

Amphenol Aquacon Series



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Aquacon Connector Typical Markets:

- Oceanic/Fluid Immersion Applications
- Navy Seal Breathers
- Space Applications that require Water Immersion



38999

- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon**
- Herm/Seal
- PCB

HIGH SPEED

- Fiber Optics
- Contacts
- Connectors
- Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

The Amphenol® Aquacon Series of connectors has been designed to provide maximum service in oceanic or fluid immersion applications.

The AJ Aquacon offers the following features:

- 1500 PSI Capability
- “O” Ring Sealing, Thread
- Threaded Coupling
- Visual Mating Indication
- Design Flexibility

A specially designed aluminum bronze coupling nut and type 316 stainless steel shells resist corrosion and provide a pressure withstanding connector. Positive threaded coupling, “O” rings, and a color band visual indicator assure sealing and proper mating.

A rear accessory thread provides for the use of EMI hardware or molding adapters.

Aquacon Connectors are available in a straight plug and two receptacle styles (see photos at right), with numerous MIL-DTL-38999 insert patterns.

AJ Aquacons use JT (38999 type) inserts that incorporate contact sizes 22D, 22M, 22, 20 or 16. AS Aquacons use SJT (38999 type) inserts that incorporate size 12 contacts.

Hermetically sealed (1 X 10⁻⁶ cc/sec leakage rate) arrangements are also available.



Straight Plug
AJ6 / AS6



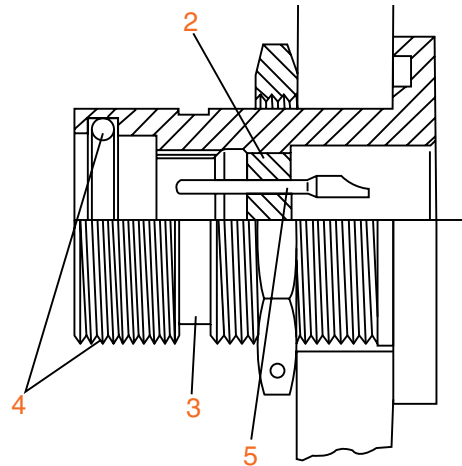
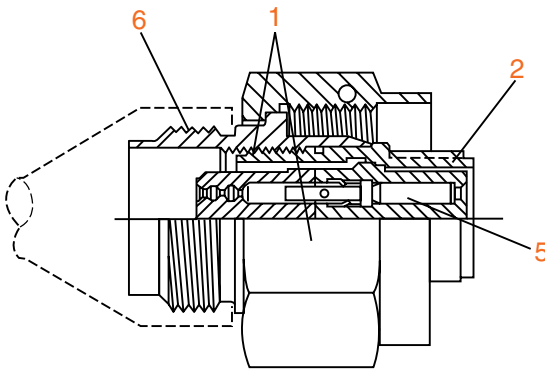
Hermetic
Jam Nut Receptacle
AJ7H/AS7H



Non-Hermetic
Jam Nut Receptacle
AJ7 / AS7

Hermetic
Square Flange
Receptacle
AJ0H

Design Features of Aquacon Series Connectors



1. Corrosion resistant aluminum bronze coupling nut and stainless steel sleeve
2. Hermetic and non-hermetic inserts in MIL-DTL-38999 patterns. Glass or hard dielectric material.
3. Visual mating indicator
4. 1500 PSI sealing capability assured by threaded coupling and “O” ring
5. Pin or socket contacts in either plug or receptacle
6. Environmental resistant molded cable terminations with or without EMI accessory

Aquacon Contact Ratings

Contact Size	Test Current		Maximum Millivolt Drop			Crimp Well Data		Solder Well Data	
	Standard	Hermetic	Crimp	Solder	Solder Hermetic	Diameter	Depth	Diameter	Depth
22M	3	2	30	20	60	.029 ±.001	.141	.029 $\begin{smallmatrix} +.004 \\ -.000 \end{smallmatrix}$.094
22D	5	–	40	–	–	.0345 ±.001	.141	–	–
22	5	3	40	20	85	.0365 ±.001	.141	.036 $\begin{smallmatrix} +.004 \\ -.000 \end{smallmatrix}$.094
20	7.5	5	35	20	60	.047 ±.001	.209	.044 $\begin{smallmatrix} +.004 \\ -.000 \end{smallmatrix}$.125
16	13	10	25	20	85	.067 ±.001	.209	.078 $\begin{smallmatrix} +.004 \\ -.002 \end{smallmatrix}$.141
12	23	17	25	20	85	.100 ±.002	.209	.116 ±.004	.151

Aquacon Service Ratings

Service Rating	Suggested Operating Voltage (Sea Level)	
	AC (RMS)	DC
M	400	550
I	600	850
II	900	1250

The establishment of electrical safety factors is left entirely in the designer's hands, as he can best determine what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

Alternate Positioning

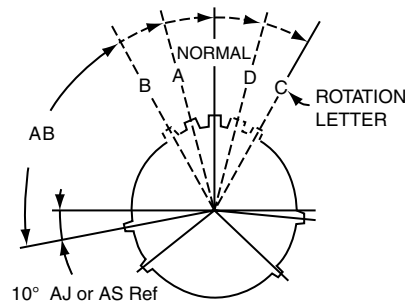
Alternate positioning of connectors allows connectors with identical insert arrangements to be mounted side by side by providing a positive means of eliminating inadvertent cross-mating or cross-plugging.

Alternate positioning of Aquacon Series is achieved by a rotation of the master key/keyway, relative to the insert, as part of the shell manufacturing operation.

Recommended practice is to use alternate position inserts only when necessary.

Aquacon Master Key/Keyway Rotation

Shell Size	AB Angle of Rotation (Degrees)				
	Normal	A	B	C	D
8	100	82			118
10	100	86	72	128	114
12	100	80	68	132	120
14	100	79	66	134	121
16	100	82	70	130	118
18	100	82	70	130	118
20	100	82	70	130	118
22	100	85	74	126	115
24	100	85	74	126	115



RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY
(FRONT FACE OF AJ or AS RECEPTACLE SHOWN)

38999

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- Fiber Optics
- Contacts
- Connectors
- Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class 1

Back-Shell

Options
Others

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- Matrix 2

- 83723 III
- Matrix | Pyle

- 26500
- Pyle

- 5015
- Crimp Rear Release
- Matrix

- 22992
- Class 1

- Back-Shells

- Options
- Others

Aquacon Shell Size	Solder	Crimp	Hermetic*	Service Rating**	Total Contacts	Contact Size					
						22D	22M	22	20	16	12
8-3	X		X	M	3				3		
8-6	X	X	X	M	6		6				
8-35		X	X	M	6	6					
8-44		X		M	4			4			
8-98		X	X	I	3				3		
10-5	X	X	X	I	5				5		
10-13	X	X	X	M	13		13				
10-35		X	X	M	13	13					
10-98	X	X	X	I	6				6		
12-3	X	X	X	II	3					3	
12-8	X	X	X	I	8				8		
12-35		X	X	M	22	22					
12-98	X	X	X	I	10				10		
14-5	X	X	X	II	5					5	
14-15	X	X		I	15				14	1	
14-18	X	X	X	I	18				18		
14-35		X	X	M	37	37					
14-37	X	X	X	M	37		37				
16-6†		X	X	I	6						6
16-8	X	X	X	II	8					8	
16-26	X	X	X	I	26				26		
16-35		X	X	M	55	55					
16-55	X	X	X	M	55		55				
18-11	X	X		II	11					11	
18-32	X	X	X	I	32				32		
18-35		X	X	M	66	66					
18-66	X	X	X	M	66		66				
20-1		X		M	79		79				
20-2		X		M	65			65			
20-16	X	X	X	II	16					16	
20-35		X		M	79	79					
20-39	X	X		I	39				37	2	
20-41	X	X	X	I	41				41		
22-2	X	X		M	85			85			
22-21	X	X	X	II	21					21	
22-32	X			I	32				32		
22-35		X		M	100	100					
22-55	X	X	X	I	55				55		
24-19†		X	X	I	19						19
24-24†		X		I	24					12	12
24-35		X		M	128	128					
24-61	X	X		I	61				61		

* Tooled for pin inserts only (contact Amphenol for socket availability).

** See specifications

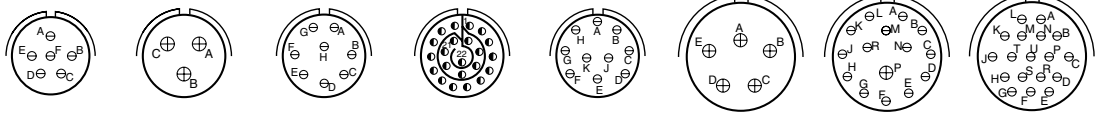
† AS Aquacon version - these arrangements use SJT (38999 type) patterns that incorporate size 12 contacts. See how to order page 131. Additional insert arrangements may be made available upon request.

Front face of pin inserts illustrated

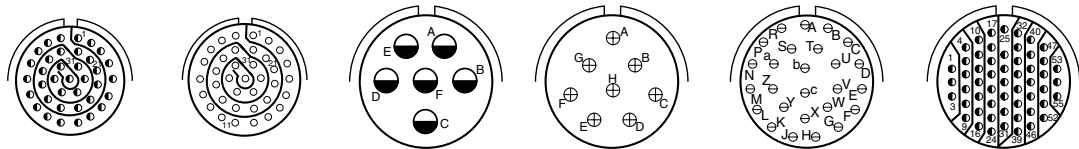
38999



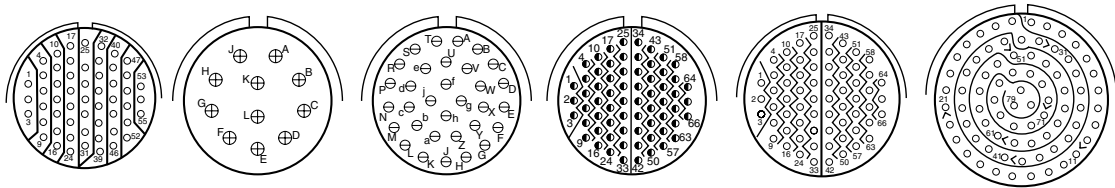
Insert Arrangement	8-3	8-6	8-35	8-44	8-98	10-5	10-13	10-35
Service Rating	M	M	M	M	I	I	M	M
Number of Contacts	3	6	6	4	3	5	13	13
Contact Size	20	22M	22D	22	20	20	22M	22D



Insert Arrangement	10-98	12-3	12-8	12-35	12-98	14-5	14-15	14-18
Service Rating	I	II	I	M	I	II	I	I
Number of Contacts	6	3	8	22	10	5	14	18
Contact Size	20	16	20	22D	20	16	20	20

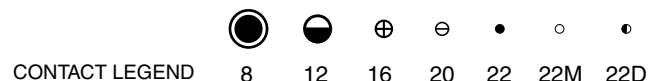


Insert Arrangement	14-35	14-37	16-6†	16-8	16-26	16-35
Service Rating	M	M	I	II	I	M
Number of Contacts	37	37	6	8	26	55
Contact Size	22D	22M	12	16	20	22D



Insert Arrangement	16-55	18-11	18-32	18-35	18-66	20-1
Service Rating	M	II	I	M	M	M
Number of Contacts	55	11	32	66	66	79
Contact Size	22M	16	20	22D	22M	22M

See page 3 for service ratings and contact sizes.
 † AS Aquacon version - uses an SJT (38999 type) pattern with size 12 contacts. See how to order page 131.



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- Transient

- 26482
- Matrix 2

- 83723 III
- Matrix | Pyle

- 26500
- Pyle

- 5015
- Crimp Rear Release Matrix

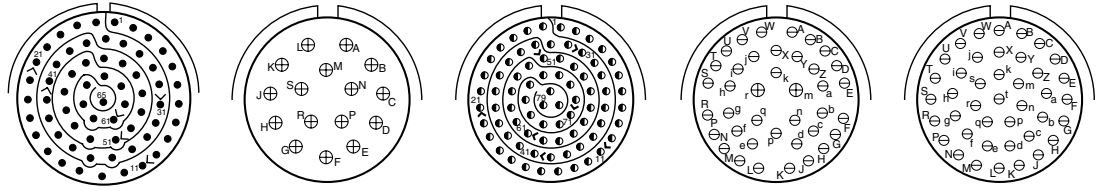
- 22992
- Class I

- Back-Shell's

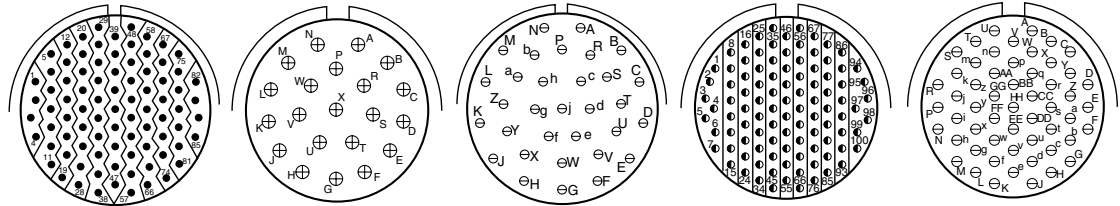
- Options
- Others

38999

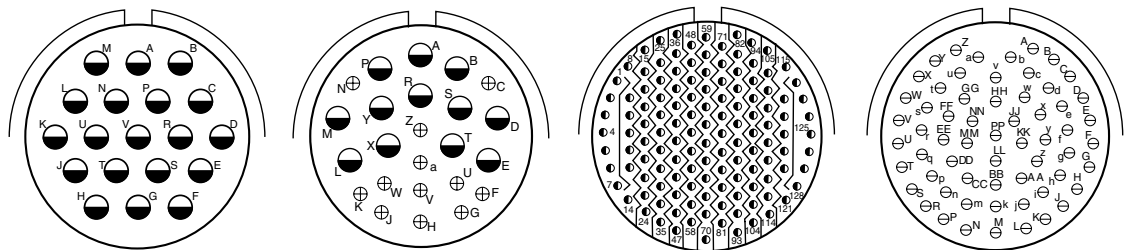
Front face of pin inserts illustrated



Insert Arrangement	20-2	20-16	20-35	20-39	20-41
Service Rating	M	II	M	I	I
Number of Contacts	65	16	79	37	41
Contact Size	22	16	22D	20	16

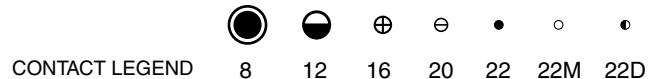


Insert Arrangement	22-2	22-21	22-32	22-35	22-55
Service Rating	M	II	I	M	I
Number of Contacts	85	21	32	100	55
Contact Size	22	16	20	22D	20



Insert Arrangement	24-19†	24-24†	24-35	24-61
Service Rating	I	I	M	I
Number of Contacts	19	12 12	128	61
Contact Size	12	16 12	22D	20

See page 3 for service ratings and contact sizes.
 † AS Aquacon version - uses an SJT (38999 type) pattern with size 12 contacts. See how to order page 131.



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- 22992
- Class I

- Back-Shells

- Options
- Others

Easy Steps to build a part number... Aquacon Series

1.	2.	3.	4.	5.	6.	7.	8.
Connector Type	Family Designator	Shell Style	Contact Type	Shell Size – Insert Arrangement	Contact Configuration	Insert Rotation	Special Variation
A	J or S	6	R -	20-41	S	A	(445)

Step 1. Type Designator

	Designates
A	Aquacon Immersible Connectors

Step 2. Select a Family Designator

	Designates
J	Aquacon with JT (38999 Type) inserts
S	Aquacon with SJT (38999 Type) inserts - accommodate size 12 contacts only

Step 3. Select a Shell Style

	Designates
0	Square Flange Receptacle (Hermetic only)
6	Straight Plug
7	Jam Nut Receptacle (Hermetic and Non-Hermetic available)

Step 4. Select a Contact Type

C	Non-removable Solder Terminations (Plug Only)
R	Removable Crimp Termination
H	Hermetic (Glass Seal) Solder Termination (Receptacles only)

Step 5. Select a Shell Size & Insert Arrangement

Aquacon shell sizes available from 8 through 24. Shell Size & Insert Arrangements are together in one chart on page 128. First number represents Shell Size, second number is the Insert Arrangement.

Step 6. Select a Contact Configuration

	Designates
P	Pin Contacts
S	Socket Contacts

Hermetics are available only in pin contacts.

Step 7. Select an Alternate Rotation Position

Refer to page 127 for alternate positions. No letter required for normal (no rotation) position.

Step 8. Special Variations

	Designates
(168)	Rear Accessory Threads for Non-Hermetic Jam Nut Receptacle only.
(445)	Hex Coupling and Rear Accessory Threads for Straight Plug only.

Consult Amphenol Aerospace for other options and special variations available. See how to order protection caps on page 136.

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED

Fiber Optics
Contacts Connectors Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

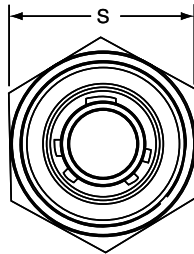
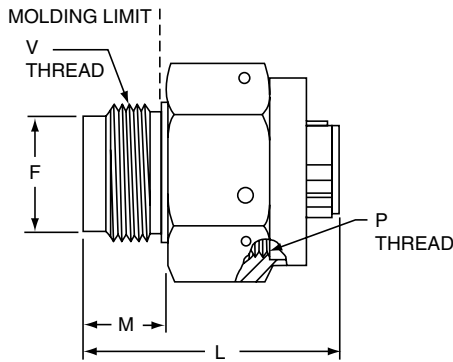
22992
Class 1

Back-Shell's

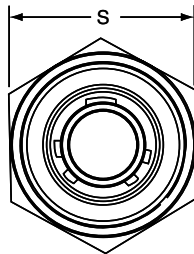
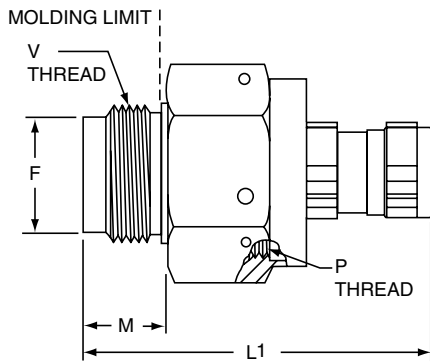
Options Others

PART # To complete, see how to order page 131.

Connector Type	Family Designator	Shell Style	Contact Type	Shell Size	Insert Arrangement	Contact Configuration	Insert Rotation	Special Variation
A	J or S	6	C or R	-XX	-XX	P or S	X	(445)



AJ6X-XX-XXX(445)



AS6X-XX-XXX(445)

AJ Aquacons use JT (38999 type) inserts that incorporate contact sizes 22D, 22M, 22, 20 or 16. AS Aquacons use SJT (38999 type) inserts that incorporate size 12 contacts

Shell Size	F Dia. +.000 -.005	L Max. (AJ)	L1 Max. (AS)	M ±.010	P Thread Class 2B	S Hex ±.016	V Thread Class 2A UNEF
8	.477	1.067	1.430	.360	.750-20 UNEF	.875	.5625-24
10	.602	1.067	1.430	.360	.875-20 UNEF	1.000	.6875-24
12	.727	1.062	1.430	.360	1.000-20 UNEF	1.125	.8125-20
14	.852	1.062	1.430	.360	1.125-18 UNEF	1.250	.9375-20
16	.977	1.062	1.430	.360	1.250-18 UNEF	1.375	1.0625-18
18	1.102	1.062	1.430	.360	1.375-18 UNEF	1.500	1.1875-18
20	1.227	1.312	1.680	.610	1.500-18 UNEF	1.625	1.3125-18
22	1.352	1.312	1.680	.610	1.625-18 UNEF	1.750	1.4375-18
24	1.477	1.312	1.680	.610	1.750-18 UNS	1.875	1.5625-18

All dimensions for reference only.

38999

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- Transient

- 26482
- Matrix 2

- 83723 III
- Matrix | Pyle

- 26500
- Pyle

- 5015
- Crimp Rear Release Matrix

- 22992
- Class 1

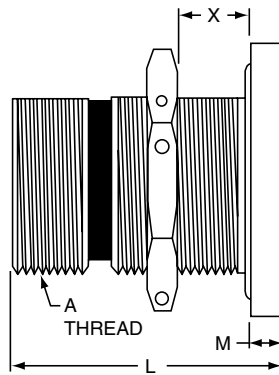
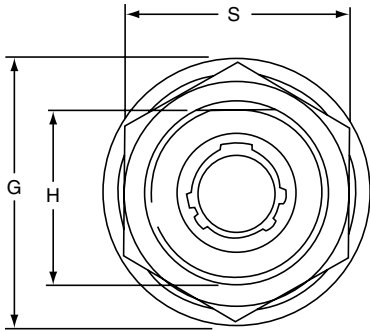
- Back-Shells

- Options
- Others

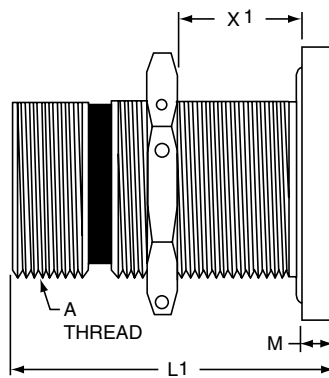
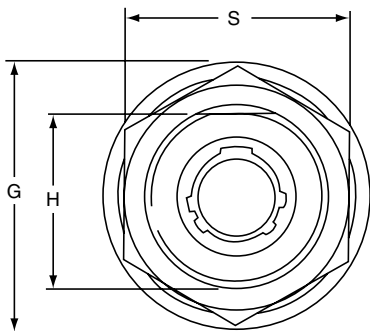
AJ7H / AS7H Aquacon Hermetic Jam Nut Receptacle

PART # To complete, see how to order page 131.

Connector Type	Family Designator	Shell Style	Contact Type	Shell Size	Insert Arrangement	Contact Configuration	Insert Rotation	Special Variation
A	J or S	7	H	-XX	-XX	P or S	X	(XXX)



AJ7H-XX-XXX(XXX)



AS7H-XX-XXX(XXX)

AJ Aquacons use JT (38999 type) inserts that incorporate contact sizes 22D, 22M, 22, 20 or 16. AS Aquacons use SJT (38999 type) inserts that incorporate size 12 contacts

Shell Size	A Thread Class 2A	G Dia.	H +0.000 -0.000	L ±.010 (Hermetic AJ)	L1 +0.000 -0.010 (Hermetic AS)	M	S Hex ±.016	X Bulkhead Thickness	X1 Bulkhead Thickness
								(AJ)	(AS)
8	.750-20 UNEF	1.125	.700	1.125	1.500	.125	.938	.03 – .31	.06 – .72
10	.875-20 UNEF	1.250	.825	1.125	1.500	.125	1.062	.03 – .31	.06 – .72
12	1.000-20 UNEF	1.406	.950	1.125	1.500	.125	1.188	.03 – .31	.06 – .72
14	1.125-18 UNEF	1.531	1.075	1.125	1.500	.125	1.312	.03 – .31	.06 – .72
16	1.250-18 UNEF	1.654	1.200	1.125	1.500	.125	1.438	.03 – .31	.06 – .72
18	1.375-18 UNEF	1.844	1.325	1.125	1.500	.125	1.562	.03 – .31	.06 – .72
20	1.500-18 UNEF	2.000	1.450	1.250	1.500	.188	1.688	.03 – .38	.06 – .65
22	1.625-18 UNEF	2.125	1.575	1.250	1.500	.188	1.812	.03 – .38	.06 – .65
24	1.750-18 UNS	2.250	1.700	1.250	1.500	.188	2.000	.03 – .38	.06 – .65

All dimensions for reference only.

38999

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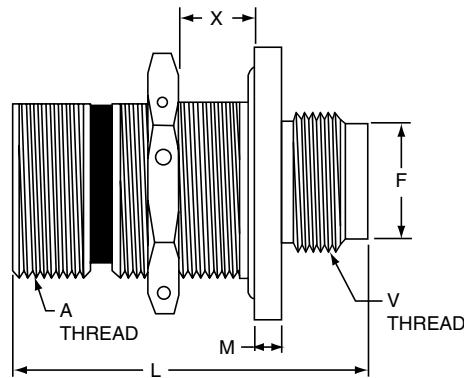
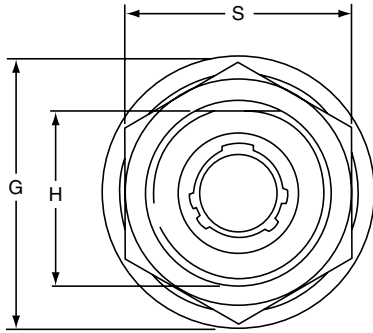
- HIGH SPEED**
- Fiber Optics
- Contacts
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- Cables

- EMI Filter
- Transient
- 26482 Matrix 2
- 83723 III Matrix | Pyle
- 26500 Pyle

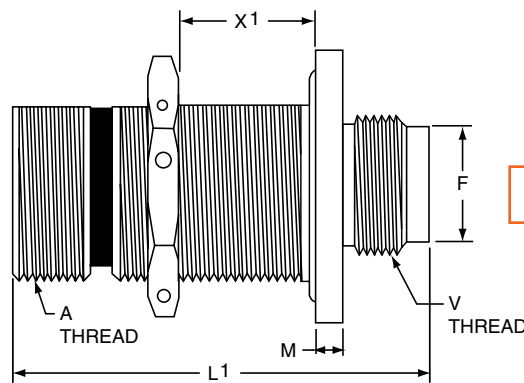
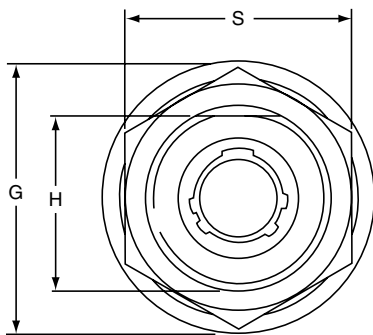
- 5015 Crimp Rear Release Matrix
- 22992 Class 1
- Back-Shell's
- Options Others

PART # To complete, see how to order page 131.

Connector Type	Family Designator	Shell Style	Contact Type	Shell Size	Insert Arrangement	Contact Configuration	Insert Rotation	Special Variation
A	J or S	7	C or R	-XX	-XX	P or S	X	(168)



AJ7X-XX-XXX(168)



AS7X-XX-XXX(168)

AJ Aquacons use JT (38999 type) inserts that incorporate contact sizes 22D, 22M, 22, 20 or 16. AS Aquacons use SJT (38999 type) inserts that incorporate size 12 contacts

Shell Size	A Thread Class 2A	F +.000 -.005	G Dia.	H +.000 -.005	L ±.010 (AJ)	L1 +.000 -.010 (AS)	M	S Hex ±.016	V Thread Class 2A UNEF	X Bulkhead Thickness	X1 Bulkhead Thickness
										(AJ)	(AS)
8	.750-20 UNEF	.477	1.125	.700	1.484	1.750	.125	.938	.5625-24	.03 - .31	.03 - .58
10	.875-20 UNEF	.602	1.250	.825	1.484	1.750	.125	1.062	.6875-24	.03 - .31	.03 - .58
12	1.000-20 UNEF	.727	1.406	.950	1.484	1.750	.125	1.188	.8125-20	.03 - .31	.03 - .58
14	1.125-18 UNEF	.852	1.531	1.075	1.484	1.750	.125	1.312	.9375-20	.03 - .31	.03 - .58
16	1.250-18 UNEF	.977	1.654	1.200	1.484	1.750	.125	1.438	1.0625-18	.03 - .31	.03 - .58
18	1.375-18 UNEF	1.102	1.844	1.325	1.484	1.750	.125	1.562	1.1875-18	.03 - .31	.03 - .58
20	1.500-18 UNEF	1.227	2.000	1.450	1.609	1.750	.188	1.688	1.3125-18	.03 - .38	.03 - .50
22	1.625-18 UNEF	1.352	2.125	1.575	1.609	1.750	.188	1.812	1.4375-18	.03 - .38	.03 - .50
24	1.750-18 UNS	1.477	2.250	1.700	1.609	1.750	.188	2.000	1.5625-18	.03 - .38	.03 - .50

All dimensions for reference only.

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Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

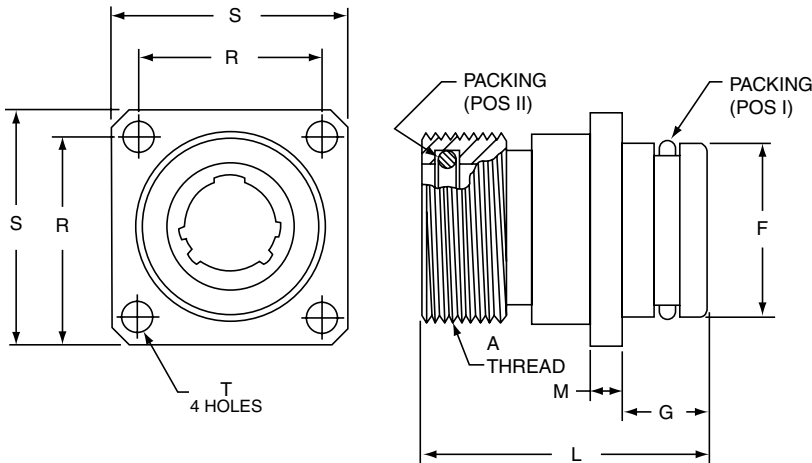
Back-
Shells

Options
Others

AJ0H Aquacon Hermetic Square Flange Receptacle

PART # To complete, see how to order page 131.

Connector Type	Family Designator	Shell Style	Contact Type	Shell Size	Insert Arrangement	Contact Configuration	Insert Rotation	Special Variation
A	J	0	H	-XX	-XX	P or S	X	(XXX)



AJ0H-XX-XXX(XXX)

The Aquacon Hermetic Square Flange Receptacle is available in AJ style only which incorporates contact sizes 22D, 22M, 22, 20 or 16.

Shell Size	A Thread Class 2A	F Dia. +.000 - .001	G ±.030	L	M	R	S	T ±.005	Packing Pos I Part Number	Packing Pos II Part Number
8	.750-20 UNEF	.685	.344	1.125	.125	.719	.938	.128	10-90351-15	10-90351-14
10	.875-20 UNEF	.810	.344	1.125	.125	.812	1.031	.128	10-90351-17	10-90351-16
12	1.000-20 UNEF	.935	.344	1.125	.125	.906	1.125	.128	10-90351-19	10-90351-18
14	1.125-18 UNEF	1.060	.344	1.125	.125	.969	1.219	.128	10-90351-21	10-90351-20
16	1.250-18 UNEF	1.185	.344	1.125	.125	1.062	1.312	.128	10-90351-23	10-90351-22
18	1.375-18 UNEF	1.248	.344	1.125	.125	1.156	1.438	.128	10-90351-24	10-90351-24
20	1.500-18 UNEF	1.373	.375	1.219	.188	1.250	1.562	.128	10-90351-26	10-90351-26
22	1.625-18 UNEF	1.498	.375	1.219	.188	1.375	1.688	.147	10-90351-28	10-90351-28
24	1.750-18 UNS	1.623	.375	1.219	.188	1.500	1.812	.147	10-90351-29	10-90351-29

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26482
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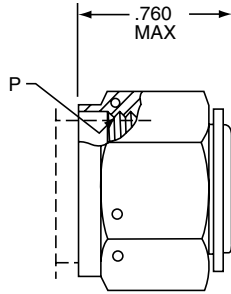
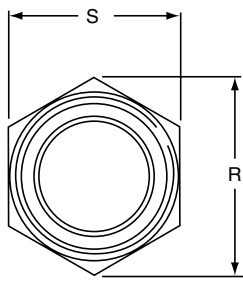
5015
Crmp Rear Release Matrix

22992
Class 1

Back-Shell's

Options
Others

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Receptacle Protection Cap
10-377664-XX

Shell Size	P Thread Class 2A	R Ref.	S Hex +.005 - .010
8	.750-20 UNEF	1.010	.875
10	.875-20 UNEF	1.155	1.000
12	1.000-20 UNEF	1.299	1.125
14	1.125-18 UNEF	1.443	1.250
16	1.250-18 UNEF	1.588	1.375
18	1.375-18 UNEF	1.732	1.500
20	1.500-18 UNEF	1.876	1.625
22	1.625-18 UNEF	2.021	1.750
24	1.750-18 UNS	2.165	1.875

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26482
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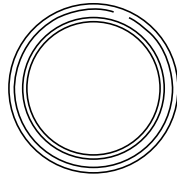
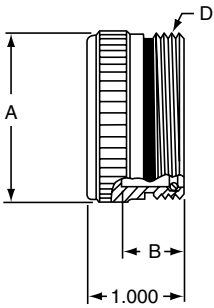
26500
Pyle

5015
Crimp Rear Release Matrix

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Class 1

Back-Shell

Options
Others



Plug Protection Cap
10-399623-XX

Shell Size	A Dia. Max.	B +.031 - .000	D Thread Class 2A
8	.771	.625	.750-20 UNEF
10	.898	.625	.875-20 UNEF
12	1.010	.625	1.000-20 UNEF
14	1.137	.625	1.125-18 UNEF
16	1.264	.625	1.250-18 UNEF
18	1.392	.625	1.375-18 UNEF
20	1.519	.688	1.500-18 UNEF
22	1.646	.688	1.625-18 UNEF
24	1.744	.688	1.750-18 UNS

All dimensions for reference only.

How to Order Protection Caps

Protection Cap Style		Cap Size (Correlates to Connector Shell Size)
For Receptacle Connector	10-377664 -	20
For Plug Connector	10-399623 -	20

Molding

Suggested method of assembly to cable for Aquacon plugs and cable connecting receptacles is molding. The mold sealing diameter has been designed to use a common mold for both plug and receptacle in a given shell size.

Sealing

In a mated condition, the red visual mating indicator band must be fully concealed by the plug coupling nut to assure a reliable, pressure rated sealed joint. Failure to fully tighten the coupling nut may allow leakage through the main joint seal. The red visual mating indicator is so located that only a full and proper mating of the plug and receptacle will cause the indicator to be fully hidden by the plug coupling nut.



Red Visual Mating Indicator Band

Mounting Surfaces

The integrity of an "O" ring hydrostatic shell is dependent upon the flatness of the surface on which the receptacle is mounted. Surface finishes of 23 microns or less are recommended for "O" ring sealing areas when jam nut or through bulkhead receptacles are mounted.

MOUNTING CUTOUTS

Rear mount jam nut

Shell Size	B +.010 -.000	R +.010 -.000
8	.705	.759
10	.830	.884
12	.955	1.007
14	1.080	1.134
16	1.205	1.259
18	1.330	1.384
20	1.455	1.507
22	1.580	1.634
24	1.705	1.759

Receptacle "O" Ring Racking Requirements ARP 568 Uniform Dash Number

Shell Size	Main Joint Seal	Shell to Mounting Surface Seal
		Jam Nut
8	ARP-014	ARP-019
10	ARP-016	ARP-021
12	ARP-018	ARP-023
14	ARP-020	ARP-025
16	ARP-022	ARP-027
18	ARP-024	ARP-029
20	ARP-026	ARP-030
22	ARP-028	ARP-031
24	ARP-029	ARP-032

Conversion Table Salt Water Depth to Hydrostatic Pressure

Salt-Water Depth in Feet	Pounds per Sq. Inch	Salt-Water Depth in Feet	Pounds per Sq. Inch
10	4	2,000	890
25	11	2,500	1,113
50	22	3,000	1,335
75	33	4,000	1,780
100	45	5,000	2,225
200	89	6,000	2,670
250	111	7,000	3,115
300	134	7,500	3,338
400	178	8,000	3,560
500	223	9,000	4,005
600	267	10,000	4,450
750	334	15,000	6,675
800	356	20,000	8,900
1,000	445	25,000	11,125

Application Tooling

Contact Size	Crimping Tool	Positioner	Insertion Tool*	Removal Tool*	Sealing Plug*	Color Code	Reference Publication
22M	M22520/2-01	M22520/2-09†	11-8674-24††	11-8675-24††	10-405996-22	Black	L-624
22D	M22520/2-01	M22520/2-09†	11-8674-24††	11-8675-24††	10-405996-22	Black	
22	M22520/2-01	M22520/2-09†	11-8674-22††	11-8675-22††	10-405996-22	Black	
20	M22520/1-01	M22520/1-04	11-8674-20††	11-8675-20††	10-405996-20	Red	
16	M22520/1-01	M22520/1-04	11-8674-16††	11-8675-16††	10-405996-16	Blue	
12	M22520/1-01	M2520/1-04	11-8674-12††	11-8675-12††	10-405996-12	Yellow	

* Amphenol Part Numbers

† Pin only. Use M22520/2-06 for socket contacts.

†† Contact Daniels Manufacturing Co. or Astro Tool Corp. for availability.

** Available online at www.amphenol-aerospace.com/termination-instructions

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- EMI Filter Transient
- 26482 Matrix 2
- 83723 III Matrix | Pyle
- 26500 Pyle

- 5015 Crimp Rear Release Matrix

- 22992 Class 1

- Back-Shell's

- Options Others

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Contact Installation

Wire and Cable Preparation

1. Cut wire or cable to desired length. Strip insulation from end of wire in accordance with the following table. Hot wire stripping methods are recommended. Avoid nicking or cutting wire strands.

Table 1: Wire Strip Length in Inches

Contact Type	Contact Size					
	22M	22D	22	20	16	12
Solder	1/8	–	1/8	5/32	5/32	
Crimp	1/8 – 5/32			7/32 – 1/4		

Solder Contact Termination

1. Clean conductors and pre-tin with a good grade 60/40 tin-lead solder to 1/16 inch.
2. Pre-tin contact solder well.
3. With connector in a suitable holding device, solder wells facing operator, and the cutaway portion of the wells up, insert pre-tinned conductor into contact well. Apply heat to closed side of wire well to make joint. Remove heat and allow joint to cool.
4. A resistance soldering unit of approximately 125 watts is recommended. If a soldering iron is used, do not exceed 20 watts for size 22M, 22D and 22 contacts; 80 watts for size 20; and 150 watts for size 16 and 12 contacts.
5. Wipe or brush excess flux from terminations.

Crimp Contact Termination

1. Select proper crimping tool and positioner from Application Tooling table on previous page.
2. Position wire in wire well. Wire must be visible in the inspection hole provided.
3. With the wire in place, insert the contact fully into the crimping tool. Squeeze the crimping tool handles to the full extent of their travel. The recommended crimping tools are the “full cycling” type and will not release until a complete crimp is made. Release pressure on handles and remove the completed crimped contact/wire assembly.

Contact Insertion

1. Select proper insertion tool from Application Tooling table on previous page.
2. With contact/wire assembly properly positioned in the insertion tool, push forward, directly in line with the grommet hole, until the contact is felt to snap into place.
3. Remove insertion tool.
All unused contact positions must be filled with uncrimped contacts. In addition, sealing plugs (see Application Tooling table) should be inserted in all unused grommet holes.

Contact Removal

1. Select proper removal tool from Application Tooling table on previous page.
2. Carefully insert removal tool until contact to be removed is released. Aquacon contacts are rear release, rear removable.
3. Remove contact.

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