



# 8D Titanium Series



Derived from: MIL-DTL-38999 Series III





# 8D Titanium Series

## Connector part numbers

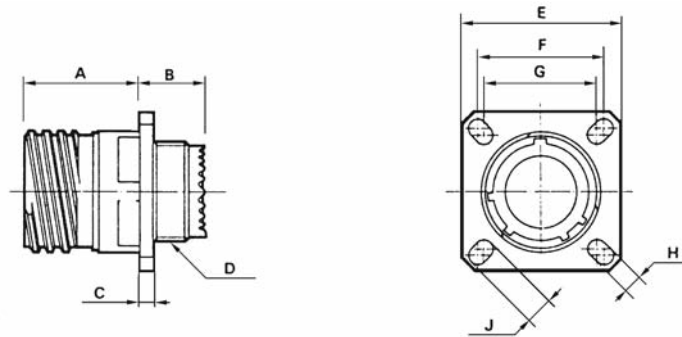
<b>Basic Series</b>	<b>8D</b>	<b>0</b>	<b>-</b>	<b>11</b>	<b>TT</b>	<b>35</b>	<b>S</b>	<b>N</b>	<b>-</b>	<b>-</b>	<b>L</b>
<b>Shell style:</b>											
0: Square flange receptacle											
7: Jam nut receptacle											
77: Specific receptacle (please consult us)											
5: Plug with RFI shielding.											
<b>Type:</b>											
None : Connectors with standard crimp contacts.											
L : Receptacle with long PC tail (male and female size #22D, #20).											
C : Receptacle with short PC tail (male and female #22D, #20, #16).											
S : Receptacle with specific PC tail (male et female #22D)											
W : Receptacle with male contacts #22D for wire wrap (3 wraps)											
T : Receptacle with male contacts #20 for wire wrap (2 wraps)											
L : Receptacle with solder cup (male and female size # 22D ; male #16 & #12 ; female #16 & #12 and male female #20 please consult us)											
<b>Shell size:</b> 09 - 11 - 13 - 15 - 17 - 19 - 21 - 23 - 25											
<b>Plating:</b>											
TT: Unplated											
TF: Nickel plated											
<b>Contact layout:</b> See page 139 to 141											
<b>Contact type:</b>											
P: Pin      A: Connector supplied less pin contact or with specific contacts (Connector marking: A+ orientation)											
S: Socket    B: Connector supplied less socket contact or with specific contacts (Connector marking: B+ orientation)											
<b>Orientation:</b> N, A, B, C, D & E (See page 190)											
<b>Spécification:</b>											
046: tinned PC tails											
251: Connector provided with power contacts (layouts with contacts #8)											
022: Fuel Tank											
<b>Speciale custom :</b>											
None : Standard plastic cap											
M : Antistatic plastic cap											
L : For P or S contact only, connectors delivered without contacts, connectors marking P or S plus orientation.											



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## Dimensions

### Receptacle type 0



Shell size	A Max.	B Max.	C Max.	D thread	E $\pm 0,30$	F	G	H $\pm 0,20$	J $\pm 0,20$
09	20.20	11.40	2.50	M12 x 1-6g	23.80	18.26	15.09	3.25	5.49
11	20.20	11.40	2.50	M15 x 1-6g	26.20	20.62	18.26	3.25	4.93
13	20.20	11.40	2.50	M18 x 1-6g	28.60	23.01	20.62	3.25	4.93
15	20.20	11.40	2.50	M22 x 1-6g	31.00	24.61	23.01	3.25	4.39
17	20.20	11.40	2.50	M25 x 1-6g	33.30	26.97	24.61	3.25	4.93
19	20.20	11.40	2.50	M28 x 1-6g	36.50	29.36	26.97	3.25	4.93
21	18.80	11.80	3.20	M31 x 1-6g	39.70	31.75	29.36	3.25	4.93
23	18.80	11.80	3.20	M34 x 1-6g	42.90	34.93	31.75	3.91	6.15
25	18.80	11.80	3.20	M37 x 1-6g	46.00	38.10	34.93	3.91	6.15

### Receptacle type 7



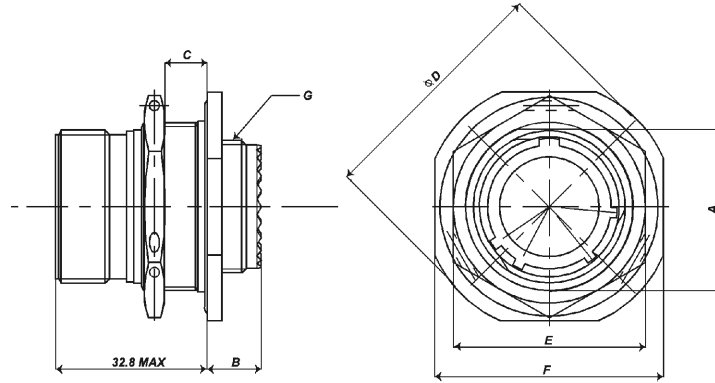
Shell size	A + 0.10 - 0.15	B Max.	C Max.	D Max.	E Max.	F $\pm 0.4$	G thread
09	16.57	9.90	3.20	30.50	23.00	27.00	M12 x 1-6g
11	19.12	9.90	3.20	35.20	26.00	31.80	M15 x 1-6g
13	23.87	9.90	3.20	38.40	31.00	34.90	M18 x 1-6g
15	27.02	9.90	3.20	41.60	34.00	38.10	M22 x 1-6g
17	30.20	9.90	3.20	44.80	37.00	41.30	M25 x 1-6g
19	33.37	9.90	3.50	49.50	41.00	46.00	M28 x 1-6g
21	36.55	9.90	3.50	52.70	46.00	49.20	M31 x 1-6g
23	39.72	9.90	3.50	55.90	47.00	52.40	M34 x 1-6g
25	42.90	9.90	3.50	59.00	52.00	55.60	M37 x 1-

Dimensions in millimeters



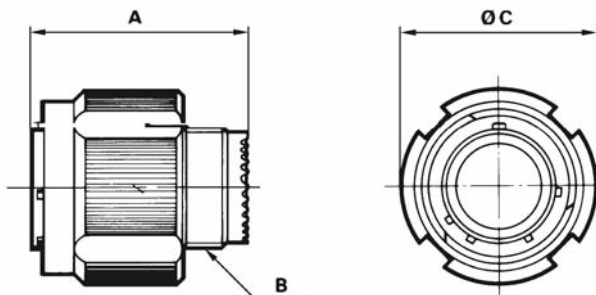
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## Receptacle type 77



Shell size	A + 0.10 - 0.15	B Max.	C Max.	D Max.	E Max.	F ± 0.4	G thread
09	16.53	9.90	9.60	30.50	23.00	27.00	M12 x 1-6g
11	19.07	9.90	9.60	35.20	26.00	31.80	M15 x 1-6g
13	23.82	9.90	9.60	38.40	31.00	34.90	M18 x 1-6g
15	26.97	9.90	9.60	41.60	34.00	38.10	M22 x 1-6g
17	30.15	9.90	9.60	44.80	37.00	41.30	M25 x 1-6g
19	33.32	9.90	9.60	49.50	41.00	46.00	M28 x 1-6g
21	36.50	9.90	9.60	52.70	46.00	49.20	M31 x 1-6g
23	39.67	9.90	9.60	55.90	47.00	52.40	M34 x 1-6g
25	42.85	9.90	9.60	59.00	52.00	55.60	M37 x 1-

## Plug type 5



Shell size	A Max.	B thread	C Max.
09	31.00	M12 x 1-6g	21.80
11	31.00	M15 x 1-6g	25.00
13	31.00	M18 x 1-6g	29.40
15	31.00	M22 x 1-6g	32.50
17	31.00	M25 x 1-6g	35.70
19	31.00	M28 x 1-6g	38.50
21	31.00	M31 x 1-6g	41.70
23	31.00	M34 x 1-6g	44.90
25	31.00	M37 x 1-6g	48.00

Dimensions in millimeters



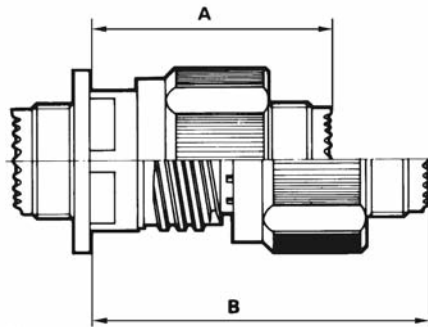
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### Maximum coupling torque on panel for jam nut receptacle (type 7)

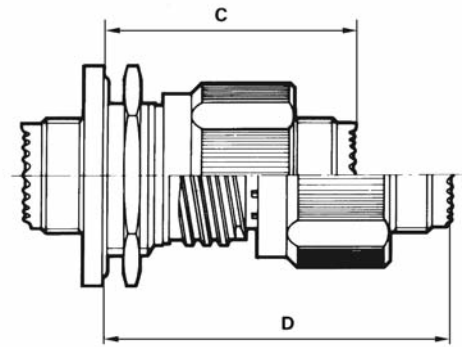
Shell	09	11	13	15	17	19	21	23	25
Coupling torque (N.m)	6	8	10	13	20	23	25	26	28

### Mated connectors dimensions

Type 0 with plug



Type 7 with plug



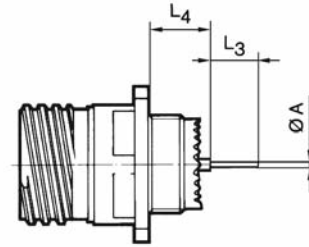
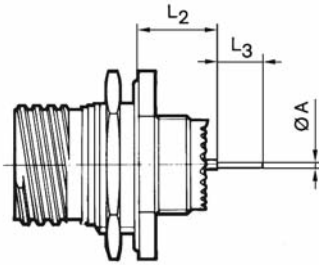
Shell size	A Max.	B Max.	C Max.	D Max.
09	37.00	52.30	38.30	53.60
11	37.00	52.30	38.30	53.60
13	37.00	52.30	38.50	53.80
15	37.00	52.30	38.50	53.80
17	37.00	52.30	38.50	53.80
19	37.00	52.30	38.50	53.80
21	36.00	51.30	38.50	53.80
23	36.00	51.30	38.50	53.80
25	36.00	51.30	38.50	53.80

Dimensions in millimeters



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## Receptacle with straight PC tail contacts



	Shell size			09	11	13	15	17	19	21	23	25	
	Contact size	Contact type	Spill type										
<b>A</b>	# 22D	M & F	L & C	0,70									
	# 22D	M & F	S	0.50									
	# 20	M & F	C	0.70									
	# 16	M & F	C	1.15									
<b>L2</b>	<b>Min.</b>	# 22D	M	L & C	10.52					10.34			
	<b>Max.</b>	# 22D	M	L & C	11.46					11.28			
	<b>Min.</b>	# 22D	F	L & C	10.19					10.01			
	<b>Max.</b>	# 22D	F	L & C	11.46					11.28			
	<b>Min.</b>	# 22D	M	S	10.19					10.01			
	<b>Max.</b>	# 22D	M	S	11.46					11.28			
	<b>Min.</b>	# 22D	F	S	10.69					10.51			
	<b>Max.</b>	# 22D	F	S	11.63					11.45			
	<b>Min.</b>	# 20	M	C	10.36					10.18			
	<b>Max.</b>	# 20	M	C	11.63					11.45			
	<b>Min.</b>	# 20	F	C	10.69					10.51			
	<b>Max.</b>	# 20	F	C	11.63					11.45			
	<b>Min.</b>	# 16	M	C	10.69					10.51			
	<b>Max.</b>	# 16	M	C	11.63					11.45			
	<b>Min.</b>	# 16	F	C	10.69					10.51			
	<b>Max.</b>	# 16	F	C	11.63					11.45			
<b>L3</b>	# 22D	M & F	L	8.50									
	# 22D	M & F	C	4.00									
	# 22D	M & F	S	5.10									
	# 20	M & F	C	5.10									
	# 16	M & F	C	5.10									
<b>L4</b>	<b>Min.</b>	# 22D	M	L & C					9.48				
	<b>Max.</b>	# 22D	M	L & C	10.58						10.69		
	<b>Min.</b>	# 22D	F	L & C	9.15						9.26		
	<b>Max.</b>	# 22D	F	L & C	10.58						10.69		
	<b>Min.</b>	# 22D	M	S	9.65						9.76		
	<b>Max.</b>	# 22D	M	S	10.75						10.86		
	<b>Min.</b>	# 22D	F	S	9.15						9.26		
	<b>Max.</b>	# 22D	F	S	10.75						10.86		
	<b>Min.</b>	# 20	M	C	9.65						9.76		
	<b>Max.</b>	# 20	M	C	10.75						10.86		
	<b>Min.</b>	# 20	F	C	9.65						9.76		
	<b>Max.</b>	# 20	F	C	10.75						10.86		
	<b>Min.</b>	# 16	M	C	9.65						9.76		
	<b>Max.</b>	# 16	M	C	10.75						10.86		
	<b>Min.</b>	# 16	F	C	9.65						9.76		
	<b>Max.</b>	# 16	F	C	10.75						10.86		

M : Male contact    F: Female contact    L: Long PC tail    C : Short PC tail    S: Specific PC tail

Dimensions in millimeters



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## Connector weights\*

	With contacts						Without contact					
	Plug (type 5)		Receptacle (type 0)		Receptacle (type 7)		Plug (type 5)		Receptacle (type 0)		Receptacle (type 7)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
09-35	18.23	19.81	14.37	15.95	20.14	21.72	17.81	18.31	13.95	14.45	19.72	20.22
09-98	18.23	19.53	14.37	15.67	20.14	21.44	17.81	18.33	13.95	14.47	19.72	20.24
11-01	23.15	26.09	18.19	21.13	25.63	28.57	22.49	24.49	17.53	19.53	24.97	26.97
11-02	22.78	25.32	17.82	20.36	28.1	30.64	22.16	23.76	17.2	18.8	27.48	29.08
11-04	22.97	26.03	18.01	21.07	25.45	28.51	22.41	24.43	17.45	19.47	24.89	26.91
11-05	23.00	26.21	18.04	21.25	25.24	28.69	22.30	24.21	17.34	19.25	24.78	26.69
11-22	22.64	25.06	17.68	20.10	27.96	30.38	22.36	24.06	17.40	19.10	27.68	29.38
11-35	22.90	26.37	17.94	21.41	25.14	28.85	21.99	23.12	17.03	18.16	24.47	25.60
11-80	25.38	29.86	20.08	24.88	30.66	35.78	22.10	22.86	16.80	17.88	27.38	28.78
11-98	22.87	25.63	17.91	20.67	25.35	28.11	22.03	23.23	17.07	18.27	24.51	25.71
11-99	23.04	26.26	18.06	21.28	25.53	28.75	22.06	23.46	17.08	18.48	24.55	25.95
13-04	32.44	36.22	23.56	27.34	34.11	37.89	31.20	33.10	22.32	24.22	32.87	34.77
13-08	32.82	38.00	23.94	29.12	34.49	39.67	31.70	34.80	22.82	25.92	33.37	36.47
13-26	33.19	38.84	24.31	29.96	34.86	40.51	31.45	34.14	22.57	25.26	33.12	35.81
13-35	32.62	38.39	23.74	29.51	34.29	40.06	31.08	32.89	22.20	24.01	32.75	34.56
13-98	32.48	37.10	23.60	28.22	34.15	38.77	31.08	33.10	22.20	24.22	32.75	34.77
15-05	39.61	44.95	28.77	34.11	41.40	46.74	38.06	41.05	27.22	30.21	39.85	42.84
15-15	40.41	47.57	29.57	36.73	42.20	49.36	38.14	41.19	27.30	30.35	39.93	42.98
15-18	40.62	49.50	29.78	38.66	42.41	51.29	38.10	42.30	27.26	31.46	39.89	44.09
15-19	40.15	47.88	29.31	37.04	41.94	49.67	37.49	40.28	26.65	29.44	39.28	42.07
15-35	40.25	49.49	29.41	38.65	42.04	51.28	37.66	40.24	26.82	29.40	39.45	42.03
15-97	40.08	47.13	29.24	36.29	41.87	48.92	37.72	40.81	26.88	29.97	39.51	42.60
17-02	48.16	58.40	45.20	55.44	63.99	74.23	44.89	51.85	41.93	48.89	60.72	67.68
17-06	43.73	53.33	40.90	50.50	54.23	63.83	39.77	43.73	36.94	40.90	50.27	54.23
17-08	42.72	51.45	39.89	48.62	53.22	61.95	40.24	45.21	37.41	42.38	50.74	55.71
17-26	43.30	54.09	40.47	51.26	53.80	64.59	39.66	43.69	36.83	40.86	50.16	54.19
17-35	43.54	57.09	40.71	54.26	54.04	67.59	39.69	43.34	36.86	40.51	50.19	53.84
17-75	49.14	60.43	46.31	57.60	59.64	70.93	40.14	46.43	37.31	43.60	50.64	56.93
17-99	43.35	53.91	40.52	51.08	53.85	64.41	39.79	43.95	36.96	41.12	50.29	54.45
19-11	55.16	68.75	44.00	57.59	61.25	74.84	51.75	60.17	40.59	66.26	40.59	66.26
19-32	54.37	67.77	43.21	56.61	60.46	73.86	49.89	54.97	38.73	61.06	38.73	61.06
19-35	54.68	71.13	43.52	59.97	60.77	77.22	50.06	54.63	38.90	60.72	38.90	60.72
21-11	64.64	84.48	54.31	74.15	71.62	91.46	57.38	66.88	47.05	73.86	47.05	73.86
21-16	61.74	77.02	51.41	66.69	68.72	84.00	56.78	64.54	46.45	71.52	46.45	71.52
21-35	62.02	82.68	51.69	72.35	69.00	89.66	56.49	62.93	46.16	69.91	46.16	69.91
21-39	63.40	83.73	53.07	73.40	70.38	90.71	57.60	67.37	47.27	74.35	47.27	74.35
21-41	61.94	79.31	51.61	86.29	68.92	86.29	56.20	62.91	45.87	69.89	45.87	69.89
21-48	68.73	88.71	58.4	78.38	81.56	101.54	55.61	62.51	45.28	52.18	68.44	75.34
21-75	73.61	90.51	63.28	80.18	86.44	103.34	55.61	62.51	45.28	52.18	68.44	75.34
23-21	71.07	94.32	60.57	83.82	79.15	102.40	64.56	77.94	54.06	86.02	54.06	86.02
23-35	69.43	95.58	58.93	85.08	77.51	103.66	62.43	70.58	51.93	78.66	51.93	78.66
23-53	69.49	91.68	58.99	81.18	77.57	99.76	62.07	70.48	51.57	78.56	51.57	78.56
23-55	70.24	93.31	59.74	82.81	78.32	101.39	62.54	71.31	52.04	79.39	52.04	79.39
25-07	83.91	117.09	73.64	123.58	99.34	121.8	68.12	78.84	57.85	85.33	83.55	83.55
25-11	91.92	111.92	81.65	101.65	94.65	127.35	71.12	84.12	60.85	73.85	86.55	99.55
25-19	81.78	113.79	71.51	103.52	90.20	122.21	69.24	83.39	58.97	91.81	58.97	91.81
25-24	81.28	112.64	71.01	102.37	89.70	121.06	69.64	84.08	59.37	92.50	59.37	92.50
25-29	79.60	108.57	69.33	98.30	88.02	116.99	70.61	85.95	60.34	94.37	60.34	94.37
25-35	77.39	110.22	67.12	99.95	85.81	118.64	68.43	78.22	58.16	86.64	58.16	86.64
25-37	79.59	107.09	69.32	116.12	95.02	113.36	68.12	79.04	57.85	87.26	83.55	84.50
25-44	99.96	127.50	89.69	134.23	115.39	134.44	66.42	77.85	56.15	86.33	81.85	84.54
25-43	79.64	110.32	69.37	100.05	88.06	118.74	70.22	85.52	59.95	93.94	59.95	93.94
25-46	81.94	105.78	71.67	95.51	90.36	114.20	67.30	77.46	57.03	85.88	57.03	85.88
25-61	76.69	103.44	66.42	93.17	85.11	111.86	68.15	79.04	57.88	87.46	57.88	87.46
25-08	103.02	134.85	92.75	124.58	111.44	143.27	67.02	78.85	56.75	87.27	56.75	87.27
25-20	88.04	118.26	77.77	107.99	96.46	126.68	66.47	76.72	56.20	85.14	56.20	85.14
25-04	80.44	110.29	70.17	100.02	88.86	118.71	71.24	84.85	60.97	93.27	60.97	93.27

Weight in gram

\* Please, consult us for weight of receptacles type 77.

