



# DESTU

## Direct Entry Sealed Termination Unit



## Installation Instructions

Suitable for use in either safe or hazardous areas



II 2G Ex eb IIC Gb  
II 2D Ex tb IIIC Db

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**DESTU - DIRECT ENTRY SEALED TERMINATION UNIT  
TERMINATION INSTRUCTIONS FOR FREEZSTOP HEATING CABLES**

**PLEASE READ THE INSTRUCTIONS BEFORE PROCEEDING**

**SUITABLE FOR UP TO  
TWO(2) HEATERS**

Ref: TK/DESTU

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**Recommended Tools**

Stanley Knife, Pliers, Cutters, Screw Driver, Crimps, Rule/Cable, Tissue/Rag, Scissors, Suitable Allen Key

**Termination Instructions**

These instructions cover the termination of standard size and wide (w) self-regulating heating cables at both supply and remote end.

**SUPPLY END**

1. BRAID & OVERJACKETED WIDE CABLES - Referring to figure 1, strip back the outer jacket by 150mm.

BRAIDED HEATER - Carefully unpick the braid for about 150mm. Twist the braid into a braid tail and trim to give a neat end.

FOR STANDARD SIZE HEATER & BASE WIDE HEATER - Go directly to Section 2.

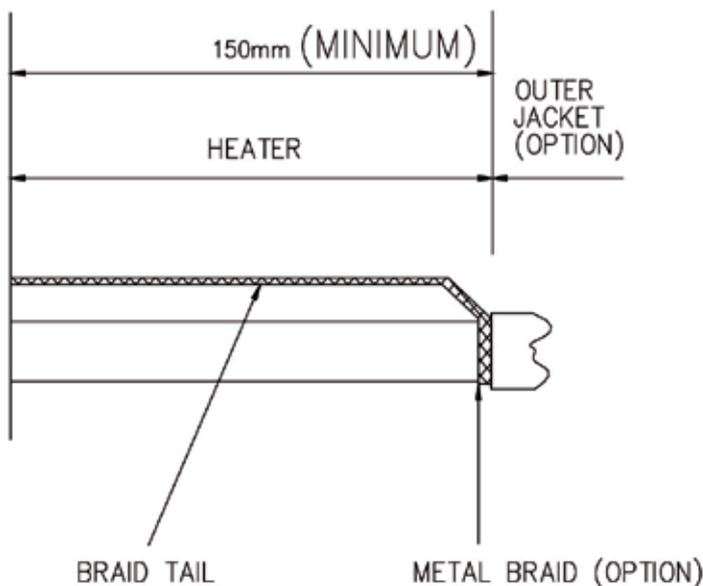


Fig 1

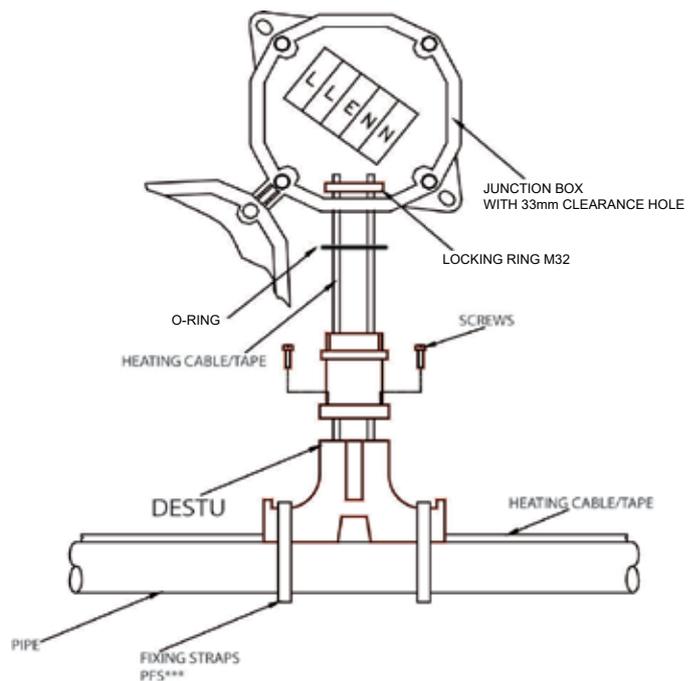


Fig 2a

- Referring to figure 2a (previous page), remove the four screws and lift off the top of the DESTU.

**BRAID & OVERJACKETED WIDE CABLES** - Push the heating cables through the rubber seals until the outerjacket reaches the underside of the DESTU base below the rubber seal. The braid tail should remain outside the DESTU.

**BRAIDED HEATER** - Push the heating cable through the DESTU whilst ensuring that the braid tail remains outside the DESTU. Allow enough length of heater for easy connection to the junction box terminals.

**STANDARD SIZE HEATER & BASE WIDE HEATER** - Push the heating cable through the DESTU - allowing enough length to allow easy connection to the junction box terminals.

When using ONE HEATER, add the blank rubber seal to seal the unused hole. (see fig. 2b).

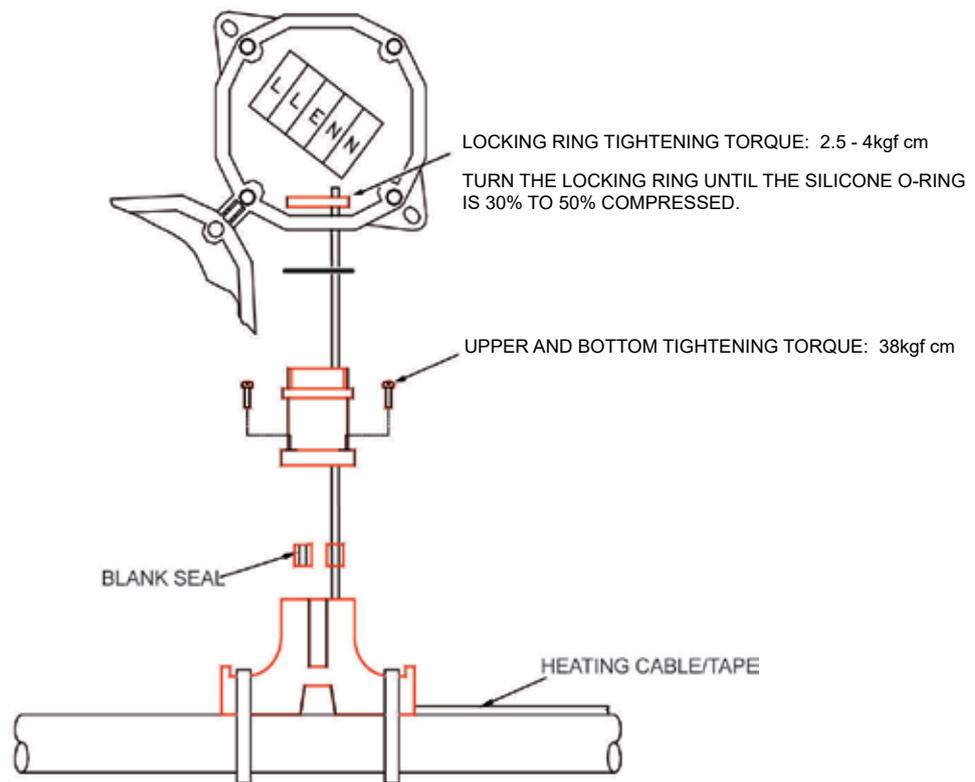


Fig 2b

- Fasten the bottom half of the DESTU to the pipe using the PFS pipe fixing straps (ordered separately). On BRAIDED heaters, connect the ring crimps to the earth link and fasten to the DESTU using the smaller M4 x 6mm screw and shakeproof washers (see fig.7). Replace the top half of the DESTU and tighten the screws. Add the O-Ring and push the DESTU into the junction box. Cut the heating cable to a suitable length that will allow easy connection to the terminals (see figure 5 for example configuration).

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- Ensure that the heating cable is long enough to allow for unhindered access to the junction box terminals. You may then find it easier to remove the junction box to continue with the remainder of the termination. (Carefully strip back 55mm of the outer sheath (figure 3) of the BASE HEATER) so that the black plastic conductive core is completely exposed. Then, carefully strip the conductive core from the two stranded wire current carrying conductors over the whole exposed area. It is essential that the wire conductors are not damaged, so great care should be taken when removing the conductive core.

***IF THE AREA CLASSIFICATION PERMITS, it may be easier to remove the conductive core if a gentle heat source is applied prior to stripping.***

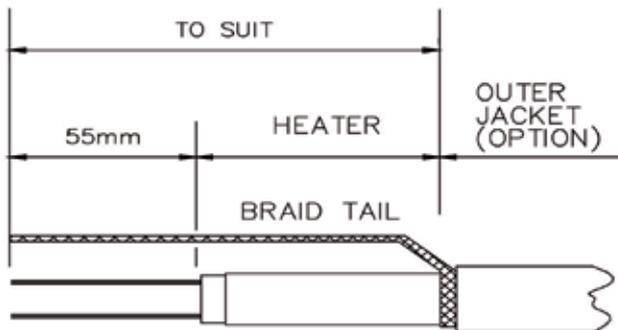


Fig 3

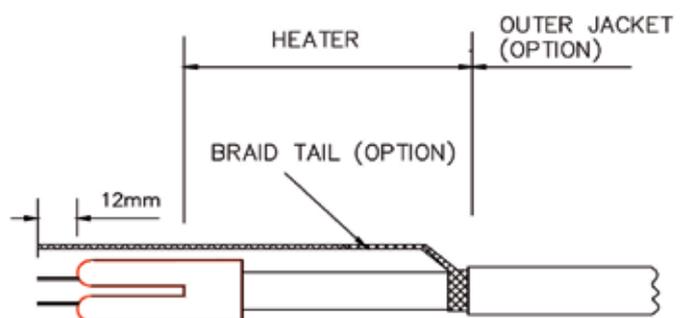
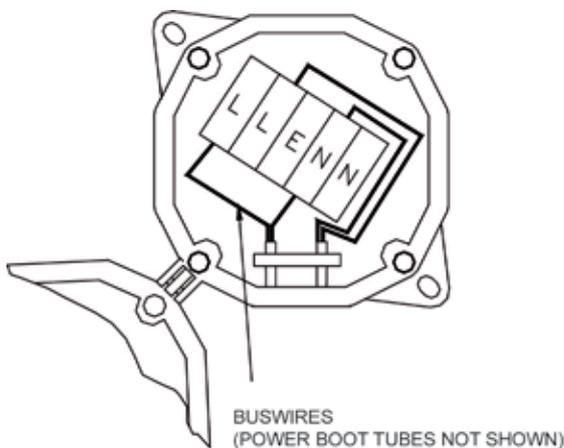


Fig 4

- Apply RTV silicone sealant to both the exposed wires and to the inside of the Power Tube Boot. Then, slide the boot over the exposed wires so that only the end 12mm of wire remains exposed as per Fig. 4. Wipe excess sealant from exposed wires and from around power tube boot.
- Replace the junction box and tighten locking ring. Fasten the exposed conductors into the terminal block (Fig. 5).



Terminal configuration for illustration purposes only

Fig 5

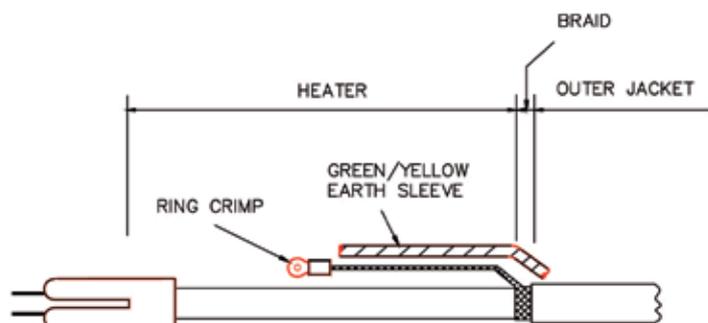


Fig 6

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7. WIDE HEATERS AND BRAIDED ONLY HEATERS - For these cables the braid remains outside the DESTU and attaches to the earth link located on the base of the DESTU. Trim the braid tail to a suitable length for fastening to the earth link. Place the green/yellow earth sleeves over each braid tail and trim 5mm (approx.), attaching the ring crimps to the remaining exposed braid as shown in figure 6 (on previous page) and figure 7 (below).

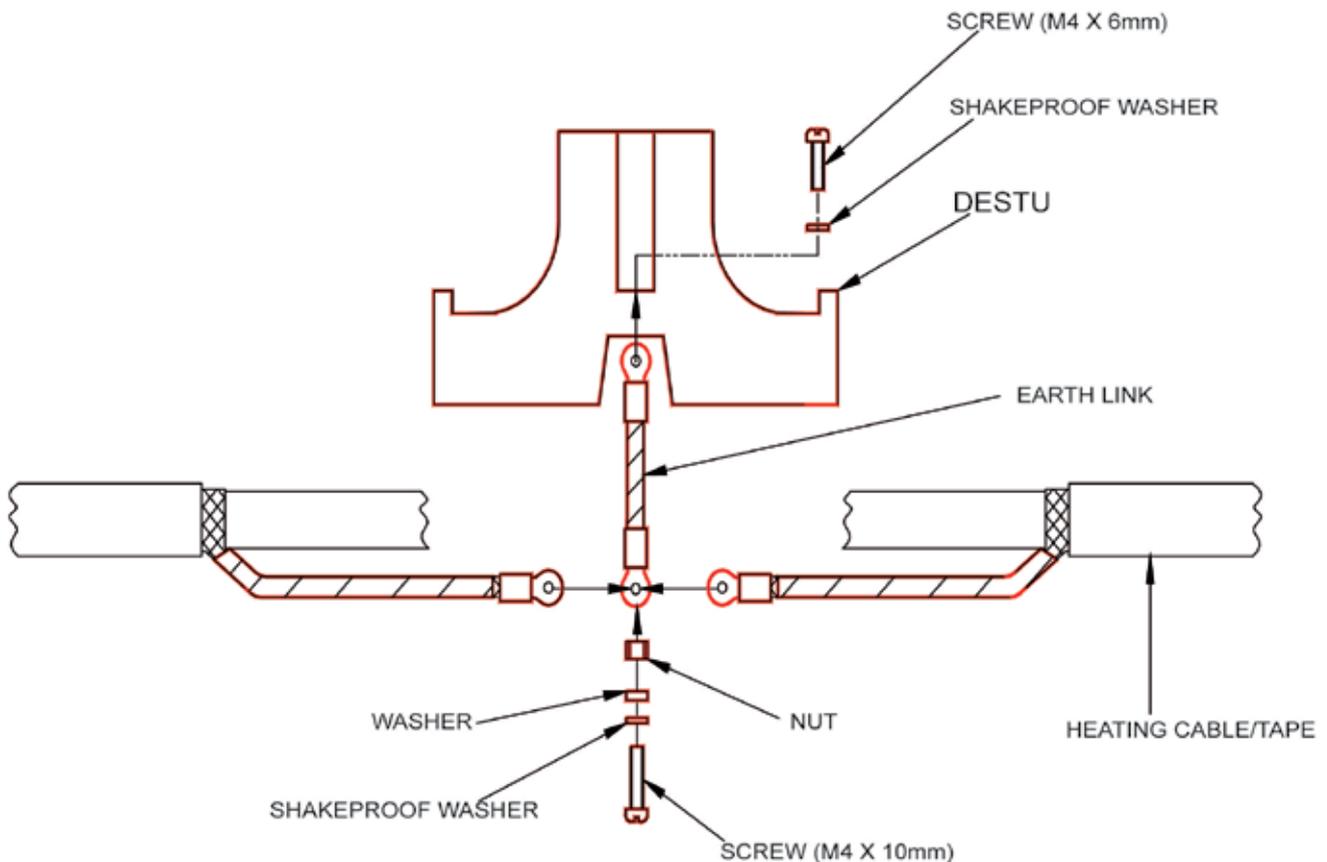


Fig 7

### Special Conditions for Safe Use

1. The service temperature range of the equipment is  $-55^{\circ}\text{C}$  to  $180^{\circ}\text{C}$ .
2. The equipment shall be protected against excessive UV light.
3. The equipment shall be installed in such a way that the risk of mechanical impact is low.
4. To minimize the risk from electrostatic discharge, the equipment shall only be cleaned with a damp cloth.
5. The DESTU Unit shall be installed in accordance with drawing number TKDESTU-U
6. User shall provide additional clamping of the cable using fixing tape to ensure that pulling is not transmitted to the terminations.

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## REMOTE END

8. Cut the heating cable to the required length (+ 50mm).

**BRAID AND OVERJACKET** - Strip off the outer jacket for 75mm. Carefully remove the braid leaving no stray strands.

**BRAIDED ONLY** - Push back the braid to expand the braid and hold into position.

**BASE HEATER** - Cut 50mm from the end of the cable.

Seal the end of the heating cable by filling the silicone boot provided with RTV sealant and fit the boot over the end of the cable. (Fig. 8a / 8b).

Wipe off excess RTV sealant.

**BRAIDED ONLY** - Release the previously expanded braid and push it over the end of the boot so that it completely engulfs the boot. Twist the strands and fit the crimp provided. Cut off any spare strands of braid.

Strap the end of the cable securely to the pipe.

EXTERNAL BRAID CONNECTION,  
STRAPPED TO PIPE  
FOR OVER-BRAIDED MODELS  
WITHOUT OUTER JACKET

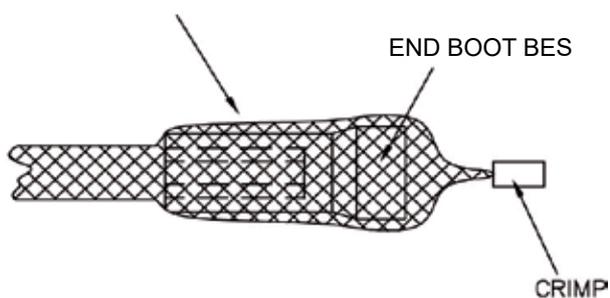


Fig 8a

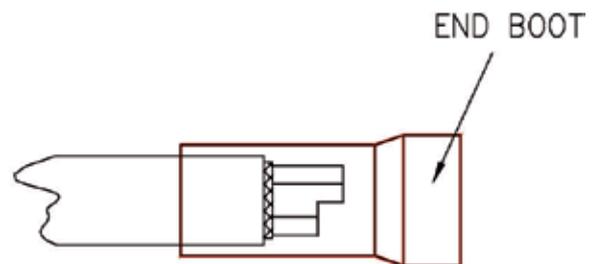
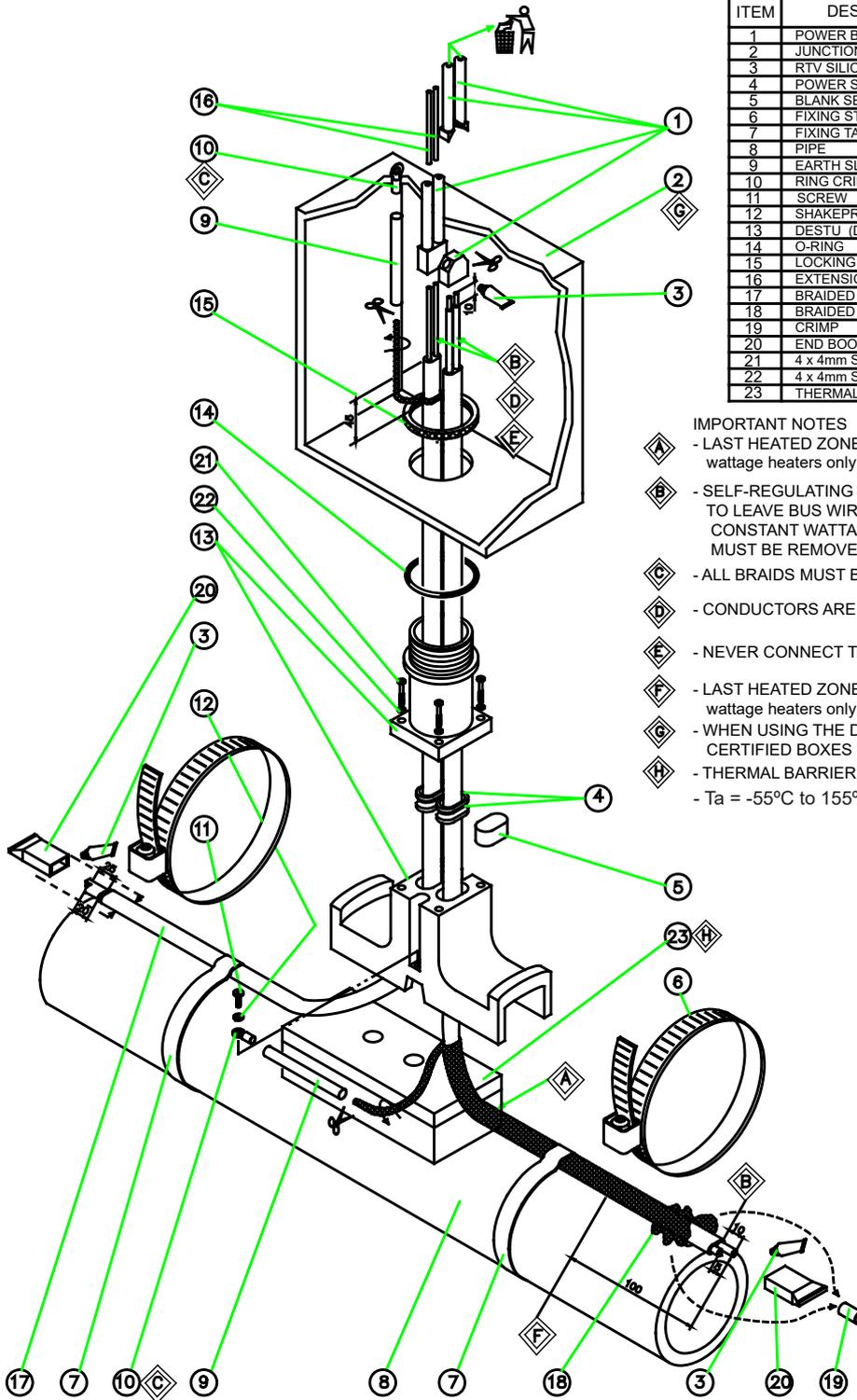


Fig 8

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RECOMMENDED TOOLS - CRAFT KNIFE, PLIERS, CUTTERS, WRENCH, SCREWDRIVER, CRIMPS, RULE/TAPE, TISSUE/RAG, SCISSORS, SUITABLE ALLEN KEY



REFERENCE LIST	
ITEM	DESCRIPTION
1	POWER BOOT
2	JUNCTION BOX (TERMINALS NOT SHOWN)
3	RTV SILICONE SEALANT
4	POWER SEAL
5	BLANK SEAL (WHEN ONLY ONE HEATER IS TERMINATED)
6	FIXING STRAP
7	FIXING TAPE
8	PIPE
9	EARTH SLEEVE (GREEN/YELLOW)
10	RING CRIMP
11	SCREW
12	SHAKEPROOF WASHER
13	DESTU (DIRECT ENTRY SEALED TERMINATION UNIT)
14	O-RING
15	LOCKING RING
16	EXTENSION TUBE (WHEN CONDUCTORS ARE TOO SHORT)
17	BRAIDED & JACKETED SELF-REGULATING HEATER
18	BRAIDED CONSTANT WATTAGE HEATER
19	CRIMP
20	END BOOT
21	4 x 4mm SCREW
22	4 x 4mm SPRING WASHER
23	THERMAL BARRIER

- IMPORTANT NOTES**
- LAST HEATED ZONE MUST NOT EXCEED THIS POINT (Constant wattage heaters only)
  - SELF-REGULATING HEATERS - ALL POLYMER MUST BE REMOVED TO LEAVE BUS WIRES FULLY EXPOSED (Then trim to suit)  
CONSTANT WATTAGE HEATERS - INSULATION AND ELEMENT WIRE MUST BE REMOVED TO LEAVE BE WIRE INSULATION ONLY
  - ALL BRAIDS MUST BE SUITABLY EARTHED
  - CONDUCTORS ARE TO BE SUITABLY TERMINATED (Not illustrated)
  - NEVER CONNECT THE BUS WIRES TOGETHER!
  - LAST HEATED ZONE PRIOR TO END SEAL TERMINATION (Constant wattage heaters only)
  - WHEN USING THE DESTU IN AN HAZARDOUS AREA, SUITABLE CERTIFIED BOXES MUST BE USED
  - THERMAL BARRIER TO BE USED ON PIPES THAT EXCEED 180 Deg C  
- Ta = -55°C to 155°C

Fig 9

**TKDESTU-U**

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## DESTU SEALS DATA

No.	Model	Hole Size	Heat Trace Heating Cable Type	Heating Cable Dimensions
1	DS1	4.4mm x 7.2mm	MTFJ-CF	9.9mm x 6.5mm
2	DS2	5.5mm x 9mm	PHT-N AHT	10.23mm x 7.1mm 10.7mm x 7.7mm
3	DS3	7mm x 10.8mm	PHT-NF	11.13mm x 8.0mm
4	DS4	2.5mm x 10mm	FSM-C FSR-C FSE-C FSEw-C FLVw-C FSS-C FSU-N FSUw-N	9.3mm x 4.7mm 11.75mm x 4.75mm 11.5mm x 4.75mm 14.2mm x 5.3mm 11.75mm x 4.75mm 10.55mm x 4.35mm 11.2mm x 4.5mm 13.5mm x 4.7mm
5	DS5	4mm x 13mm	FSM-CT FSM-CF FSR-CT FSR-CF FSE-CT FSE-CF FSEw-CT FSEw-CF FLVw-CT FLVw-CF FSS-CF FSU-NF FSUw-NF	10.5mm x 5.9mm 10.2mm x 5.6mm 12.95mm x 5.95mm 12.65mm x 5.65mm 12.7mm x 5.95mm 12.4mm x 5.65mm 15.4mm x 6.5mm 15.1mm x 6.2mm 12.95mm x 5.95mm 12.65mm x 5.65mm 11.45mm x 5.25mm 12.1mm x 5.4mm 14.4mm x 5.6mm

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