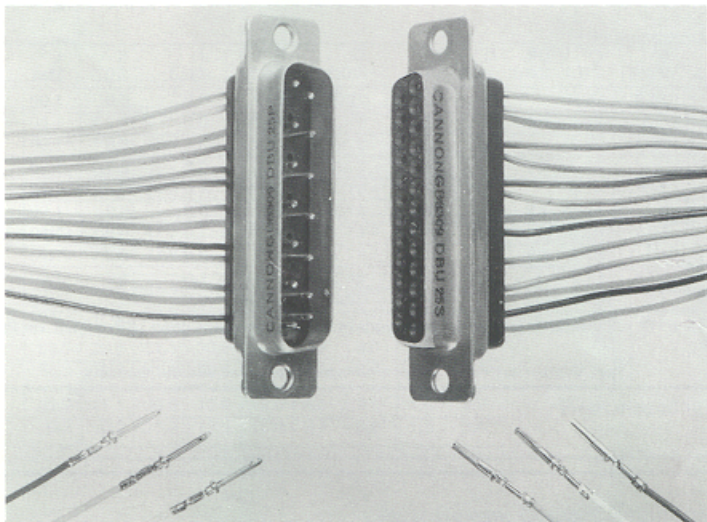


# PRODUCT BULLETIN

## D\*U SUBMINIATURE CONNECTOR WITH CRIMP STYLE REMOVABLE CONTACTS



### Features

- Stamped and formed contacts with insulation support
- Insulation support contacts fully recessed in insulation after assembly
- Flame retardant insulators (UL approved material)
- Fully intermateable with all Cannon D connectors
- Contacts only loaded into selected cavities
- Stamped and formed contacts supplied in reel form (7500 contacts per reel) or loose in bags of 100
- Choice of semi-automatic or manual tooling
- Option of machined contacts

The new D\*U connector permits selective loading of crimp terminated pin and socket contacts providing lower installed costs

The contacts are quickly terminated using low cost hand, bench mounted or semi-automatic crimp tooling (see back page for details). Terminated contacts are inserted and extracted from the rear of the connector using an expendable plastic insertion/extraction tool.

D\*U connectors operate in temperatures up to 120°C and are used in plug-in module applications, cable-to-cable and cable-to-panel installations, computer, business machines and many other commercial applications.

### Standard Data

#### Standard materials and finishes

|           |                                                  |
|-----------|--------------------------------------------------|
| Shell     | Steel, plated zinc with yellow chromate          |
| Insulator | Glass-filled black thermoplastic (UL94VO Grade)  |
| Contacts  | Machined: Copper alloy, gold over nickel plate   |
|           | Stamped: Phosphor-bronze, gold over nickel plate |

#### Mechanical Features

|              |                               |
|--------------|-------------------------------|
| Coupling     | Friction and lock accessories |
| Polarization | Keystone-shaped shells        |
| Contact Type | Crimp snap-in                 |

#### Electrical Data

|                     |                                                         |
|---------------------|---------------------------------------------------------|
| Contact Termination | Crimp style                                             |
| Wire Size (stamped) | Size 20 contacts: 22 to 28AWG stranded wire;            |
|                     | (machined) Size 20 contacts: 18 to 30AWG stranded wire. |
| Current Rating      | Size 20 contacts: 5 amps                                |

| Voltage Rating | Average Flashover | Test      |
|----------------|-------------------|-----------|
| Sea level      | 1,500 VAC         | 1,000 VAC |
| 20,000 ft      | 1,000 VAC         | 650 VAC   |
| 70,000 ft      | 500 VAC           | 325 VAC   |
| 120,000 ft     | 255 VAC           | 175 VAC   |

### ITT CANNON

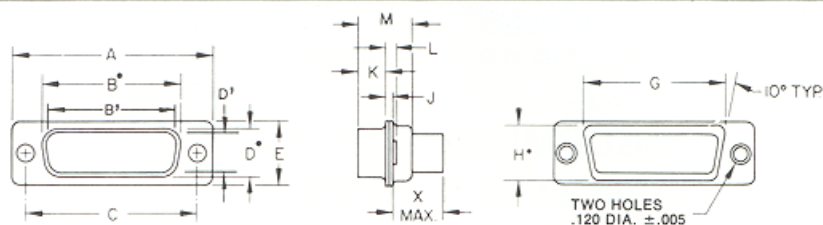
Jays Close, Viabes Industrial Estate,  
Basingstoke, Hants. RG22 4BW.

Tel: Basingstoke (0256) 473171 Telex: 858105

**ITT CANNON**

## Standard Shell

# D\*U



| Part Number<br>be Shell Size | A<br>±0.4 | B<br>±0.3 | B'<br>±0.3 | C<br>±0.2 | D<br>±0.3 | D'<br>±0.3 | E<br>±0.4 | G<br>±0.3 | H<br>±0.3 | J<br>±0.3 | K<br>±0.3 | L<br>Max. | M<br>±0.3 | N<br>±0.3 | X<br>Max. |
|------------------------------|-----------|-----------|------------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| DEU-9P-FO                    | 30.8      |           | 16.9       | 25.0      |           | 8.4        | 12.5      | 19.3      | 10.7      | 0.8       | 6.0       | 1.90      | 10.7      | 3.0       | 9.5       |
| DEU-9S-FO                    | 30.8      | 16.3      |            | 25.0      | 7.8       |            | 12.5      | 19.3      | 10.7      | 0.8       | 6.2       | 1.90      | 10.9      | 3.0       | 9.5       |
| DAU-15P-FO                   | 39.1      |           | 25.3       | 33.3      |           | 8.4        | 12.5      | 27.5      | 10.7      | 0.8       | 6.0       | 1.90      | 10.7      | 3.0       | 9.5       |
| DAU-15S-FO                   | 39.1      | 24.6      |            | 33.3      | 7.8       |            | 12.5      | 27.5      | 10.7      | 0.8       | 6.2       | 1.90      | 10.9      | 3.0       | 9.5       |
| DBU-25P-FO                   | 53.0      |           | 39.0       | 47.0      |           | 8.4        | 12.5      | 41.3      | 10.7      | 1.0       | 5.9       | 1.90      | 10.8      | 3.3       | 9.5       |
| DBU-25S-FO                   | 53.0      | 38.3      |            | 47.0      | 7.8       |            | 12.5      | 41.3      | 10.7      | 0.8       | 6.2       | 1.90      | 10.9      | 3.0       | 9.5       |
| DCU-37P-FO                   | 69.3      |           | 55.4       | 63.5      |           | 8.4        | 12.5      | 57.7      | 10.7      | 1.0       | 5.9       | 1.90      | 10.8      | 3.3       | 9.5       |
| DCU-37S-FO                   | 69.3      | 54.8      |            | 63.5      | 7.8       |            | 12.5      | 57.7      | 10.7      | 0.8       | 6.2       | 1.90      | 10.9      | 3.0       | 9.5       |
| DDU-50P-FO                   | 66.9      |           | 52.8       | 61.1      |           | 11.1       | 15.4      | 55.3      | 13.6      | 1.0       | 5.9       | 1.90      | 10.8      | 3.3       | 9.5       |
| DDU-50S-FO                   | 66.9      | 52.4      |            | 61.1      | 10.7      |            | 15.4      | 55.3      | 13.6      | 0.8       | 6.2       | 1.90      | 10.9      | 3.0       | 9.5       |

NOTE: Dimensions B, D, G and H are measured as outside dimensions at the bottom of the draw. B and D are the O.D. dims. for socket side; B' and D' are the dims. for pin side.

Part Number suffix FO indicate connectors supplied without contacts.

## Stamped Contacts

### Insulation Support

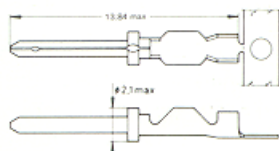
Stamped contacts are furnished on reels for use with the semi-automatic crimp and strip/crimp machines. These contacts will accommodate wire sizes 22 to 28AWG stranded wire.

For solid wire accommodation please consult the factory. Contacts are also available loose in bags of 100.

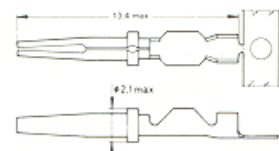


| Contact (Reeled 7500 per reel) | 20-22        | 20-26        |
|--------------------------------|--------------|--------------|
| Pin                            | 077069-0200  | 077069-0202  |
| Socket                         | 077069-0201  | 077069-0203  |
| Contact (loose in bags of 100) |              |              |
| Pin                            | 330-7633-010 | 330-7635-010 |
| Socket                         | 330-7634-010 | 330-7636-010 |

PIN



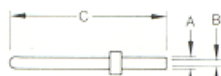
SOCKET



## Machined Contacts

Machined contacts are furnished loose.

| Contact      | Contact<br>Part Number | A<br>±0.05 | B<br>±0.05 | C<br>Max. |
|--------------|------------------------|------------|------------|-----------|
| Pin 20-20    | 030-1952-000           | 1.7        | 1.1        | 13.6      |
| Pin 20-18    | 030-1954-000           | 2.1        | 1.7        | 22.2      |
| Pin 20-26    | 030-1952-002           | 1.7        | 0.6        | 13.6      |
| Socket 20-20 | 030-1953-000           | 1.7        | 1.1        | 13.3      |
| Socket 20-18 | 030-1955-000           | 2.1        | 1.6        | 21.6      |
| Socket 20-26 | 030-1953-002           | 1.7        | 0.6        | 13.3      |



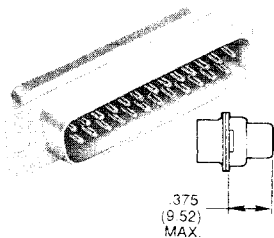
NOTE: for 20-18 contacts only:

Shrink sleeving is suggested on the crimp pot to prevent contacts from touching.

## Machined or Stamped Contacts, Size 20

## Part Numbers

Crimp Snap-In Contacts Supplied Separately



Tooling – Pages 232-234

Standard Shell Dimensions – Page 73

Mounting Method Detail – Page 6

## Tin Shells

| Number of Contacts (Shell Size) | Part Numbers            |                          |
|---------------------------------|-------------------------|--------------------------|
|                                 | With Dimples (Pin Only) | Without Dimples (Socket) |
| 9(E)                            | DEU-9P-K87-F0           | DEU-9S-A197-F0           |
| 15(A)                           | DAU-15P-K87-F0          | DAU-15S-A197-F0          |
| 25(B)                           | DBU-25P-K87-F0          | DBU-25S-A197-F0          |
| 37(C)                           | DCU-37P-K87-F0          | DCU-37S-A197-F0          |
| 50(D)                           | DDU-50P-K87-F0          | DDU-50S-A197-F0          |

Clinch Nut and Float Mounting Options Available:

Add: E = 4-40 Clinch Nut

Y = Float Mounting

Example: DBUE25P-K87-F0

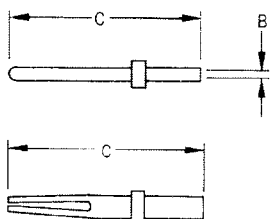
## Yellow Chromate Over Cadmium Shells

| Number of Positions (Shell Size) | Part Numbers                |                                             |
|----------------------------------|-----------------------------|---------------------------------------------|
|                                  | Connectors Without Contacts | Connectors Packaged With Machined Contacts* |
| 9(E)                             | DEU9P or S-F0               | DEU9P or S                                  |
| 15(A)                            | DAU15P or S-F0              | DAU15P or S                                 |
| 25(B)                            | DBU25P or S-F0              | DBU25P or S                                 |
| 37(C)                            | DCU37P or S-F0              | DCU37P or S                                 |
| 50(D)                            | DDU50P or S-F0              | DDU50P or S                                 |

\*Pin contact is 030-1952-000/Socket contact is 030-1953-000

## Machined Crimp Contacts

Machined contacts are furnished loose piece for use with manual and semi-automatic machines.



| Description  | Part Number  | Wire Accommodation | B<br>±.002 (0.05) | C<br>Max.   | Hand Tool |
|--------------|--------------|--------------------|-------------------|-------------|-----------|
| Pin 20       | 030-1952-000 | 20, 22, 24         | .045(1.14)        | .541(13.74) | CCT-DCM-1 |
| Pin 20-18    | 030-1954-000 | (1) 18 or (2) #22  | .066(1.68)        | .867(22.02) | CCT-DCM-1 |
| Pin 20-26    | 030-1952-002 | 26, 28, 30         | .025(0.63)        | .541(13.74) | CCT-DCM-2 |
| Socket 20    | 030-1953-000 | 20, 22, 24         | .045(1.14)        | .523(13.28) | CCT-DCM-1 |
| Socket 20-18 | 030-1955-000 | (1) 18 or (2) #22  | .066(1.68)        | .844(21.56) | CCT-DCM-1 |
| Socket 20-26 | 030-1953-002 | 26, 28, 30         | .025(0.63)        | .523(13.28) | CCT-DCM-2 |

**NOTE for Size 20-18 contacts only:** Shrink sleeving is suggested on the crimp pot to prevent contacts from touching.

Plastic Insertion/Extraction Tool – CIET-20HD

Metal Extraction Tool – CET-20D

## Stamped Crimp Contacts/Reeled

## Non-Insulation Support

| Contact Size | Wire Accommodation                               | Contact Part Number |             | Contacts Per Reel | Hand Tool |
|--------------|--------------------------------------------------|---------------------|-------------|-------------------|-----------|
|              |                                                  | Pin                 | Socket      |                   |           |
| 20-18        | AWG #18 thru 22<br>(For AWG #24 consult factory) | D110238-165         | D110238-166 | 7,500             | CCT-D*C-4 |
| 20           | AWG #20 thru 28<br>(For AWG #30 consult factory) | D110238-34          | D110238-35  | 10,000            | CCT-D*C-4 |

## Insulation Support

| Wire Accommodation | Contact Part Number |             | Contact Per Reel | Hand Tool   |
|--------------------|---------------------|-------------|------------------|-------------|
|                    | Pin                 | Socket      |                  |             |
| AWG #22-#26        | D110238-428         | D110238-434 | 7,500            | CCTP-D*C-10 |
| AWG #28 thru #32   | D110238-431         | D110238-436 | 7,500            | CCTP-D*C-8  |

Plastic Insertion/Extraction Tool – CIET-20HD

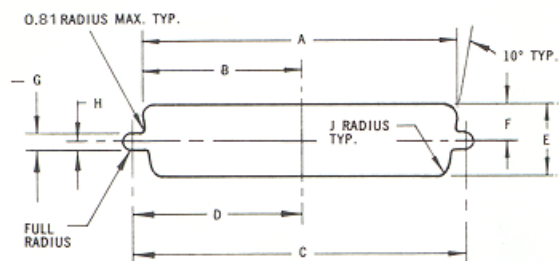
Metal Extraction Tool – CET-20D

Semi-Automatic Tooling – Pages 223-225

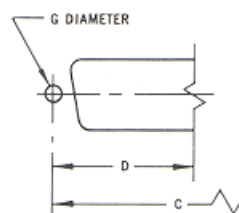
Highlighted part numbers indicate standard product; usually available with shorter lead times.

## Panel Cutouts

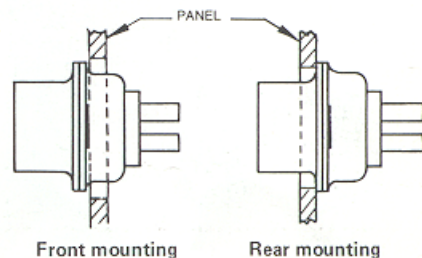
## Standard Cutout



## Optional Cutout (For rear mounting)



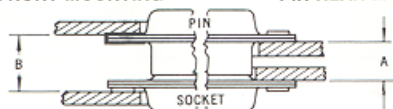
| Connector Size | Mounting Method | A $\pm 0.2$ | B $\pm 0.2$ | C $\pm 0.2$ | D $\pm 0.2$ | E $\pm 0.2$ | F $\pm 0.2$ | G $\pm 0.1$ | H $\pm 0.1$ | K $\pm 0.2$ |
|----------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| DAU            | Front Mounting  | 30.5        | 15.3        | 33.3        | 16.7        | 13.0        | 6.5         | 3.0         | 1.5         | 2.1         |
|                | Rear Mounting   | 28.8        | 14.4        | 33.3        | 16.7        | 11.4        | 5.7         | 3.0         | 1.5         | 3.4         |
| DBU            | Front Mounting  | 44.3        | 22.1        | 47.0        | 23.5        | 13.0        | 6.5         | 3.0         | 1.5         | 2.1         |
|                | Rear Mounting   | 42.5        | 21.3        | 47.0        | 23.5        | 11.4        | 5.7         | 3.0         | 1.5         | 3.4         |
| DCU            | Front Mounting  | 60.7        | 30.4        | 63.5        | 31.7        | 13.0        | 6.5         | 3.0         | 1.5         | 2.1         |
|                | Rear Mounting   | 59.1        | 29.5        | 63.5        | 31.7        | 11.4        | 5.7         | 3.0         | 1.5         | 3.4         |
| DDU            | Front Mounting  | 58.3        | 29.2        | 61.1        | 30.6        | 15.8        | 7.9         | 3.0         | 1.5         | 2.1         |
|                | Rear Mounting   | 56.3        | 28.2        | 61.1        | 30.6        | 14.1        | 7.1         | 3.0         | 1.5         | 3.4         |
| DEU            | Front Mounting  | 22.2        | 11.1        | 25.0        | 12.5        | 13.0        | 6.5         | 3.0         | 1.5         | 2.1         |
|                | Rear Mounting   | 20.5        | 10.2        | 25.0        | 12.5        | 11.4        | 5.7         | 3.0         | 1.5         | 3.4         |



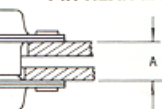
## Panel Mounting

NOTE: A, B, C, and H are dimensions between panels and represent the recommended limit to be used in the design of the connector mounting method.

## PIN FRONT MOUNTING



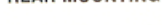
## PIN REAR MOUNTING



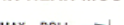
## SOCKET FRONT MOUNTING



## SOCKET REAR MOUNTING



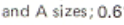
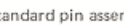
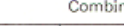
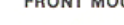
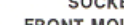
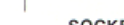
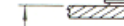
## PIN REAR MOUNTING



## PIN FRONT MOUNTING



## 4.75 MAX. ROLL OVER TYPICAL

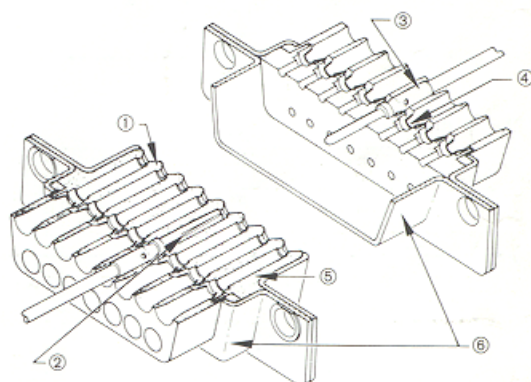


## Combination of mated connectors

| Size    | A $+0.76$<br>$-0$ | B $+0.76$<br>$-0$ | C $+0.76$<br>$-0$ | H $+0.76$<br>$-0$ |
|---------|-------------------|-------------------|-------------------|-------------------|
| A, E    | 6.35              | 8.63              | 7.49              | 7.49              |
| B, C, D | 6.04              | 8.71              | 7.56              | 7.18              |

Standard pin assemblies contain 0.38" thick front shells on E and A sizes; 0.61" thick front shells on B, C and D sizes.

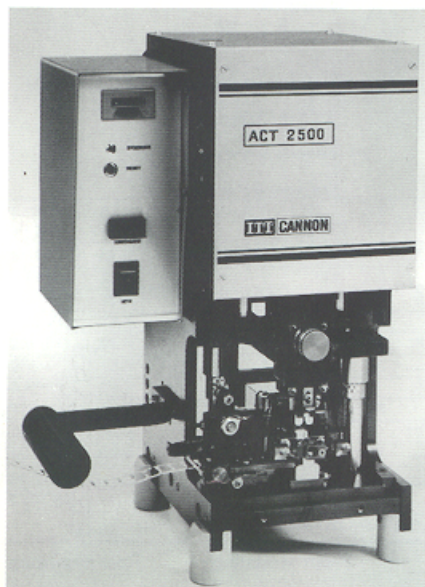
## Rear Release Contact Retention System



- 1 Closed-entry socket insulator
- 2 Sleeveless spring finger contact
- 3 Contacts crimped with standard tools
- 4 Contact retaining tines
- 5 Flame retardant insulator
- 6 Standard D shells

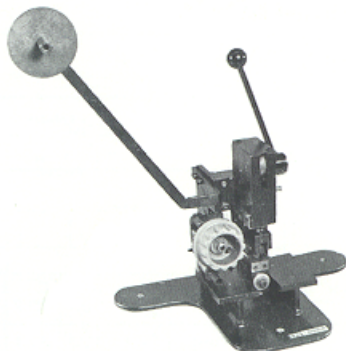
## Tooling and Termination Data

## Semi-automatic Strip/Crimp Machine ACT2500



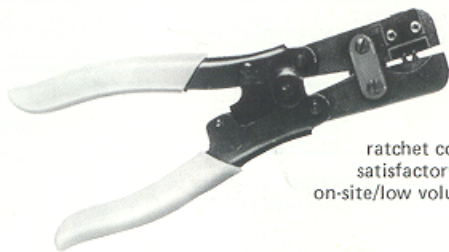
The ACT2500 quickly and reliably crimp terminates up to 1200 contacts per hour. The machine which only requires an electrical supply, is suitable for a wide variety of contacts and cable sizes. Crimp tools are easily changed. Time consuming adjustments are unnecessary, stripping and crimping is sensor released. This semi-automatic crimp machine is a practical and cost saving tool when using Cannon reeled contacts. Please ask for details of our leasing arrangements.

## Hand operated Crimp Machine with automatic feed CBT9000

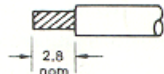


This low-cost bench-mounted hand-operated crimp machine terminates pre-stripped wire to stamped and formed reeled contacts. Its features include automatic contact feed and it is ideal for small volume requirements. Consult factory for specific ordering information.

## Hand Crimp Tool CCT-D\*U-5GB



With this tool each crimp cycle is ratchet controlled to ensure a satisfactory crimp; suitable for on-site/low volume applications.



Wire Stripping Detail

## Contacts and Tools

| Contact Data                     |                                 |                                                                | Tools           |              |                     |                     |                            |                            |
|----------------------------------|---------------------------------|----------------------------------------------------------------|-----------------|--------------|---------------------|---------------------|----------------------------|----------------------------|
| Size                             | Suitable for conductor AWG (mm) | Contact order no.                                              | Hand Crimp tool | Locator      | Semi-Automatic Tool | Bench Mould Mounted | Insertion/ Extraction Tool | Color Insertion Extraction |
| Stamped, with insulation support |                                 |                                                                |                 |              |                     |                     |                            |                            |
| 20-22                            | 22-24 (0.4-0.23)                | Pin: 077069-0200 7500 contacts on reel<br>Socket: 077069-0201  | CCT-D*U-5GB     | —            | ACT2500             | CBT9000             | CIET-20HD                  | coloured/ white            |
| 20-26                            | 26-28 (0.13-0.09)               | Pin: 077069-0202 7500 contacts on reel<br>Socket: 077069-0203  | CCT-D*U-5GB     | —            | ACT2500             | CBT9000             | CIET-20HD                  | coloured/ white            |
| 20-22                            | 22-24 (0.4-0.23)                | Pin: 330-7633-010 loose in bags of 100<br>Socket: 330-7634-010 | CCT-D*U-5GB     | —            |                     |                     | CIET-20HD                  | coloured/ white            |
| 20-26                            | 26-28 (0.13-0.09)               | Pin: 330-7635-010 loose in bags of 100<br>Socket: 330-7636-010 | CCT-D*U-5GB     | —            |                     |                     | CIET-20HD                  | coloured/ white            |
| machined                         |                                 |                                                                |                 |              |                     |                     |                            |                            |
| 20-20                            | 20-24 (0.6-0.23)                | Pin: 030-1952-000<br>Socket: 030-1953-000                      | M22520/1-01     | TH 185       | —                   |                     | CIET-20HD                  | coloured/ white            |
| 20-18                            | 18 (1.0) or (2x) 22 (0.4)       | Pin: 030-1954-000<br>Socket: 030-1955-000                      | M22520/1-01     | TH 185       | —                   |                     | CIET-2018HD                | coloured/ white            |
| 20-26                            | 26-30 (0.13-0.06)               | Pin: 030-1952-002<br>Socket: 030-1953-002                      | M22520/2-01     | L3198-20 HDL | —                   |                     | CIET-20HD                  | coloured/ white            |

In line with a policy of continual product development, ITT Cannon reserve the right to change the specification of the components in this bulletin at any time and without prior notice.