

# Connectors

ABCIRP:  
Modular bayonet lock connector series



Belief in Technology

# AB Connectors

## Company Profile

Operating from the principal site in South Wales, U.K., AB Connectors Limited, a subsidiary of TT electronics plc., is one of the recognised market leaders in design, test and manufacture of harsh environment interconnection systems, bespoke harness assemblies and equipment sub-units.

With a satellite assembly facility in North Carolina, USA, and a co-ordinated global sales and distribution network, AB Connectors Ltd. offers an unrivalled service to both engineers and buyers alike.

Through a commitment to a structured new product introduction process, AB Connectors is continuing investment in research and development of new materials and processes, surface treatments and the very latest manufacturing technology and techniques to ensure the products meet the most exacting standards encountered in the modern Military, Mass Transportation and Industrial market places.

Quality system approvals include BS/EN/ISO 9001 along with product approvals to BS9000, IECQ and CECC. As a result of these qualifications, AB Connectors have been awarded several major customer approvals and accreditations.

AB Connectors total commitment to providing customers with high levels of service, cost effectiveness, quality and innovation solutions in interconnection products, make it the ideal first choice supply partner.



# ABCIRP

## Modular Bayonet Lock Connector

The ABCIRP connector series is derived from the American Mil-C-5015 & VG95234 specifications and is approved to the French rail specification NF F 61 030.

The connectors are intermateable and interchangeable with corresponding types, but feature a low fire hazard thermoplastic insulator which is removeable for repositioning at an alternative orientation.

Contacts are retained in the insulator by means of a unique beryllium copper spring clip.

Connector sealing features a stepped wire seal grommet which removes the need to populate unused cavities with filler plugs.

Crimp tooling is industry standard and contacts are inserted and removed using simple hand tools.

Benefits include:

- ABCIRP connectors qualified to NF F 61 030 norm.
- Approved for use on railway equipment by SNCF, RATP, Alstom Transport, Bombardier and LUL.
- Compatible with existing MS 5015 reverse bayonet types.
- Low fire hazard / low halogen insulator material tested to French NF F 16-101 norm and BS 6853.
- Cadmium free surface plating. Black Zinc Cobalt - Not RoHS Compliant; Silver Zinc Cobalt - RoHS Compliant.
- Removable insulator.
- Positive location of insulator shell.
- Pin insulators feature with or without bonded resilient rubber face seal.
- Rear individual wire seal grommet with webbed holes.
- Mated connector assemblies sealed to IP67.
- Part populated insulators achieve sealing without the fitting of grommet fillers.
- Contacts retained by high performance metal spring clip.
- Comprehensive range of screened / unscreened, sealed / unsealed backshells & accessories.
- 3D Models available to download from our website.

Tested to & meets the specifications of the Fire Barrier Testing: EN1363. BS476



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# ABCIRP

## technical information

### Materials

|                         |                                                                          |
|-------------------------|--------------------------------------------------------------------------|
| Shell:                  | Aluminium Alloy                                                          |
| Insulator:              | Low fire hazard thermoplastic qualified to NFF 16101 and to meet BS 6853 |
| Grommet & bushing:      | Low fire hazard rubber tested to NFF 16101 norm and to meet BS 6853      |
| Contacts:               | Copper alloy                                                             |
| Contact retaining clip: | Beryllium copper                                                         |
| Accessory hardware:     | Aluminium alloy                                                          |

### Standard Plating Finishes

|                  |                                                                        |
|------------------|------------------------------------------------------------------------|
| Aluminium parts: | Black chromate over zinc cobalt and silver passivate<br>RoHS compliant |
| Contacts:        | Gold over silver<br>(#16 gold only)                                    |

\* Consult factory for alternative finishes

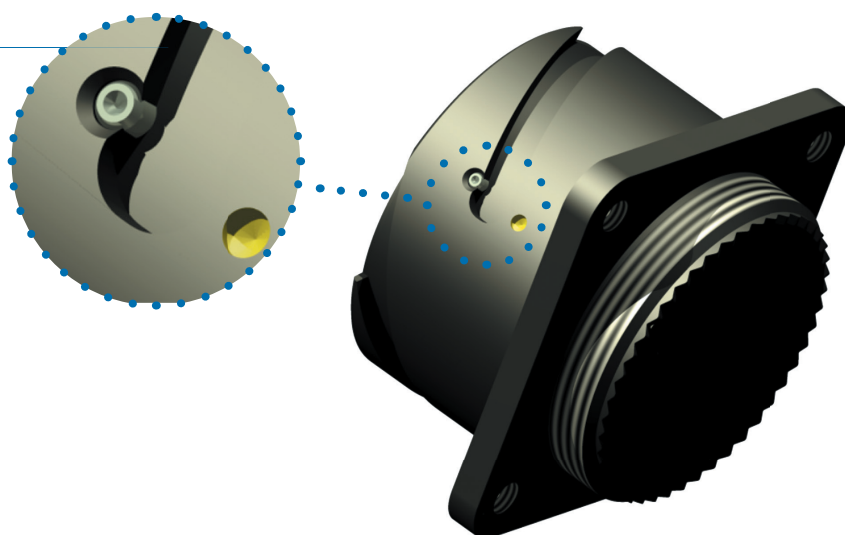
### Environmental Ratings

|                              |                                         |
|------------------------------|-----------------------------------------|
| Operating temperature range: | -55°C to +125°C                         |
| Shock severity:              | 75g                                     |
| Vibration:                   | 5-500Hz long endurance. 30 hours at 10g |
| Acceleration:                | 50g                                     |

### Mechanical Features

|                                                          |                                                                                                                                 |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Coupling:                                                | 3 pin reverse bayonet. 120° coupling nut rotation                                                                               |
| Number of contacts:                                      | 7 to 60                                                                                                                         |
| Contact termination:                                     | Crimp & PCB                                                                                                                     |
| Minimum retention force of the contact in the insulator: | Beryllium copper spring clip<br>70N for contacts #16 (1.6 mm)<br>90N for contacts #12 (2.4 mm)<br>110N for contacts #8 (3.6 mm) |
| Sealing:                                                 | IP67 rated when connectors are mated and used with appropriate sealed backshell                                                 |
| Matings:                                                 | 2000 minimum mating and unmating                                                                                                |
| Max Coupling Torque:                                     | 8NM                                                                                                                             |

**ABCIRP03** receptacle connectors feature stainless steel pins at critical wear points of the cam tracks. This feature is incorporated to protect against excessive wear inflicted by continuous mating / de-mating and heavy vibration.



# ABCIRP

## technical information

| Contact Size<br>AWG | *Maximum Current<br>@ 20°C | * Rated Current<br>@ 85°C | ** De-rated Current<br>@ 85°C |
|---------------------|----------------------------|---------------------------|-------------------------------|
| 16                  | 22A                        | 13A                       | 10A                           |
| 12                  | 41A                        | 23A                       | 20A                           |
| 8                   | 73A                        | 46A                       | 42A                           |

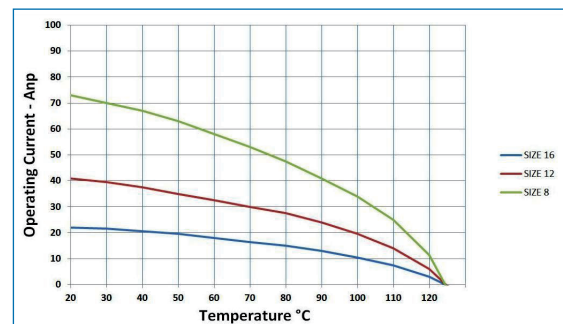
\* Single contact in isolation

\*\* Grouped contacts

### Contact Arrangement Service Rating

| Service Rating                   | Sea Level |         |
|----------------------------------|-----------|---------|
|                                  | A         | D       |
| Working voltage<br>DC or AC Peak | 700 V     | 1,250 V |
| Voltage Proof<br>AC RMS          | 2,000 V   | 2,800 V |
| Minimum Flashover<br>AC RMS      | 2,800 V   | 3,600 V |

### Contact Current De-rating



# ABCIRP

## part number explanation

| ABCIRP        | 03          | LBN            | 22         | 14                  | GPS          | P                              | FS        | ****              | **             | *                     |
|---------------|-------------|----------------|------------|---------------------|--------------|--------------------------------|-----------|-------------------|----------------|-----------------------|
| Series Prefix |             | Accessory Type |            | Contact Arrangement |              | Contact Type<br>P=Pin S=Socket |           | Modification Code |                | Insulator Orientation |
|               | Shell Style |                | Shell Size |                     | Grommet Type |                                | Face Seal |                   | Contact Supply |                       |

|                               |                                                                                                                                                                           |                                                                              |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <b>Series Prefix:</b>         | <b>ABCIRP</b>                                                                                                                                                             |                                                                              |
| <b>Shell Style:</b>           | <b>03</b>                                                                                                                                                                 | 4 Hole Square flange receptacle, rear panel mounted.                         |
|                               | <b>SE06</b>                                                                                                                                                               | Plug with RFI grounding                                                      |
|                               | <b>09</b>                                                                                                                                                                 | Single hole mounted receptacle                                               |
|                               | <b>PSE06T</b>                                                                                                                                                             | Plug with RFI grounding and rubber covered coupling nut                      |
| <b>Accessory Type:</b>        | <b>A</b>                                                                                                                                                                  | No rear threads and no accommodation for accessories<br>Shell styles 00 & 03 |
|                               | <b>T</b>                                                                                                                                                                  | Rear threads for accessory accommodation                                     |
|                               | <b>LBN</b>                                                                                                                                                                | Locking Back Nut                                                             |
|                               | <b>SCHSA</b>                                                                                                                                                              | Straight Conduit Heatshrink Adaptor                                          |
|                               | <b>ECHSA</b>                                                                                                                                                              | 90° Conduit Heatshrink Adaptor                                               |
|                               | <b>SHE#</b>                                                                                                                                                               | Shell Extender<br>M - Metric thread<br>P - PG thread                         |
|                               | <b>SUA#</b>                                                                                                                                                               | Step up adapter<br>M - Metric thread<br>P - PG thread                        |
|                               | <b>SDA#</b>                                                                                                                                                               | Step down adapter<br>M - Metric thread<br>P - PG thread                      |
| <b>Shell Size:</b>            | <b>18 - 40</b>                                                                                                                                                            |                                                                              |
| <b>Contact Arrangement:</b>   | See page 12                                                                                                                                                               |                                                                              |
| <b>Grommet Type:</b>          | As there is a choice of Wire Seal Grommet to suit varying cable diameters, this component may be omitted from the part number and ordered as a separate item if required. |                                                                              |
| <b>Contact Type:</b>          | P = Pin<br>S = Socket                                                                                                                                                     |                                                                              |
| <b>Face Seal:</b>             | Pin insulator only. When face seal is required, add 'FS' to part number.                                                                                                  |                                                                              |
| <b>Modification Code:</b>     | Issued for connector with non-standard feature. Consult factory for detail.                                                                                               |                                                                              |
| <b>Contact Supply:</b>        | Leave blank for connectors supplied with silver contacts<br>Add 'P3' for gold contacts.<br>Add 'V0' for connectors supplied without contacts.                             |                                                                              |
| <b>Insulator Orientation:</b> | Leave blank for connectors supplied in sub-assembly form. Add applicable orientation letter (see page 14) if connectors are to be supplied factory assembled.             |                                                                              |

# ABCIRP

## basic assembly

### Rear Panel Mounted Connector Basic Assembly



### Plug Connector Basic Assembly



# ABCIRP

## shell assemblies

### Front or Rear Mounting Fixed Receptacle



| Shell Size | Part Number Rear Mount | Part Number Front Mount |
|------------|------------------------|-------------------------|
| 18         | ABCIRP18XR             | ABCIRP18XF              |
| 20         | ABCIRP20XR             | ABCIRP20XF              |
| 22         | ABCIRP22XR             | ABCIRP22XF              |
| 24         | ABCIRP24XR             | ABCIRP24XF              |
| 28         | ABCIRP28XR             | ABCIRP28XF              |
| 32         | ABCIRP32XR             | ABCIRP32XF              |
| 36         | ABCIRP36XR             | ABCIRP36XF              |
| 40         | ABCIRP40XR             | ABCIRP40XF              |

### Free Plug Assembly with EMI/RFI Grounding



| Shell Size | Part Number  |
|------------|--------------|
| 18         | ABCIRPSE18FS |
| 20         | ABCIRPSE20FS |
| 22         | ABCIRPSE22FS |
| 24         | ABCIRPSE24FS |
| 28         | ABCIRPSE28FS |
| 32         | ABCIRPSE32FS |
| 36         | ABCIRPSE36FS |
| 40         | ABCIRPSE40FS |

**Note:** Both the fixed and free shell assembly is supplied with an insulator retaining circlip.

## ABCIRP insulators

### Pin Insulator with Face Seal

Delete 'FS' if seal is not required



| Shell Size | Contact Arrangement | Part Number     |
|------------|---------------------|-----------------|
| 18         | 18-19               | ABCIRP18-19PFS  |
| 20         | 20-15               | ABCIRP20-15PFS  |
| 22         | 22-14               | ABCIRP22-14PFS  |
| 24         | 24-10               | ABCIRP24-10PFS  |
| 28         | 28-21               | ABCIRP28-21PFS  |
| 32         | 32-A13              | ABCIRP32-A13PFS |
| 36         | 36-A22              | ABCIRP36-A22PFS |
| 40         | 40-A35              | ABCIRP40-A35PFS |
| 40         | 40-A60              | ABCIRP40-A60PFS |

### Socket Insulator



| Shell Size | Contact Arrangement | Part Number   |
|------------|---------------------|---------------|
| 18         | 18-19               | ABCIRP18-19S  |
| 20         | 20-15               | ABCIRP20-15S  |
| 22         | 22-14               | ABCIRP22-14S  |
| 24         | 24-10               | ABCIRP24-10S  |
| 28         | 28-21               | ABCIRP28-21S  |
| 32         | 32-A13              | ABCIRP32-A13S |
| 36         | 36-A22              | ABCIRP36-A22S |
| 40         | 40-A35              | ABCIRP40-A35S |
| 40         | 40-A60              | ABCIRP40-A60S |

### Insulator Retaining Ring



| Shell Size | Part Number |
|------------|-------------|
| 18         | ABCIRP18IC  |
| 20         | ABCIRP20IC  |
| 22         | ABCIRP22IC  |
| 24         | ABCIRP24IC  |
| 28         | ABCIRP28IC  |
| 32         | ABCIRP32IC  |
| 36         | ABCIRP36IC  |
| 40         | ABCIRP40IC  |

# ABCIRP

## individual wire seal grommet

### Individual Wire Seal Grommets - Size 16

| Grommet Type       | Contact Arrangement | Wire Insulation Min O/D mm | Wire Insulation Max O/D mm | Part Number     |
|--------------------|---------------------|----------------------------|----------------------------|-----------------|
| Pin, Small Bore    | 18-19               | 0.8                        | 2.30                       | ABCIRP18-19GPS  |
|                    | 22-14               |                            |                            | ABCIRP22-14GPS  |
|                    | 28-21               |                            |                            | ABCIRP28-21GPS  |
|                    | 40-A60              |                            |                            | ABCIRP40-A60GPS |
| Socket, Small Bore | 18-19               | 0.8                        | 2.30                       | ABCIRP18-19GSS  |
|                    | 22-14               |                            |                            | ABCIRP22-14GSS  |
|                    | 28-21               |                            |                            | ABCIRP28-21GSS  |
|                    | 40-A60              |                            |                            | ABCIRP40-A60GSS |
| Pin, Large Bore    | 18-19               | 1.5                        | 3.30                       | ABCIRP18-19GPL  |
|                    | 22-14               |                            |                            | ABCIRP22-14GPL  |
|                    | 29-21               |                            |                            | ABCIRP28-21GPL  |
|                    | 40-A60              |                            |                            | ABCIRP40-A60GPL |
| Socket, Large Bore | 18-19               | 1.5                        | 3.30                       | ABCIRP18-19GSL  |
|                    | 22-14               |                            |                            | ABCIRP22-14GSL  |
|                    | 28-21               |                            |                            | ABCIRP28-21GSL  |
|                    | 40-A60              |                            |                            | ABCIRP40-A60GSL |

### Individual Wire Seal Grommets - Size 12 Contacts

| Grommet Type       | Contact Arrangement | Wire Insulation Min O/D mm | Wire Insulation Max O/D mm | Part Number     |
|--------------------|---------------------|----------------------------|----------------------------|-----------------|
| Pin, Small Bore    | 20-15               | 0.8                        | 2.30                       | ABCIRP20-15GPS  |
|                    | 32-A13              |                            |                            | ABCIRP32-A13GPS |
|                    | 36-A22              |                            |                            | ABCIRP36-A22GPS |
|                    | 40-A35              |                            |                            | ABCIRP40-A35GPS |
| Socket, Small Bore | 20-15               | 0.8                        | 2.30                       | ABCIRP20-15GSS  |
|                    | 32-A13              |                            |                            | ABCIRP32-A13GSS |
|                    | 36-A22              |                            |                            | ABCIRP36-A22GSS |
|                    | 40-A35              |                            |                            | ABCIRP40-A35GSS |
| Pin, Large Bore    | 20-15               | 2.35                       | 5.20                       | ABCIRP20-15GPL  |
|                    | 32-A13              |                            |                            | ABCIRP32-A13GPL |
|                    | 36-A22              |                            |                            | ABCIRP36-A22GPL |
|                    | 40-A35              |                            |                            | ABCIRP40-A35GPL |
| Socket, Large Bore | 20-15               | 2.35                       | 5.20                       | ABCIRP20-15GSL  |
|                    | 32-A13              |                            |                            | ABCIRP32-A13GSL |
|                    | 36-A22              |                            |                            | ABCIRP36-A22GSL |
|                    | 40-A35              |                            |                            | ABCIRP40-A35GSL |

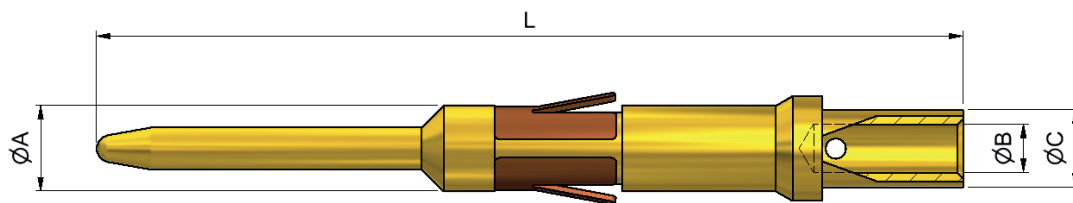
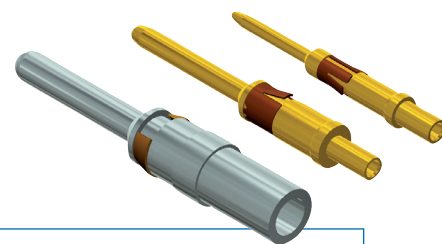
### Individual Wire Seal Grommets - Size 8 Contacts

| Grommet Type       | Contact Arrangement | Wire Insulation Min O/D mm | Wire Insulation Max O/D mm | Part Number    |
|--------------------|---------------------|----------------------------|----------------------------|----------------|
| Pin, Small Bore    | 24-10               | 1.86                       | 4.90                       | ABCIRP24-10GPS |
| Socket, Small Bore |                     |                            |                            | ABCIRP24-10GSS |
| Pin, Large Bore    |                     | 3.00                       | 7.20                       | ABCIRP24-10GPL |
| Socket, Large Bore |                     |                            |                            | ABCIRP24-10GSL |

# ABCIRP

## crimp contacts

### Pin



| Contact Size<br>AWG | Part Number | A    | B    | C    | Conductor CSA<br>mm² | L     |
|---------------------|-------------|------|------|------|----------------------|-------|
| ABCIRP**/**KPKP3    |             |      |      |      |                      |       |
| 16/22               | 16/22       | 3.20 | 0.90 | 2.30 | 0.25/0.34            | 31.75 |
| 16/20               | 16/20       |      | 1.10 | 2.65 | 0.50/0.60            |       |
| 16/18               | 16/18       |      | 1.25 | 2.30 | 0.75/0.93            |       |
| 16                  | 16          |      | 1.75 | 2.75 | 0.93/1.50            |       |
| 16/14               | 16/14       |      | 1.80 | 2.90 | 1.68                 |       |
| ABCIRP**/**KPKP3    |             |      |      |      |                      |       |
| 12/20               | 12/20       | 4.80 | 1.10 | 2.65 | 0.50/0.60            | 37.50 |
| 12/18               | 12/18       |      | 1.25 | 2.30 | 0.75/0.93            |       |
| 12/16               | 12/16       |      | 1.75 | 2.75 | 0.93/1.50            |       |
| 12/14               | 12/14       |      | 1.80 | 2.90 | 1.68                 |       |
| 12                  | 12          |      | 2.50 | 3.80 | 2.50/3.00            |       |
| 12/10               | 12/10       |      | 3.00 | 4.00 | 5.53                 |       |
| 12/(40)             | 12/40       |      | 2.70 | 4.00 | 4.00                 |       |
| ABBP**/**KPKP80     |             |      |      |      |                      |       |
| 8/16                | 8/16        | 7.80 | 1.75 | 2.75 | 0.93/1.50            | 40.70 |
| 8/(40)              | 8/40        |      | 2.90 | 5.20 | 4.00                 |       |
| 8/12                | 8/12        |      | 2.50 | 3.80 | 2.50                 |       |
| 8                   | 8           |      | 4.55 | 6.80 | 9.00                 |       |
| (100)               | 100         |      | 4.40 | 7.00 | 10.00                |       |
| (100/60)            | 100/60      |      | 3.40 | 5.50 | 6.00                 |       |

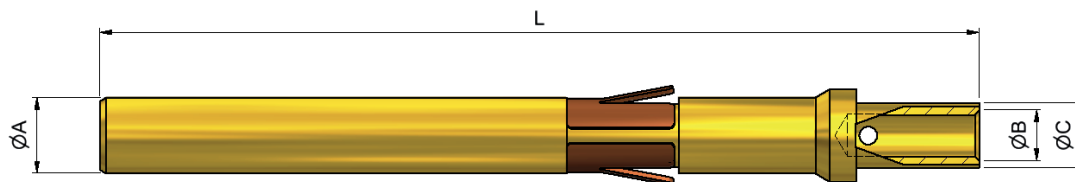
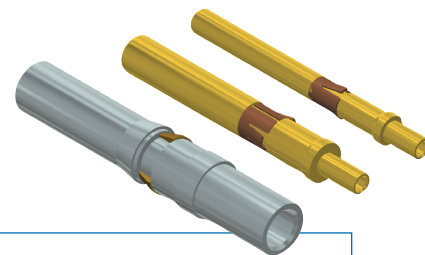
( ) = metric

**Notes:** Standard plating for size 16 & 12 contacts is gold.  
Remove P3 from part numbers above for silver plated contacts.  
Standard plating for size 8 & 100 contacts is silver.  
Add P3 to part numbers above for gold plated contacts.

# ABCIRP

## crimp contacts

### Socket



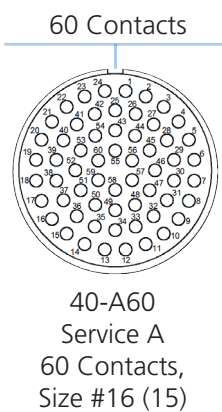
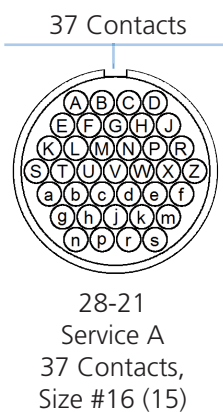
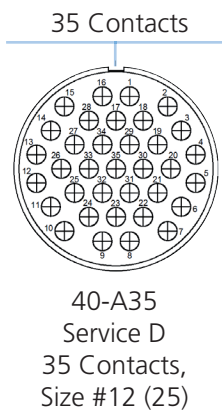
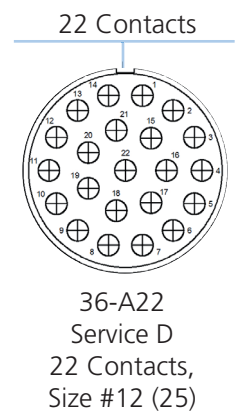
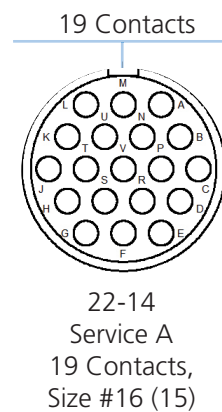
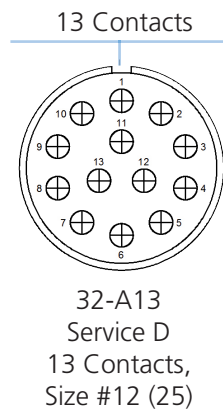
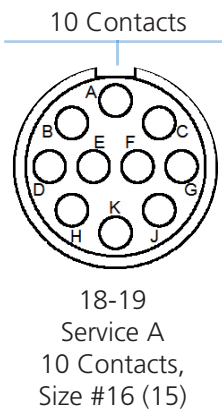
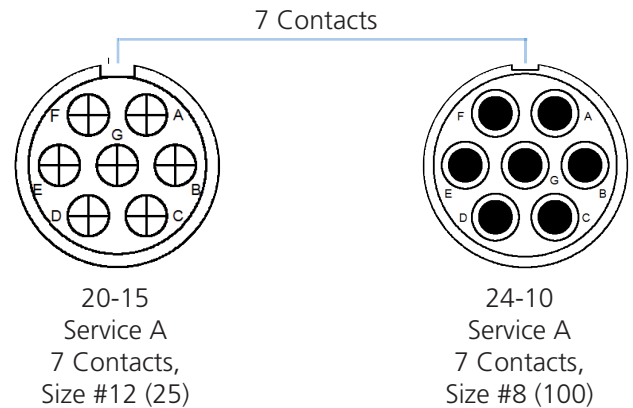
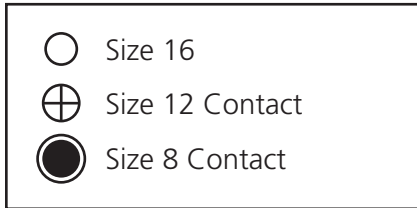
| Contact Size<br>AWG | Part Number | A    | B    | C    | Conductor CSA<br>mm² | L     |
|---------------------|-------------|------|------|------|----------------------|-------|
| ABCIRP**/**KLKP3    |             |      |      |      |                      |       |
| 16/22               | 16/22       | 3.20 | 0.90 | 2.30 | 0.25/0.34            | 36.50 |
| 16/20               | 16/20       |      | 1.10 | 2.65 | 0.50/0.60            |       |
| 16/18               | 16/18       |      | 1.25 | 2.30 | 0.75/0.93            |       |
| 16                  | 16          |      | 1.75 | 2.75 | 0.93/1.50            |       |
| 16/14               | 16/14       |      | 1.80 | 2.90 | 1.68                 |       |
| ABCIRP**/**KLKP3    |             |      |      |      |                      |       |
| 12/20               | 12/20       | 4.80 | 1.10 | 2.65 | 0.50/0.60            | 37.50 |
| 12/18               | 12/18       |      | 1.25 | 2.30 | 0.75/0.93            |       |
| 12/16               | 12/16       |      | 1.75 | 2.75 | 0.93/1.50            |       |
| 12/14               | 12/14       |      | 1.80 | 2.90 | 1.68                 |       |
| 12                  | 12          |      | 2.50 | 3.80 | 2.50/3.00            |       |
| 12/10               | 12/10       |      | 3.00 | 4.00 | 5.53                 |       |
| 12/(40)             | 12/40       |      | 2.70 | 4.00 | 4.00                 |       |
| ABBP**/**KSKP80     |             |      |      |      |                      |       |
| 8/16                | 8/16        | 7.80 | 1.75 | 2.75 | 0.93/1.50            | 40.70 |
| 8/(40)              | 8/40        |      | 2.90 | 5.20 | 4.00                 |       |
| 8/12                | 8/12        |      | 2.50 | 3.80 | 2.50                 |       |
| 8                   | 8           |      | 4.55 | 6.80 | 9.00                 |       |
| (100)               | 100         |      | 4.40 | 7.00 | 10.00                |       |
| (100/60)            | 100/60      |      | 3.40 | 5.50 | 6.00                 |       |

( ) = metric

**Notes:** Standard plating for size 16 & 12 contacts is gold.  
Remove P3 from part numbers above for silver plated contacts.  
Standard plating for size 8 & 100 contacts is silver.  
Add P3 to part numbers above for gold plated contacts.

# ABCIRP

## insert arrangements



**Note:** Views from front face of pin insert

# ABCIRP

insert arrangement selector

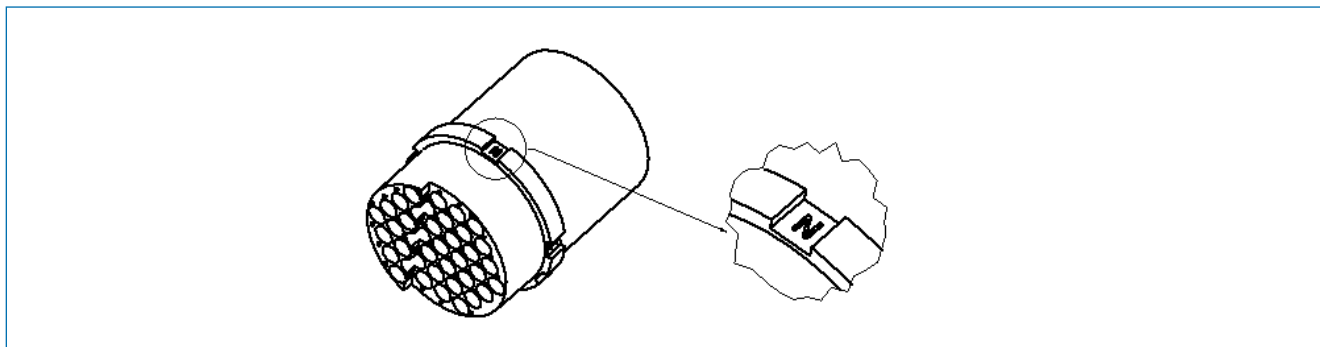
| Shell Size | Contact Arrangement | No. of Contacts | Contact Size AWG<br>& Current Rating (Derated)<br>Amps at 85°C |        |       | Shell Orientation | Service Rating |
|------------|---------------------|-----------------|----------------------------------------------------------------|--------|-------|-------------------|----------------|
|            |                     |                 | 16                                                             | 12     | 8     |                   |                |
| 18         | 19                  | 10              | 10x10A                                                         | -      | -     | NXY               | A              |
| 20         | 15                  | 7               | -                                                              | 7x20A  | -     | NWZ               |                |
| 22         | 14                  | 19              | 19x10A                                                         | -      | -     | NWXYZ             |                |
| 24         | 10                  | 7               | -                                                              | -      | 7x42A | NWZ               |                |
| 28         | 21                  | 37              | 37x10A                                                         | -      | -     | NWXYZ             | D              |
| 32         | A13                 | 13              | -                                                              | 13x20A | -     |                   |                |
| 36         | A22                 | 22              | -                                                              | 22x20A | -     |                   |                |
| 40         | A35                 | 35              | -                                                              | 35x20A | -     |                   |                |
| 40         | A60                 | 60              | 60x10A                                                         | -      | -     |                   | A              |

**Notes:**

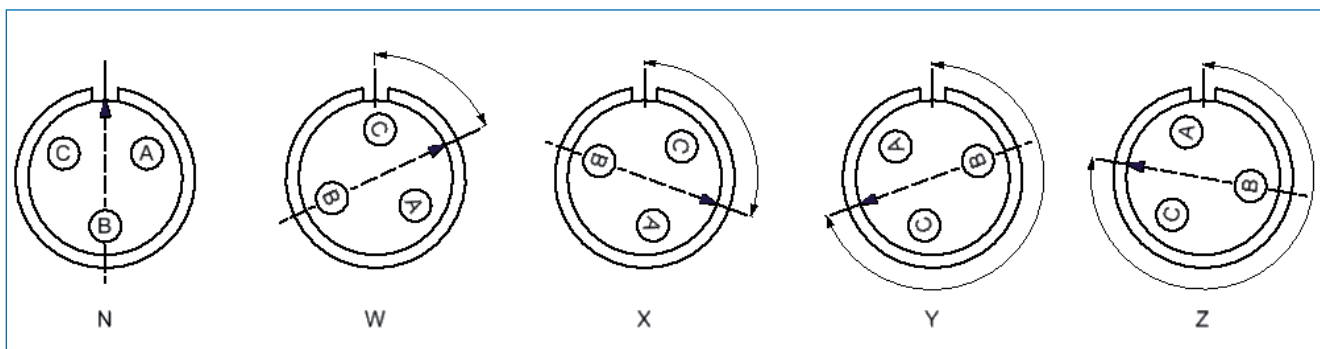
# ABCIRP

## insulator orientations

Position of orientation identifier on insulator moulding



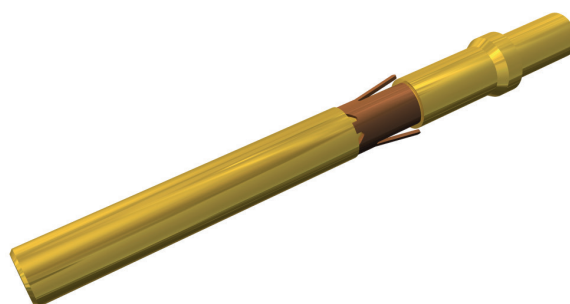
View of Mating Face of Pin Inserts



| Contact Arrangement | Angular Displacement of Inserts |        |         |          |         |
|---------------------|---------------------------------|--------|---------|----------|---------|
|                     | N YELLOW                        | W BLUE | X GREEN | Y PURPLE | Z WHITE |
| 18-19               | 0                               | -      | 120     | 240      | -       |
| 20-15               |                                 | 80     | -       | -        | 280     |
| 22-14               |                                 |        | 110     | 250      |         |
| 24-10               |                                 |        | -       | -        |         |
| 28-21               |                                 |        | 110     | 250      |         |
| 32-A13              |                                 | 65     | 130     | 230      | 295     |
| 36-A22              |                                 | 80     | 110     | 250      | 280     |
| 40-A35              |                                 | 70     | 130     | 230      | 290     |
| 40-A60              |                                 | 80     | 110     | 250      | 280     |

**ABCIRP**

additional alignment / polarising device



| Contact Arrangement | Insulator Orientation | Alignment / Polarising Pin Position |
|---------------------|-----------------------|-------------------------------------|
| 18-19               | ALL                   | Any one hole                        |
| 20-15               |                       | Any one hole apart from G           |
| 22-14               |                       | Holes K & R                         |
| 24-10               |                       | Any one hole apart from G           |
| 28-21               |                       | Holes E & e                         |
| 32-A13              |                       | Hole 10                             |
| 36-A22              |                       | Holes 14 & 17                       |
| 40-A35              |                       | Holes 1 & 24                        |
| 40-A60              | N                     | Holes 3 & 51                        |
|                     | W, X, Y & Z           | Holes 26 & 59                       |

**How to Order:**

ABCIRP \*\* FAP

\*\* Contact

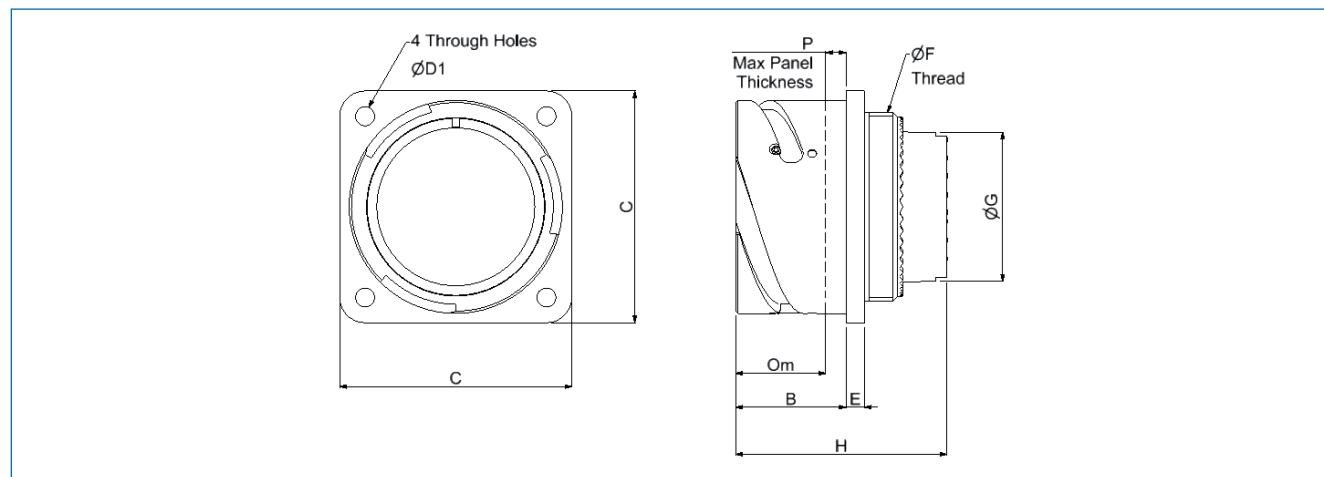
**Note:** Consult factory for all other positions.

# ABCIRP

## rear panel mounted receptacle



ABCIRP03T



| Shell Size | ØF Thread Class 2A | B Max | C Max | Ød1 +0,2-0 | Threaded Holes (MOD CODE M6) | E Max | ØG    | H     | P see note | Om Min Overlap Mated |
|------------|--------------------|-------|-------|------------|------------------------------|-------|-------|-------|------------|----------------------|
| 18         | 1" x 20 UNEF       | 23.45 | 35.30 | 3.20       | M4                           | 4.20  | 18.30 | 46.25 | 3.30       | 15.85                |
| 20         | 1 1/8" x 18 UNEF   |       | 38.30 |            |                              |       | 20.50 |       |            |                      |
| 22         | 1 1/4" x 18 UNEF   |       | 41.30 |            |                              |       | 24.60 |       |            |                      |
| 24         | 1 3/8" x 18 UNEF   |       | 44.80 | 27.00      |                              |       | 15.75 |       |            |                      |
| 28         | 1 5/8" x 18 UNEF   | 51.10 | 32.50 |            |                              |       |       |       |            |                      |
| 32         | 1 7/8" x 16 UN     | 57.30 | 35.80 |            |                              |       |       |       |            |                      |
| 36         | 2 1/16" x 16 UNS   | 63.80 | 42.50 |            |                              |       |       |       |            |                      |
| 40         | 2 5/16" x 16 UN    | 70.20 | 48.50 |            |                              |       |       |       |            |                      |

**Note:** Maximum panel thickness when using cap head screws.  
When using countersunk screws, maximum panel thickness = 7.5mm.

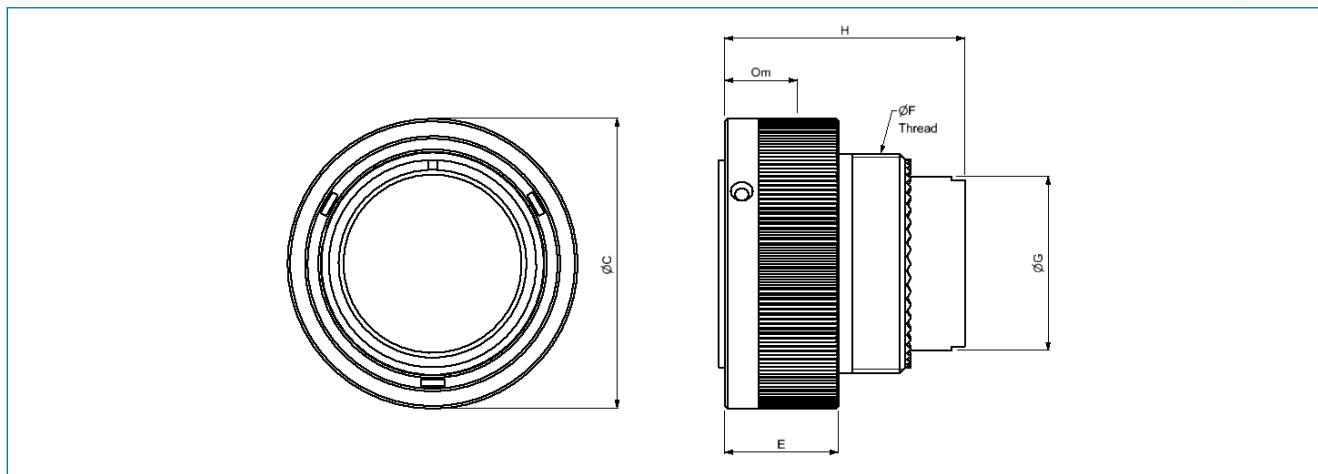
See page 35 for panel mounting details

# ABCIRP

plug connector  
(style 'T' less accessories)



ABCIRPSE06T\*\*\*\*

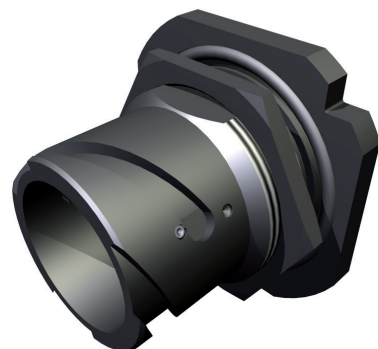


| Shell Size | C<br>Max | E<br>Max | ØF Thread<br>Class 2A | ØG    | H     | Om Min<br>Overlap<br>Mated |
|------------|----------|----------|-----------------------|-------|-------|----------------------------|
| 18         | 37.30    | 24.00    | 1" x 20 UNEF          | 18.30 | 46.25 | 15.85                      |
| 20         | 40.70    |          | 1 1/8" x 18 UNEF      | 20.50 |       |                            |
| 22         | 44.20    |          | 1 1/4" x 18 UNEF      | 24.60 |       |                            |
| 24         | 47.70    |          | 1 3/8" x 18 UNEF      | 27.00 |       |                            |
| 28         | 54.50    |          | 1 5/8" x 18 UNEF      | 32.50 |       |                            |
| 32         | 61.40    | 27.00    | 1 7/8" x 16 UN        | 35.80 | 46.25 | 15.75                      |
| 36         | 68.00    |          | 2 1/16" x 16 UNS      | 42.50 |       |                            |
| 40         | 74.00    |          | 2 5/16" x 16 UN       | 48.50 |       |                            |

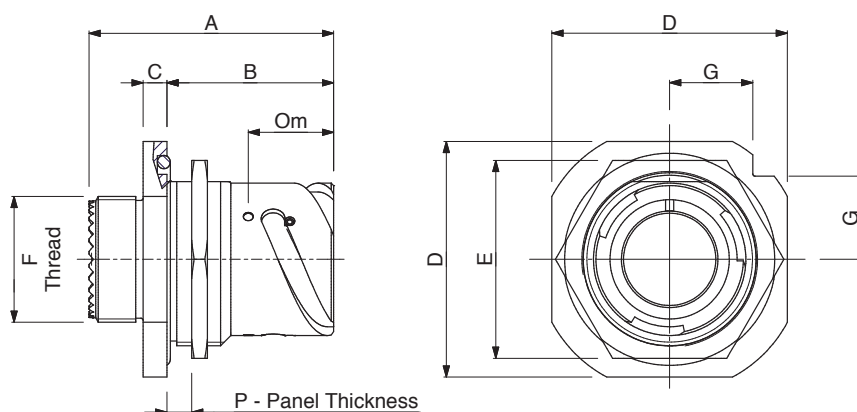
**Note:** All plug connectors are EMI/RFI versions.

# ABCIRP

## single hole mounting



ABCIRP09T

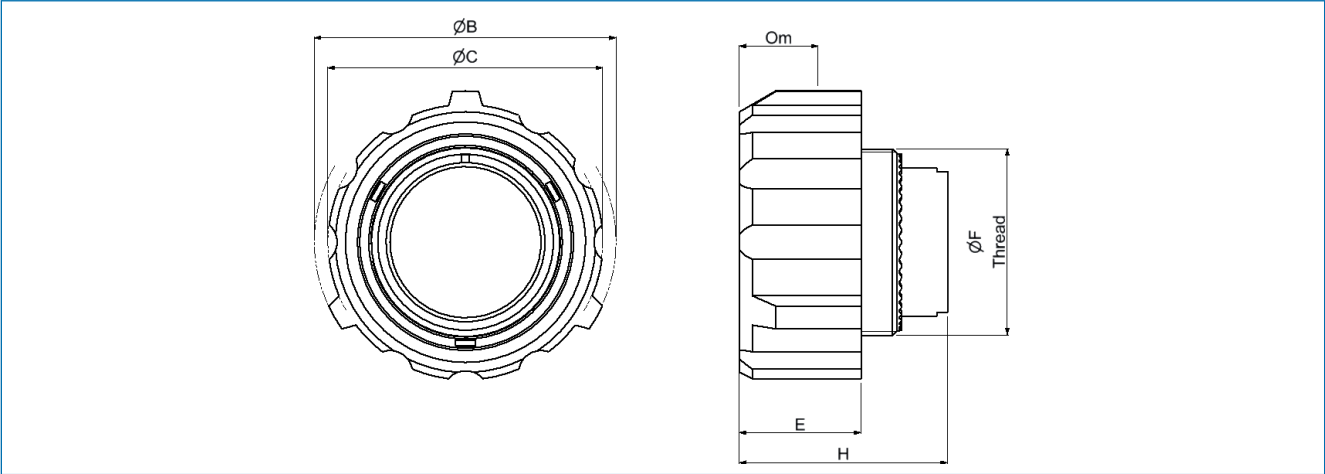


| Shell Size | A Max | B     | C    | D Max | E     | ØF Thread Class 2A | ØG    | P<br>Min Max |      | Om Min Overlap Mated |
|------------|-------|-------|------|-------|-------|--------------------|-------|--------------|------|----------------------|
| 18         | 49.55 | 33.70 | 4.80 | 47.85 | 39.70 | 1" x 20 UNEF       | 16.80 | 2.40         | 9.00 | 15.85                |
| 20         |       |       |      | 51.05 | 44.00 | 1 1/8" x 18 UNEF   | 18.00 |              |      |                      |
| 22         |       |       |      | 54.45 | 46.00 | 1 1/4" x 18 UNEF   | 20.20 |              | 9.10 | 15.75                |
| 24         |       |       |      | 57.45 | 50.80 | 1 3/8" x 18 UNEF   | 20.20 |              |      |                      |
| 28         | 52.15 | 35.20 | 5.60 | 63.75 | 55.00 | 1 5/8" x 18 UNEF   | 22.50 |              | 8.50 |                      |
| 32         |       |       |      | 70.05 | 62.00 | 1 7/8" x 18 UNEF   | 24.70 |              |      |                      |
| 36         |       |       |      | 76.45 | 71.00 | 2 1/16" x 18 UNS   | 26.90 |              | 8.30 |                      |
| 40         |       |       |      | 83.75 | 75.00 | 2 5/16" x 18 UN    | 29.60 |              |      |                      |

**ABCIRP**  
plug connector with protective rubber ring  
(style 'T' less accessories)



PART NUMBER ABCIRPPSE06T\*\*\*\*

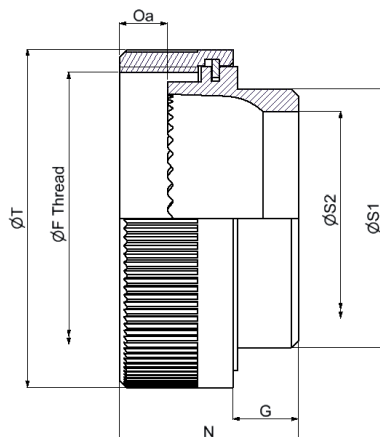
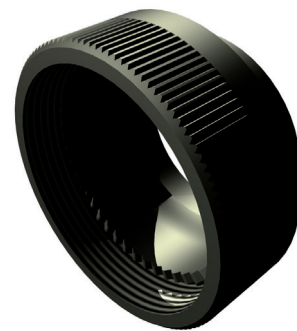


| Shell Size | B<br>Max | C<br>Max | E<br>Max | ØF Thread<br>Class 2A | H<br>Max | Om Min<br>Overlap<br>Mated |
|------------|----------|----------|----------|-----------------------|----------|----------------------------|
| 18         | 49.00    | 43.50    | 27.10    | 1" x 20<br>UNEF       | 46.82    | 17.85                      |
| 20         | 51.50    | 46.00    |          | 1 1/8" x 18<br>UNEF   |          |                            |
| 22         | 56.00    | 50.50    |          | 1 1/4" x 18<br>UNEF   |          |                            |
| 24         | 60.00    | 54.00    |          | 1 3/8" x 18<br>UNEF   |          | 17.75                      |
| 28         | 67.00    | 61.00    |          | 1 5/8" x 18<br>UNEF   |          |                            |
| 32         | 76.00    | 67.60    |          | 1 7/8" x 16<br>UN     |          |                            |
| 36         | 82.30    | 74.30    |          | 2 1/16" x 16<br>UNS   |          |                            |
| 40         | 88.00    | 80.00    |          | 2 5/16" x 16<br>UN    |          |                            |

**Note:** All plug connectors are EMI/RFI versions.

## ABCIRP

locking backnut for grommet sealing only - LBN

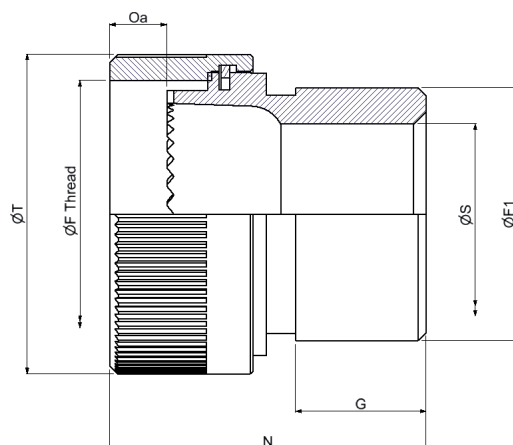
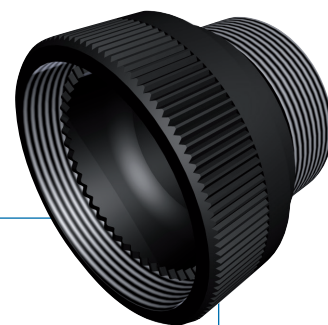


| Shell Size | ØF Thread<br>Class 2B | G<br>Max | N<br>Max | ØS1<br>Max | ØS2<br>Min | ØT<br>Max | Oa Min<br>Overlap<br>Accessory |
|------------|-----------------------|----------|----------|------------|------------|-----------|--------------------------------|
| 18         | 1" x 20<br>UNEF       | 8.70     | 25.65    | 25.50      | 16.70      | 31.00     | 7.00                           |
| 20         | 1 1/8" x 18<br>UNEF   |          |          | 30.20      | 19.80      | 35.00     |                                |
| 22         | 1 1/4" x 18<br>UNEF   |          |          |            |            | 38.00     |                                |
| 24         | 1 3/8" x 18<br>UNEF   |          | 24.65    | 36.60      | 25.40      | 41.00     |                                |
| 28         | 1 5/8" x 18<br>UNEF   |          |          |            | 27.00      | 48.00     |                                |
| 32         | 1 7/8" x 16<br>UN     |          |          | 44.50      | 32.50      | 54.00     |                                |
| 36         | 2 1/16" x 16<br>UNS   |          |          | 50.90      | 35.70      | 61.00     |                                |
| 40         | 2 5/16" x 16<br>UN    |          |          | 57.20      | 45.00      | 67.00     |                                |

### How to Order:

ABBP \*\* LBN

\*\* Shell Size

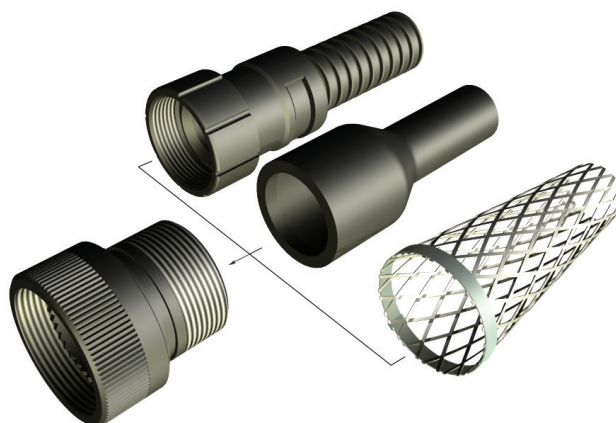
**ABCIRP**straight conduit heatshrink screen adapter - SCHSA  
(locking)

| Shell Size | ØF Thread<br>Class 2B | ØF1 Thread<br>Class 2A | G<br>Max | N<br>Max | ØS<br>Min | ØT<br>Max | Oa Min<br>Overlap<br>Accessory |
|------------|-----------------------|------------------------|----------|----------|-----------|-----------|--------------------------------|
| 18         | 1" x 20<br>UNEF       | 1" x 20<br>UNEF        | 12.40    | 36.06    | 16.70     | 31.00     | 7.00                           |
| 20         | 1 1/8" x 18<br>UNEF   | 1 3/16" x 18<br>UNEF   |          | 38.60    | 19.80     | 35.00     |                                |
| 22         | 1 1/4" x 18<br>UNEF   |                        |          |          | 21.34     | 38.00     |                                |
| 24         | 1 3/8" x 18<br>UNEF   | 1 7/16" x 18<br>UNEF   |          |          | 25.40     | 41.00     |                                |
| 28         | 1 5/8" x 18<br>UNEF   |                        |          | 38.56    | 30.13     | 48.00     |                                |
| 32         | 1 7/8" x 16<br>UN     | 1 3/4" x 18<br>UNS     | 12.10    | 38.26    | 36.73     | 54.00     |                                |
| 36         | 2 1/16" x 16<br>UNS   | 2" x 18 UNS            |          | 39.26    | 41.00     | 61.00     |                                |
| 40         | 2 5/16" x 16<br>UN    | 2 1/4" x 16<br>UN      |          | 38.30    | 48.10     | 67.00     |                                |

**How to Order:**

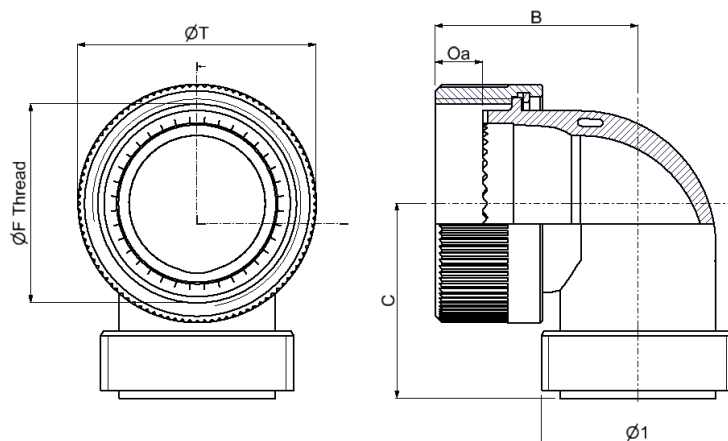
ABBP \*\* SCHSA

\*\* Shell Size



## ABCIRP

### 90° elbow conduit heatshrink screen adapter - ECHSA (locking)

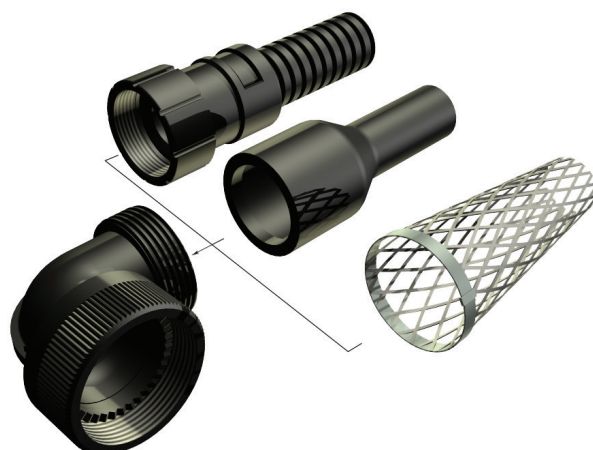


| Shell Size | ØF Thread<br>Class 2B | Ø1 Original Thread<br>Class 2B | B<br>Max | C<br>Max | ØT<br>Max | Oa Min<br>Overlap<br>Accessory |
|------------|-----------------------|--------------------------------|----------|----------|-----------|--------------------------------|
| 18         | 1" x 20<br>UNEF       | 1" x 20<br>UNEF                | 31.10    | 35.00    | 31.00     | 7.00                           |
| 20         | 1 1/8" x 18<br>UNEF   | 1 3/16" x 18 UNEF              | 33.00    |          | 35.00     |                                |
| 22         | 1 1/4" x 18<br>UNEF   |                                | 33.10    |          | 38.00     |                                |
| 24         | 1 3/8" x 18<br>UNEF   | 1 7/16" x 18 UNEF              | 37.90    | 40.00    | 41.00     |                                |
| 28         | 1 5/8" x 18<br>UNEF   |                                | 37.10    |          | 48.00     |                                |
| 32         | 1 7/8" x 16<br>UN     | 1 3/4" x 18 UNS                | 43.10    | 45.00    | 54.00     |                                |
| 36         | 2 1/16" x 16<br>UNS   | 2" x 18<br>UNS                 | 45.90    | 50.00    | 61.00     |                                |
| 40         | 2 5/16" x 16<br>UN    | 2 1/4" x 16<br>UN              | 49.00    | 54.60    | 67.00     |                                |

#### How to Order:

ABBP \*\* ECHSA

\*\* Shell Size



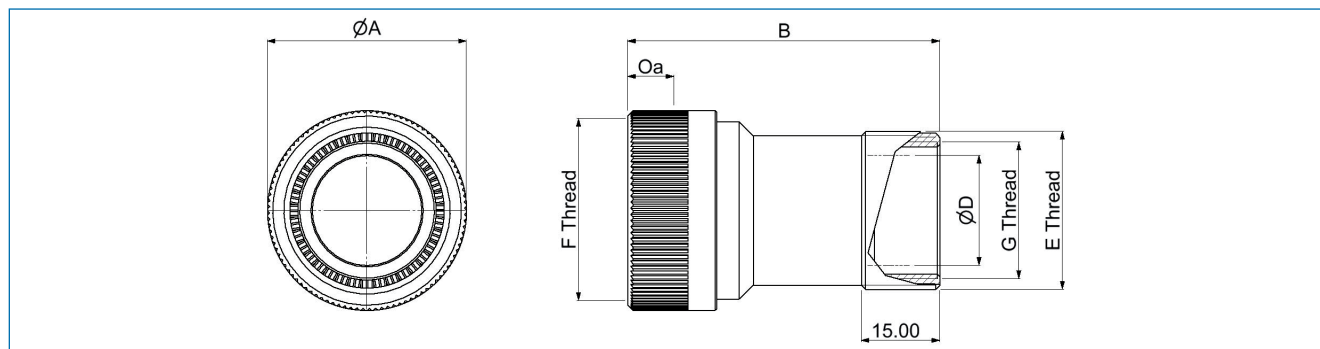
**Note:** ECHSA can be locked in multiple angles / positions.

**ABCIRP**

shell heatshrink extender - SHE

(PG / METRIC inner thread - imperial outer thread)

(locking)



| Shell Size | F Thread Class 2B | E Thread Class 2A | G Thread PG/METRIC | ØA Max | B    | Overlap Oa Min |
|------------|-------------------|-------------------|--------------------|--------|------|----------------|
| 18         | 1" x 20 UNEF      | 1" x 20 UNEF      | PG 13.5 M20x1.5    | 31.00  | 58.8 | 7.00           |
| 20         | 1 1/8" x 18 UNEF  | 1 3/16" x 18 UNEF | PG 16 M25x1.5      | 35.00  |      |                |
| 22         | 1 1/4" x 18 UNEF  |                   |                    | 38.00  |      |                |
| 24         | 1 3/8" x 18 UNEF  | 1 7/16" x 18 UNEF | PG 21 M32x1.5      | 41.00  | 65.8 |                |
| 28         | 1 5/8" x 18 UNEF  |                   |                    | 48.00  |      |                |
| 32         | 1 7/8" x 16 UN    | 1 3/4" x 18 UNS   | PG 29 M40x1.5      | 54.00  |      |                |
| 36         | 2 1/16" x 16 UNS  | 2" x 18 UNS       |                    | 61.00  |      |                |
| 40         | 2 5/16" x 16 UN   | 2 1/4" x 16 UN    | PG 36 M50x1.5      | 67.00  |      |                |

**How to Order:**

ABBP \*\* \*\* SHE #

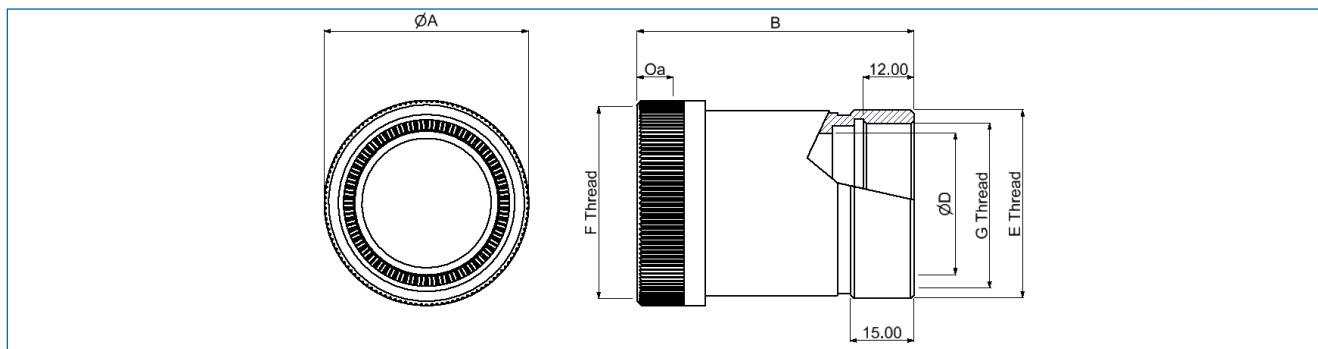
\*\* Shell Size & Planform  
# M = Metric, P = PG

## ABCIRP

step-up adapters - SUA

(PG / METRIC inner thread - Imperial outer thread)

(locking)



| Shell Size | F Thread Class 2B           | E Thread Class 2A            | G Thread PG/METRIC | $\varnothing A$ Max | B    | $\varnothing D$ Bore | Overlap $O_a$ Min |
|------------|-----------------------------|------------------------------|--------------------|---------------------|------|----------------------|-------------------|
| 18         | 1" x 20 UNEF                | 1 $\frac{3}{16}$ " x 18 UNEF | PG 16 M25x1.5      | 31.00               | 58.8 | 16.7                 | 7.0               |
| 20         | 1 $\frac{1}{8}$ " x 18 UNEF | 1 $\frac{7}{16}$ " x 18 UNEF | PG 21 M32x1.5      | 35.00               |      | 19.8                 |                   |
| 22         | 1 $\frac{1}{4}$ " x 18 UNEF |                              |                    | 38.00               |      | 25.4                 |                   |
| 24         | 1 $\frac{3}{8}$ " x 18 UNEF | 1 $\frac{3}{4}$ " x 18 UNS   | PG 29 M40x1.5      | 41.00               | 65.8 | 27.0                 |                   |
| 28         | 1 $\frac{5}{8}$ " x 18 UNEF |                              |                    | 48.00               |      | 32.5                 |                   |
| 32         | 1 $\frac{7}{8}$ " x 16 UN   |                              |                    | 54.00               |      | 35.7                 |                   |
| 36         | 2 $\frac{1}{16}$ " x 16 UNS | 2" x 18 UNS                  | PG 36 M50x1.5      | 61.00               |      | 45.0                 |                   |
| 40         | 2 $\frac{5}{16}$ " x 16 UN  | 2 $\frac{1}{4}$ " x 16 UN    | PG 42 M50x1.5      | 67.00               |      |                      |                   |

### How to Order:

ABBP \*\* \*\* SUA #

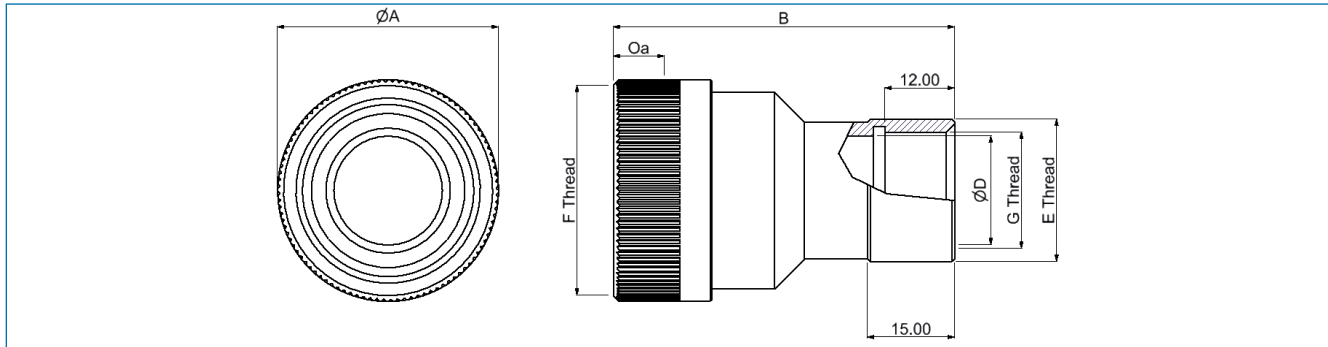
\*\* Shell Size & Planform  
# M = Metric, P = PG

## ABCIRP

step-down adapters - SDA

(PG / METRIC inner thread - Imperial outer thread)

(locking)



| Shell Size | F Thread Class<br>2B | E Thread Class<br>2A | G Thread<br>PG/METRIC | $\varnothing A$<br>Max | B    | Overlap<br>Oa Min |
|------------|----------------------|----------------------|-----------------------|------------------------|------|-------------------|
| 18         | 1" x 20<br>UNEF      | 7/8" x 18<br>UNEF    | PG 11<br>M18x1.5      | 31.00                  | 58.8 |                   |
| 20         | 1 1/8" x 18<br>UNEF  | 1" x 20<br>UNEF      | PG 13.5<br>M20x1.5    | 35.00                  |      |                   |
| 22         | 1 1/4" x 18<br>UNEF  |                      |                       | 38.00                  |      |                   |
| 24         | 1 3/8" x 18<br>UNEF  | 1 3/16" x 18<br>UNEF | PG 16<br>M25x1.5      | 41.00                  |      |                   |
| 28         | 1 5/8" x 18<br>UNEF  |                      |                       | 48.00                  | 65.8 |                   |
| 32         | 1 7/8" x 16<br>UN    | 1 7/16" x 18<br>UNEF | PG 21<br>M32x1.5      | 54.00                  |      |                   |
| 36         | 2 1/16" x 16<br>UNS  | 1 3/4" x 18<br>UNEF  | PG 29<br>M40x1.5      | 61.00                  |      |                   |
| 40         | 2 5/16" x 16<br>UN   | 1" x 18<br>UNS       |                       | 67.00                  |      |                   |

### How to Order:

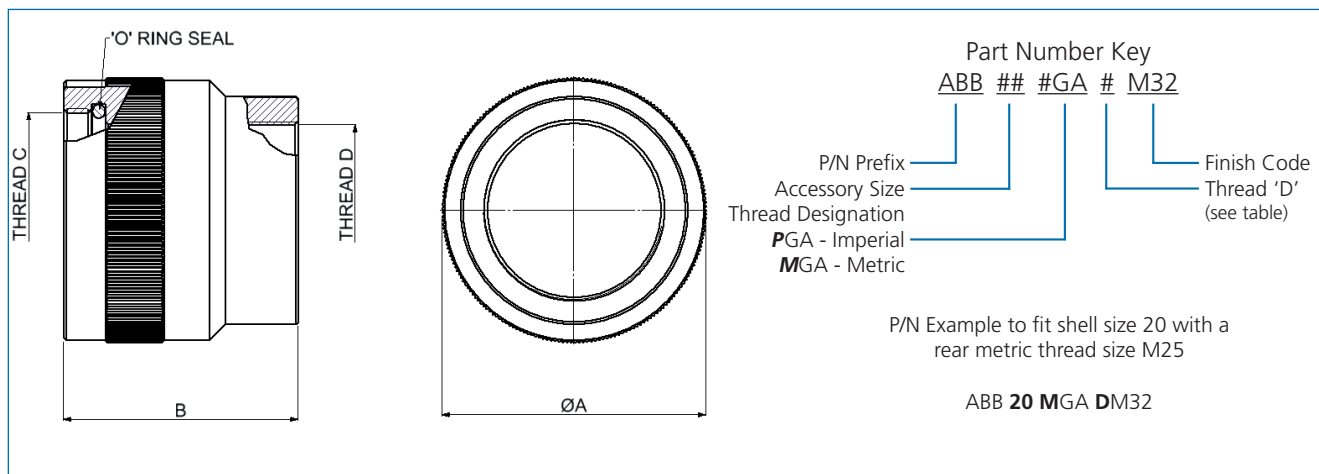
ABBP \*\* \*\* SDA #

\*\* Shell Size & Planform  
# M = Metric, P = PG

# ABCIRP

## cable gland adapters

(fitting on SCHSA & ECHSA accessory with  
PG / METRIC thread)

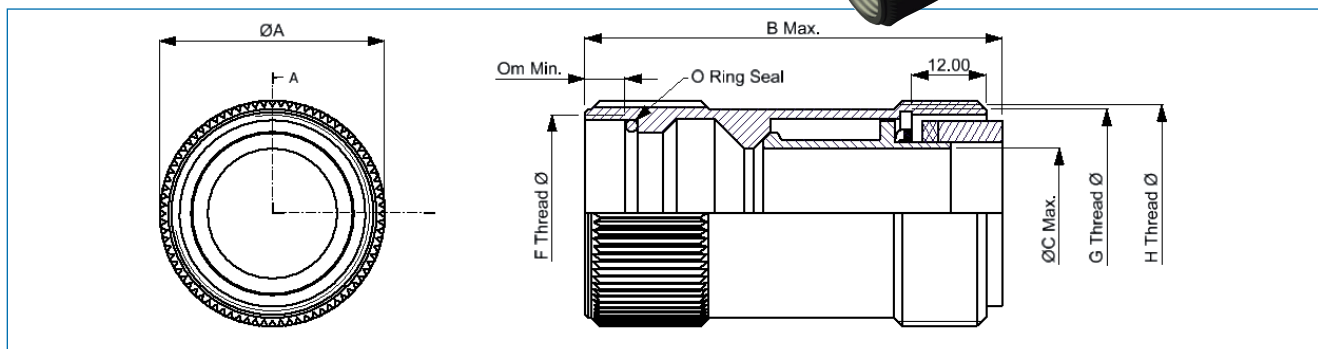


| Shell Size | Part Number     | ØA    | B     | Thread C          |
|------------|-----------------|-------|-------|-------------------|
| 18         | ABB-18-#GA-#M32 | 34.00 | 40.00 | 1" x 20 UNEF      |
| 20-22      | ABB-20-#GA-#M32 | 37.00 | 35.00 | 1 3/16" x 18 UNEF |
| 20-22      | ABB-20-#GA-#M32 |       |       |                   |
| 24-28      | ABB-24-#GA-#M32 | 43.00 | 40.00 | 1 7/16" x 18 UNEF |
| 24-28      | ABB-24-#GA-#M32 |       |       |                   |
| 24-28      | ABB-24-#GA-#M32 | 54.00 | 46.00 | 1 3/4" x 18 UNS   |
| 32         | ABB-32-#GA-#M32 |       | 38.00 |                   |
| 36         | ABB-36-#GA-#M32 | 57.20 | 50.00 | 2" x 18 UNS       |
| 40         | ABB-40-#GA-#M32 | 65.00 |       | 2 1/4" x 16 UN    |

Thread Table (D)

| Imperial (PGA) | Thread Size | Metric (MGA) | Thread Size |
|----------------|-------------|--------------|-------------|
| A              | PG7         | A            | M12         |
| B              | PG9         | B            | M16         |
| C              | PG11        | C            | M20         |
| D              | PG13.5      | D            | M25         |
| E              | PG16        | E            | M32         |
| F              | PG21        | F            | M40         |
| G              | PG29        | G            | M50         |
| H              | PG36        | H            | M63         |
| J              | PG42        |              |             |
| K              | PG48        |              |             |



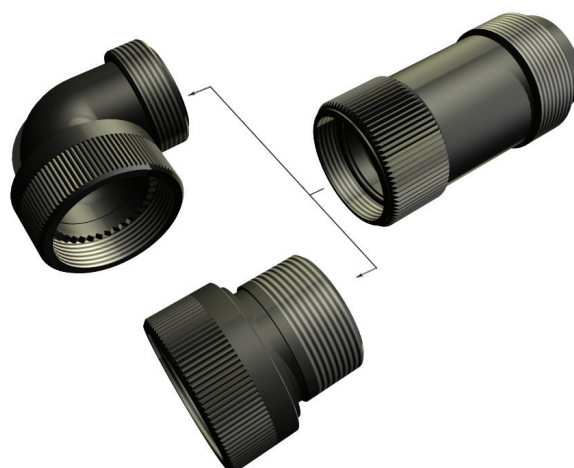
**ABCIRP**shell extender with screening - SPTAS  
(non locking)

| Shell Size | ØA    | B Max | ØC Max | ØF Thread Class 2B                         | G Thread   | ØH Thread Class 2A                         |
|------------|-------|-------|--------|--------------------------------------------|------------|--------------------------------------------|
| 18         | 29.50 | 68.00 | 11.30  | 1 x 20 UNEF                                | M25x1.5-6H | 1 <sup>3</sup> / <sub>16</sub> " x 18 UNEF |
| 20*        | -     | -     | -      | -                                          | -          | -                                          |
| 22         | 36.50 | 68.00 | 21.00  | 1 <sup>3</sup> / <sub>16</sub> " x 18 UNEF | M32x1.5-6H | 1 <sup>7</sup> / <sub>16</sub> " x 18 UNEF |
| 24*        | -     | -     | -      | -                                          | -          | -                                          |
| 28         | 43.00 | 70.00 | 27.50  | 1 <sup>7</sup> / <sub>16</sub> " x 18 UNEF | M40x1.5-6H | 1 <sup>3</sup> / <sub>4</sub> " x 18 UN    |
| 32*        | -     | -     | -      | -                                          | -          | -                                          |
| 36*        | -     | -     | -      | -                                          | -          | -                                          |
| 40         | 64.00 | 70.00 | 39.00  | 2 <sup>1</sup> / <sub>4</sub> " x 16 UN    | M50x1.5-6H | 2 <sup>1</sup> / <sub>4</sub> " x 16 UN    |

**How to Order:**

ABBP \*\* \*\* SPTAS #

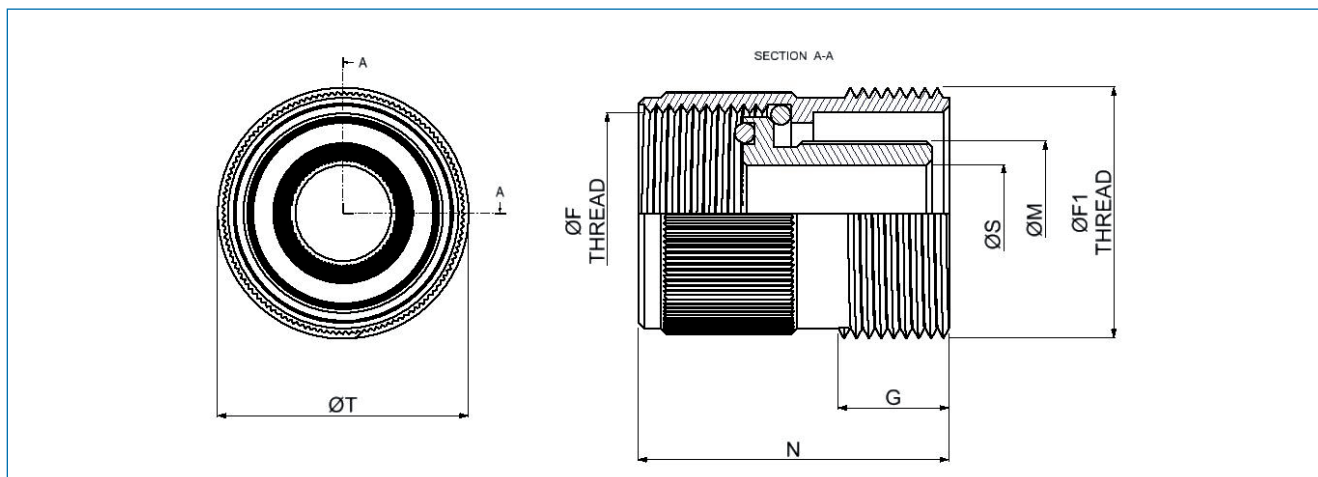
\*\* Shell Size & Planform  
# M = Metric, P = PG

**Note:** \* Please consult factory for these sizes

## ABCIRP

adapters - CRA

(2 piece adaptor to terminate cable screen braid to connector with conduit outer)



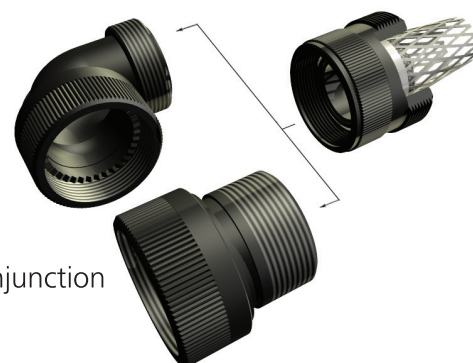
| Shell Size | ØF Thread Class 2B                         | ØF1 Thread Class 2A                        | G Max | N Max | S Min | T Max | M Max |
|------------|--------------------------------------------|--------------------------------------------|-------|-------|-------|-------|-------|
| 16S        | 7 <sup>1</sup> / <sub>8</sub> " x 20 UNEF  | 1" x 20 UNEF                               | 10.00 | 27.60 | 9.74  | 25.50 | 13.10 |
| 18         | 1" x 20 UNEF                               | 1 <sup>3</sup> / <sub>16</sub> " x 18 UNEF | 11.00 | 30.60 | 12.90 | 29.10 | 16.26 |
| 20         | 1 <sup>3</sup> / <sub>16</sub> " x 18 UNEF | 1 <sup>7</sup> / <sub>16</sub> " x 18 UNEF |       |       | 18.23 | 35.45 | 21.51 |
| 22         |                                            |                                            |       |       |       |       |       |
| 24         | 1 <sup>7</sup> / <sub>16</sub> " x 18 UNEF | 1 <sup>3</sup> / <sub>4</sub> " x 18 UNS   |       |       | 25.93 | 43.60 | 29.21 |
| 28         |                                            |                                            |       |       |       |       |       |
| 32         | 1 <sup>3</sup> / <sub>4</sub> " x 18 UNS   |                                            | 13.00 | 32.00 | 55.90 | 35.19 |       |
| 36         | 2" x 18 UNS                                |                                            |       |       |       |       |       |
| 40         | 2 <sup>1</sup> / <sub>4</sub> " x 16 UN    | 2 <sup>1</sup> / <sub>4</sub> " x 16 UN    |       |       |       |       |       |

### How to Order:

ABB \*\* CRA M32

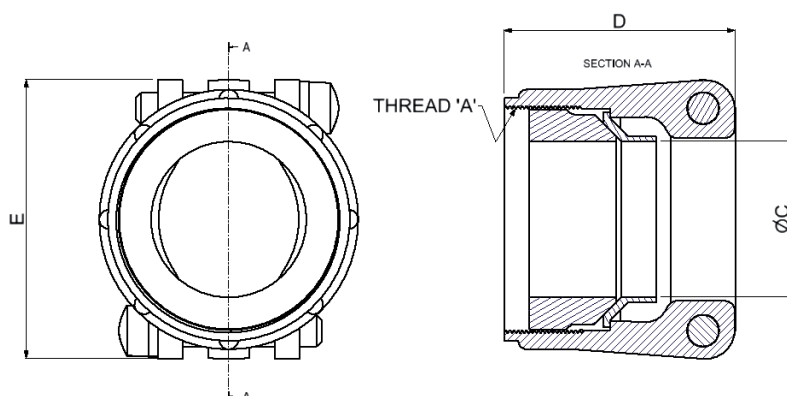
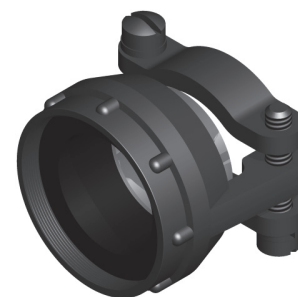
\*\* Shell Size

**Note:** This accessory can only be used in conjunction with style SCHSA or ECHSA adaptors.



**ABCIRP**

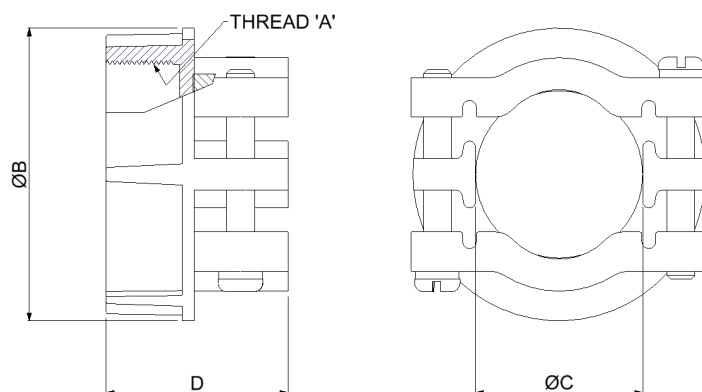
## waterproof clamp for jacketed cable - CMSP3057C



| Shell Size | Part Number<br>CMSP3057C**M32 | ØA Thread<br>Class 2A                         | ØC    |       | D<br>Max | E<br>Max |
|------------|-------------------------------|-----------------------------------------------|-------|-------|----------|----------|
|            |                               |                                               | Min   | Max   |          |          |
| 16 / 16S   | 16 / 16S                      | 7 <sup>1</sup> / <sub>8</sub> " x 20<br>UNEF  | 7.92  | 13.48 | 34.93    | 30.18    |
| 18         | 18                            | 1" x 20<br>UNEF                               | 9.53  | 15.87 | 36.50    | 33.32    |
| 20         | 20                            | 1 <sup>3</sup> / <sub>16</sub> " x 18<br>UNEF | 12.70 | 19.00 |          | 39.21    |
| 22         | 22                            |                                               |       |       |          |          |
| 24         | 24                            | 1 <sup>7</sup> / <sub>16</sub> " x 18<br>UNEF | 15.09 | 23.80 | 39.67    | 44.45    |
| 28         | 28                            |                                               |       |       |          |          |
| 32         | 32                            | 1 <sup>3</sup> / <sub>4</sub> " x 18<br>UNS   | 23.83 | 31.75 | 46.02    | 57.15    |
| 36         | 36                            | 2" x 18<br>UNS                                | 24.61 | 35.00 | 52.37    | 60.33    |
| 40         | 40                            | 2 <sup>1</sup> / <sub>4</sub> " x 16<br>UN    | 30.18 | 41.25 |          | 66.68    |

# ABCIRP

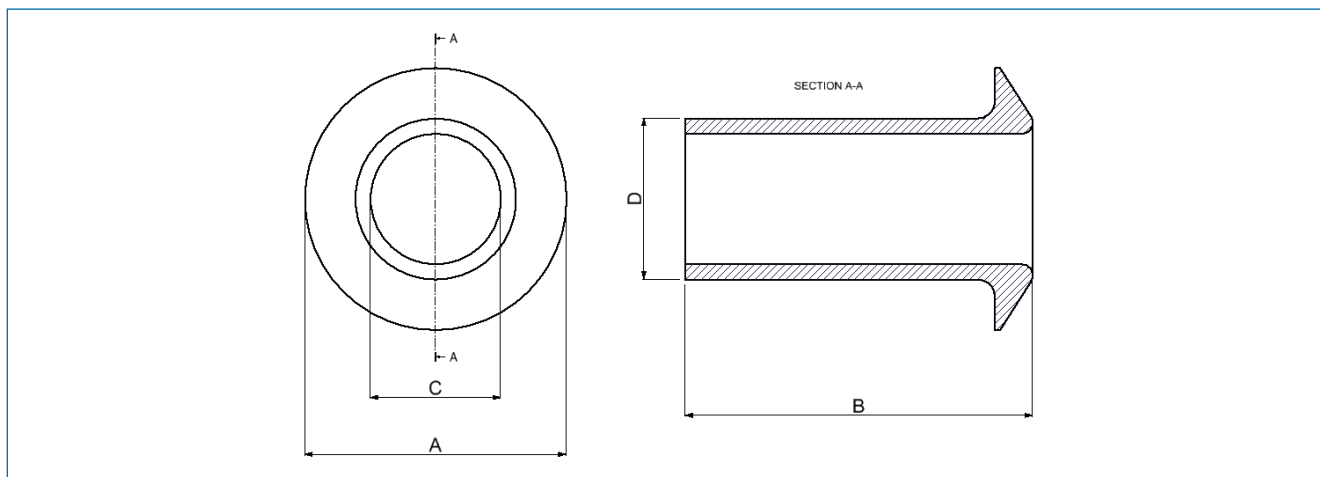
## cable clamp - CMSP3057A



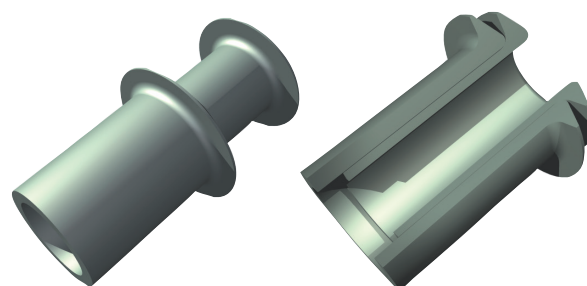
| Shell Size | Part Number<br>CMSP3057A**M32 | ØF Thread Class<br>2A                         | B<br>Max | C<br>Max | D<br>Max |
|------------|-------------------------------|-----------------------------------------------|----------|----------|----------|
| 16 / 16S   | 16 / 16S                      | 7 <sup>1</sup> / <sub>8</sub> " x 20<br>UNEF  | 28.58    | 14.30    | 24.61    |
| 18         | 18                            | 1" x 20<br>UNEF                               | 30.96    | 15.88    |          |
| 20         | 20                            | 1 <sup>3</sup> / <sub>16</sub> " x 18<br>UNEF | 35.71    | 19.05    |          |
| 22         | 22                            |                                               |          |          |          |
| 24         | 24                            | 1 <sup>7</sup> / <sub>16</sub> " x 18<br>UNEF | 42.85    | 23.83    | 26.97    |
| 28         | 28                            |                                               |          |          |          |
| 32         | 32                            | 1 <sup>3</sup> / <sub>4</sub> " x 18<br>UNS   | 52.37    | 31.75    | 28.58    |
| 36         | 36                            | 2" x 18<br>UNS                                | 57.15    | 34.93    | 30.15    |
| 40         | 40                            | 2 <sup>1</sup> / <sub>4</sub> " x 16<br>UN    | 64.29    | 41.28    | 43.66    |

**ABCIRP**

telescopic bushing - SBMSH554  
(use with CMSP3057A clamp)



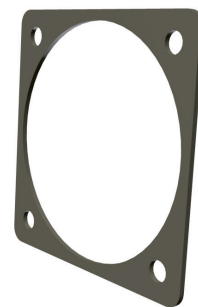
| Shell Size | Part Number SBMSH554** | ØA    | B     | ØC    | ØD    |
|------------|------------------------|-------|-------|-------|-------|
| 16 / 16S   | 3                      | 19.05 | 63.50 | 11.10 | 13.97 |
| 18         | 4                      | 22.23 | 60.33 | 14.27 | 15.57 |
| 20         | 5                      | 25.40 | 57.15 | 15.88 | 18.75 |
| 22         | 6                      | 28.58 |       |       |       |
| 24         | 7                      | 31.75 | 53.98 | 19.05 | 23.50 |
| 28         | 8                      | 38.23 |       |       |       |
| 32         | 9                      | 44.45 | 50.80 | 23.80 | 31.45 |
| 36         | 10                     | 47.88 | 47.63 | 31.75 | 34.62 |
| 40         | 11                     | 52.90 | 44.40 | 34.92 | 40.99 |



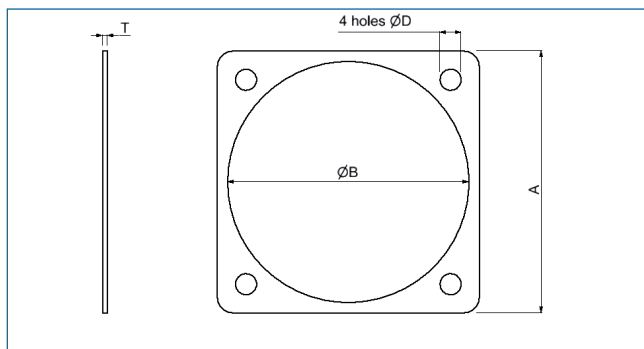
**Note:** Through bore reduction possible by telescoping bushings

## ABCIRP

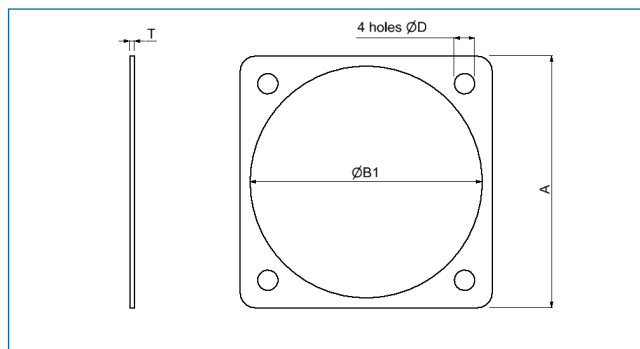
panel gasket, non-conductive / conductive  
front & rear mounted connectors - RPG/S & FPG/S



SB\*\*RPG / RPGS



SB\*\*FPG / FPGS



| Shell Size | A<br>Min | ØB<br>Nominal | ØB1<br>Nominal | Ød<br>Min | T<br>Nominal |
|------------|----------|---------------|----------------|-----------|--------------|
| 18         | 34.90    | 25.40         | 30.90          | 3.43      | 1.00         |
| 20         | 38.10    | 28.60         | 34.30          |           |              |
| 22         | 41.30    | 31.70         | 37.50          |           |              |
| 24         | 44.50    | 34.90         | 41.00          | 4.12      |              |
| 28         | 50.80    | 41.30         | 46.80          |           |              |
| 32         | 57.20    | 47.60         | 53.50          | 4.78      |              |
| 36         | 63.50    | 52.60         | 59.70          |           |              |
| 40         | 69.90    | 61.90         | 65.50          | 5.10      |              |

### How to Order:

Part Numbers:

|               | Non-conductive | Conductive |
|---------------|----------------|------------|
| Front Mounted | SB ** RPG      | SB ** RPGS |
| Rear Mounted  | SB ** FPG      | SB ** FPGS |

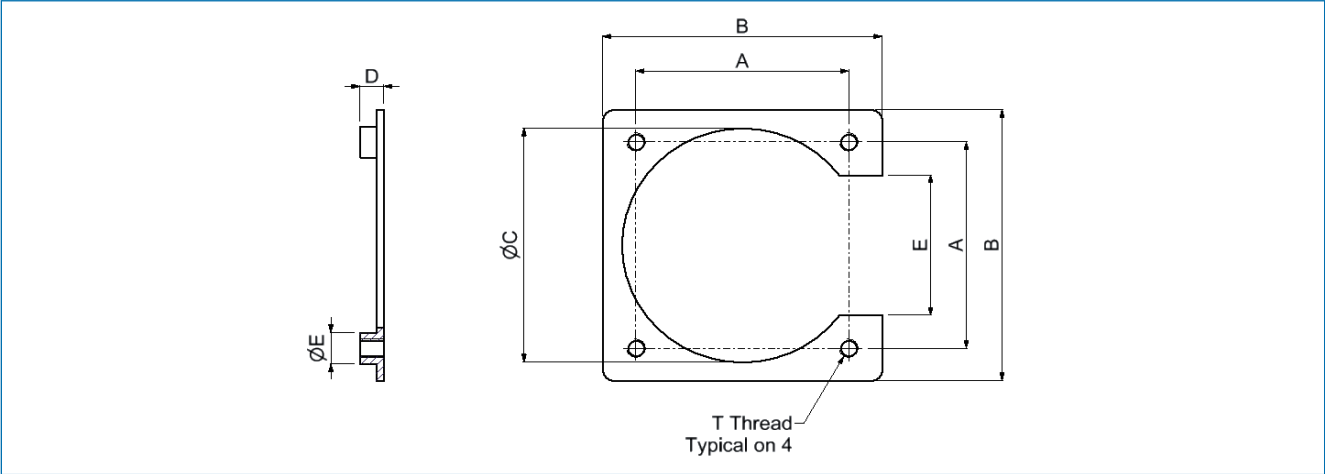
\*\* Shell Size

**Note:** Conductive gaskets have a conductivity of 5m Ohms, temp range of -50 to +200°C.

ABCIRP  
connector fixing nut plates



ABB\*\*NP



| Shell Size | A     | B Max | CØ Max | D         | E Max | FØ Max       | T Thread (Metric) | Part Number ABB**NP | T Thread (Imperial) | Part Number ABB**NPA |
|------------|-------|-------|--------|-----------|-------|--------------|-------------------|---------------------|---------------------|----------------------|
| 18         | 26.97 | 34.62 | 30.48  | 2.69/4.22 | 20.21 | 6.00<br>7.50 | M3x0.5            | 18                  | 4-40 UNC            | 18                   |
| 20         | 29.36 | 38.48 | 33.53  |           | 22.47 |              |                   | 20                  |                     | 20                   |
| 22         | 31.75 | 40.84 | 36.65  |           | 23.54 |              |                   | 22                  |                     | 22                   |
| 24         | 34.93 | 44.83 | 40.00  |           | 25.90 |              |                   | 24                  |                     | 24                   |
| 28         | 39.67 | 51.18 | 46.61  |           | 29.08 |              |                   | 28                  |                     | 28                   |
| 32         | 44.45 | 59.10 | 52.75  | 3.50/5.00 | 30.68 | 8.00         | M4x0.7            | 32                  | 8-32 UNC            | 32                   |
| 36         | 49.23 | 63.86 | 59.10  |           | 35.43 |              |                   | 36                  |                     | 36                   |
| 40         | 55.58 | 74.68 | 68.33  |           | 38.60 |              |                   | 40                  |                     | 40                   |

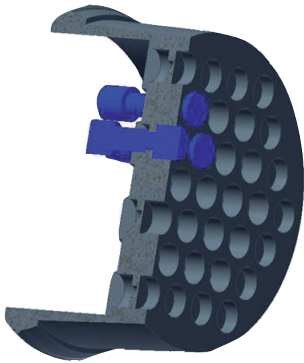
grommet filler



Damage to grommet



Grommet filler plug



Sealed using filler plugs

ABB16KFP -  
ABB12KFPPF80 -  
ABB8KFPPF80 -

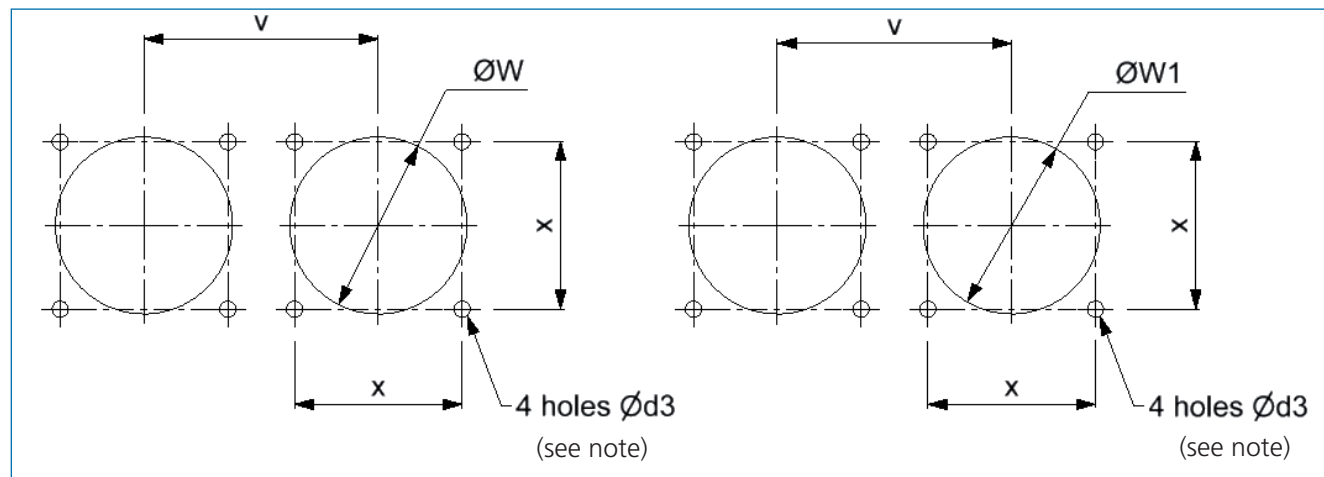
To be used if grommet is pierced incorrectly

# ABCIRP

## receptacle mounting detail

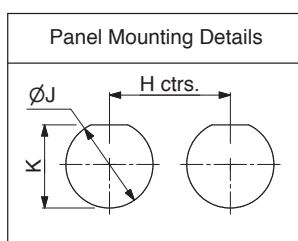
front mounting receptacle

rear mounting receptacle



| Shell Size | Ød3  | Ød4  | V     | ØW    | ØW1   | X     |
|------------|------|------|-------|-------|-------|-------|
| 18         | 3.40 | 4.50 | 38.30 | 26.00 | 31.18 | 27.00 |
| 20         |      |      | 41.70 | 30.00 | 34.58 | 29.40 |
| 22         |      |      | 45.20 | 33.00 | 37.78 | 31.80 |
| 24         | 3.90 | 5.50 | 48.70 | 36.00 | 41.28 | 34.90 |
| 28         |      |      | 55.50 | 42.00 | 47.08 | 39.70 |
| 32         | 4.50 | 5.50 | 62.40 | 48.50 | 53.78 | 44.50 |
| 36         |      |      | 69.00 | 55.00 | 59.98 | 49.20 |
| 40         |      |      | 75.00 | 59.10 | 66.40 | 55.50 |

| Hole centres | ØJ    | K     |
|--------------|-------|-------|
| 48.85        | 35.23 | 33.58 |
| 52.05        | 38.43 | 36.68 |
| 55.45        | 41.56 | 39.88 |
| 58.45        | 44.78 | 43.18 |
| 65.25        | 51.13 | 49.37 |
| 71.55        | 57.48 | 55.78 |
| 77.95        | 63.83 | 62.18 |
| 85.25        | 70.18 | 68.38 |



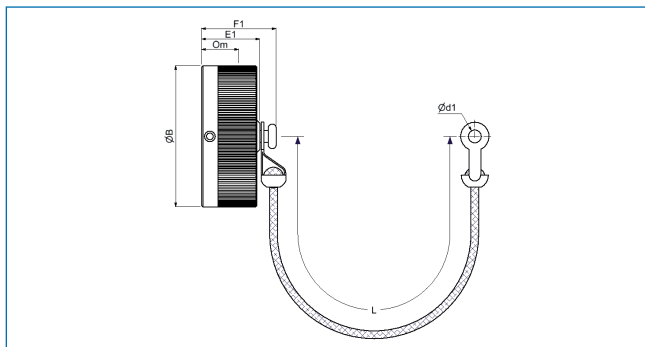
**Note:** When fixed connectors are used with threaded mounting holes, refer to hole sizes in column Ød4.

# ABCIRP

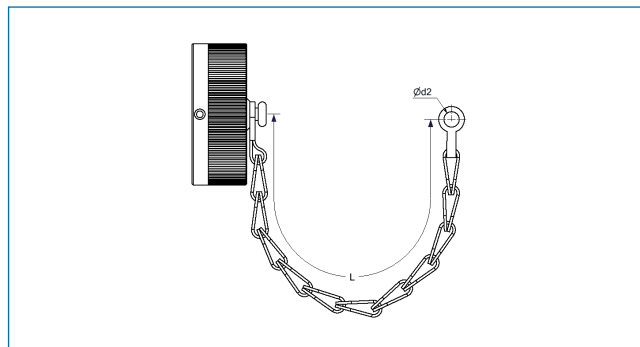
## metal protective caps



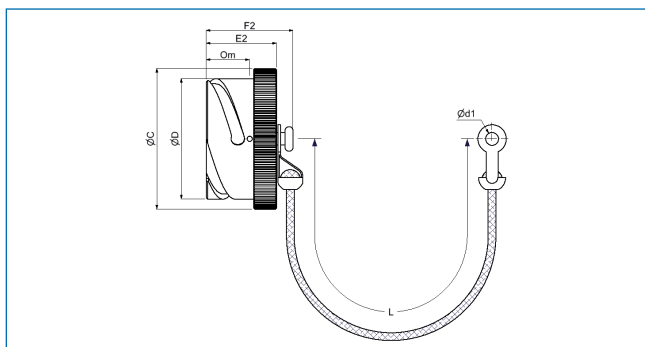
ABBE\*\*XPCA M32 (with nylon cord)



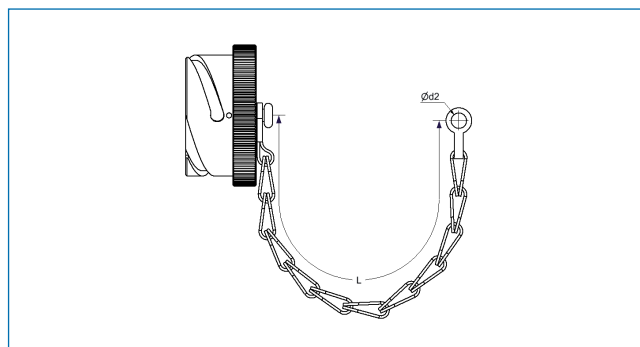
ABBE\*\*XPCAK M32 (with sash chain)



ABB\*\*EPCA M32 (with nylon cord)



ABB\*\*EPCAK M32 (with sash chain)



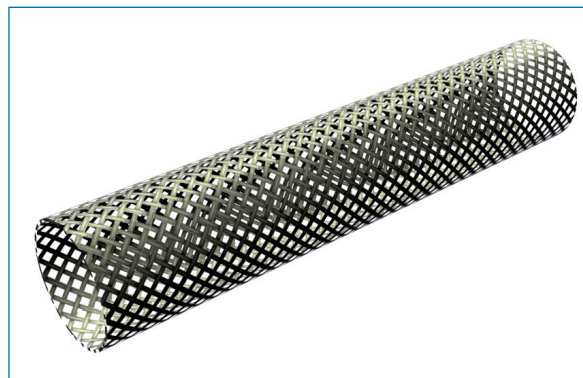
| Shell Size | B Max | C Max | D Max | E1 Max | E2 Max | F1 Max | F2 Max | L (approx) | d1 Min | d2<br>+0.5, -0<br>+0.02, -0 | Om Min<br>Overlap<br>Mated |
|------------|-------|-------|-------|--------|--------|--------|--------|------------|--------|-----------------------------|----------------------------|
| 18         | 36.50 | 38.70 | 30.80 | 24.00  | 27.30  | 29.80  | 33.90  | 150.0      | 4.85   | 4.30                        | 15.85                      |
| 20         | 39.90 | 42.10 | 34.20 |        |        |        |        |            |        |                             | 15.75                      |
| 22         | 43.10 | 45.30 | 37.40 |        |        |        |        |            |        |                             |                            |
| 24         | 46.60 | 48.80 | 40.90 |        |        |        |        |            |        |                             |                            |
| 28         | 53.40 | 54.60 | 46.70 | 27.00  | 27.30  | 29.80  | 33.90  | 150.0      | 4.85   | 5.50                        | 15.75                      |
| 32         | 60.10 | 61.30 | 53.40 |        |        |        |        |            |        |                             |                            |
| 36         | 66.30 | 67.50 | 59.60 |        |        |        |        |            |        |                             |                            |
| 40         | 72.10 | 73.40 | 65.50 |        |        |        |        |            |        |                             |                            |

## ABCIRP

### RFI braid sock, bandit strap & knitmesh braid

#### RFI Braid Sock

| AB Connectors Part Number | Diameter | Length | Max Shell Size |
|---------------------------|----------|--------|----------------|
| ABBMB020010               | ø 20 mm  | 100 mm | 22             |
| ABBMB025015               | ø 25 mm  | 150 mm | 22             |
| ABBMB035015               | ø 35 mm  | 150 mm | 32             |
| ABBMB050015               | ø 50 mm  | 150 mm | 36 & 40        |



#### Bandit Strap

| AB Connectors Part Number | Length | Width  | Max Shell Size |
|---------------------------|--------|--------|----------------|
| ABB600052                 | 520 mm | 6.1 mm | 32             |
| ABB600090                 | 900 mm | 6.1 mm | 36 & 40        |
| ABB608109                 | 362 mm | 4 mm   | 22             |
| ABB600057                 | 207 mm | 3 mm   | 22             |

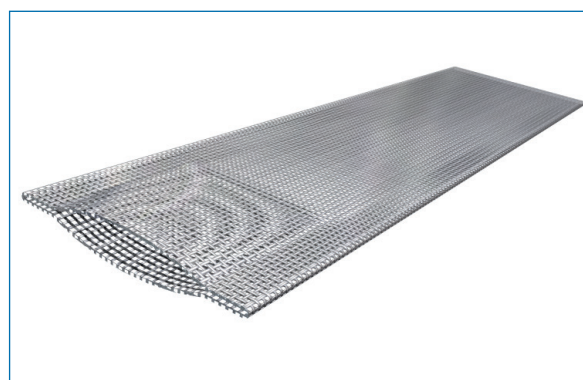


#### Bandit Tools

| AB Connectors Part Number | Tool Description                    |
|---------------------------|-------------------------------------|
| ABB600058                 | Standard Bandit Tool                |
| ABB600061                 | Micro Bandit Tool (3mm Band Straps) |
| ABB601200                 | Calibration Kit                     |

#### Knitmesh Braid

| AB Connectors Part Number | Length | Width |
|---------------------------|--------|-------|
| ABBMKM1050                | 500 mm | 25 mm |



# ABCIRP

## crimp contacts - tooling

### Hand Crimp Tool

Contact sizes 12 and 16



**AB Part No: ABBFT8**

Supplier DMC part no. FT8

### Pneumatic Crimp Tool

Contact sizes 12 and 16



**AB Part No: ABWA27F**

Supplier DMC part no: WA27F

### Turret Locator

Contact sizes 12 and 16  
(to locate contacts within a crimp tool)



**AB Part No: ABBTH592**

Supplier DMC part no: TH592

### Hand Crimp Tool

Contact size 100



**AB Part No: ABBD51**

Supplier Dubuis part no: D51

### Electric Crimp Tool

Contact size 100



**AB Part No: ABBPL0550A1130**

Supplier Dubius part no: D55E

### Die Sets

crimping contact size 8 & 100



**AB Part No: ABMRP0925**

### Insertion Tool

Contact sizes 12 and 16  
(to insert contact into plastic insert)



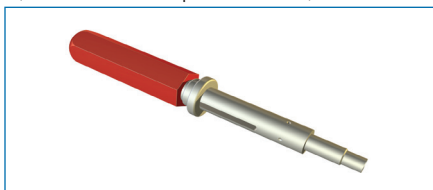
**AB Part No: P80 12 ITL (size 12)**

**AB Part No: P80 16 ITL (size 16)**

Supplier Astro Tools part no: AT 1110

### Extraction Tool

Contact size 8  
(to extract from plastic insert)



**AB Part No. P80 8 ETA**

### Extraction Tool

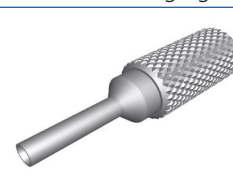
Contact sizes 12 & 16  
(to extract from plastic insert)



**AB part no. P80 12 ETA (size 12) /  
P80 16 ETA (size 16)**

### Grommet Extraction Tool

Contact sizes 12 & 16  
(to extract contact through grommet)



**AB part no. P80 12 GET (size 12) /  
P80 16 GET (size 16)**

# ABCIRP

## crimp contacts - supplementary tooling

### Contact Retention Tester

(applies a load to test contact is seated correctly)



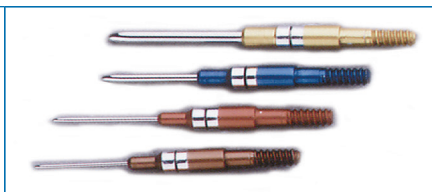
**AB Part No: 6M3800644**

Supplier DMC part no: HT250-3

### Contact Socket Retention Test

#### Probe

Contact sizes 12 & 16



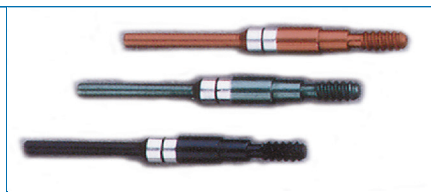
**AB Part No: 6M3800731 (size 12) / 6M3800646 (size 16)**

Supplier DMC part no: 67-012-01 / 67-016-01

### Contact Pin Retention Test

#### Probe

Contact sizes 12 & 16



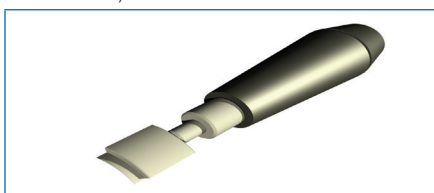
**AB Part No: 6M3800730 (size 12) / 6M3800645 (size 16)**

Supplier DMC part no: 68-012-01 / 68-016-01

### Grommet Assembly Aid

shell size 18-24 / 28-40

(to tuck grommet shoulder into connector)



**AB Part No. P8018GAT (size 18 - 24)**

**AB Part No. P8028GAT (size 28 - 40)**

### Pin Contact Alignment Gauge

(checks / straightens contacts bent during assembly)



**AB Part No: P80 ## CAG ( size & planform ##)**

# ABCIRP

## safety information

This information is to be used in conjunction with the Product Catalogue and Product Specification. Products may be safely used in the applications for which they have been designed and within the specified ratings and environments. If products are exposed to conditions outside the performance ratings or specified environments they may constitute a hazard. In particular it should be noted that:-

### 1. Material Content of Products.

Circular Connectors generally use metalwork parts made of copper, copper alloy, aluminium alloy, aluminium-bronze, phosphor-bronze or steel, which, dependant on the particular application, may be passivated and protected with cadmium or zinc plate – in conjunction with chromated or anodised surface finishes. The insulating materials can be either natural or synthetic rubber, together with plastic or glass filled plastic moulded parts. Contact materials vary with product type but are usually made of copper, copper alloy, nickel, phosphor-bronze, alumei, chromel or steel.

### 2. Electric Shock, Burns and Fire.

Hazard can occur if the product is used outside the specified parameters or if the product is damaged, wrongly wired or poorly assembled, or poorly integrated into larger equipment, or contaminated with conductive fluids. Live circuit terminations must be protected and live circuits never broken by demating products.

Hotspots may be created when resistance is increased due to damage or incorrect integration particularly soldering, crimping or loose terminations. Overheating can cause breakdown of insulation, electric shot, burns or, ultimately, fire. In the event of fire noxious and/or toxic fumes may be released and, in these circumstances, any fire involving the product should be dealt with by personnel properly equipped.

Connector products with exposed terminators or contacts should not be used on the current supply side of a circuit with exposed contacts on an unmated product. Before making a circuit live, the product and wiring should be checked to ensure that there is no damage and no electrically conducting debris present. Circuit resistance checks should also be conducted before making the circuit live. Always ensure that the correct tools, (specified by AB Connectors Ltd.) are employed for crimping and assembly and that connectors are assembled and wired by properly trained personnel.

### 3. Disposal of Products.

Products should not be burnt.

### 4. Use Transport and Storage of Products.

Care must be exercised to avoid damage to any part of the products during transporting, storage or use. The products, as manufactured, are free of sharp edges. Abnormal transit or storage conditions and abuse during installation can give rise to damage. Products should not be used in a damaged condition. Improper storage (particularly of damaged products) can give rise to additional hazards particularly corrosion. Your attention is specifically drawn to the need of proper storage of products containing cadmium and you are advised to see the Guidance Note from the Health and Safety Executive on Cadmium - Health and Safety Precautions.

### Safety Rules

1. Ensure all conductor wires are capable of withstanding the electrical and environmental conditions of the application.
2. Always use the correct assembly tools for cables, contacts and connectors.
3. Make circuit resistance checks before making a circuit live.
4. Always protect live circuits and never demate a live connector.
5. Never use a damaged connector.
6. Never burn discarded connectors or cable.
7. IF IN DOUBT, ASK.

**N. B.** Additional information on the products and the materials used in them may be obtained from the Sales Department of AB Connectors Ltd.

### Shelf life for rubber components

AB Connectors incorporate a number of rubber components within their connectors. Most rubbers change in physical properties during storage e.g. excessive hardening, softening, cracking or other surface degradation. These changes may be the result of particular factors or a combination of factors such as light, heat, humidity, oils or solvents.

With a few simple precautions the shelf life may be considerably lengthened.

The storage temperature should be between +5 and +25 degrees C. Direct contact with sources of heat such as boilers, radiators and direct sunlight should be avoided. It is advisable to cover any windows of storage rooms with a red or orange coating or screen. The relative humidity in the storeroom should be below 70%. Very moist or very dry conditions should be avoided. Condensation should not occur.

If the above recommendations are adhered to, then AB Connectors would warrant a shelf life of four years for its products.

**N. B.** The company reserves the right and may change or vary specification without prior written notice.

## Global Presence



The world's demand for electronics is increasing as new technologies, with a higher dependence on complex components, are being adopted by a broader customer base. This growth provides TT electronics an assured future as we focus on efforts to deliver excellence in customer service and quality products to these markets. From our strong UK base, the company has achieved truly global reach. We have established technical and manufacturing facilities in strategic countries maintaining the successful formula of close liaison with our customers in all major overseas markets.

In addition, through strategic relationships with Original Equipment Manufacturers around the world, we are now in the enviable position where we gain double benefit - from growth in their markets and from the increase in the electronic content of end products.

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