# Amphenol® AJ Aquacon Immersible Connectors

12-140-4

**Amphenol**

**Table of Contents** **Page No.**



Metric equivalents of dimensional data in this catalog have not been included. All dimensions given may be converted to the metric system by the standard formula: dimension (inches X 25.40 = dimension (millimeters).

NOTE:
The connector products in this brochure were formerly known as Bendix ® products. These products are now manufactured and sold under the Amphenol ® brand name. The name “Amphenol” will replace the name “Bendix” on products and literature in the future.

# **AJ Aquacon**
# design features

The Amphenol ® AJ 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

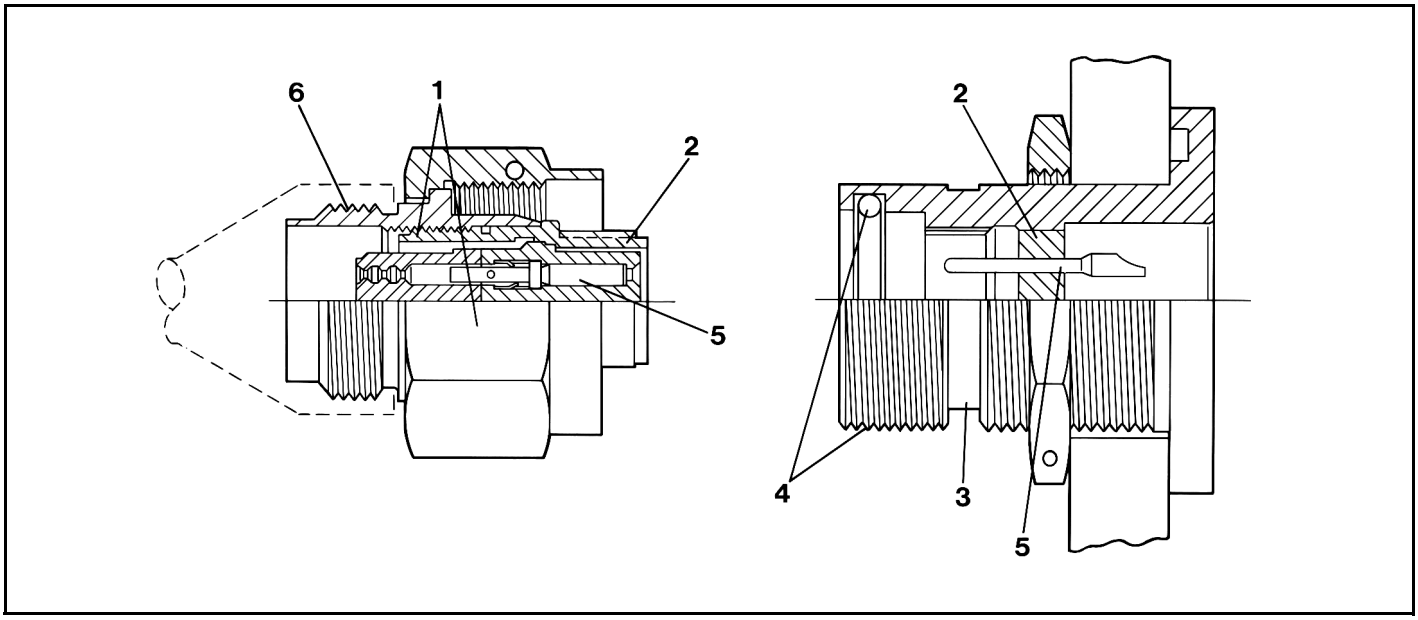
A specially designed aluminum bronze coupling nut and type 316 stainless steel shells resist corrosion and provide a pressure withstanding connector. Positive threaded coupling, “O” rings, and a color band visual indicator assure sealing and proper mating.

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

The AJ Series is available in several different shell styles, with numerous MIL-C-38999 insert patterns. Hermetically sealed (1 x $10^{-6}$ cc/sec leakage rate) arrangements are also available.

For application assistance or further information, please contact:

Amphenol Corporation
Amphenol Aerospace
40–60 Delaware Avenue
Sidney, New York 13838-1395
Phone: 607-563-5011
Fax: 607-563-5157
www.amphenol-aerospace.com




1. Corrosion resistant aluminum bronze coupling nut and stainless steel sleeve
2. Hermetic and non-hermetic inserts in MIL-C-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

# AJ Aquacon
## specifications, alternate positions

**AJ 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 $^{+.004}_{-.000}$ | .094 |
| 22D | 5 | – | 40 | – | – | .0345 ±.001 | .141 | – | – |
| 22 | 5 | 3 | 40 | 20 | 85 | .0365 ±.001 | .141 | .036 $^{+.004}_{-.000}$ | .094 |
| 20 | 7.5 | 5 | 35 | 20 | 60 | .047 ±.001 | .209 | .044 $^{+.004}_{-.000}$ | .125 |
| 16 | 13 | 10 | 25 | 20 | 85 | .067 ±.001 | .209 | .078 $^{+.004}_{-.002}$ | .141 |
| 12 | 23 | 17 | 25 | 20 | 85 | .100 ±.002 | .209 | .116 ±.004 | .151 |

**Service Rating**

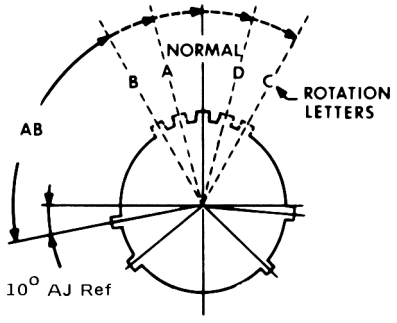
| Service Rating | Suggested Operating Voltage (Sea Level) | |
|---|---|---|
| | AC (RMS) | DC |
| M | 400 | 550 |
| I | 600 | 850 |
| II | 900 | 1250 |

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 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 AJ 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.




**RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY**

(FRONT FACE OF AJ RECEPTACLE SHOWN)

**AJ 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 |

# **AJ Aquacon**
# insert availability

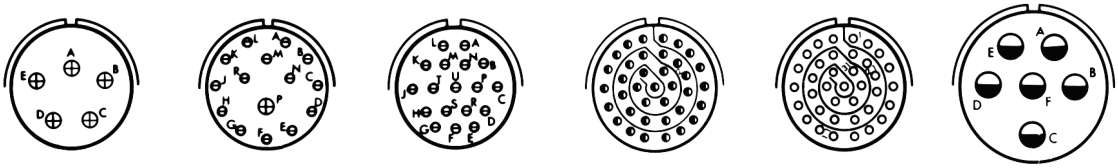
| AJ | Solder | Crimp | Hermetic* | Service Rating** | Total Contacts | Contact Size | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 22D | 22M | 22 | 20 | 16 | 12 |
| 8-3 | X | | X | M | 3 | | | | 3 | | |
| 8-6 | X | X | X | M | 6 | | 6 | | | | |
| 8-35 | | X | X | M | 6 | 6 | | | | | |
| 8-44 | | X | 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 | | II | 5 | | | | | 5 | |
| 14-15 | X | 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 | 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 | X | I | 39 | | | | 37 | 2 | |
| 20-41 | X | X | X | I | 41 | | | | 41 | | |
| 22-2 | X | X | X | M | 85 | | | 85 | | | |
| 22-21 | X | X | X | II | 21 | | | | | 21 | |
| 22-32 | X | | X | I | 32 | | | | 32 | | |
| 22-35 | | X | | M | 100 | 100 | | | | | |
| 22-55 | X | X | X | I | 55 | | | | 55 | | |
| 24-19† | | X | | I | 19 | | | | | | 19 |
| 24-24† | | X | X | I | 24 | | | | | 12 | 12 |
| 24-35 | | X | | M | 128 | 128 | | | | | |
| 24-61 | X | X | X | I | 61 | | | | 61 | | |

* Pin insert only (Consult Amphenol, Sidney, NY for socket availability)
** See specifications
† Available in AS version. Consult Amphenol, Sidney, NY for information.
Additional insert arrangements may be made available upon request.

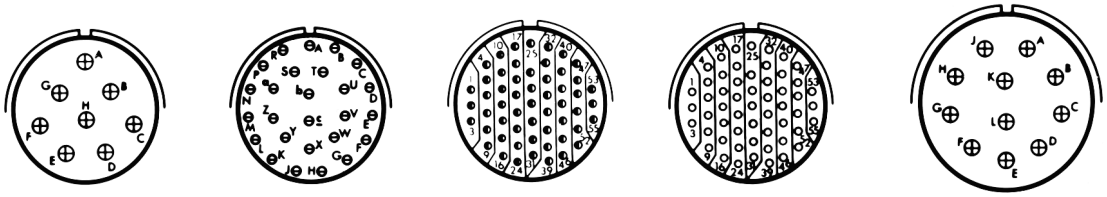
# **AJ Aquacon**
# insert arrangements

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

| | | | | | | |
|---|---|---|---|---|---|---|
| **Insert Arrangement** | **10-35** | **10-98** | **12-3** | **12-8** | **12-35** | **12-98** |
| **Service Rating** | **M** | **I** | **II** | **I** | **M** | **I** |
| **Number of Contacts** | **13** | **6** | **3** | **8** | **22** | **10** |
| **Contact Size** | **22D** | **20** | **16** | **20** | **22D** | **20** |



| | | | | | | |
|---|---|---|---|---|---|---|
| **Insert Arrangement** | **14-5** | **14-15** | **14-18** | **14-35** | **14-37** | **16-6** |
| **Service Rating** | **II** | **I** | **I** | **M** | **M** | **I** |
| **Number of Contacts** | **5** | **14 1** | **18** | **37** | **37** | **6** |
| **Contact Size** | **16** | **20 16** | **20** | **22D** | **22M** | **12** |

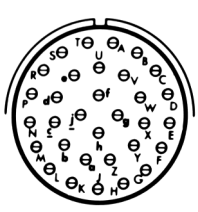
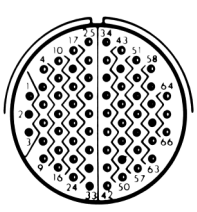
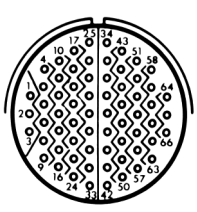
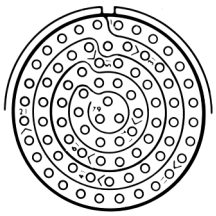
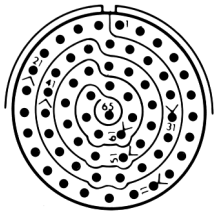


| | | | | | |
|---|---|---|---|---|---|
| **Insert Arrangement** | **16-8** | **16-26** | **16-35** | **16-55** | **18-11** |
| **Service Rating** | **II** | **I** | **M** | **M** | **II** |
| **Number of Contacts** | **8** | **26** | **55** | **55** | **11** |
| **Contact Size** | **16** | **20** | **22D** | **22M** | **16** |

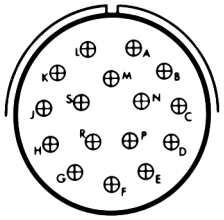
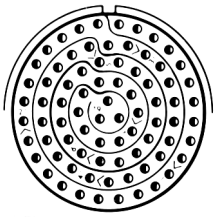
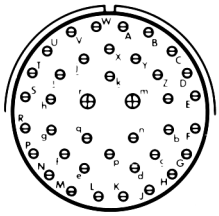
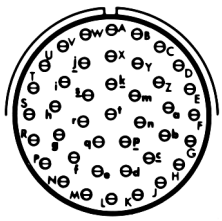
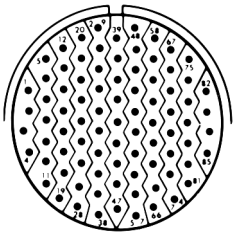
Front face of pin inserts illustrated
See page 3 for service ratings and contact sizes

Contact Legend — 8 | 12 | 16 | 20 | 22 | 22M | 22D

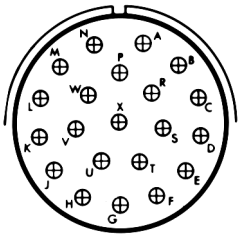
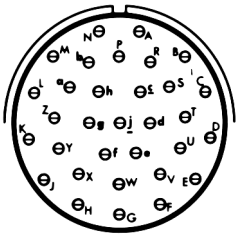
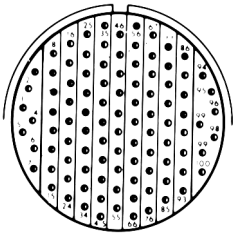
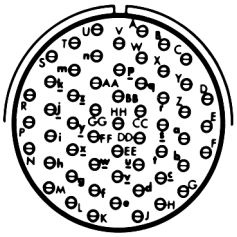
# **AJ Aquacon**
# insert arrangements

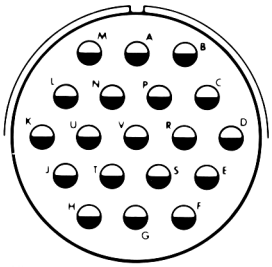
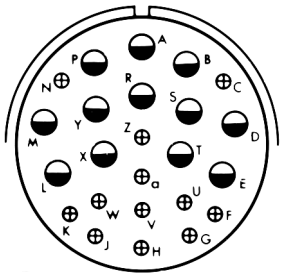
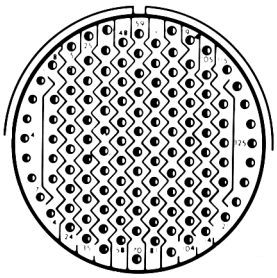
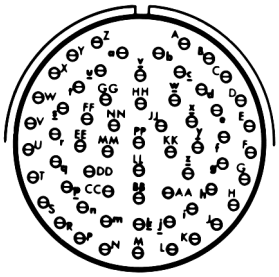
| | | | | | |
|---|---|---|---|---|---|
| **Insert Arrangement** | **18-32** | **18-35** | **18-66** | **20-1** | **20-2** |
| **Service Rating** | **I** | **M** | **M** | **M** | **M** |
| **Number of Contacts** | **32** | **66** | **66** | **79** | **65** |
| **Contact Size** | **20** | **22D** | **22M** | **22M** | **22** |

| | | | | | |
|---|---|---|---|---|---|
| **Insert Arrangement** | **20-16** | **20-35** | **20-39** | **20-41** | **22-2** |
| **Service Rating** | **II** | **M** | **I** | **I** | **M** |
| **Number of Contacts** | **16** | **79** | **37 2** | **41** | **85** |
| **Contact Size** | **16** | **22D** | **20 16** | **20** | **22** |

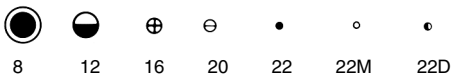





| | | | | |
|---|---|---|---|---|
| **Insert Arrangement** | **22-21** | **22-32** | **22-35** | **22-55** |
| **Service Rating** | **II** | **I** | **M** | **I** |
| **Number of Contacts** | **21** | **32** | **100** | **55** |
| **Contact Size** | **16** | **20** | **22D** | **20** |

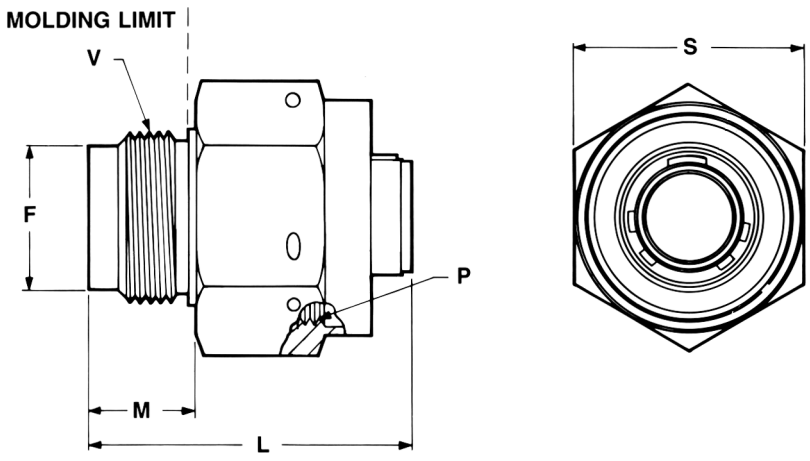





| | | | | |
|---|---|---|---|---|
| **Insert Arrangement** | **24-19** | **24-24** | **24-35** | **24-61** |
| **Service Rating** | **I** | **I** | **M** | **I** |
| **Number of Contacts** | **19** | **12 12** | **128** | **61** |
| **Contact Size** | **12** | **16 12** | **22D** | **20** |

Front face of pin inserts illustrated
See page 3 for service ratings and contact sizes



# AJ6R Aquacon
straight plug



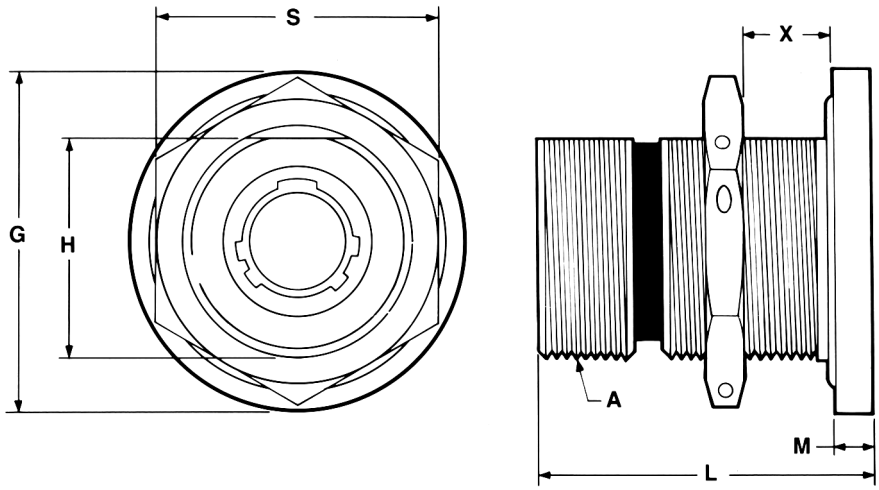

***AJ6C-XX-XXX (445)**
***AJ6R-XX-XXX (445)**

* To complete order number, see page 12.
For installation data, see pages 11-12.

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

All dimensions for reference only.

# AJ7H Aquacon
## hermetic jam nut receptacle



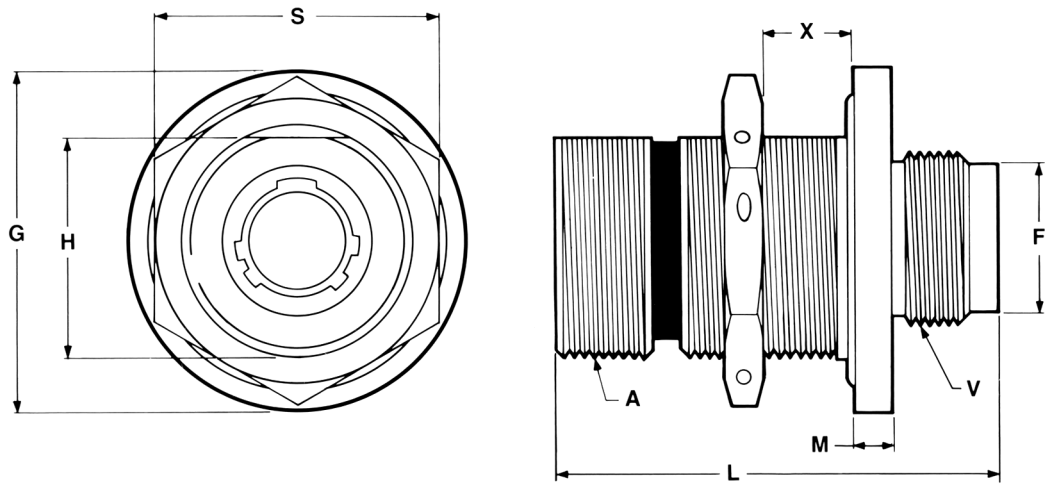

***AJ7H-XX-XXX**

* To complete order number, see page 12.
For installation data, see pages 11-12.

| Shell Size | A Thread Class 2A | G Dia. | H +.000 –.005 | L (Hermetic) | M | S Hex. ±.016 | X Bulkhead Thickness |
|---|---|---|---|---|---|---|---|
| 8 | .750-20 UNEF | 1.125 | .700 | 1.125 | .125 | .938 | .03–.31 |
| 10 | .875-20 UNEF | 1.250 | .825 | 1.125 | .125 | 1.062 | .03–.31 |
| 12 | 1.000-20 UNEF | 1.406 | .950 | 1.125 | .125 | 1.188 | .03–.31 |
| 14 | 1.125-18 UNEF | 1.531 | 1.075 | 1.125 | .125 | 1.312 | .03–.31 |
| 16 | 1.250-18 UNEF | 1.654 | 1.200 | 1.125 | .125 | 1.438 | .03–.31 |
| 18 | 1.375-18 UNEF | 1.844 | 1.325 | 1.125 | .125 | 1.562 | .03–.31 |
| 20 | 1.500-18 UNEF | 2.000 | 1.450 | 1.250 | .188 | 1.688 | .03–.38 |
| 22 | 1.625-18 UNEF | 2.125 | 1.575 | 1.250 | .188 | 1.812 | .03–.38 |
| 24 | 1.750-18 UNS | 2.250 | 1.700 | 1.250 | .188 | 2.000 | .03–.38 |

All dimensions for reference only.

# AJ7R Aquacon
## jam nut receptacle



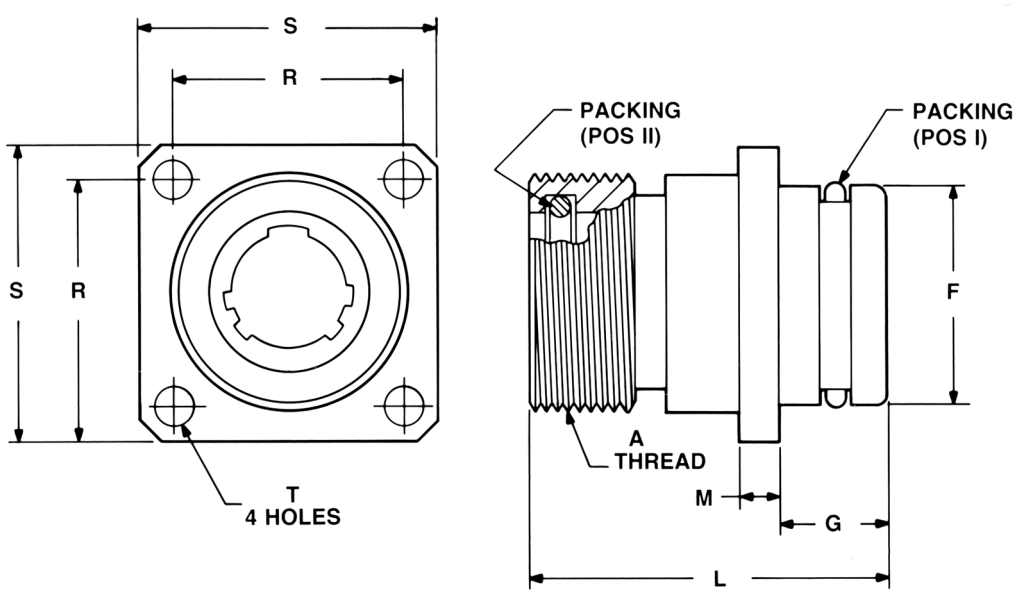

***AJ7R-XX-XXX (168)**

* To complete order number, see page 12.
For installation data, see pages 11-12.

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

All dimensions for reference only.

# AJ0H Aquacon
## hermetic square flange receptacle



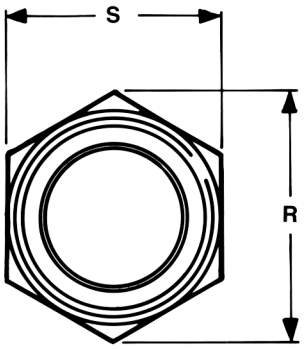

***AJ0H-XX-XXX**

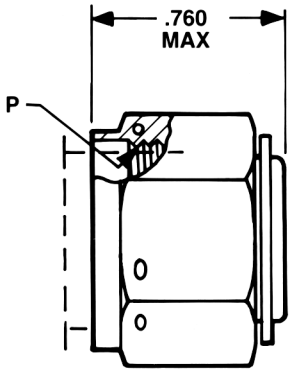
* To complete order number, see page 12.
For installation data, see pages 11-12.

| 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 |

All dimensions for reference only.

# **AJ Aquacon**
protection caps

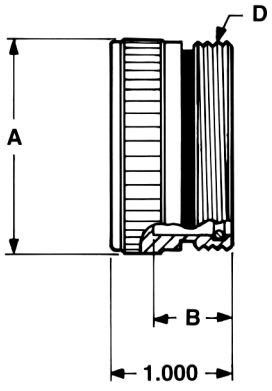


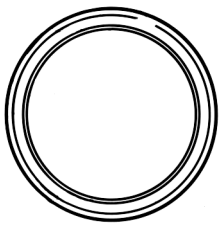




**Receptacle Protection Cap**
**10-377664-XX***

| Shell Size | P Thread Class 2B | 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 |

All dimensions for reference only.



**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.

* To complete order number, see page 12.

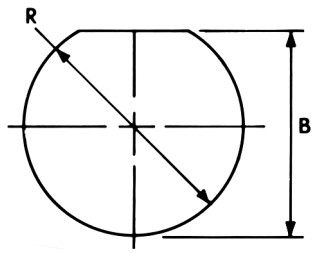
# AJ Aquacon
## installation instructions, application tools

**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 to 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.

**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 32 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 Packing 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 | M22520/1-04 | 11-8674-12 | 11-8675-12 | 10-405996-12 | Yellow | |

* Amphenol Part Numbers

† Pin only, use M22520/2-06 for socket contacts

# AJ Aquacon
## contact installation/how to order

### 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.

**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 page 11.
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 page 11.
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.
2. Carefully insert removal tool until contact to be removed is released. AJ contacts are rear release, rear removable.
3. Remove contact.

### HOW TO ORDER AQUACON CONNECTORS

To more easily illustrate ordering procedure, part number AJ6R-20-41SA ( ) is shown as follows:

| A | J | 6 | R | -20 | -41 | S | A | (445) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

See code below:

**1. Type Designator**
A designates Aquacon

**2. Family Designator**
J designates hard dielectric inserts

**3. Shell Style**
0 – square flange receptacle
6 – straight plug
7 – jam nut receptacle

**4. Contact Type**
C – non-removable solder terminations (plug only)
R – removable crimp termination
H – hermetic (glass seal) solder termination

**5. Shell Size**
Aquacon shell sizes available from 8 through 24. See insert availability, page 3.

**6. Insert Arrangement**
Refer to insert availability on page 3.

**7. Contact Configuration**
P designates pin contacts
S designates socket contacts

**8. Insert Rotation**
Refer to alternate positions, page 2.
No letter required for normal (no rotation) position.

**9. Special Variations**
Consult Amphenol, Sidney, NY for options and special variations available.
(168) designates rear accessory threads
(445) designates hex coupling and rear accessory threads

**How to Order Protection Caps**

Part number 10-377664-20 is shown as follows:

| 10-377664 | – | 20 |
|---|---|---|
| 1 | | 2 |

**1. Protection cap style**
10-377664-XX (Receptacle)
10-399623-XX (Plug)

**2. Cap Size**
Cap size is determined by shell size of connectors to be protected.

Amphenol® Cage Code No.77820