

Introduction

Amphenol MS and 97B series are two series of thread & Bayonet-coupled connectors designed to meet the operating requirements of **MIL-C-5015**. Available in a variety of styles and classes, these connectors are primarily used in a range of military and industrial applications where specific degrees of environmental protection are required.

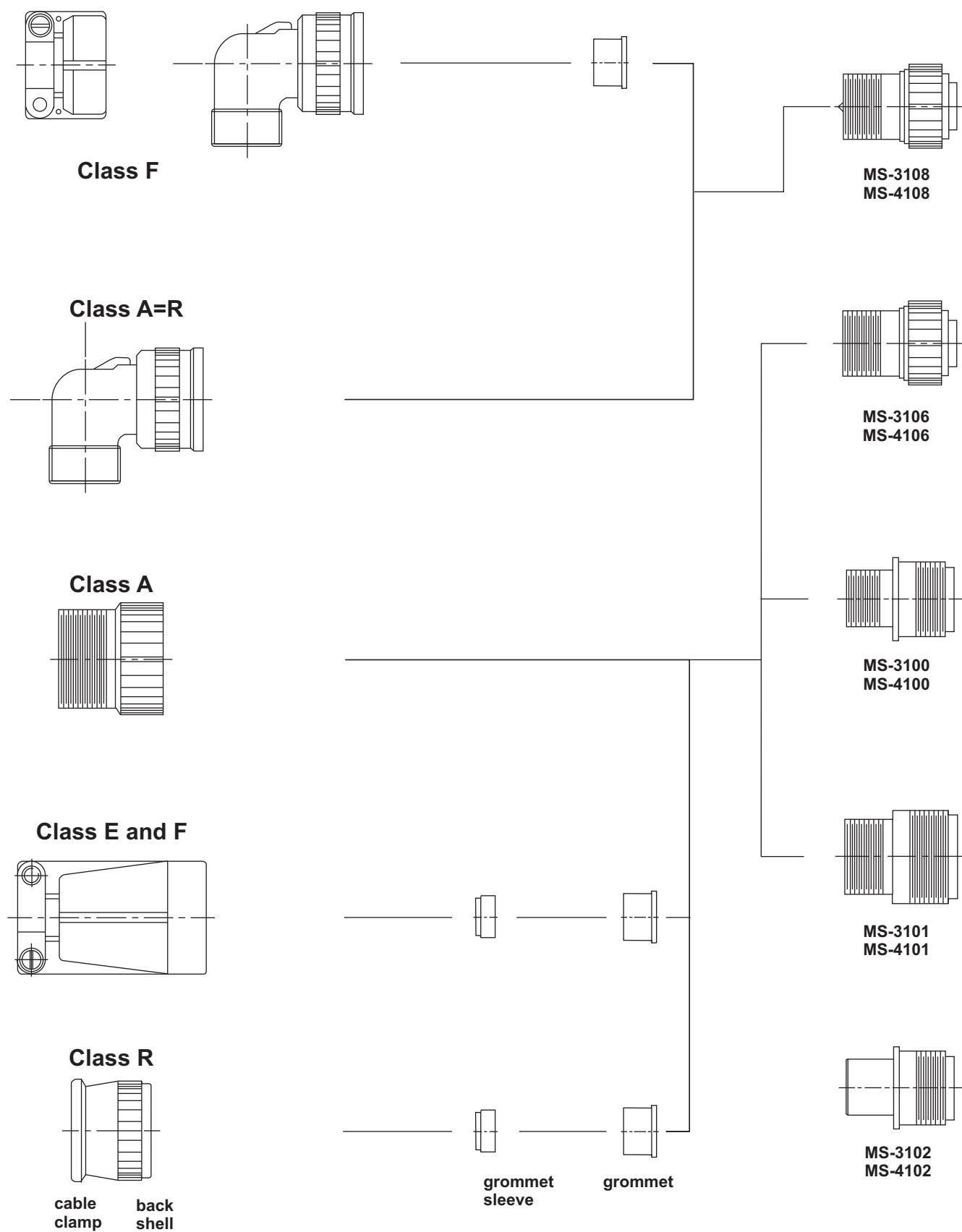
Although MS series have identical insert arrangements and other similar component parts, the two series differ in that Amphenol MS series of connectors are also qualified to meet the operating requirements of Defence Standard Joint Services Specification **JSS50812**, issued by the Electronics Components Standardization Organisation (LCSO).

Amphenol 97B connectors feature a quick mating bayonet coupling with an audible full mating feature. This series uses the same **MIL-C-5015** insert patterns and are used in high shock and vibration environments encountered in commercial, geophysical, aerospace, ground support and shipboard applications.

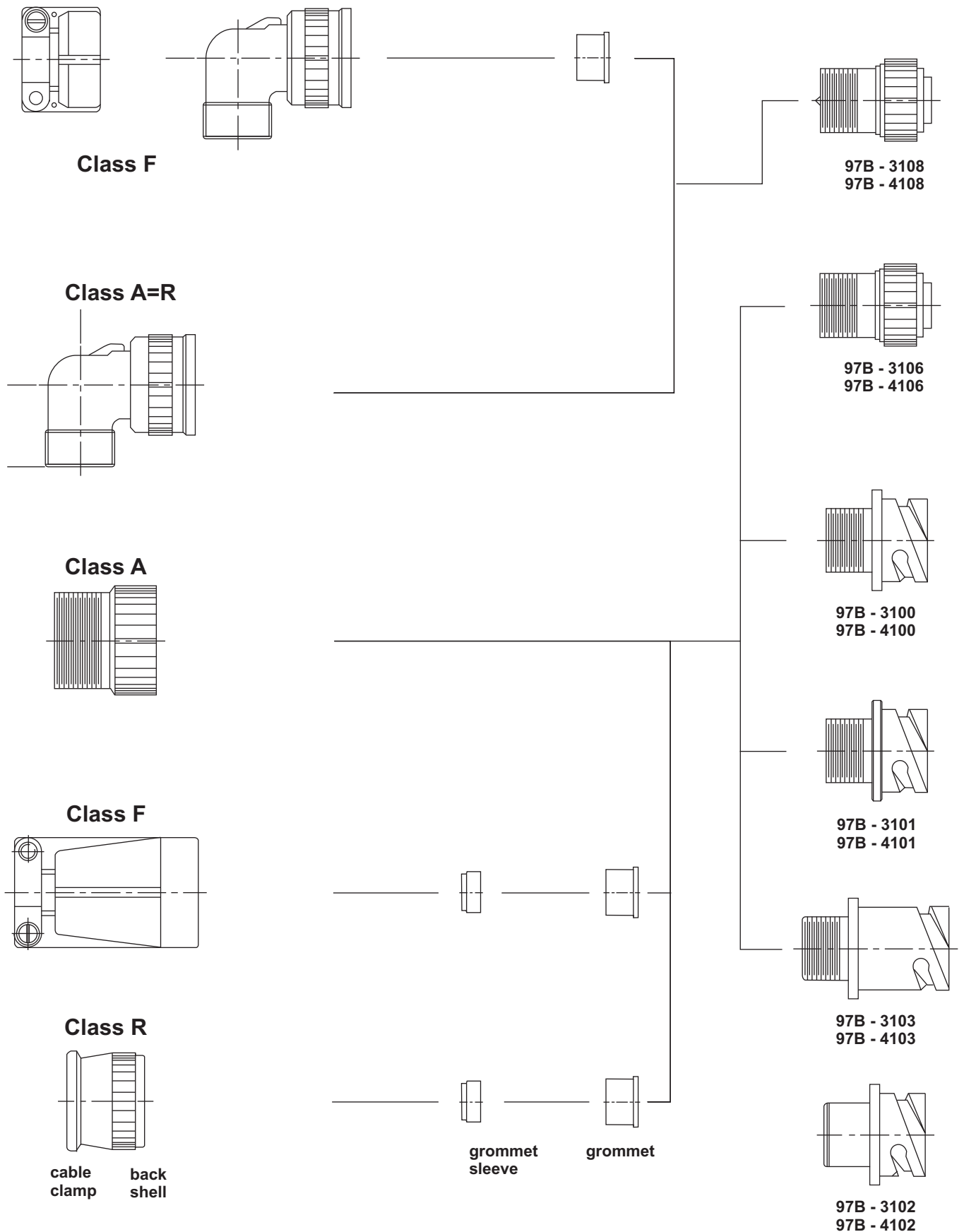
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Connector Styles - MS



Connector Styles - 97B



General Description

These electrical connectors are designated MS because the interchangeability and operating characteristics are determined by U.S. Military Specifications. These specifications are revised from time to time to incorporate performance requirements dictated by design advances and more stringent requirements of allied equipment. The several designations of MS and 97B connectors meet different requirements of MIL-C-5015. These designations and general descriptions are as follows :

Shell

Shell constructions include solid back shell (A) and environmental resistant (E, F & R). Environmental resistant connectors provide a moisture barrier and assure a positive seal. Shell styles consist of wall type receptacles (3100), cable receptacles (3101), box receptacles (3102), straight plugs (3106) and angle plugs (3108). Shell hardware is manufactured from aluminium alloy and cadmium plated with olive drab chromate finish. This finish has excellent conductivity; it is non-reflecting and corrosion resistant. Black anodised finish and cadmium-free zinc plating with olive drab chromate finish are also available. For details, contact factory.

Contacts

Pin and socket contacts are of brass and generally silver plated. Gold plating is also available. For details contact factory. These contacts are available for solder or crimp termination. Special arrangements of contacts for pre-mating and pre-earth are also available.

Inserts and grommet

Synthetic inserts and grommet manufactured according to MIL-R-3065, offer high dielectric strength and are resistant to oils, gasoline and low temperature. DAP is dimensionally stable, has high arc resistance and high insulation resistance under both humidity and thermal stress.

General description

Plugs are available in A, F and R types. Receptacles are available in A, E, F and R types.

A Solid back shell

Intended for general service usage to provide convenient means of connecting and disconnecting electrical circuits in industrial and military applications.

Environmental resisting

Intended for use where the connector will be subject to heavy condensation and rapid changes in temperature or pressure and/or where the connector is subjected to high vibratory conditions.

E Environmental resisting with grommet seal and strain relief backshell except for 3102 type.

F Environmental resisting with grommet seal, strain relief backshell and front gasket seal for plug type.

R Environmental resisting with grommet seal, shorter and lightweight.

Features for 97B reverse bayonet coupling connectors with Mil-C-5015 insert patterns:

- Quick positive coupling
- Audible and tactile indication of full coupling
- Waterproof
- No lockwiring required
- High shock and vibration capabilities
- Insert available in Neoprene material (alternate inserts materials available upon request)
- Operating temperature range with Neoprene inserts: -55°C to +125°C
- Available in both crimp and solder terminations
- Contacts available in gold and silver plating
- Numerous finishes available
- Zinc alloy plating (cadmium free) available
- Rugged construction; aluminum or stainless steel components
- Intermateable with existing VG95234 connectors
- 500 couplings minimum

Electrical Data

Dielectric strength

Service rating	Test Voltage Vac rms
Inst.	1000V
A	2000V
D	2800V
E	3500V
B	4500V
C	7000V

Contact rating

Contact Size	Rated Current	Contact Resistance miliohms
16	13A	3.46
12	23A	1.83
8	46A	0.52
4	80A	0.26
0	150A	0.14

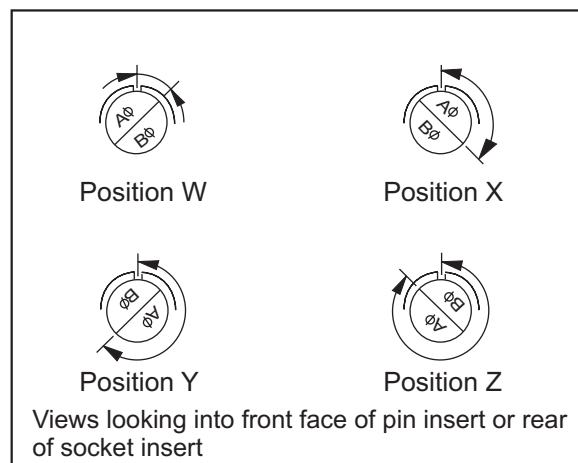
Service rating

Service rating	Operating Voltage DC at Sea Level	Operating Voltage AC at Sea Level
Inst.	250V	200V
A	700V	500V
D	1250V	900V
E	1750V	1250V
B	2450V	1750V
C	4200V	3000V

Insert Orientations

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate insert rotations are available as indicated in the accompanying chart.

As shown in the diagram below, the front face of the pin insert is rotated within the shell in a clockwise direction from the normal shell key. The socket insert would be rotated counterclockwise the same number of degrees with respect to the normal shell key.



The following insert arrangements have the same alternate insert rotations for W, X, Y and Z which are as below :

Degree			
W	X	Y	Z
80	110	250	280

16-7	20-16	22-18	24-4	24-21	28-15	36-1
18-5	20-20	22-19	24-5	24-28	28-16	36-7
18-9	20-22	22-21	24-6	28-1	28-17	36-8
18-13	22-3	22-24	24-7	28-4	28-19	36-13
18-14	22-6	22-25	24-12	28-8	28-20	
20-7	22-12	22-29	24-14	28-9	28-21	
20-8	22-14	22-33	24-16	28-10	32-1	
20-9	22-15	22-34	24-17	28-11	32-3	
20-12	22-16	24-1	24-20	28-14	32-4	
20-14	22-17	24-3				

Insert Arrangement	Degrees			
	W	X	Y	Z
12S-3	70	145	215	290
14S-2	-	120	240	-
14S-5	-	110	-	-
14S-7	90	180	270	-
14S-9	70	145	215	290
16-9	35	110	250	325
16-10	90	180	270	-
16-11	35	110	250	325
16-13	35	110	250	325
16S-1	80	-	-	280
16S-4	35	110	250	325
16S-5	70	145	215	290
16S-6	90	180	270	-
16S-8	-	170	265	-
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-8	70	-	-	290
18-10	-	120	240	-
18-11	-	170	265	-
18-12	80	-	-	280
18-15	-	120	240	-
18-20	90	180	270	-
18-22	70	145	215	290
18-29	90	180	270	-
20-3	70	145	215	290
20-4	45	110	250	-
20-5	35	110	250	325

Insert Arrangement	Degrees			
	W	X	Y	Z
20-6	70	145	215	290
20-15	80	-	-	280
20-17	90	180	270	-
20-18	35	110	250	325
20-19	90	180	270	-
20-21	35	110	250	325
20-23	35	110	250	325
20-24	35	110	250	325
20-27	35	110	250	325
20-29	80	-	-	280
22-1	35	110	250	325
22-2	70	145	215	290
22-4	35	110	250	325
22-5	35	110	250	325
22-8	35	110	250	325
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-13	35	110	250	325
22-20	35	110	250	325
22-22	-	110	250	-
22-23	35	-	250	-
22-27	80	-	250	280
22-28	80	-	-	280
24-2	80	-	-	280
24-9	35	110	250	325
24-10	80	-	-	280
24-11	35	110	250	325

Insert Arrangement	Degrees			
	W	X	Y	Z
24-22	45	110	250	-
24-27	80	-	-	280
28-2	35	110	250	325
28-3	70	145	215	290
28-5	35	110	250	325
28-6	70	145	215	290
28-7	35	110	250	325
28-12	90	180	270	-
28-18	70	145	215	290
28-22	70	145	215	290
32-8	80	125	235	280
36-3	70	145	215	290
36-4	70	145	215	290
36-5	-	120	240	-
36-6	35	110	250	325
36-9	80	125	235	280
36-10	80	125	235	280
36-14	90	180	270	-
36-15	60	125	245	305
40-56	72	144	216	288

Insert Arrangements

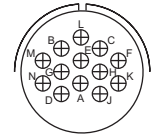
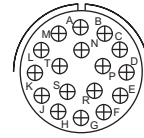
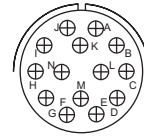
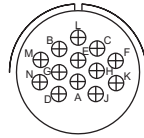
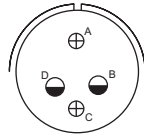
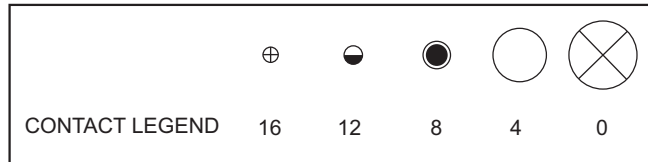
Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
10S-2	A	1					1
10SL-3	A	3					3
10SL-4	A	2					2
12S-3	A	2					2
12S-4	D	1					1
12-5	D	1					1
14S-1	A	3					3
14S-2	Inst	4					4
14S-4	D	1					1
14S-5	Inst	5					5
14S-6	Inst	6					6
14S-7	A	3					3
14S-9	A	2					2
14S-10	Inst	4					4
14S-12	A	3					3
14-3	A	1			1		
14S-A7	A	19	19				
16S-1	A	7					7
16S-3	B	1					1
16S-4	D	2					2
16S-5	A	3					3
16S-6	A	3					3
16S-8	A	5					5
16-2	E	1				1	
16-7	A	3			1	2	
16-9	A	4				2	2
16-10	A	3				3	
16-11	A	2				2	
16-12	A	1		1			
16-13	A	2				2	
18-1	A/Inst	10					10
18-3	D	2				2	
18-4	D	4					4
18-5	D	3				2	1
18-06		6				4	2
18-6	D	1		1			
18-7	B	1			1		
18-8	A	8				1	7
18-9	Inst	7				2	5
18-10	A	4				4	
18-11	A	5				5	
18-12	A	6					6
18-13	A	4			1	3	
18-14	A	2		1			1
18-15	A	4				4	
18-16	C	1				1	
18-17	Inst	7				2	5
18-19	A	10					10
18-20	A	5					5
18-22	D	3					3
18-24	A/Inst	10					10
18-29	A	5					5
18-30	A	5					5
18-31	A	5					5
20-2		1	1				
20-3	D	3				3	
20-4	D	4				4	
20-6	D	3					3
20-7	D/A	8					8

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
20-8	Inst	6			2		4
20-9	D/A	8				1	7
20-11	Inst	13					13
20-12	A	2		1			1
20-14	A	5			2	3	
20-15	A	7				7	
20-16	A	9				2	7
20-17	A	6				5	1
20-18	A	9				3	6
20-19	A	3			3		
20-20	A	4		1		3	
20-21	A	9				1	8
20-22	A	6			3		3
20-23	A	2			2		
20-24	A	4			2		2
20-25	Inst	13					13
20-27	A	14					14
20-29	A	17					17
20-30	Inst	13					13
20-33	A	11					11
20-A48	A	19					
22-1	D	2			2		
22-2	D	3			3		
22-4	A	4			2	2	
22-5	D	6				2	4
22-6	D	3			2		1
22-7	E	1	1				
22-8	E	2				2	
22-9	E	3				3	
22-10	E	4					4
22-11	B	2					2
22-12	D	5			2	3	
22-13	D/A	5				4	1
22-14	A	19					19
22-15	E/A	6				5	1
22-16	A	9				3	6
22-17	D/A	9				1	8
22-18	D/A	8					8
22-19	A	14					14
22-20	A	9					9
22-21	A	3	1				2
22-22	A	4			4		
22-23	D/A	8				8	
22-24	D/A	6				2	4
22-27	D/A	9			1		8
22-28	A	7				7	
22-34	D	5				3	2
24-2	D	7				7	
24-3	D	7				2	5
24-4		1					3
24-5	A	16					16
24-6	D/A	8				8	
24-06	A	6		4			2
24-7	A	16				2	14
24-9	A	2		2			
24-10	A	7			7		

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
24-11	A	9				3	6
24-12	A	5			2		3
24-16	D/A	7			1	3	3
24-17	D	5				2	3
24-20	D	11				2	9
24-21	D	10			1		9
24-22	D	4			4		
24-27	E	7					7
24-28	Inst	24					24
28-1	D/A	9			3	6	
28-2	D	14				2	12
28-3	E	3			3		
28-4	E/D	9				2	7
28-5	D	5		2		1	2
28-6	D	3		3			
28-7	D	2		2			
28-8	E/D/A	12				2	10
28-9	D	12				6	6
28-09	A	9		4			5
28-10	D/A	7		2	2	3	
28-11	A	22				4	18
28-12	A	26					26
28-13	A	26					26
28-15	A	35					35
28-16	A	20					20
28-17	B/D/A	15					15
28-18	C/D/A/Inst	12					12
28-19	B/D/A	10				4	6
28-20	A	14				10	4
28-21	A	37					37
28-22	D	6		3			3
28-51	D	12					12
32-1	D/A	5	2			3	
32-3	D	9	1	2		2	4
32-5	D	2	2				
32-6	A	23		2	3	2	16
32-7	INSTA	35				7	28
32-8	A	30				6	24
32B-13	D	13			13		
32-17	D	4		4			
32-22	A	54					54
36-1	D	22				4	18
36-3	D	6	3			3	
36-4	D/A	3	3				
36-5	A	4	4				
36-6	A	6	2	4			
36-7	A	47				7	40
36-8	A	47				1	46
36-9	A	31		1	2	14	14
36-10	A	48					48
36-11	A	48					48
36-12	A	48					48
36-13	E/A	17				2	15
36-14	D	16			5	5	6
36-15	D/A	35					35
36-16	A	47				7	40
36-17	A	47				7	40
38-18	A	31		1	2	14	14
36-20	A	34			2	2	30
36-46	A	27					27
36-52	A	52					52
40-56	A	85					85
40-63	A	61					

Insert Arrangements

Front face of pin insert or rear of socket insert illustrated



100° rotation
of 20-11

250° rotation
of 20-11

Insert arrangement
Service rating
Number of contacts
Contact size
Premating contact

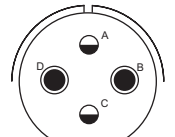
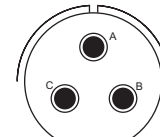
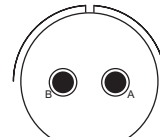
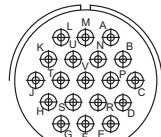
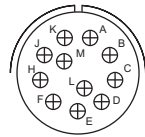
20-24
A
2 2
8 16
—

*20-25
Inst.
13
16
—

20-27
A
14
16
M

20-29
A
17
16
G

*20-30
Inst.
13
16
—



Insert arrangement
Service rating
Number of contacts
Contact size
Premating contact

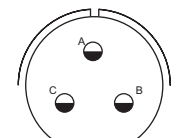
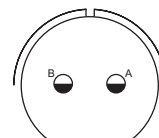
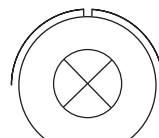
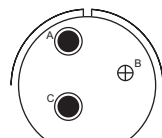
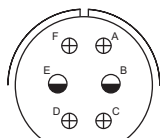
20-33
A
11
16
E

20 A - 48
A
19
16
—

22-1
D
2
8
—

22-2
D
3
8
A

*22-4
A
2 2
8 12
C



Insert arrangement
Service rating
Number of contacts
Contact size
Premating contact

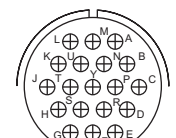
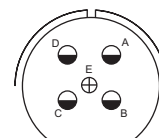
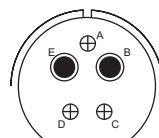
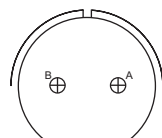
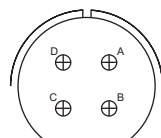
22-5
D
2 4
12 16
D

*22-6
D
2 1
8 16
B

22-7
E
1
0
—

*22-8
E
2
12
—

22-9
E
3
12
A



Insert arrangement
Service rating
Number of contacts
Contact size
Premating contact

22-10
E
4
16
C

22-11
B
2
16
—

22-12
D
2 3
8 16
A

22-13
E=D; A, B, C, D=A
4 1
12 16
E

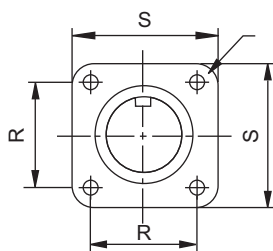
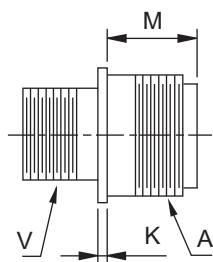
22-14
A
19
16
A

*Not tooled up, can be tooled up on request. Contact Factory.

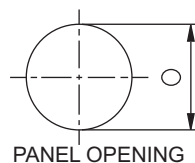
Shell Types

Wall mounting receptacle

MS-3100 MS-4100



MOUNTING HOLES
 4.39 DIA. FOR SIZE 32 AND 36
 3.73 DIA. FOR SIZE 24 AND 28
 3.05 DIA. FOR ALL OTHER SIZES
 4.55 DIA. FOR 40 SIZE

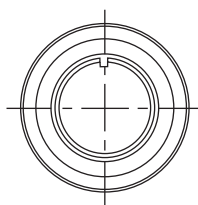
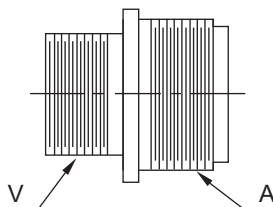


All dimensions are in mm

Connector Size	A Thread in inches	K	M	O	R	S	V Thread in inches
10SL	5/8-24 UNEF	1.98	14.29	20.62	18.25	25.68	5/8-24 NEF
12S	3/4-20 UNEF	1.98	14.29	20.62	20.64	27.76	11/16-24NEF
12	3/4-20 UNEF	1.98	19.05	20.62	20.64	27.76	11/16-24NEF
14S	7/8-20 UNEF	1.98	14.29	23.82	23.02	30.43	3/4-20 UNEF
14	7/8-20 UNEF	1.98	19.05	23.82	23.02	30.43	3/4-20 UNEF
16S	1-20 UNEF	1.98	14.29	26.97	24.61	32.82	7/8-20 UNEF
16	1-20 UNEF	3.17	19.05	26.97	24.61	32.82	7/8-20 UNEF
18	1 1/8-18 UNEF	3.17	19.05	30.17	26.99	35.07	1-20 UNEF
20	1 1/4-18 UNEF	3.17	19.05	33.32	29.37	38.38	1 1/8-18 NS
22	1 3/8-18 UNEF	3.17	19.05	36.52	31.75	41.55	1 1/4-18 NEF
24	1 1/2-18 UNEF	3.17	20.64	39.67	34.92	44.70	1 3/8-18 NEF
28	1 3/4-18 UNS	3.17	20.64	46.02	39.69	51.08	1 5/8-18 NEF
32	2.00-18 UNS	3.17	22.25	53.0	44.45	57.15	1 7/8-16UN
36	2 1/4-16 UN	3.17	22.22	58.72	49.21	63.78	2 1/16-16UN
40	2 1/2-16 UN	3.45	22.22	62.00	55.58	69.85	2 5/16-16 UN

Cable Connecting Receptacle

MS-3101 MS-4101



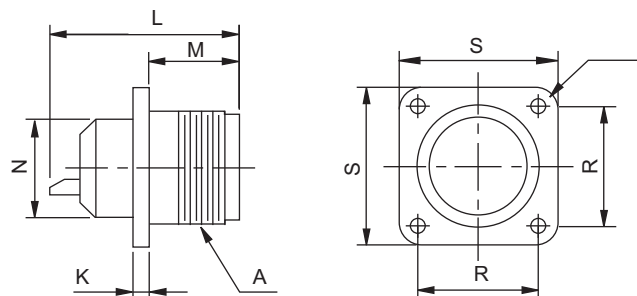
All dimensions are in mm

Connector Size	A Thread in inches	V Thread in inches
10SL	5/8-24 UNEF	5/8-24 NEF
12S	3/4-20 UNEF	11/16-24 NEF
12	3/4-20 UNEF	11/16-24 NEF
14S	7/8-20 UNEF	3/4-20 UNEF
14	7/8-20 UNEF	3/4-20 UNEF
16S	1-20 UNEF	7/8-20 UNEF
16	1-20 UNEF	7/8-20 UNEF
18	1 1/8-18 UNEF	1-20 UNEF
20	1 1/4-18 UNEF	1 1/8-18 NS
22	1 3/8-18 UNEF	1 1/4-18 NEF
24	1 1/2-18 UNEF	1 3/8-18 NEF
28	1 3/4-18 UNS	1 5/8-18 NEF
32	2-18 UNS	1 7/8-16UN
36	2 1/4-16 UN	2 1/16-16UN
40	2 1/2-16 UN	2 5/16-16 UN

Shell Types

Box mounting receptacle

MS-3102 MS-4102



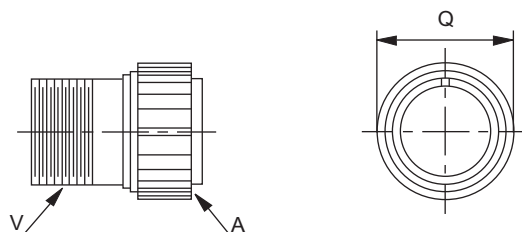
MOUNTING HOLES
 4.39 DIA. FOR SIZE 32 AND 36
 3.73 DIA. FOR SIZE 24 AND 28
 3.05 DIA. FOR ALL OTHER SIZES
 4.55 FOR 40 SIZE

All dimensions are in mm

Connector Size	A Thread in inches	K	L	M	N	R	S
10SL	5/8-24 UNEF	1.98	30.18	13.89	15.87	18.25	25.68
12S	3/4-20 UNEF	1.98	30.18	14.28	17.46	20.64	28.04
12	3/4-20 UNEF	1.98	41.28	19.05	17.46	20.64	28.04
14S	7/8-20 UNEF	1.98	30.18	14.28	19.05	23.02	30.43
14	7/8-20 UNEF	1.98	41.28	19.05	19.05	23.02	30.43
16S	1-20 UNEF	1.98	30.18	14.28	22.22	24.61	32.82
16	1-20 UNEF	3.17	41.28	19.05	22.22	24.61	32.82
18	1 1/8-18 UNEF	3.17	49.28	19.05	25.40	26.99	35.08
20	1 1/4-18 UNEF	3.17	49.28	19.05	28.57	29.37	38.38
22	1 3/8-18 UNEF	3.17	49.28	19.05	31.75	31.75	41.55
24	1 1/2-18 UNEF	3.17	49.28	20.64	34.92	34.92	44.73
28	1 3/4-18 UNS	3.17	49.28	20.64	41.27	39.69	51.08
32	2-18 UNS	3.17	49.28	22.22	48.26	44.45	57.15
36	2 1/4-16 UN	3.17	49.28	22.22	53.97	49.21	63.78
40	2 1/2-16 UN	3.45	49.28	22.22	58.25	55.58	69.85

Straight Plug

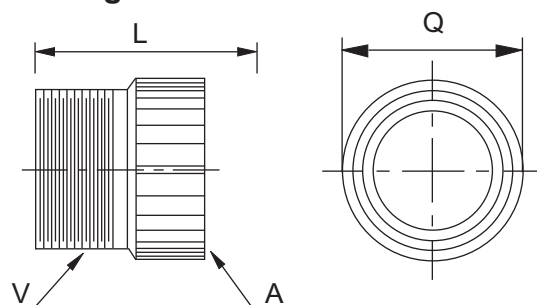
MS-3106 MS-4106



All dimensions are in mm

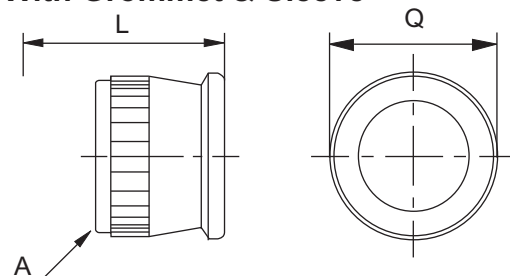
Connector Size	A Thread in inches	Q max	V Thread in inches
10SL	5/8-24 UNEF	19.05	5/8-24 NEF
12S	3/4-20 UNEF	19.84	11/16-24NEF
12	3/4-20 UNEF	19.84	11/16-24NEF
14S	7/8-20 UNEF	22.22	3/4-20 UNEF
14	7/8-20 UNEF	22.22	3/4-20 UNEF
16S	1-20 UNEF	25.40	7/8-20 UNEF
16	1-20 UNEF	25.40	7/8-20 UNEF
18	1 1/8-18 UNEF	28.57	1-20 UNEF
20	1 1/4-18 UNEF	31.75	1 1/8-18 NS
22	1 3/8-18 UNEF	34.92	1 1/4-18 NEF
24	1 1/2-18 UNEF	38.10	1 3/8-18 NEF
28	1 3/4-18 UNS	44.45	1 5/8-18 NEF
32	2-18 UNS	51.75	1 7/8-16UN
36	2 1/4-16 UN	57.15	2 1/16-16UN
40	2 1/2-16 UN	63.50	2 5/16-20 UN

Note - Both versions, straight and diamond knurling available on coupling ring. For details, contact factory.

Back Accessories**Solid backshell without grommet and sleeve****Class A**

All dimensions are in mm

Connector Size	A Thread in inches	L max for MS	L max for 97B	Q max	V Thread in inches
10SL	5/8-24 NEF	32.54	37.60	19.05	5/8-24 UNEF
12S	11/16-24 NEF	37.31	---	19.84	5/8-24 UNEF
12	11/16-24 NEF	46.83	---	19.84	5/8-24 UNEF
14S	3/4-20 UNEF	36.51	37.64	22.22	3/4-20 UNEF
14	3/4-20 UNEF	46.83	---	22.22	3/4-20 UNEF
16S	7/8-20 UNEF	37.70	38.83	25.40	7/8-20 UNEF
16	7/8-20 UNEF	48.02	48.00	25.40	7/8-20 UNEF
18	1-20 UNEF	50.80	51.58	28.57	1-20 UNEF
20	1 1/8-18 NS	53.97	54.75	31.75	1 3/16-18 UNEF
22	1 1/4-18 NEF	53.97	54.75	34.92	1 3/16-18 UNEF
24	1 3/8-18 NEF	57.15	57.94	38.10	1 7/16-18 UNEF
28	1 5/8-18 NEF	57.15	57.94	44.45	1 7/16-18 UNEF
32	1 7/8-16UN	59.0	59.78	51.75	1 3/4-18 UNS
36	2 1/16-16UN	60.32	61.13	57.15	2-18 UNS
40	2 5/16-16 UN	71.80	80.00	63.50	2 1/4 - 16 UN

Solid Backshell With Grommet & Sleeve**Class R**

All dimensions are in mm

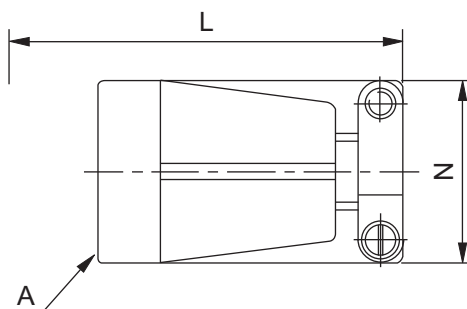
Connector Size	A Thread class 2B in inches	For Plug type L max for MS	For Receptacle L max for 97B	Q max
10SL	5/8-24 NEF	47	48	21.50
12S	11/16-24 NEF	47	---	20.35
12	11/16-24 NEF	55	---	20.35
14S	3/4-20 UNEF	47	48	23.40
14	3/4-20 UNEF	55	---	23.40
16S	7/8-20 UNEF	47	48	26.71
16	7/8-20 UNEF	55	56	26.71
18	1-20 UNEF	57	57	29.50
20	1 1/8-18 NS	57	57	35.70
22	1 1/4-18 NEF	57	57	35.85
24	1 3/8-18 NEF	57	57	44.40
28	1 5/8-18 NEF	57	57	45.08
32	1 7/8-16UN	58.25	60	52.36
36	2 1/16-16UN	58.25	60	56.81
40	2 5/16-16 UN	58.25	60	64.50

Note - Both versions, straight and diamond knurling available on back accessories. For details, contact factory.

Back Accessories

Strain relief backshell with grommet and sleeve

Class E and F

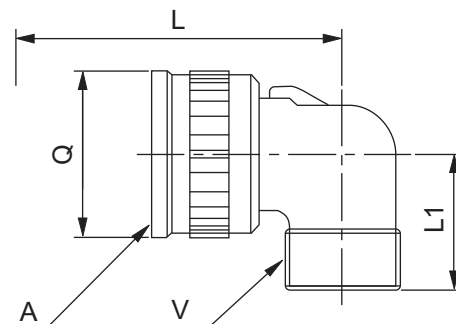


All dimensions are in mm

Connector Size	A Thread class 2B in inches	L max for MS	L max for 97B	N max
10SL	5/8-24 NEF	54.07	59.10	21.97
12S	11/16-24 NEF	54.07	---	21.97
14S	3/4-20 UNEF	55.90	61.34	25.15
16S	7/8-20 UNEF	55.90	62.86	28.45
16	7/8-20 UNEF	64.41		28.45
18	1-20 UNEF	65.94	71.10	30.76
20	1 1/8-18 NS	67.41	72.55	37.29
22	1 1/4-18 NEF	67.41	72.55	37.29
24	1 3/8-18 NEF	73.28	76.82	44.45
28	1 5/8-18 NEF	73.28	77.82	44.45
32	1 7/8-16UN	74.75		52.22
36	2 1/16-16UN	74.75	77.64	57.15
40	2 5/16-16 UN	86.0	125.0	67.10

Right Angle Backshell With Or Without Grommet

Class A, F & R

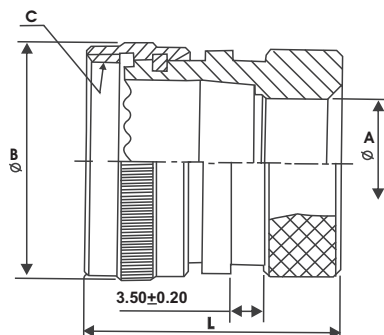


All dimensions are in mm

Connector Size	A Thread class 2B in inches	L max for MS	L max for 97B	L1 max	Q max	V Thread in inches
10SL	5/8-24 NEF	37.60	45.00	25.00	22.22	5/8-24 UNEF
12S	11/16-24 NEF	37.80	---	25.00	25.40	5/8-24 UNEF
12	11/16-24 NEF	47.30	---	25.00	25.40	5/8-24 UNEF
14S	3/4-20 UNEF	39.40	47.00	27.00	28.57	3/4-20 UNEF
14	3/4-20 UNEF	48.90	---	27.00	28.57	3/4-20 UNEF
16S	7/8-20 UNEF	42.60	48.00	28.00	31.75	7/8-20 UNEF
16	7/8-20 UNEF	52.10	57.00	28.00	31.75	7/8-20 UNEF
18	1-20 UNEF	53.70	58.00	31.00	34.13	1-20 UNEF
20	1 1/8-18 NS	58.80	61.00	34.00	37.30	1 3/16-18 UNEF
22	1 1/4-18 NEF	58.80	61.00	34.00	40.48	1 3/16-18 UNEF
24	1 3/8-18 NEF	63.60	66.00	37.00	43.66	1 7/16-18 UNEF
28	1 5/8-18 NEF	63.60	66.00	39.00	50.00	1 7/16-18 UNEF
32	1 7/8-16UN	69.60	72.00	45.00	56.50	1 3/4-18 UNS
36	2 1/16-16UN	72.80	75.00	48.00	62.71	2-18 UNS
40	2 5/16-26 UN	76.00	78.00	55.00	62.71	2 1/4 -16 UN

Note - Both versions, straight and diamond knurling available on back accessories. For details, contact factory.

Heat Shrink Boot adaptor (G)



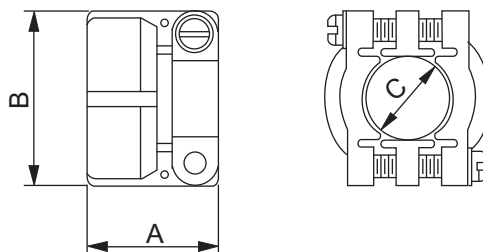
Shell size	A Min.	B	L Max.	C- THD
10SL	7.70	20.30	30.00	5/8-24 NEF
12S	8.20			
14S	10.60	22.30	27.00	3/4-20 UNEF
16S	13.50	24.80	29.50	7/8-20 UNEF
16				
18	14.60	28.50	33.50	1-20 UNEF
20	18.70	34.50		1 1/8-18 NEF
22	20.80	35.10	35.70	1 1/4-18 UNEF
24	24.60	41.00	34.00	1 3/8-18 NEF
28	27.00	44.80	34.10	1 5/8-18 NEF
32	33.30	51.50	34.20	1 7/8-16 UN
36	38.50	56.00	34.20	2 1/16-16 UN
40	48.20	62.00	36.60	2 5/16-16 UN

Back Accessories

Cable clamp

MS-3057

Use MS-3420 sleeves

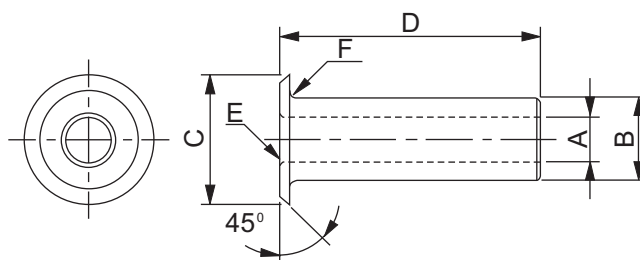


All dimensions are in mm

Part number	Shell size	Max OD of cable	A	B	C	Thread in inches
MS-3057-4A	10SL, 12S	5.59	20.90	21.39	7.94	5/8-24
MS-3057-6A	14, 14S	7.92	21.59	25.27	11.11	3/4-20
MS-3057-8A	16, 16S	11.10	23.37	28.45	14.29	7/8-20
MS-3057-10A	18	14.27	23.37	30.89	15.87	1-20
MS-3057-12A	20,22	15.87	23.07	35.03	19.50	1 3/16-18
MS-3057-16A	24,28	19.05	25.78	42.75	23.81	1 7/16-18
MS-3057-20A	32	23.80	28.00	51.00	31.70	1 3/4-18
MS-3057-24A	36	31.75	29.36	57.02	34.92	2-18

Neoprene Sleeve MS-3420

Rubber bushing. Protects wire bundles and unjacketed cables from possible damage by cable clamp.



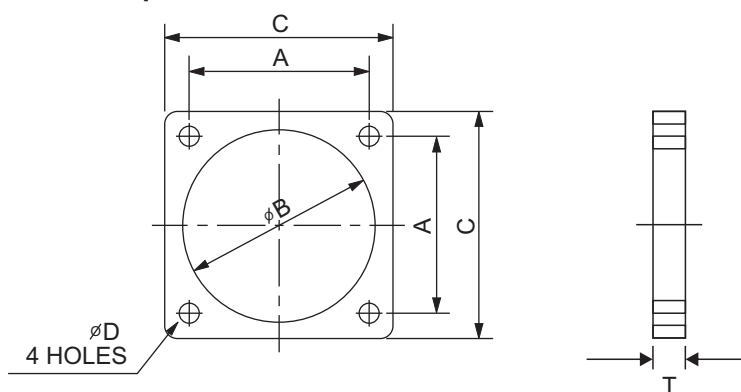
All dimensions are in mm

Part number	A	B	C	D	E Rad in inches	F Rad in inches
MS-3420-3	3.30	5.33	9.50	73.02	0.79	0.79
MS-3420-4	5.59	7.67	12.70	69.85	0.79	0.79
MS-3420-6	7.92	10.84	15.59	66.67	0.79	1.59
MS-3420-8	11.10	14.02	18.77	63.50	1.59	1.59
MS-3420-10	14.27	15.62	21.94	60.32	1.59	1.59
MS-3420-12	15.87	18.80	26.23	56.20	1.59	1.59
MS-3420-16	19.05	23.54	26.39	53.97	1.59	1.59
MS-3420-20	23.80	31.50	40.41	50.80	1.59	1.59
MS-3420-24	31.75	34.67	46.79	47.62	1.59	1.59

Other Accessories

Plain flat gasket

For MS and 97B flange mounted receptacles

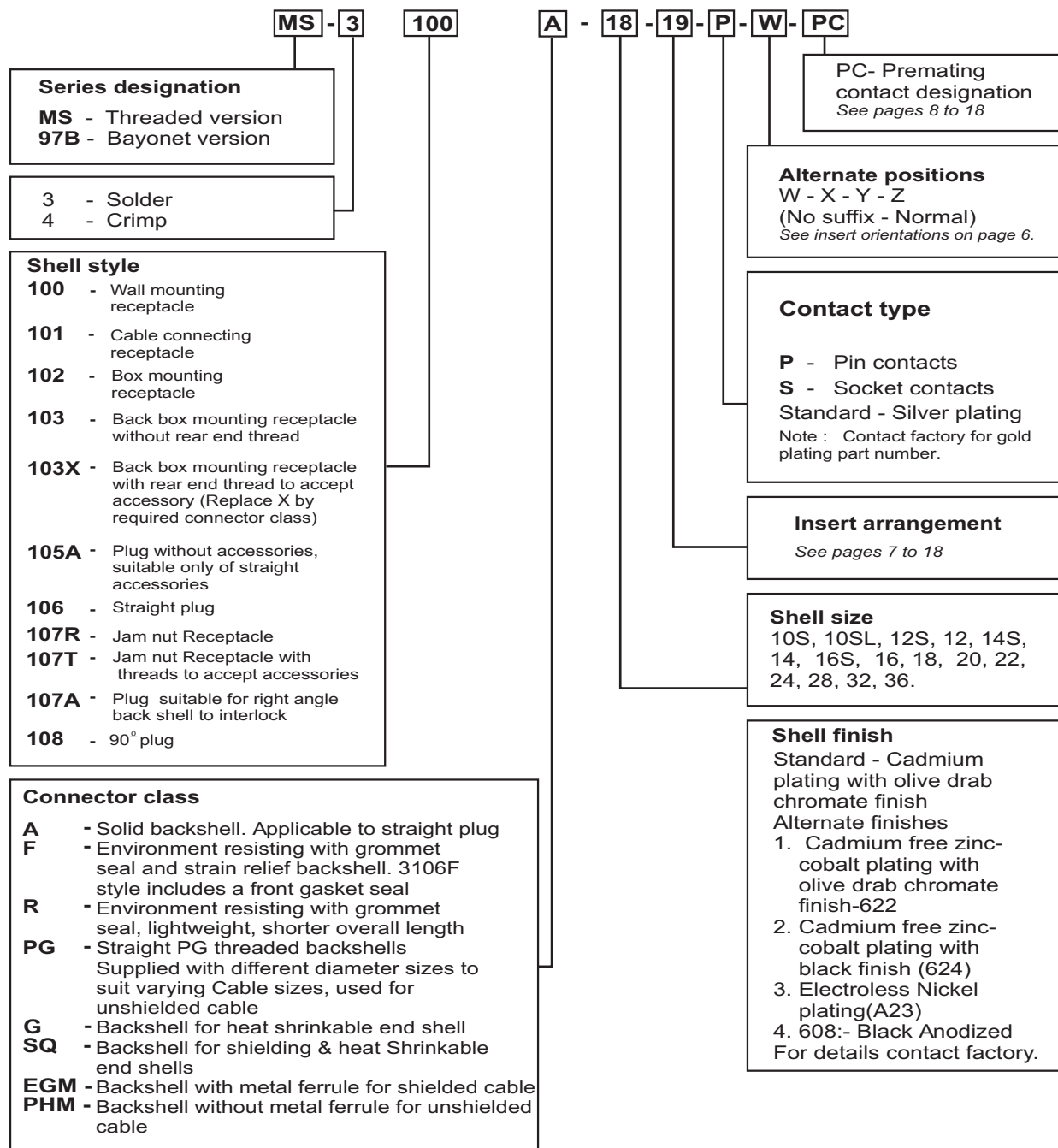


All dimensions are in mm

Part number	Shell size	A max	B	C	D	T
MS-101000	10SL	18.26	15.90	25.40	4.35	1.5
MS-108686	12S & 12	20.62	19.05	27.80	4.35	1.5
MS-101001	14S & 14	23.01	22.20	30.15	4.35	1.5
MS-101002	16S & 16	24.61	25.40	32.50	4.35	1.5
MS-101003	18	27.00	28.57	34.90	5.15	1.5
MS-101004	20	29.36	31.75	38.10	5.15	1.5
MS-101005	22	31.75	34.90	41.20	5.15	1.5
MS-108687	24	34.90	38.10	44.45	5.15	1.5
MS-101006	28	39.70	44.45	50.80	5.15	1.5
MS-108688	32	44.45	50.80	57.15	5.55	1.5
MS-101007	36	49.22	55.57	63.50	5.55	1.5
MS-110831	40	55.77	61.92	69.85	5.55	1.5

MS/97B Series Connectors

To obtain the specific connector required, write down the connector number from the typical example below. Only inserts shown in the availability chart shown on page 7 can be specified. Connectors are delivered with protective plastic dust covers. Include premating contact designation only if premating contact is required. The second letter in the premating contact designation stands for the actual contact position. **B** at the end of the connector number indicates telescopic bushing provided.



For 97B - Connector Modification

- F 42 - Less grommet & backshell
- F0/LC - Less contacts
- 563 - Gold plated contacts
- T 00 - Metric threads in flange holes
- 97 BS - Bayonet Version with Steel wear pin (for receptacle connector)
- RFI - Plug connector with grounding finger
- HD - Heavy duty coupling ring

Note:- Connector 3103 supplied in two types. Connector with rear end thread to accept backshell & without rear end thread. To order 3103 without rear end thread do not add any connector class such as (A,E,F,R...) & hence it is similar to 3102 with Back Box mount
Fore.g 97B-3103-18-1P-622 Connector without thread