MIL-C-38999
HSC SERIES 900000

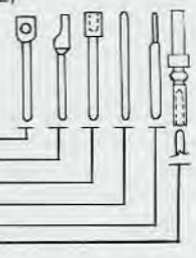
HSC HERMETIC SEAL™ AMETEK® ENGINEERED INTERCONNECT AND PACKAGING

NUMBERING SYSTEM

SERIES I, II, III

S 9 1500 1 – 10 B – 13 P A – * – *

- STD. PLATING, SHELL-FUSED TIN, CONTACTS-GOLD; FOR STNL'S STL SHELL-PASSIVATE
- SPECIAL MODIFICATIONS
- ALTERNATE INSERT POSITION (NO LETTER FOR NORMAL)
- CONTACT DESIGNATOR P-PIN, S-SOCKET
- INSERT ARRANGEMENT
- COUPLING T-THREADED, B-BAYONET PINS
- SHELL SIZE
- CONTACT TERMINATION:
  - 1-FLATTEN & PIERCE
  - 2-STD SOLDER POT
  - 3-SHORT SOLDER POT
  - 4-STRAIGHT
  - 5-TURNED DOWN
  - 6-CRIMP, REAR RELEASE
- SHELL STYLE
- SERIES NO.
- MATERIAL:
  - S-COLD ROLL STEEL, SS-STAINLESS STEEL, SSN-STAINLESS STEEL, NICKEL PLATED
  - X-INCONEL, M-MONEL OR AS SPECIFIED



ALL CONNECTOR SIZES SHOWN ARE COMPLETELY DESIGNED. MOST STANDARD INSERT ARRANGEMENTS AND INTERFACIAL SEALS ARE TOOLED. PLEASE CONSULT FACTORY FOR FURTHER DETAILS.



SERIES I & II



SERIES III

The low profile and high density of contacts in Hermetic Seal Corporation's 900000 series is a key factor in adaptability of this series for both commercial and space age requirements. Designed to accommodate AWG wire sizes 16 through 28 in 9 shell styles plus contact arrangements from 3 to 128 contacts illustrates the versatility of this series of connectors.

Aside from our standard series, Hermetic Seal Corporation offers design assistance in formulating special applications of our 900000 series including weldable flanges, thermocouple contacts, high temperature capabilities, underwater design and others.

To complete the versatility of this series it offers quick disconnect bayonet coupling and to assure a complete environmental seal all connectors are supplied with an interfacial seal with individual raised tapered sealing barriers around each contact.

CONTACT FACTORY FOR SERIES IV

GENERAL SPECIFICATIONS

AIR LEAKAGE (HERMETICITY)
LEAKAGE RATE LESS THAN .01 MICRON PER CUBIC FOOT PER HOUR (1×10^{-7} cc/sec) AT 15 P.S.I.

INSULATION RESISTANCE
GREATER THAN 5,000 MEGOHMS AT 500 VDC PER MIL-STD-1344 METHOD 3003.

INSERT RETENTION
INSERT WILL WITHSTAND 100 P.S.I. WITHOUT DAMAGE.

DIELECTRIC WITHSTANDING VOLTAGE
CONNECTORS SHOW NO EVIDENCE OF BREAKDOWN OR FLASHOVER WHEN TESTED AT VOLTAGES SHOWN PER MIL-STD-1344, METHOD 3001.

Altitude	Service Rating M		Service Rating I		Service Rating II	
	Mated	Unmated	Mated	Unmated	Mated	Unmated
Sea level	1300	1300	1800	1800	2300	2300
50,000	800	550	1000	600	1000	800
70,000	800	350	1000	400	1000	500
110,000	800	200	1000	200	1000	200

CORROSION
CONNECTOR WILL MEET SALT SPRAY TEST PER MIL-STD-1344 METHOD 1001.

THERMAL SHOCK
NO EVIDENCE OF DAMAGE DETRIMENTAL TO THE OPERATION OF CONNECTOR AFTER TESTING AT LESS THAN 4°C (39°F) TO GREATER THAN 90°C (201°F).

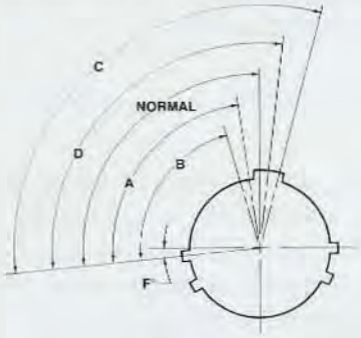
HUMIDITY
MAINTAINS INSULATION RESISTANCE OF 100 MEGOHMS/100 VDC OR GREATER PER MIL-STD-1344 METHOD 1002.

HSC HERMETIC SEAL™ AMETEK® ENGINEERED INTERCONNECT AND PACKAGING

MASTER KEYWAY POSITIONS (SERIES I & II)

SERIES I (LONG SHELL)						
SHELL SIZE	F° REF	NORMAL (Degrees)	ALTERNATE POSITIONS (Degrees)			
			A	B	C	D
9A	5	95	77	—	—	113
11B	↑	↑	81	67	123	109
13C			75	63	127	115
15D			74	61	129	116
17E			77	65	125	113
19F			77	65	125	113
21G			77	65	125	113
23H	↓	↓	80	69	121	110
25J	5	95	80	69	121	110

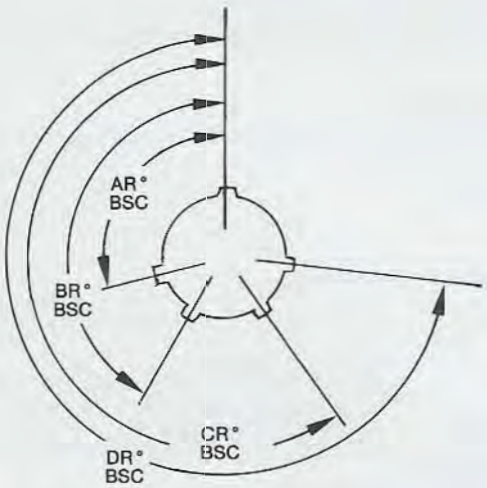
SERIES II (SHORT SHELL)						
SHELL SIZE	F° REF	NORMAL (Degrees)	ALTERNATE POSITIONS (Degrees)			
			A	B	C	D
8	10	100	82	—	—	118
10	↑	↑	86	72	128	114
12			80	68	132	120
14			79	66	134	121
16			82	70	130	118
18			82	70	130	118
20			82	70	130	118
22	↓	↓	85	74	126	115
24	10	100	85	74	126	115



MASTER KEYWAY POSITION.
ENGAGING FACE OF PIN INSERT
(SOCKET INSERT OPPOSITE).

INSERT ARRANGEMENT
DOES NOT ROTATE
WITH MASTER KEYWAY.

MASTER KEYWAY POSITIONS (SERIES III)



MAIN KEY/KEYWAY POLARIZATION

SHELL SIZE	KEY & KEYWAY ARRANGEMENT IDENTIFICATION LETTER	AR° BSC	BR° BSC	CR° BSC	DR° BSC
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
	E	91	131	197	240
11, 13, AND 15	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
	D	119	146	176	298
	E	51	141	184	242
17 AND 19	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
21, 23, AND 25	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272

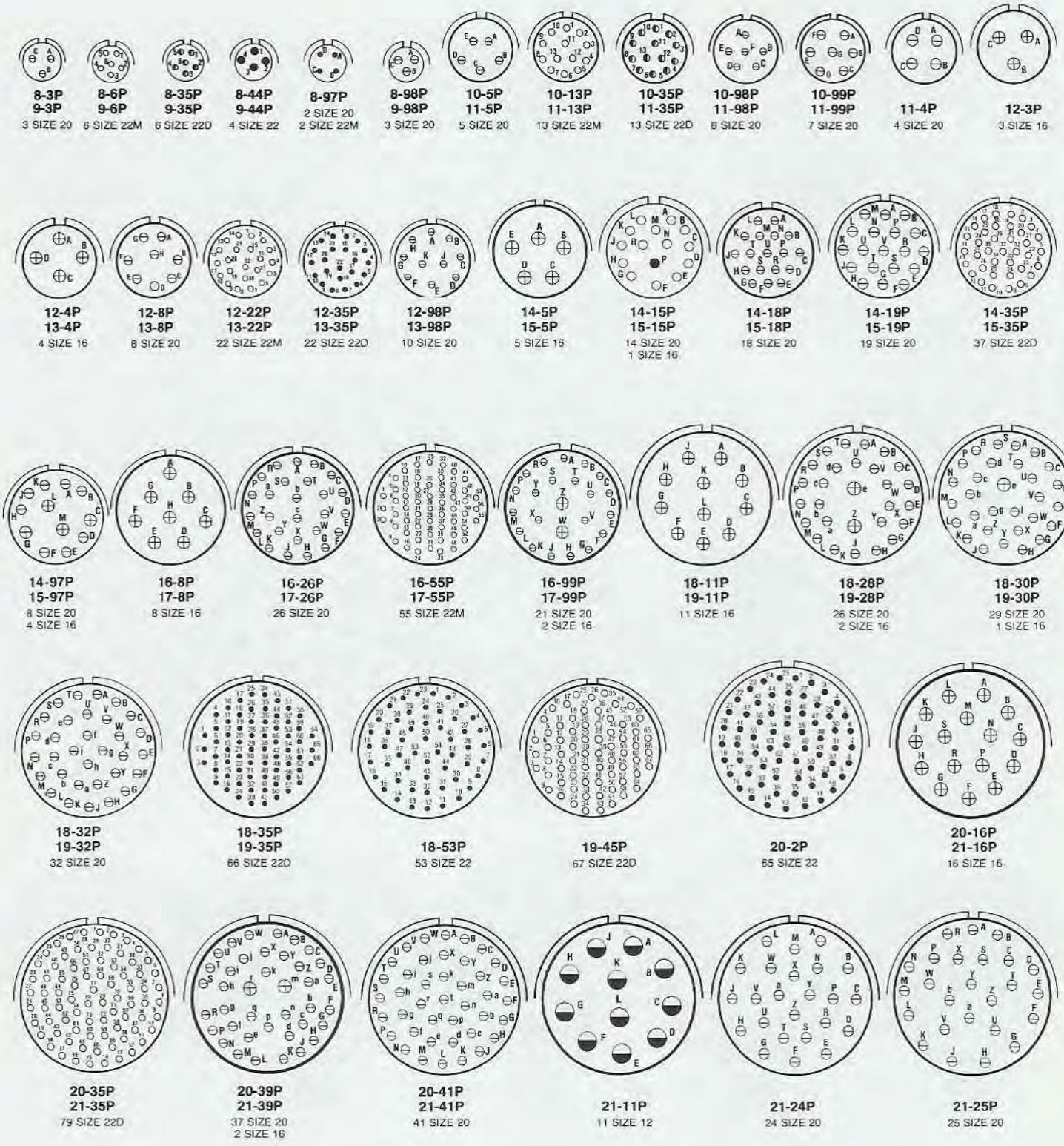
NOTES:
1. ALL ANGLES ARE BSC.
2. THE INSERT ARRANGEMENT DOES NOT ROTATE WITH MAIN KEY/KEYWAY.

MIL-C-38999
HSC SERIES 900000

HSC HERMETIC SEAL™

AMETEK® ENGINEERED INTERCONNECT AND PACKAGING

ENGAGING FACE OF PIN INSERT SHOWN

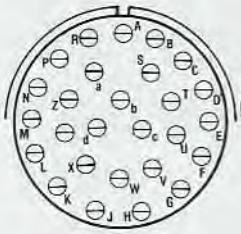


MIL-C-38999
HSC SERIES 900000

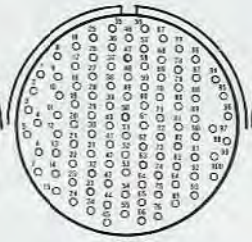
HSC HERMETIC SEAL™

AMETEK® ENGINEERED INTERCONNECT AND PACKAGING

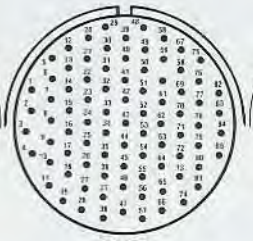
ENGAGING FACE OF PIN INSERT SHOWN



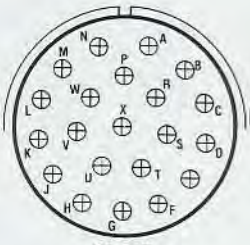
21-27P
27 SIZE 20



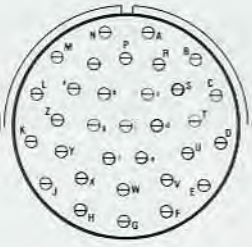
22-1P
23-1P
100 SIZE 22M



22-2P
23-2P
85 SIZE 22



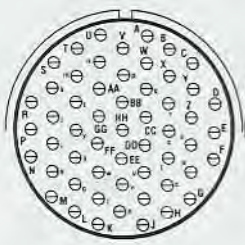
22-21P
23-21P
21 SIZE 16



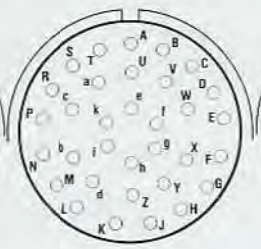
22-32P
32 SIZE 20



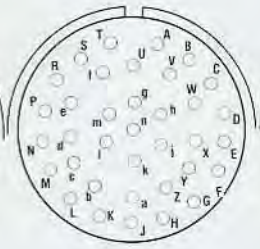
22-35P
23-35P
100 SIZE 22D



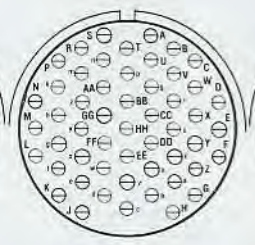
22-55P
55 SIZE 20



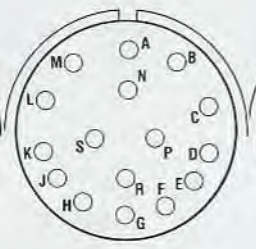
23-34P
34 SIZE 20



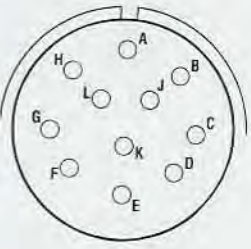
23-36P
36 SIZE 20



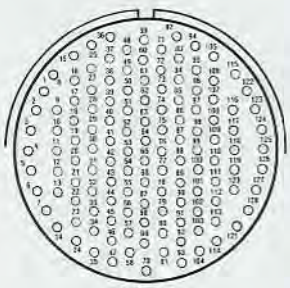
23-53P
53 SIZE 20



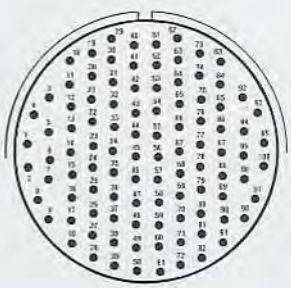
23-97P
16 SIZE 16



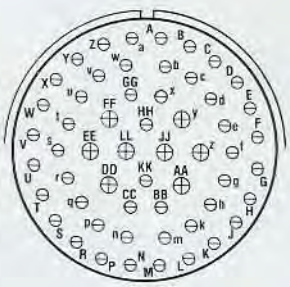
23-99P
11 SIZE 16



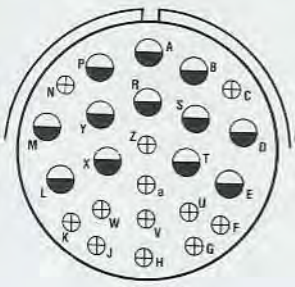
24-1P
25-1P
128 SIZE 22M



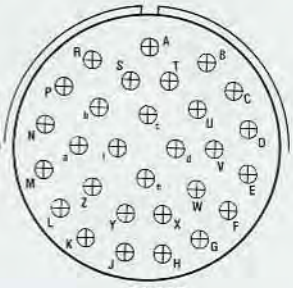
24-2P
25-2P
100 SIZE 22



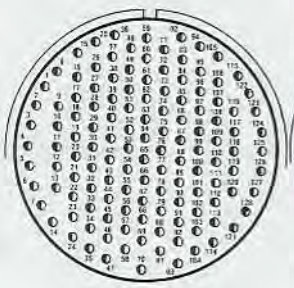
24-4P
25-4P
48 SIZE 20
8 SIZE 16



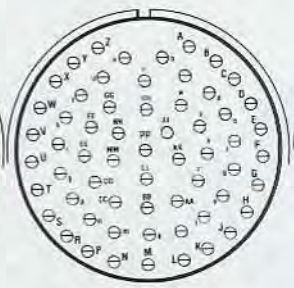
24-24P
12 SIZE 16
12 SIZE 12



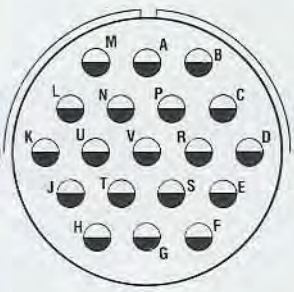
24-29P
25-29P
29 SIZE 16



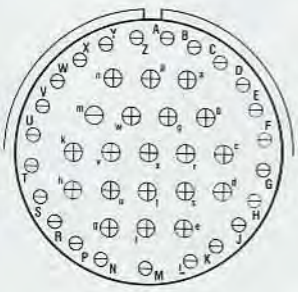
24-35P
25-35P
128 SIZE 22D



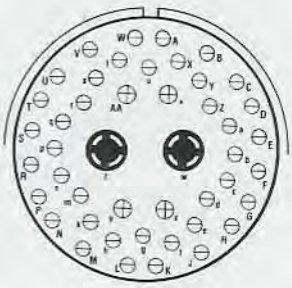
24-61P
25-61P
61 SIZE 20



25-19P
19 SIZE 12



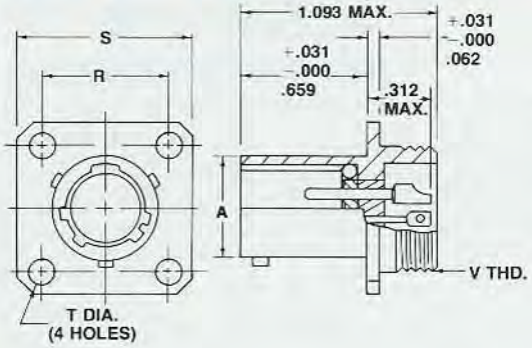
25-43P
23 SIZE 20
20 SIZE 16



25-46P
40 SIZE 20
4 SIZE 16
2 No. 8 COAXIAL

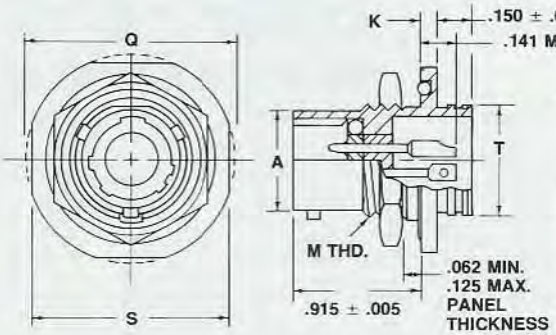
MIL-C-38999
HSC SERIES 900000

HSC HERMETIC SEAL™ AMETEK® ENGINEERED INTERCONNECT AND PACKAGING



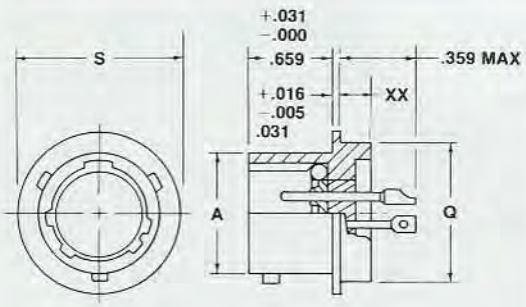
91500* -**B-**P
(MS27469 SERIES I)

SHELL SIZE	A DIA. +.001 -.005	R ±.005	S ±.016	V THREAD CLASS 2A	T +.010 -.005 DIA.
9	.572	.719	.938	.6875-24UNEF	.128
11	.700	.812	1.031	.8125-20UNEF	↕
13	.850	.906	1.125	.9375-20UNEF	
15	.975	.969	1.219	1.0625-18UNEF	
17	1.100	1.062	1.312	1.1875-18UNEF	
19	1.207	1.156	1.438	1.3125-18UNEF	
21	1.332	1.250	1.562	1.4375-18UNEF	.128
23	1.457	1.375	1.688	1.5625-18UNEF	.147
25	1.582	1.500	1.812	1.6875-18UNEF	.147



92200*-**B-**P
(MS27470 SERIES I)

SHELL SIZE	A +.001 -.005 DIA.	K ±.016 THK MFG FLG	M THREAD CLASS 2A UNEF (PLATED)	Q ±.016 DIA.	S ±.016	T DIA ±.011 -.000
9	.572	.109	11/16-24	1.188	1.062	.642
11	.700	↕	13/16-20	1.375	1.250	.766
13	.850		1-20	1.500	1.375	.892
15	.975		1-1/8-18	1.625	1.500	1.018
17	1.100	.109	1-1/4-18	1.750	1.625	1.142
19	1.207	.140	1-3/8-18	1.938	1.812	1.268
21	1.332	↕	1-1/2-18	2.062	1.938	1.392
23	1.457		1-5/8-18	2.188	2.062	1.518
25	1.587	.140	1-3/4-18UNS	2.312	2.188	1.642



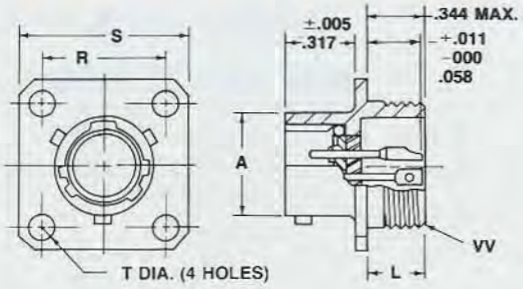
90000*-**B-**P
(MS27471 SERIES I)

SHELL SIZE	A +.001 -.005	Q +.001 -.005	S ±.016	XX MAX.
9	.572	.672	.750	.187
11	.700	.781	.844	↕
13	.850	.906	.969	
15	.975	1.031	1.094	
17	1.100	1.156	1.218	
19	1.207	1.250	1.312	
21	1.332	1.375	1.438	.187
23	1.457	1.500	1.563	.218
25	1.582	1.625	1.688	.218

MIL-C-38999
HSC SERIES 900000

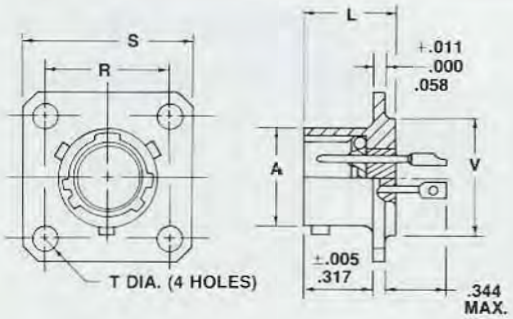
HSC HERMETIC SEAL™

AMETEK ENGINEERED INTERCONNECT AND PACKAGING



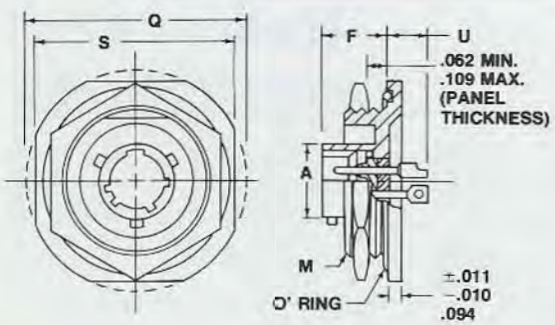
91500*-**B-**P
(MS 27475 SERIES II)

SHELL SIZE	A +.001 -.005	L MAX.	R ±.005	S MAX.	T +.010 -.005	VV THREAD CLASS 2A
8	.473	.250	.594	.828	.120	.5625-24UNEF
10	.590		.719	.954	.120	.6875-24UNEF
12	.750		.812	1.047	.120	.8125-20UNEF
14	.875		.906	1.141	.120	.9375-20UNEF
16	1.000		.969	1.234	.120	1.0625-18UNEF
18	1.125		1.062	1.328	.120	1.1875-18UNEF
20	1.250	.250	1.156	1.453	.120	1.3125-18UNEF
22	1.375	.375	1.250	1.578	.120	1.4375-18UNEF
24	1.500	.375	1.375	1.703	.147	1.5625-18UNEF



91000*-**B-**P
(MS 27476 SERIES II)

SHELL SIZE	A +.001 -.005	L MAX.	R ±.005	S MAX.	T +.010 -.005	V +.001 -.005
8	.473	.453	.594	.828	.120	.562
10	.590		.719	.954	.120	.672
12	.750		.812	1.047	.120	.781
14	.875		.906	1.141	.120	.906
16	1.000		.969	1.234	.120	1.031
18	1.125		1.062	1.328	.120	1.156
20	1.250	.453	1.156	1.453	.120	1.250
22	1.375	.484	1.250	1.578	.120	1.375
24	1.500	.484	1.375	1.703	.147	1.500



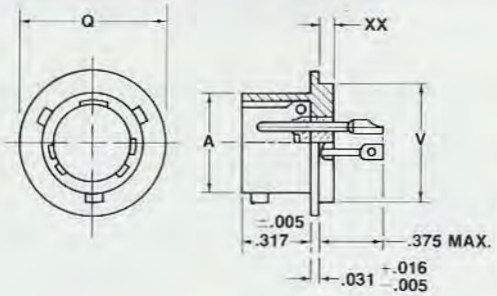
92500*-**B-**P
(MS 27477 SERIES II)

SHELL SIZE	A +.001 -.005	F ±.005	M THREAD CLASS 2A	Q ±.016	S ±.016	U MAX.
8	.473	.438	.8750-20UNEF	1.375	1.250	.281
10	.590	.438	1.0000-20UNEF	1.500	1.375	.281
12	.750	.438	1.1250-18UNEF	1.625	1.500	.281
14	.875	.438	1.2500-18UNEF	1.750	1.625	.281
16	1.000	.438	1.3750-18UNEF	1.938	1.781	.281
18	1.125	.438	1.5000-18UNEF	2.016	1.890	.281
20	1.250	.464	1.6250-18UNEF	2.141	2.016	.250
22	1.375	.464	1.7500-18UNS	2.265	2.140	.250
24	1.500	.464	1.8750-16UN	2.390	2.265	.250

MIL-C-38999
HSC SERIES 900000

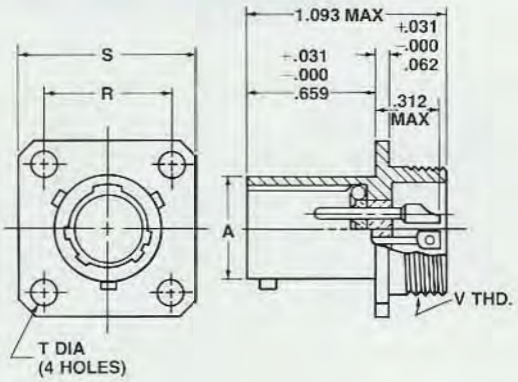
HSC HERMETIC SEAL™

AMETEK® ENGINEERED INTERCONNECT AND PACKAGING



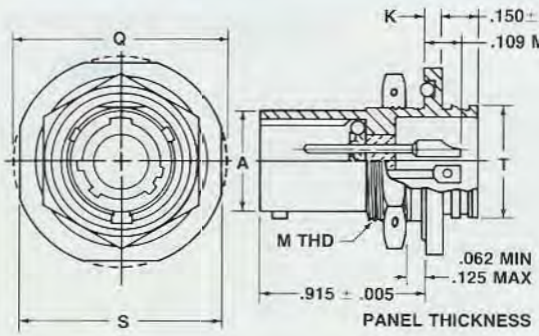
90000*-**B-**P
(MS 27478 SERIES II)

SHELL SIZE	A +.001 -.005	XX MAX.	Q +.001 -.010	V +.001 -.005
8	.473	.125	.687	.562
10	.590	↕	.797	.672
12	.750		.906	.781
14	.875		1.031	.906
16	1.000		1.156	1.031
18	1.125	↕	1.281	1.156
20	1.250	.125	1.375	1.250
22	1.375	.156	1.500	1.375
24	1.500	.156	1.625	1.500



91500*S-**B-**P

SHELL SIZE	A DIA. +.001 -.005	R ±.005	S MAX.	V THREAD CLASS 2A	T +.010 -.005 DIA.
8	.473	.594	.828	9/16-24UNEF	.120
10	.590	.719	.954	11/16-24UNEF	↕
12	.750	.812	1.047	13/16-20UNEF	
14	.875	.906	1.141	15/16-20UNEF	
16	1.000	.969	1.234	1-1/16-18UNEF	
18	1.125	1.062	1.328	1-3/16-18UNEF	↕
20	1.250	1.156	1.453	1-5/16-18UNEF	.120
22	1.375	1.250	1.578	1-7/16-18UNEF	.147
24	1.500	1.375	1.703	1-9/16-18UNEF	.147



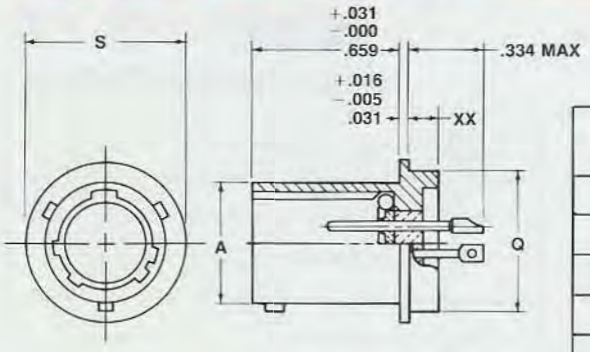
92200*S-**B-**P

SHELL SIZE	A +.001 -.005 DIA	K ±.016 THK MFG FLG	M THREAD CLASS 2A UNEF (PLATED)	Q ±.016 DIA.	S ±.016	T +.011 -.000 DIA
8	.473	.109	9/16-24	1.062	.938	.642
10	.590	↕	11/16-24	1.187	1.062	.766
12	.750		7/8-20	1.375	1.250	.892
14	.875		1-20	1.500	1.375	1.018
16	1.000	.109	1-1/8-18	1.625	1.500	1.142
18	1.125	.140	1-1/4-18	1.750	1.625	1.268
20	1.250	↕	1-3/8-18	1.937	1.812	1.392
22	1.375		1-1/2-18	2.062	1.938	1.518
24	1.500	.140	1-5/8-18	2.187	2.062	1.642

MIL-C-38999
HSC SERIES 900000

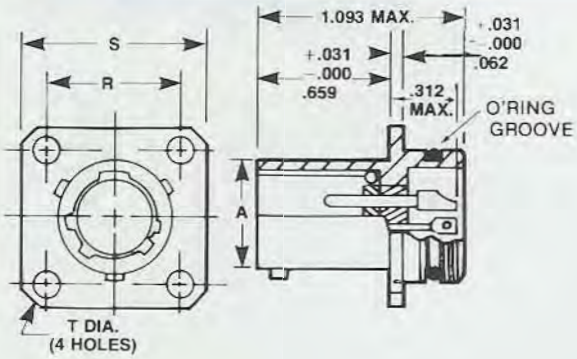
HSC HERMETIC SEAL™

AMETEK® ENGINEERED INTERCONNECT AND PACKAGING



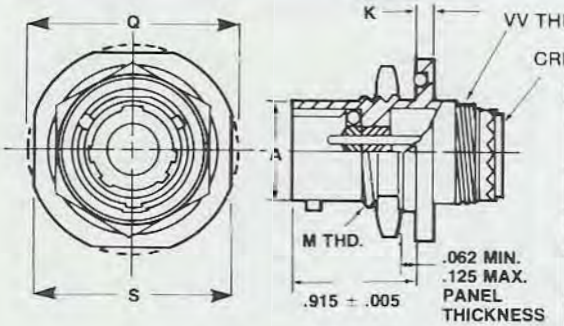
*90000*S-**B-**P

SHELL SIZE	A +.001 -.005	Q +.001 -.005	S ±.016	XX ±.010
8	.473	.562	.687	.094
10	.590	.672	.787	
12	.750	.781	.906	
14	.875	.906	1.031	
16	1.000	1.031	1.156	
18	1.125	1.156	1.281	
20	1.250	1.250	1.375	.094
22	1.375	1.375	1.500	.125
24	1.500	1.500	1.625	.125



91200-**B-**P

SHELL SIZE	A DIA. +.001 -.005	R ±.005	S ±.016	T +.010 -.005 DIA.
9	.572	.719	.938	.128
11	.700	.812	1.031	
13	.850	.906	1.125	
15	.975	.969	1.219	
17	1.100	1.062	1.312	
19	1.207	1.156	1.438	
21	1.332	1.250	1.562	.128
23	1.457	1.375	1.688	.147
25	1.582	1.500	1.812	.147



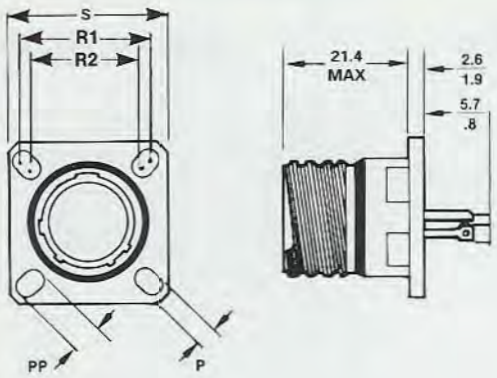
*922606-**B-**P

SHELL SIZE	A +.001 -.005 DIA.	K ±.016 THK MFG FLG	M THREAD CLASS 2A UNEF	Q ±.016 DIA.	S ±.016	VV THREAD CLASS 2A UNEF
9	.572	.109	11/16-24	1.188	1.062	.4375-28
11	.700		13/16-20	1.375	1.250	.5625-24
13	.850		1-20	1.500	1.375	.6875-24
15	.975		1-1/8-18	1.625	1.500	.8125-20
17	1.100	.109	1-1/4-18	1.750	1.625	.9375-20
19	1.207	.140	1-3/8-18	1.938	1.812	1.0625-18
21	1.332		1-1/2-18	2.062	1.938	1.1875-18
23	1.457		1-5/8-18	2.188	2.062	1.3125-18
25	1.587	.140	1-3/4-18UNS	2.312	2.188	1.4375-18

MIL-C-38999
HSC SERIES 900000

HSC HERMETIC SEAL™ AMETEK® ENGINEERED INTERCONNECT AND PACKAGING

SS91000*-**T-**P



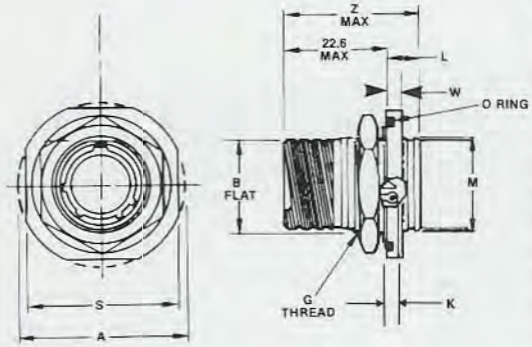
D38999/21

DIMENSIONS: MM

Shell Size	P DIA ± .20	PP DIA ± .20	1/ R1	2/ R2	S ± .3
A=9	3.25	5.49	18.26	15.09	23.8
B=11		4.93	20.62	18.26	26.2
C=13		4.93	23.01	20.62	28.6
D=15		4.93	24.61	23.01	31.0
E=17		4.93	26.97	24.61	33.3
F=19		4.93	29.36	26.97	36.5
G=21	3.25	4.93	31.75	29.36	39.7
H=23	3.91	6.15	34.93	31.75	42.9
J=25	3.91	6.15	38.10	34.93	46.0

1/ Front or rear panel mounting.
2/ Front panel mounting only.

SS92200*-**T-**P



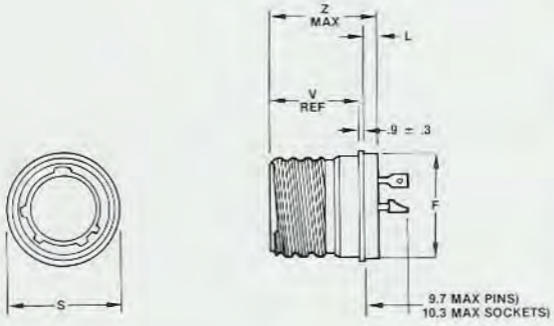
D38999/23

DIMENSIONS: MM

Shell Size	A DIA ± .3	B Flat +.10 −.15	G Thread	L MAX	M DIA +.3 −.0	S ± .4	W +.3 −.1	Z MAX	K MAX
A=9	30.2	16.53	M17X1-6g 0.100R	9.1	16.3	27.0	2.6	29.2	5.3
B=11	34.9	19.07	M20		**19.4**	**31.8**		29.2	5.3
C=13	38.1	23.82	M25		22.7	34.9		29.3	5.1
D=15	41.3	26.97	M28		25.9	38.1		**29.3**	
E=17	44.5	30.15	M32 (NOTE 1)	9.1	29.0	41.3	2.6	29.3	
F=19	49.2	33.32	M35	**9.7**	32.2	46.0	3.4	30.1	
G=21	52.4	36.50	M38		35.4	49.2			
H=23	55.6	39.67	M41		38.6	52.4			
J=25	58.7	42.85	M44X1-6g 0. 100R	9.7	41.7	55.6	3.4	30.1	

NOTE 1: Modified major dia: 31.95-31.80 mm

SS90000*-**T-**P



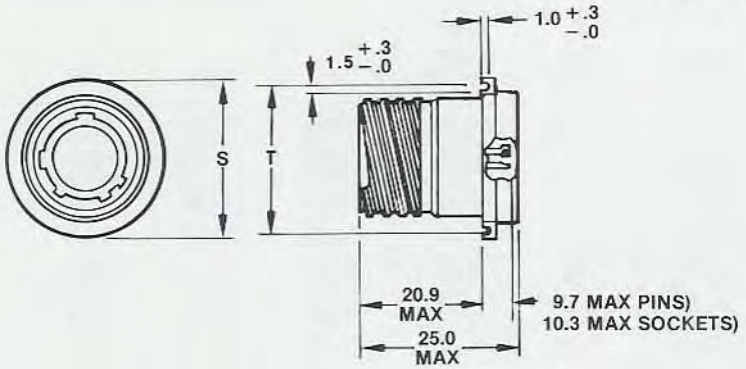
D38999/25

DIMENSIONS: MM

Shell Size	L MAX	S MAX	V With Pins	V With Sockets	Z MAX	F MAX
A=9	5.1	19.4	17.2	19.4	23.8	17.1
B=11		21.8				19.9
C=13		24.9				23.1
D=15		28.1				26.2
E=17		31.3				29.4
F=19		33.6				31.8
G=21	5.1	36.8			23.8	35.0
H=23	5.9	40.0			24.6	38.2
J=25	5.9	43.2	17.2	19.4	24.6	41.3

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D38999/27



DIMENSIONS: MM

Shell Size	S +.3 −.0	T +.0 −.3
A = 9	24.7	23.9
B = 11	27.8	27.0
C = 13	31.0	30.2
D = 15	34.2	33.4
E = 17	36.4	35.6
F = 19	40.1	39.3
G = 21	43.7	42.9
H = 23	47.9	47.1
J = 25	50.1	49.3

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