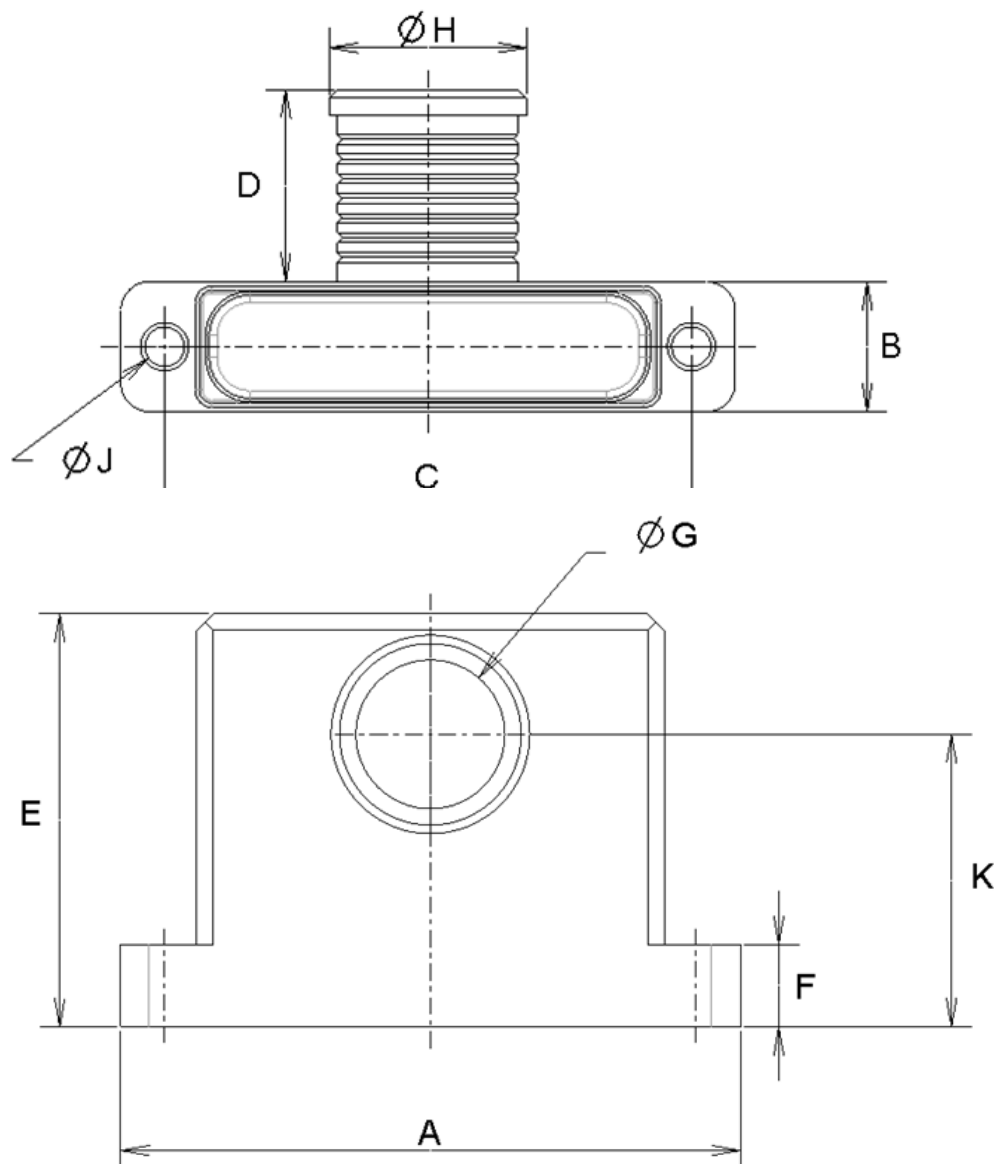


Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	G		ØH Max	ØJ		K	
				Min	Max				Min	Max		Min	Max	Min	Max
81, 89	9	19.94	8.1	14.22	14.48	11.7	20.5	5	3.8	4.2	7.2	2.35	2.45	3	3.2
82, 90	15	23.75	8.1	18.03	18.29	11.7	22.3	5	4.8	5.2	8.2	2.35	2.45	4	4.2
83, 91	21	27.56	8.1	21.84	22.1	11.7	23.3	5	5.8	6.2	9.2	2.35	2.45	5.35	5.55
84, 92	25	30.1	8.1	24.38	24.64	11.7	25.6	5	5.8	6.2	9.2	2.35	2.45	5.3	5.5
85, 93	31	33.91	8.1	28.19	28.45	11.7	26.6	5	5.8	6.2	9.2	2.35	2.45	6.6	6.8
86, 94	37	37.72	8.1	32	32.26	11.7	27.6	5	5.8	6.2	9.2	2.35	2.45	6.95	7.15
87, 95	51-2R	46.55	8.1	40.89	41.15	11.7	25.5	5	5.8	6.2	9.2	2.35	2.45	7.13	7.33
88, 96	51	36.45	9.1	30.73	30.99	11.7	27.9	5	6.8	7.2	10.2	2.35	2.45	6.5	6.7
161, 163	69	44.07	8.92	38.35	38.61	11.9	27.7	5	6.8	7.2	10.2	2.23	2.39	6.9	7.1
162, 164	100	55.12	10.74	45.59	45.85	11.9	31.4	5	8.1	8.5	11.5	3.74	3.86	8.13	8.33

NOTES:

1. All dimensions are in millimetres.

FIGURE 2(f) – BACKSHELL - LIGHTWEIGHT 90° FRONT CIRCULAR ENTRY

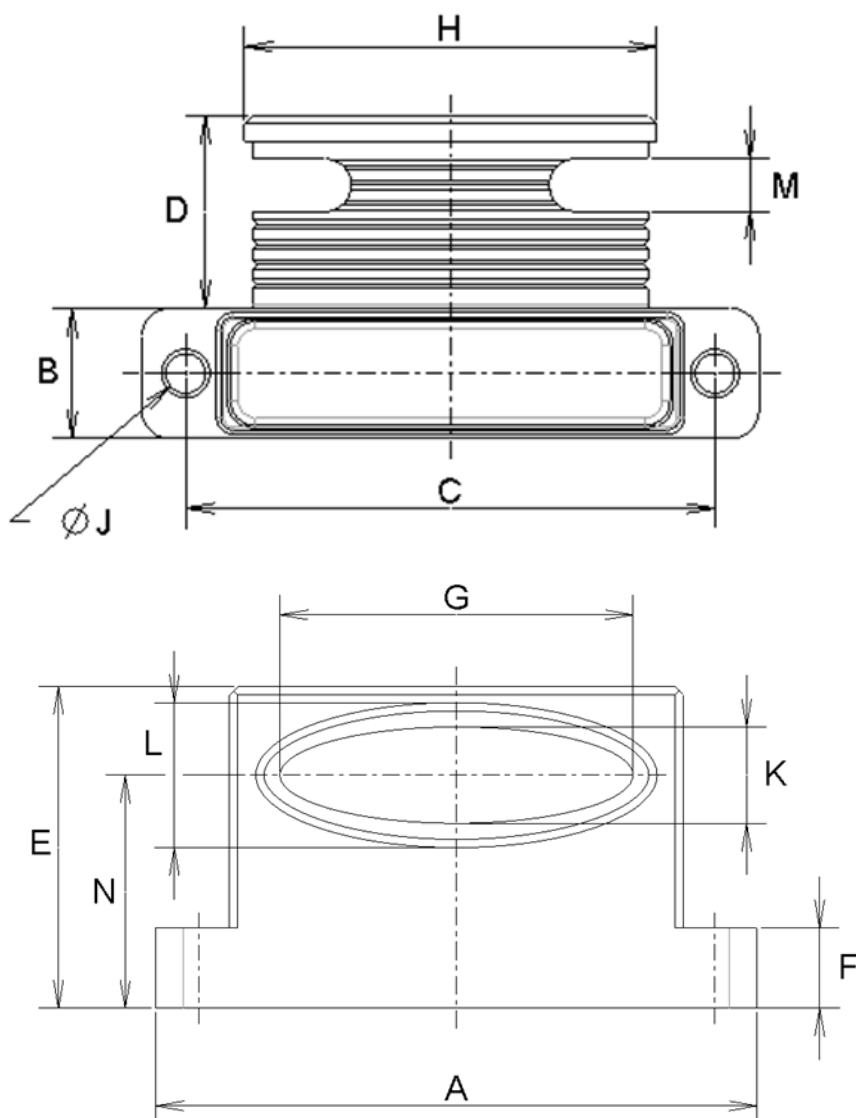


Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	ØG		ØH Max	ØJ		K Typ
				Min	Max				Min	Max		Min	Max	
97, 105	9	19.94	8.1	14.22	14.48	11.7	20	5	4.8	5.2	8.2	2.35	2.45	15
98, 106	15	23.75	8.1	18.03	18.29	11.7	20	5	5.8	6.2	9.2	2.35	2.45	14.5
99, 107	21	27.56	8.1	21.84	22.1	11.7	20	5	6.8	7.2	10.2	2.35	2.45	14
100, 108	25	30.1	8.1	24.38	24.64	11.7	20	5	7.3	7.7	10.7	2.35	2.45	14
101, 109	31	33.91	8.1	28.19	28.45	11.7	25	5	7.8	8.2	11.2	2.35	2.45	18.5
102, 110	37	37.72	8.1	32	32.26	11.7	25	5	8.8	9.2	12.2	2.35	2.45	18
103, 111	51-2R	46.55	8.1	40.89	41.15	11.7	25	5	10.3	10.7	13.7	2.35	2.45	17.7
104, 112	51	36.45	9.1	30.73	30.99	11.7	25	5	10.3	10.7	13.7	2.35	2.45	17.7
165, 167	69	44.07	8.92	38.35	38.61	11.9	26	5	11.3	11.7	14.7	2.23	2.39	18
166, 168	100	55.12	10.74	45.59	45.85	11.9	29.5	5	13.3	13.7	16.7	3.74	3.86	20

NOTES:

- All dimensions are in millimetres

FIGURE 2(g) – BACKSHELL - LIGHTWEIGHT 90° FRONT ELLIPTICAL ENTRY



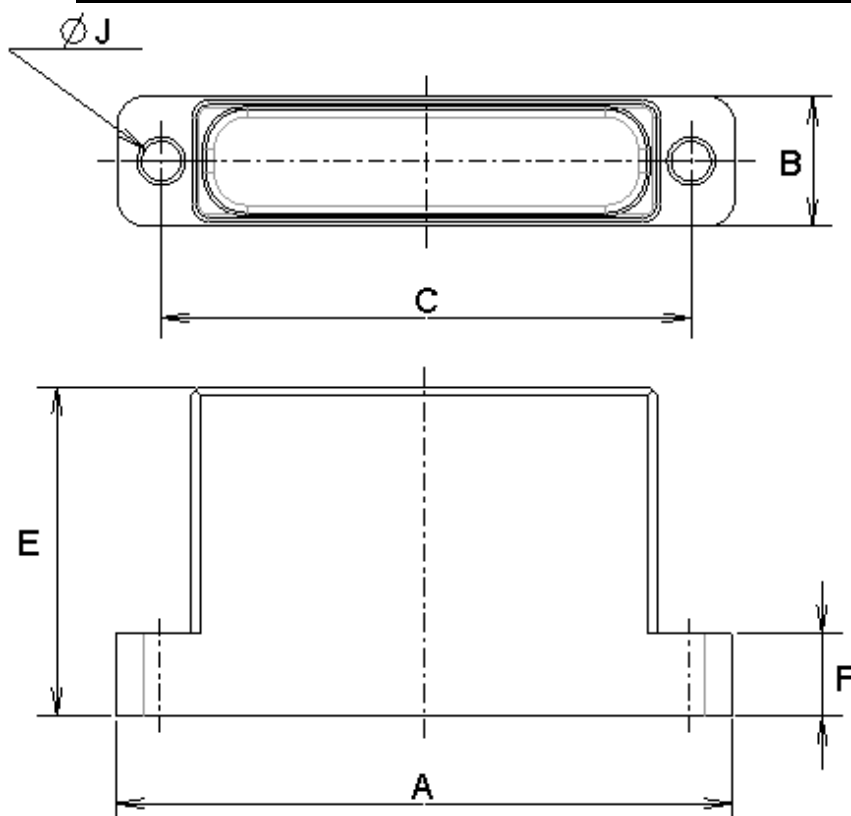
Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	G		H Max	ØJ	
				Min	Max				Min	Max		Min	Max
113, 121	9	19.94	8.1	14.22	14.48	11.7	20	5	6.8	7.2	10.2	2.35	2.45
114, 122	15	23.75	8.1	18.03	18.29	11.7	20	5	8.3	8.7	11.7	2.35	2.45
115, 123	21	27.56	8.1	21.84	22.1	11.7	20	5	11.8	12.2	15.2	2.35	2.45
116, 124	25	30.1	8.1	24.38	24.64	11.7	20	5	14.8	15.2	18.2	2.35	2.45
117, 125	31	33.91	8.1	28.19	28.45	11.7	20	5	17.8	18.2	21.2	2.35	2.45
118, 126	37	37.72	8.1	32	32.26	11.7	20	5	21.8	22.2	25.2	2.35	2.45
119, 127	51-2R	46.55	8.1	40.89	41.15	11.7	23	5	26.8	27.2	30.2	2.35	2.45
120, 128	51	36.45	9.1	30.73	30.99	11.7	23	5	20.8	21.2	24.2	2.35	2.45
169, 171	69	44.07	8.92	38.35	38.61	11.9	23	5	24.8	25.2	28.2	2.23	2.39
170, 172	100	55.12	10.74	45.59	45.85	11.9	23	5	25.8	26.2	29.2	3.74	3.86

Variant No.	Shell Size	K		L	M	N
		Min	Max	Max	Typ	Typ
113, 121	9	4.8	5.2	8.2	3.2	14
114, 122	15	5.8	6.2	9.2	3.2	14.5
115, 123	21	5.8	6.2	9.2	3.2	14.5
116, 124	25	5.8	6.2	9.2	3.2	14.5
117, 125	31	5.8	6.2	9.2	3.2	14.5
118, 126	37	5.8	6.2	9.2	3.2	14.5
119, 127	51-2R	6.8	7.2	10.2	3.2	17
120, 128	51	7.8	8.2	11.2	3.2	16.5
169, 171	69	6.8	7.2	10.2	3.2	17
170, 172	100	7.8	8.2	11.2	3.2	16.5

NOTES:

1. All dimensions are in millimetres.

FIGURE 2(h) – BACKSHELL - LIGHTWEIGHT CLOSED SHORTING CAN

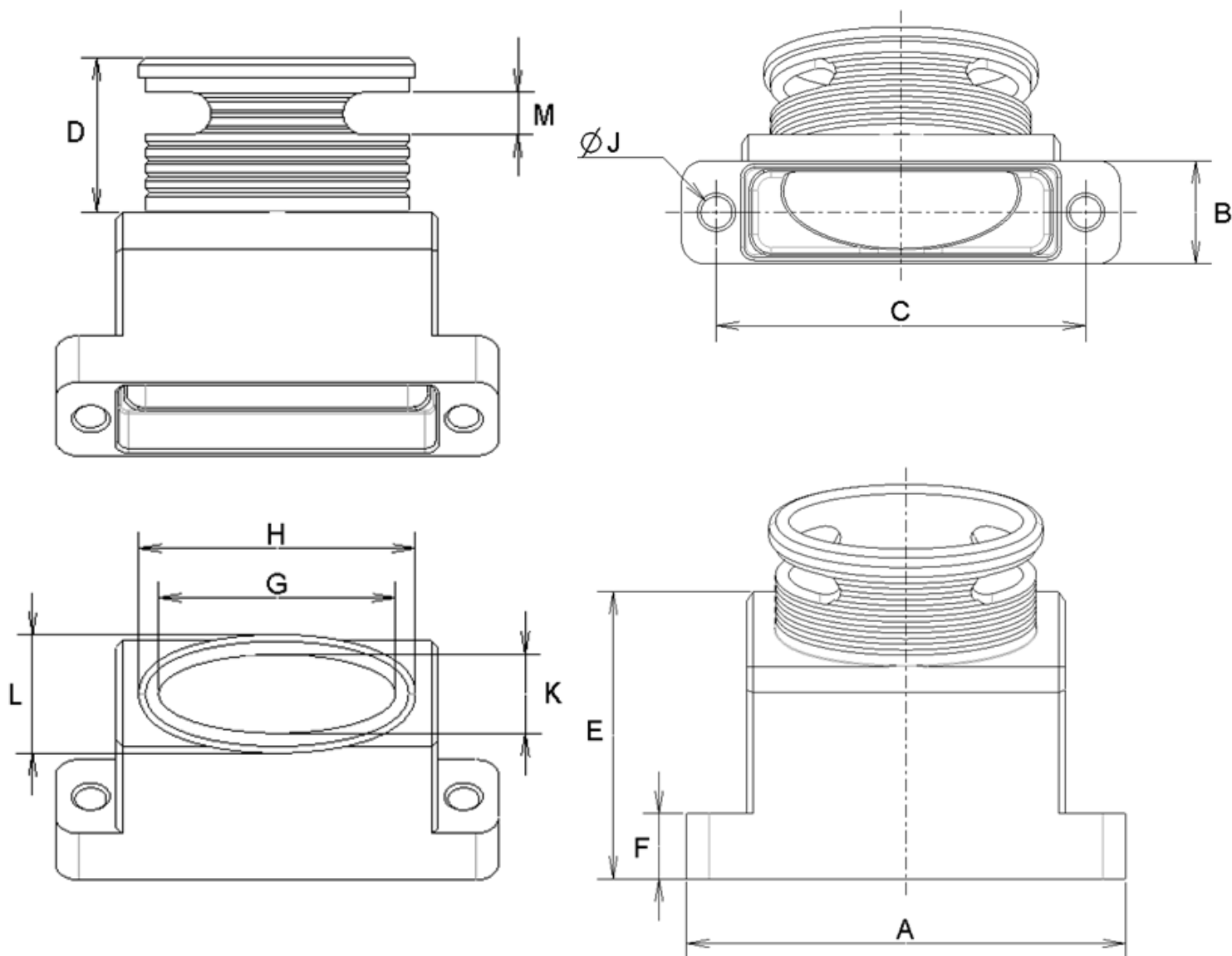


Variant No.	Shell Size	A Max	B Max	C		E Typ	F Typ	ØJ	
				Min	Max			Min	Max
129, 137	9	19.94	8.1	14.22	14.48	20	5	2.35	2.45
130, 138	15	23.75	8.1	18.03	18.29	20	5	2.35	2.45
131, 139	21	27.56	8.1	21.84	22.1	20	5	2.35	2.45
132, 140	25	30.1	8.1	24.38	24.64	20	5	2.35	2.45
133, 141	31	33.91	8.1	28.19	28.45	20	5	2.35	2.45
134, 142	37	37.72	8.1	32	32.26	20	5	2.35	2.45
135, 143	51-2R	46.55	8.1	40.89	41.15	20	5	2.35	2.45
136, 144	51	36.45	9.1	30.73	30.99	20	5	2.35	2.45
173, 175	69	44.07	8.92	38.35	38.61	20	5	2.23	2.39
174, 176	100	55.12	10.74	45.59	45.85	20	5	3.74	3.86

NOTES:

1. All dimensions are in millimetres.

FIGURE 2(i) – BACKSHELL - LIGHTWEIGHT 45° FRONT ELLIPTICAL ENTRY



Variant No.	Shell Size	A Max	B Max	C		D Typ	E Typ	F Typ	G		H Max	ØJ		K Min	K Max	L Max	M Typ
				Min	Max				Min	Max		Min	Max				
145, 153	9	19.94	8.1	14.22	14.48	11.7	20	5	5.8	6.2	9.2	2.35	2.45	5.8	6.2	9.2	3.2
146, 154	15	23.75	8.1	18.03	18.29	11.7	20	5	8.3	8.7	11.7	2.35	2.45	5.8	6.2	9.2	3.2
147, 155	21	27.56	8.1	21.84	22.1	11.7	20	5	11.8	12.2	15.2	2.35	2.45	5.8	6.2	9.2	3.2
148, 156	25	30.1	8.1	24.38	24.64	11.7	20	5	14.8	15.2	18.2	2.35	2.45	5.8	6.2	9.2	3.2
149, 157	31	33.91	8.1	28.19	28.45	11.7	22	5	17.8	18.2	21.2	2.35	2.45	5.8	6.2	9.2	3.2
150, 158	37	37.72	8.1	32	32.26	11.7	22	5	21.8	22.2	25.2	2.35	2.45	5.8	6.2	9.2	3.2
151, 159	51-2R	46.55	8.1	40.89	41.15	11.7	22	5	26.8	27.2	30.2	2.35	2.45	5.8	6.2	9.2	3.2
152, 160	51	36.45	9.1	30.73	30.99	11.7	22	5	21.8	22.2	25.2	2.35	2.45	6.8	7.2	10.2	3.2
177, 179	69	44.07	8.92	38.35	38.61	11.9	20	5	24.8	25.2	28.2	2.23	2.39	7	7.4	10.4	3.2
178, 180	100	55.12	10.74	45.59	45.85	11.9	20	5	25.8	26.2	29.2	3.74	3.86	8.1	8.5	11.5	3.2

NOTES:

- All dimensions are in millimetres.

4 REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the accessories specified herein are stated in this specification and ESCC Generic Specification No. 3401. Deviations from the Generic Specification, applicable to this specification only, are listed in Para. 4.2.

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

4.2.1 Deviations from Special In-Process Controls

- (a) Para. 5.2.2, Gold Plating Porosity: Not applicable.
- (b) Para. 5.2.3, Plating Thickness: Not applicable.

4.2.2 Deviations from Final Production Tests (Chart II)

Only the following tests shall be performed:

- (a) Para. 4.4, Marking.
- (b) Para. 9.6, Dimension Check.
- (c) Para. 9.7, External Visual Inspection. The magnification shall be x3.

4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)

Chart III is not applicable.

4.2.4 Deviations from Qualification Tests (Chart IV)

Chart IV is not applicable.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

Chart V is not applicable.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the accessories specified herein shall be verified in accordance with the requirements set out in Para. 9.6 of ESCC Generic Specification No. 3401 and shall conform to those shown in Figure 2 of this specification.

4.3.2 Weight

The maximum weight of the accessories specified herein shall be as specified in Table 1(a).

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the components specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

4.4.1 Backshells

Backshells shall be made of aluminium alloy.

Variants with nickel finish (see Table 1(a)) shall have a minimum plating thickness of 25.4µm of electroless nickel.

Variants with gold finish (see Table 1(a)) shall have a plating thickness of 0.7µm minimum of gold over 25.4µm minimum of electroless nickel underplating.

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and the following paragraphs. When the component is too small to accommodate all of the marking specified, as much as space permits shall be marked and the marking information, in full, shall accompany each component in its primary package.

The information to be marked and the order of precedence, shall be as follows:

- (a) The ESCC qualified components symbol (for ESCC qualified components only).
- (b) The ESCC Component Number.
- (c) Traceability Information.

4.5.2 The ESCC Component Number

The ESCC Component Number shall be constituted as follows:

Example: 340108701B

- Detail Specification Reference: 3401087
- Component Type Variant Number: 01 (as required)
- Testing Level: B

4.5.3 Traceability Information

Traceability information shall be marked in accordance with the requirements of ESCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS (TABLES 2 AND 3)

Not applicable.

4.7 BURN-IN AND ELECTRICAL MEASUREMENTS (TABLES 4 AND 5)

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (TABLE 6)

Not applicable.

APPENDIX A**AGREED DEVIATIONS FOR CK CONNECT (F)**

ITEMS AFFECTED	DESCRIPTION OF DEVIATIONS
Para. 4.3.1 Dimension Check	Dimension Check may only be performed on the following specific dimensions: • For all Variants: Dimension C only.