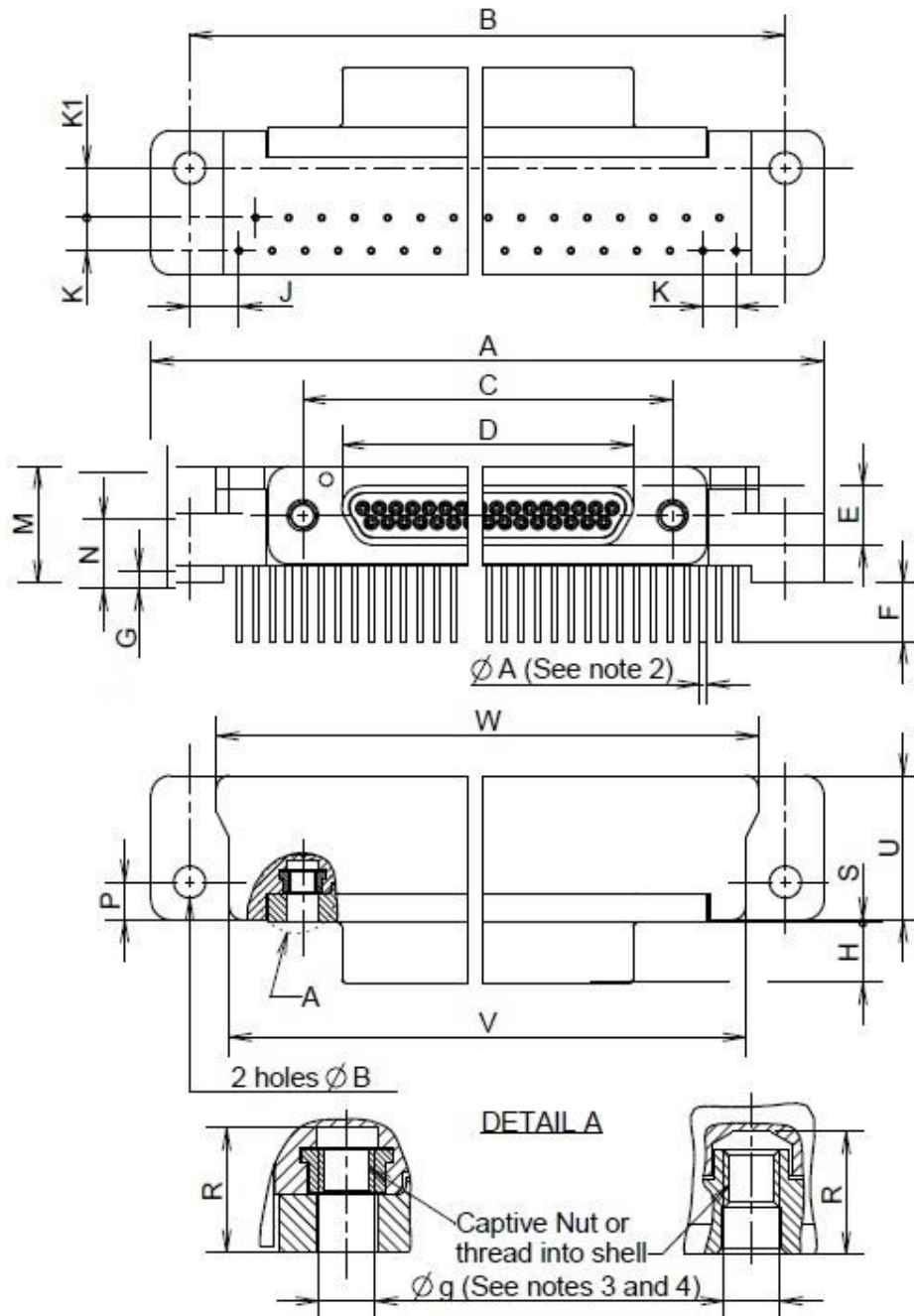


FIGURE 2.2A – CONNECTORS TYPE – FR136
PLUG MALE CONTACTS



NEW FIG. 2.2A

Shell Size	A	B		$\varnothing B$ (4)		C		D	E	F		G		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.
9	35.31	29.03	29.39	2.31	2.59	14.22	14.48	8.46	4.69	4.15	4.85	0	1.7	4.72	9.53
15	39.12	32.84	33.2	2.31	2.59	18.03	18.29	12.27	4.69	4.15	4.85	0	1.7	4.72	7.62
21	42.93	36.65	37.01	2.31	2.59	21.84	22.1	16.08	4.69	4.15	4.85	0	1.7	4.72	5.72
25	45.47	39.19	39.55	2.31	2.59	24.38	24.64	18.62	4.69	4.15	4.85	0	1.7	4.72	4.45
31	51.82	45.54	45.9	2.31	2.59	28.19	28.45	22.43	4.69	4.15	4.85	0	1.7	4.72	3.81
37	59.44	53.16	53.52	2.31	2.59	32	32.26	26.24	4.69	4.15	4.85	0	1.7	4.72	3.81

Shell Size	K	K1		M		N		P		R	S		U	V		W	
	Typ.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Max.	Min.	Max.	Min.	Max.
9	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	23.05	23.25	24.90	25.20
15	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	26.85	27.05	28.70	29.00
21	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	30.80	31.00	32.55	32.85
25	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	33.30	33.50	35.15	35.45
31	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	39.50	39.70	41.45	41.75
37	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	47.15	47.35	49.00	49.30

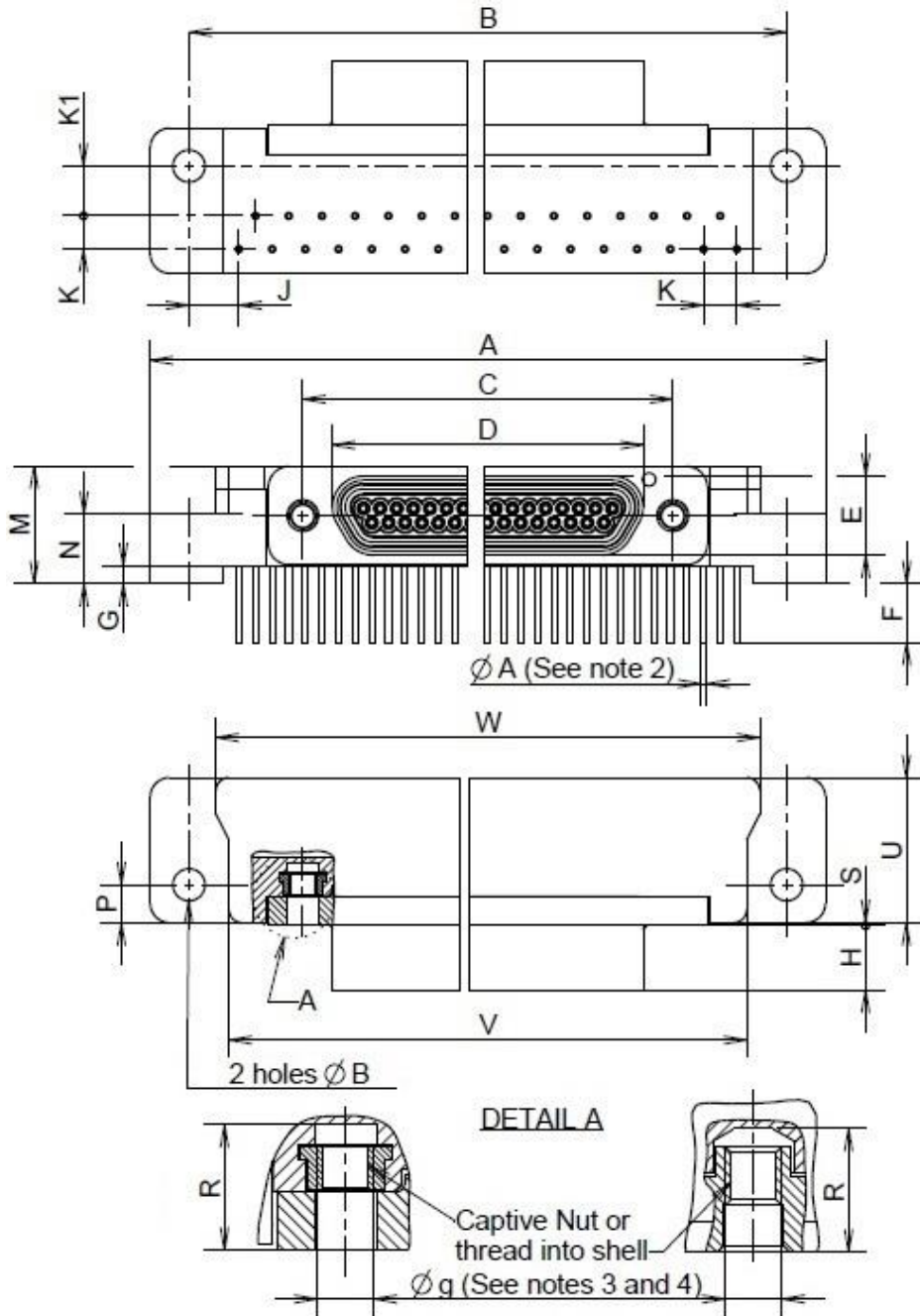
NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

DELETED COLUMNS « Q » AND « T »

FIGURE 2.2B – CONNECTORS TYPE – FR136
RECEPTACLE FEMALE CONTACTS

NEW FIG. 2.2B



Shell Size	A		B		$\varnothing B$ (4)		C		D	E	F		G		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.	
9	35.31	29.03	29.39	2.31	2.59	14.22	14.48	10.16	6.38	4.15	4.85	0	1.7	5.05	9.53	
15	39.12	32.84	33.2	2.31	2.59	18.03	18.29	13.97	6.38	4.15	4.85	0	1.7	5.05	7.62	
21	42.93	36.65	37.01	2.31	2.59	21.84	22.1	17.78	6.38	4.15	4.85	0	1.7	5.05	5.72	
25	45.47	39.19	39.55	2.31	2.59	24.38	24.64	20.32	6.38	4.15	4.85	0	1.7	5.05	4.45	
31	51.82	45.54	45.9	2.31	2.59	28.19	28.45	24.13	6.38	4.15	4.85	0	1.7	5.05	3.81	
37	59.44	53.16	53.52	2.31	2.59	32	32.26	27.94	6.38	4.15	4.85	0	1.7	5.05	3.81	

Shell Size	K	K1		M		N		P		R	S		U	V		W	
	Typ.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Max.	Min.	Max.	Min.	Max.
9	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	23.05	23.25	24.90	25.20
15	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	26.85	27.05	28.70	29.00
21	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	30.80	31.00	32.55	32.85
25	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	33.30	33.50	35.15	35.45
31	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	39.50	39.70	41.45	41.75
37	2.54	3.56	4.06	9	9.2	5.15	5.45	2.79	3.55	4.55	0.2	0.5	11.56	47.15	47.35	49.00	49.30

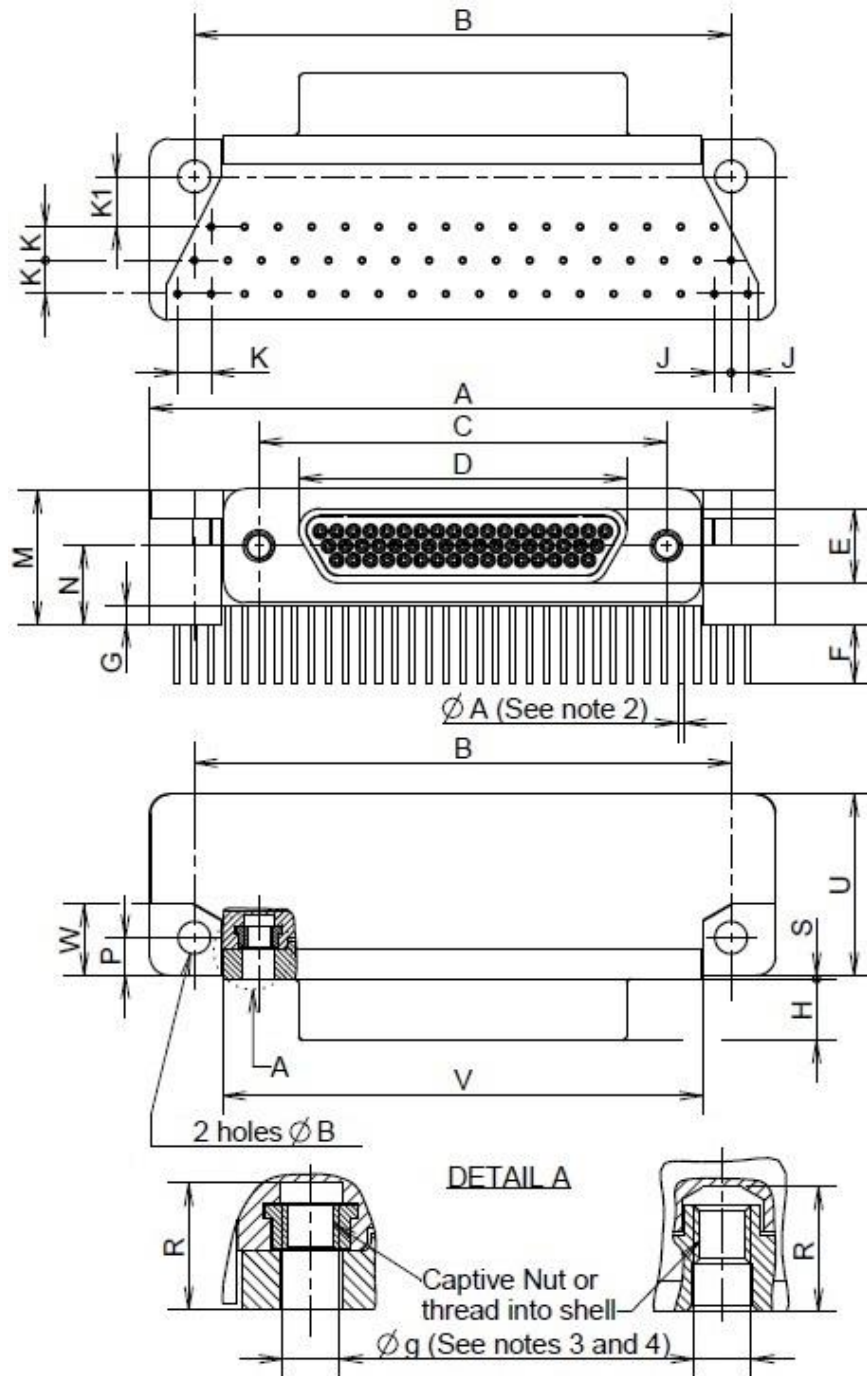
NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

DELETED COLUMNS « Q » AND « T »

FIGURE 2.2C – CONNECTORS TYPE – FR136

PLUG MALE CONTACTS (SIZE 51)



NEW FIG. 2.2C

Shell Size	A		B		ϕB (4)		C		D	E	F	G		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.
51	47.63	40.46	40.82	2.31	2.59	30.73	30.99	27.97	5.78	4.15	4.85	0	1.7	4.72	1.27

Shell Size	K	K1		M		N		P	R	S	U	V		W			
	Typ.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
51	2.54	3.56	4.06	10.1	10.4	5.81	6.11	2.79	3.55	4.55	0.2	0.5	14.35	36.34	36.54	5.3	5.5

DELETED COLUMNS « Q » AND « T »

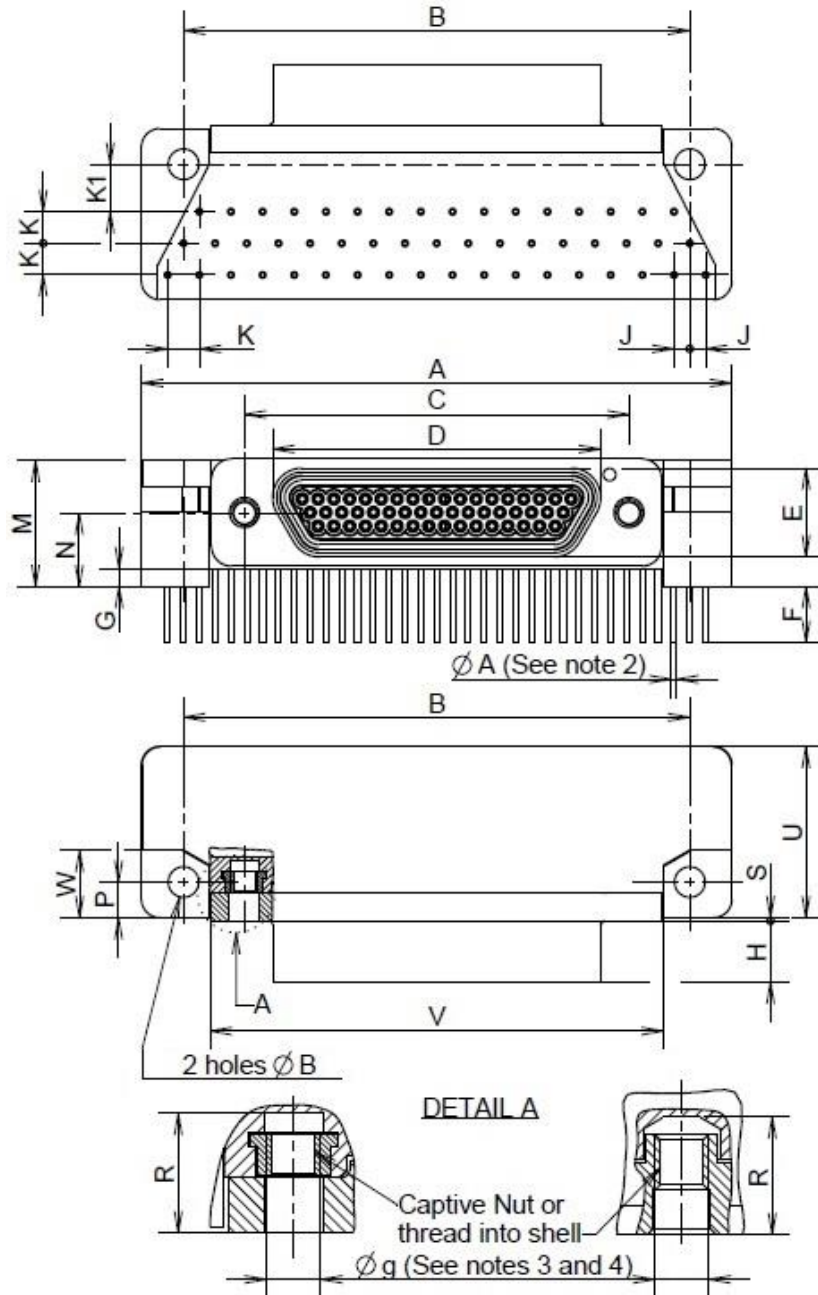


NOTES:

1. All dimensions are in millimeters.
2. For $\varnothing A$ refer to **Fig. 2-4** of this specification.
3. $\varnothing g$: 2-56-UNC-2B.
4. Torque 0.44 Nm **min.** / **0,48 Nm max.**

FIGURE 2.2D – CONNECTORS TYPE – FR136
RECEPTACLE FEMALE CONTACTS (SIZE 51)

NEW FIG. 2.2D



Shell Size	A		B		ØB (4)		C		D	E	F	G		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.
51	47.63	40.46	40.82	2.31	2.59	30.73	30.99	26.67	7.47	4.15	4.85	0	1.7	5.05	1.27

Shell Size	K	K1		M		N		P		R	S	U	V		W		
	Typ.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Max.	Min.	Max.	Min.	Max.
51	2.54	3.56	4.06	10.1	10.4	5.81	6.11	2.79	3.55	4.55	0.2	0.5	14.35	36.34	36.54	5.3	5.5

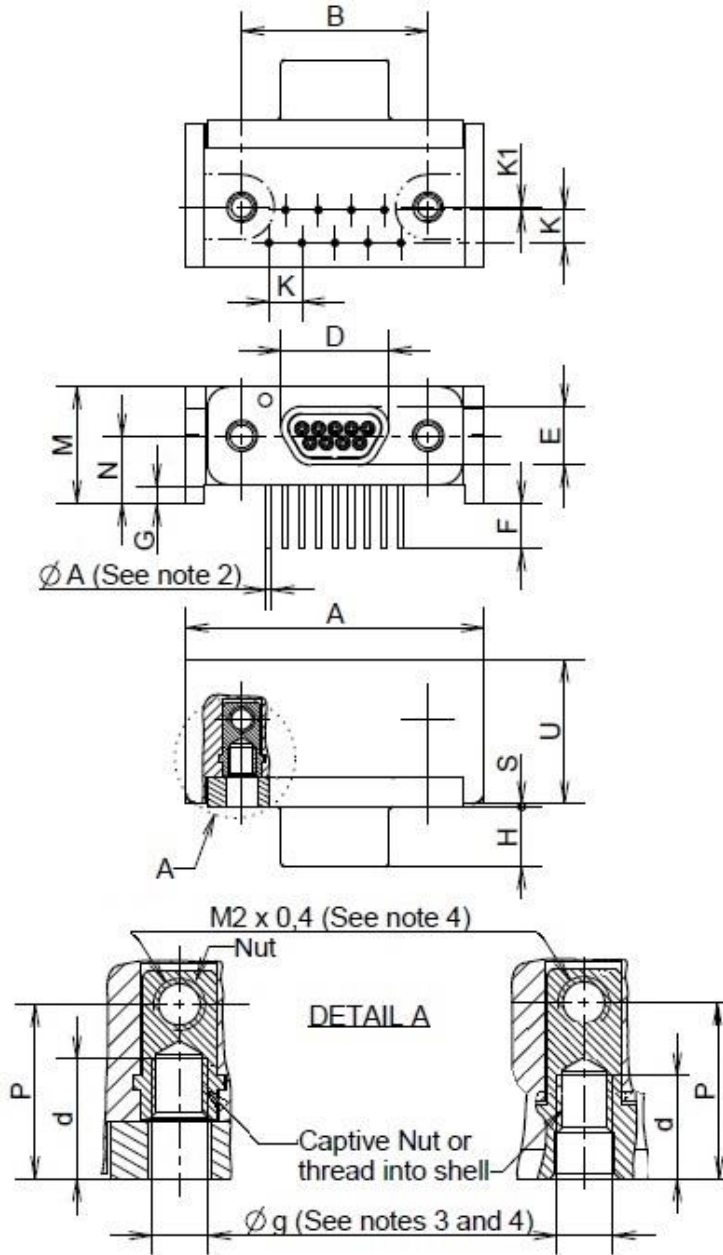
NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

DELETED COLUMNS « Q » AND « T »

FIGURE 2.2E – CONNECTORS TYPE – FR136A
PLUG MALE CONTACTS

NEW FIG. 2.2E



Shell	A	B		d	D	E	F		G		H	K	K1
Size	Max.	Min.	Max.	Min.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.	Typ.
9	23.12	14.22	14.48	4,55	8.46	4.69	3.3	3.7	0	1.7	4.72	2.54	0.2

Shell	M		N		P		S		U
Size	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.
9	9	9.2	5.15	5.45	6.48	7.24	0.2	0,5	11.56

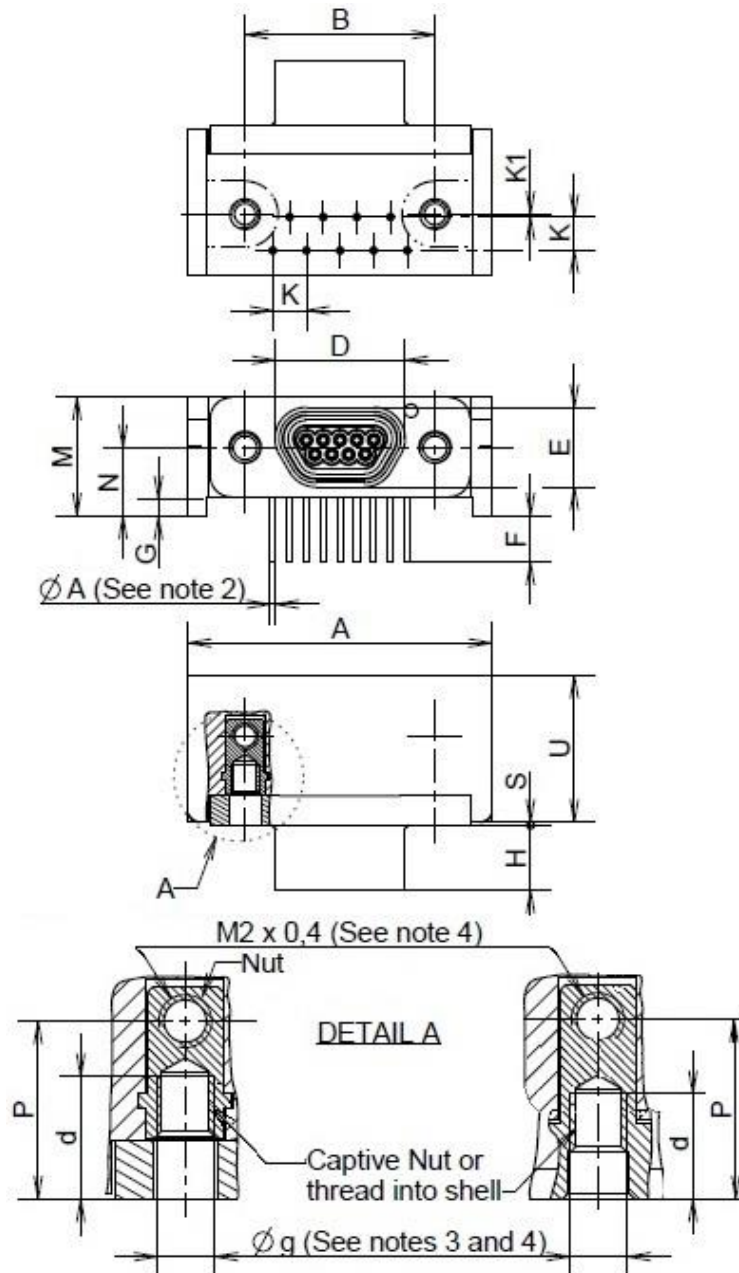
**DELETED COLUMN « T »
 ADDED COLUMN « G »**

NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

**FIGURE 2.2F – CONNECTORS TYPE – FR136A
RECEPTACLE FEMALE CONTACTS**

NEW FIG. 2.2F



Shell	A	B		d	D	E	F		G		H	K	K1
Size	Max.	Min.	Max.	Min.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.	Typ.
9	23.12	14.22	14.48	4,55	10,16	6,38	3,3	3,7	0	1,7	5,05	2,54	0,2

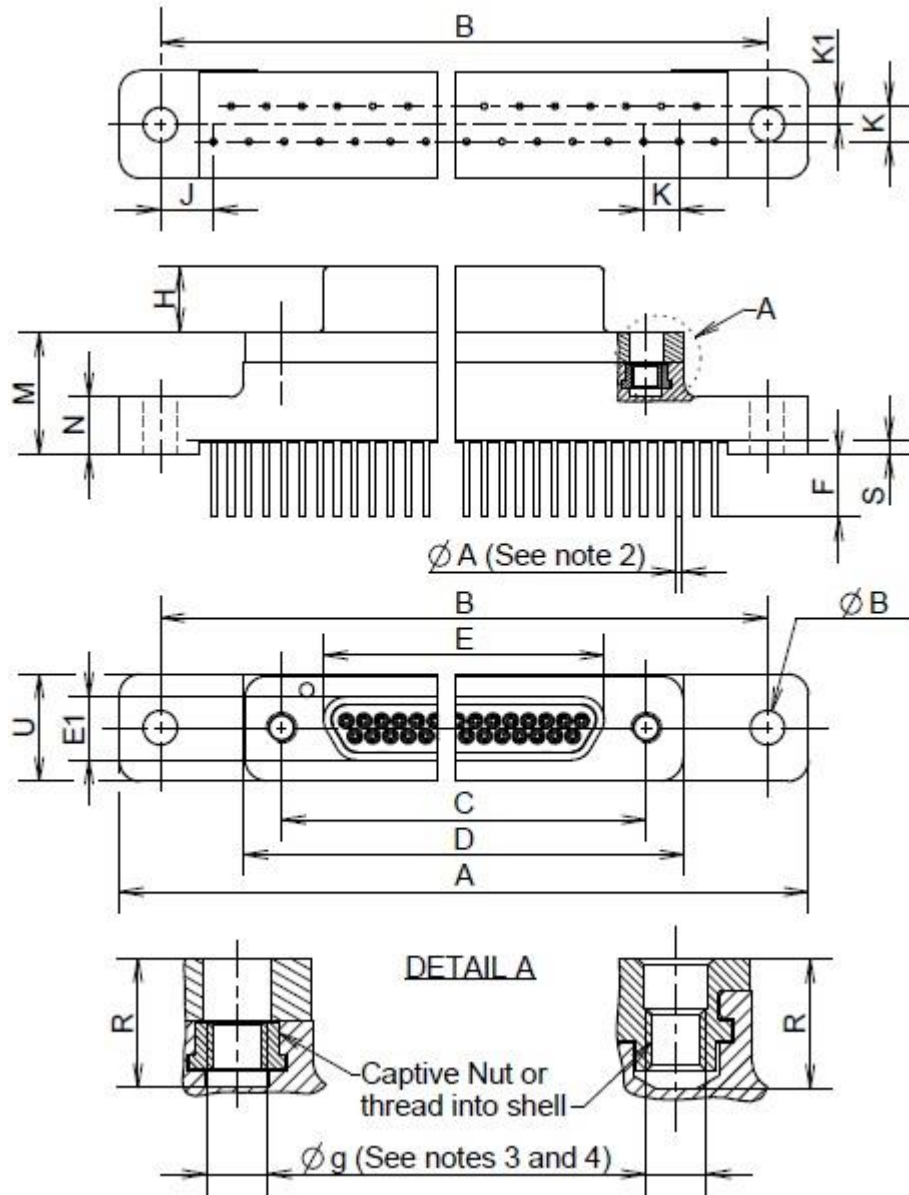
Shell	M		N		P		S		U
Size	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.
9	9	9.2	5.15	5.45	6.48	7.24	0.2	0,5	11.56

**DELETED COLUMN « T »
ADDED COLUMN « G »**

NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

FIGURE 2.2G – CONNECTORS TYPE – FR139
PLUG MALE CONTACTS



NEW FIG. 2.2G

Shell Size	A		B		ØB (4)		C		D	E	E1	E		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Typ.	
9	35.31	29.03	29.39	2.31	2.59	14.22	14.48	19.94	8.46	4.69	4.15	4.85	4.72	9.53	
15	35.31	29.03	29.39	2.31	2.59	18.03	18.29	23.75	12.27	4.69	4.15	4.85	4.72	5.72	
21	42.93	36.65	37.01	2.31	2.59	21.84	22.1	27.56	16.08	4.69	4.15	4.85	4.72	5.72	
25	44.2	37.92	38.28	2.31	2.59	24.38	24.64	30.1	18.62	4.69	4.15	4.85	4.72	3.81	
31	51.82	45.54	45.9	2.31	2.59	28.19	28.45	33.91	22.43	4.69	4.15	4.85	4.72	3.81	
37	59.44	53.16	53.52	2.31	2.59	32	32.26	37.72	26.64	4.69	4.15	4.85	4.72	3.81	

DELETED COLUMN « G »

Shell Size	K	K1	M		N		R	S		U
	Typ.	Typ.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Max.
9	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
15	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
21	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
25	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
31	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
37	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82

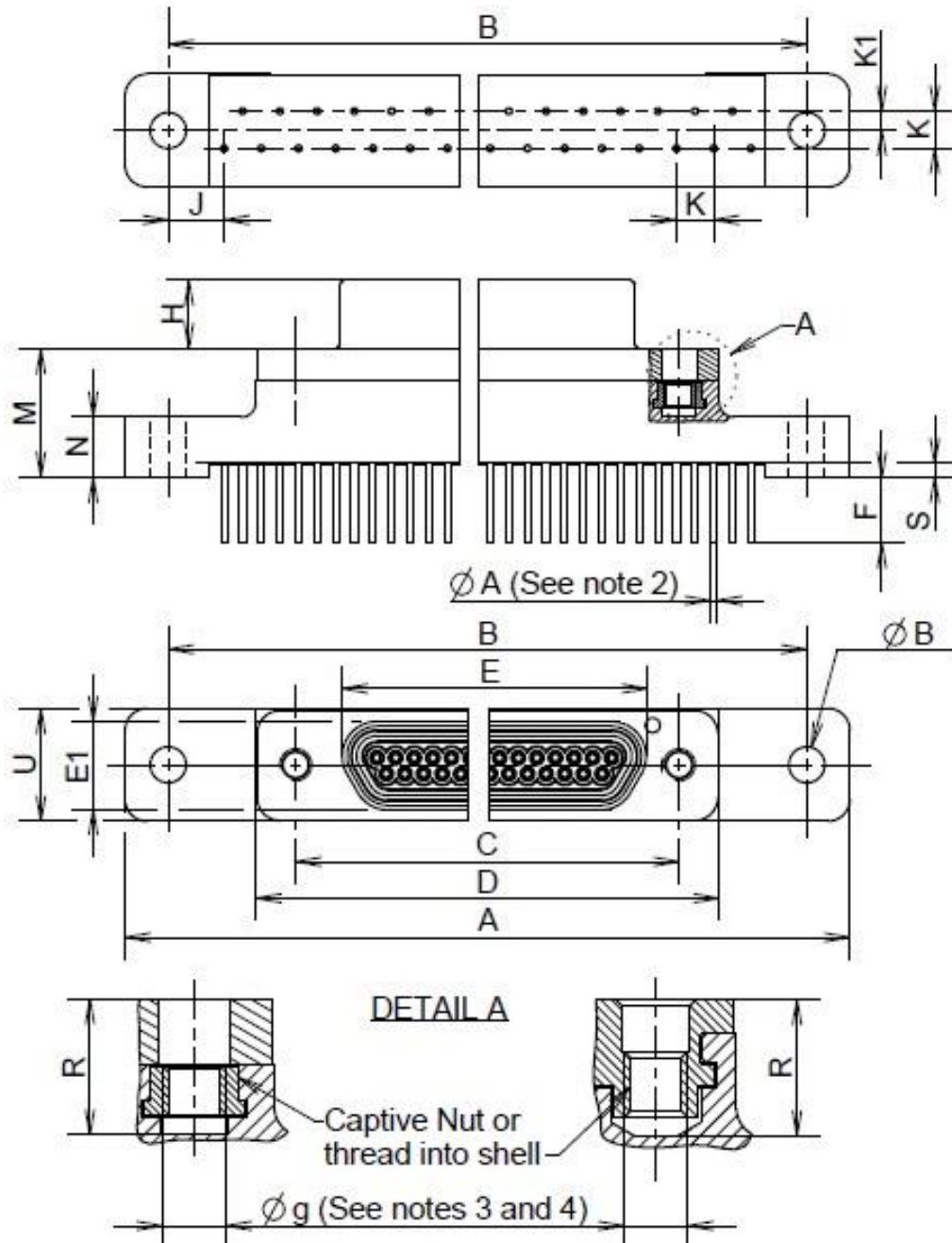
NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

DELETED COLUMN « T »

FIGURE 2.2H – CONNECTORS TYPE – FR139
RECEPTACLE FEMALE CONTACTS

NEW FIG. 2.2H



Shell Size	A	B		ØB (4)		C		D	E	E1	F		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Typ.
9	35.31	29.03	29.39	2.31	2.59	14.22	14.48	19.94	10.16	6.38	4.15	4.85	5.05	9.53
15	35.31	29.03	29.39	2.31	2.59	18.03	18.29	23.75	13.97	6.38	4.15	4.85	5.05	5.72
21	42.93	36.65	37.01	2.31	2.59	21.84	22.1	27.56	17.78	6.38	4.15	4.85	5.05	5.72
25	44.2	37.92	38.28	2.31	2.59	24.38	24.64	30.1	20.32	6.38	4.15	4.85	5.05	3.81
31	51.82	45.54	45.9	2.31	2.59	28.19	28.45	33.91	24.13	6.38	4.15	4.85	5.05	3.81
37	59.44	53.16	53.52	2.31	2.59	32	32.26	37.72	27.94	6.38	4.15	4.85	5.05	3.81

Shell Size	K	K1	M		N		R	S		U
	Typ.	Typ.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Max.
9	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
15	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
21	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
25	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
31	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82
37	2.54	1.27	8.62	9.02	4	4.2	4.55	0	1.1	7.82

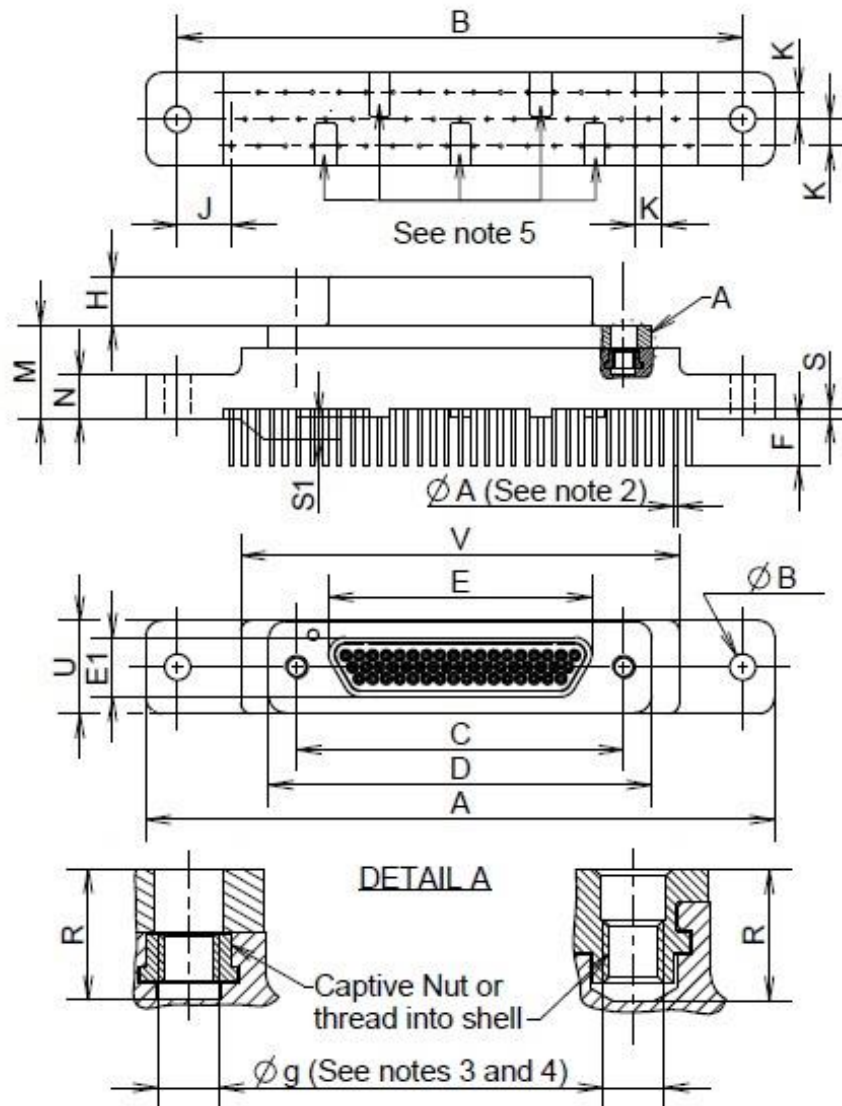
NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.

DELETED COLUMNS "G" and "T"

FIGURE 2.2I – CONNECTORS TYPE – FR139
PLUG MALE CONTACTS – SIZE 51

NEW FIG. 2.2I



Shell Size	A		B		ØB (4)		C		D	E	E1	E		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Max.	Typ.
51	59.44	53.16	53.52	2.31	2.59	30.73	30.99	36.5	24.97	5.78	4.15	4.85	4.72	5.08	

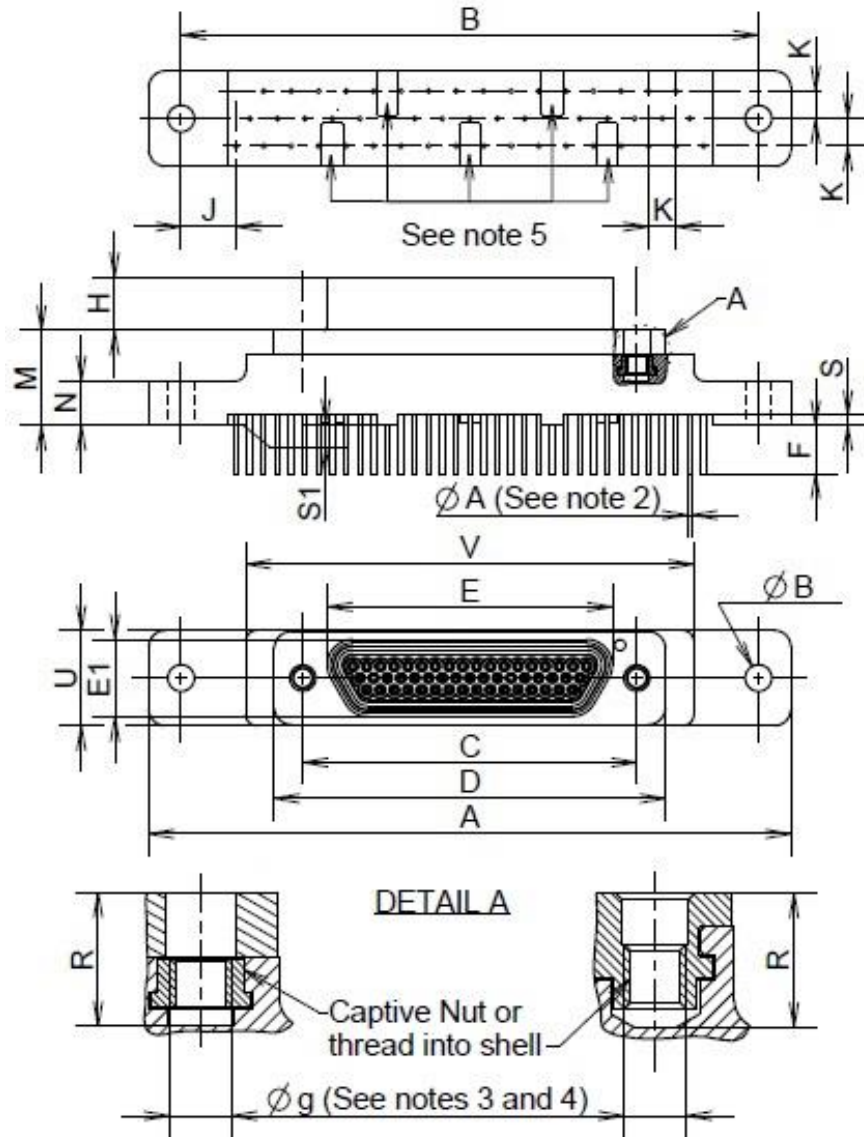
Shell Size	K	M		N		R	S		S1 (5)		U	V
	Typ.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Min.	Max.	Max.	Max.
51	2.54	8.62	9.02	4	4.2	4.55	0	1.1	0	0.2	9	41.5

NOTES:

1. All dimensions are in millimeters.
2. For ØA refer to Fig. 2-4 of this specification.
3. Øg: 2-56-UNC-2B.
4. Torque 0.44 Nm min. / 0,48 Nm max.
5. Standoffs (5 places) : 4.25 x 2.1 maximum.

DELETED COLUMNS "G" and "T"

FIGURE 2.2J – CONNECTORS TYPE – FR139
RECEPTACLE FEMALE CONTACTS – SIZE 51



NEW FIG. 2.2J

Shell Size	A		B		ØB (4)		C		D	E	E1	F		H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Max.	Typ.
51	59.44	53.16	53.52	2.31	2.59	30.73	30.99	36.5	26.67	7.47	4.15	4.85	5.05	5.08	

Shell Size	K	M		N		R	S		S1 (5)		U	V
	Typ.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Min.	Max.	Max.	Max.
51	2.54	8.62	9.02	4	4.2	4.55	0	1.1	0	0.2	9	41.5

NOTES:

- All dimensions are in millimeters.
- For ØA refer to Fig. 2-4 of this specification.
- Øg: 2-56-UNC-2B.
- Torque 0.44 Nm min. / 0,48 Nm max.
- Standoffs (5 places) : 4.25 x 2.1 maximum.

DELETED COLUMNS "G" and "T"