essexX-Ray
High voltage technology

INDUSTRIAL CABLE ASSEMBLIES

INDUSTRIAL CABLE ASSEMBLIES

OVERVIEW

CABLE DATA

	C2212	C2042	C2338
Rated Voltage	100kVDC	230kVDC	320kVDC
Impedance	53Ω	59Ω	61Ω
Capacitance	131pF/m	115pF/m	102pF/m
Minimum Bend Radius	101mm	152mm	190mm
Minimum Ambient Temperature	-51°C	-51°C	-51°C
Maximum Conductor Temperature	121°C	121°C	121°C
Weight	0.49kg/m	1.07kg/m	1.63kg/m
Outer Diameter	19.9mm	31.1mm	38.2mm

CONNECTOR TYPE

	R10	R10 RA	R24	R24 RA	R28	R28 RA	R30	R30 RA
C2212	100kV	100kV	100kV	100kV	-	-	-	-
C2042	-	-	225kV	225kV	225kV	225kV	230kV	230kV
C2338	-	-	-	-	-	-	300kV	300kV

STANDARD FLANGES

Part Number	Description	Length	Thread
T20051/A	100kV Straight	80mm	-
T20052	100kV Straight	85mm	-
T20785/A	100kV Right Angle Small	25mm	M48 x 1.5mm
T20785/B	100kV Right Angle Large	25mm	M48 x 1.5mm
T20131/A	160kV Straight	102.38mm	M45 x 1.5mm
T20697	160kV Straight	102mm	M45 x 1.5mm
T20045/D	160kV Right Angle	100mm	M45 x 1.5mm
T20697/A	160KV Right Angle	87mm	M45 x 1.5mm
T20096/D	160kV Quick Lock	107mm	M45 x 1.5mm
T20844	160kV Small Right Angle	70mm	M45 x 1.5mm
T22179	160kV Spring Loaded	70mm	M45 x 1.5mm
T20172/A	210kV Straight	110mm	M62 x 1.5mm
T22185	210kV Spring Loaded	104mm	M62 x 1.5mm
T20289	225kV Straight	118mm	M56 x 1.5mm
T20405	225kV Right Angle	105mm	M56 x 1.5mm
T22182	225kV Spring Loaded	104mm	M56 x 1.5mm

SPRING LOADED CONNECTORS

- Spring loaded cables have a mechanical spring built in to the ferrule
- The tension of a sprung termination creates constant pressure in the receptacle
- Simple to install creating a tight, secure connection
- Eliminates over-gapping and the need for re-gapping after installation
- Compatible sprung flanges are available to complete the installation
- Increases the service life of cable and tube
- Lower installation and maintenance costs

** When ordering please use the abbreviation 'SL' to denote a spring loaded connector*

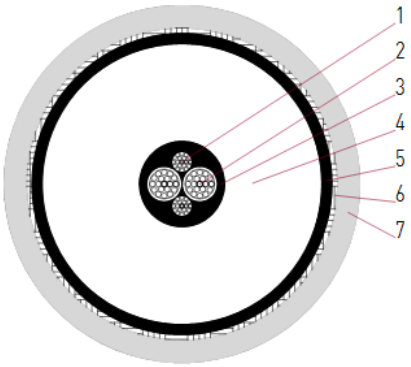
HOW TO ORDER

	Cable Type	Connector	Connector	Length
Cable Assembly	C2042	R24	R28	5m
Flange	T20131/A & T20289			

**Example R24 – R28 cable assembly with straight connectors*

C2212

100kV 3 Core Type S



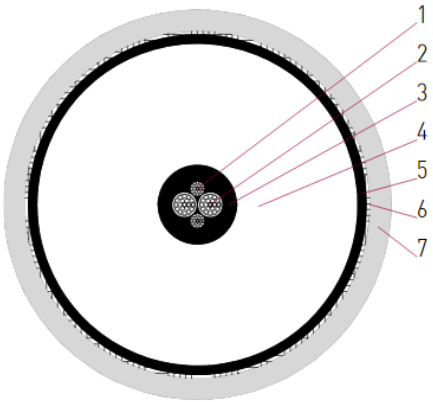
1. Conductor	2x bare Cu/Sn AWG18 (19x0.24mm, t.p.c), AWG15 in total	
2. Conductor	2x Cu/Sn AWG15, (19x0.33mm, t.p.c), Polyester Tape Insulation, Rated Voltage 1kV$_{DC}$	
3. Semicon	Semiconductive EPR (Black)	Ø 4.8mm
4. Dielectric	EPR	Ø 15.8mm
5. Semicon	Semiconductive EPR (Black)	Ø 16.9mm
6. Braid	Cu/Sn (Coverage ≥80%	Ø 17.5mm
7. Jacket	PVC	Ø 16.9mm

TECHNICAL DATA

Operating Voltage	100kV$_{DC}$
Impedance	53Ω
Capacitance	131pF/m
Minimum Bend Radius	101mm (Static)
Minimum Ambient Temperature	-51°C
Maximum Conductor Temperature	60°C
Weight	0.49kg/m
Outer Diameter	15.7mm
Colour	Grey

C2042

230kV$_{DC}$ EPR Dielectric



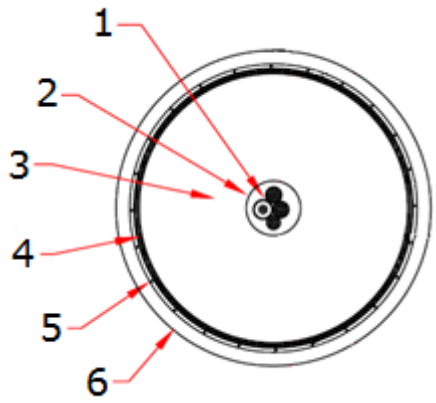
1. Conductor	2x bare Cu/Sn AWG18 (7x0.24mm t.p.c.)	
2. Conductor	2x Cu/Sn AWG16 (19x0.24mm t.p.c.) Tefzel Insulation, Rated Voltage: 5kV$_{DC}$	
3. Semicon	Semiconductive EPR (Black)	Ø 6.1mm
4. Dielectric	EPR	Ø 24.9mm
5. Semicon	Semiconductive EPR	Ø 26.2mm
6. Braid	Cu/Sn (Coverage ≥ 80%)	Ø 26.8mm
7. Jacket	PVC (Black)	Ø 31.1mm

TECHNICAL DATA

Operating Voltage	230kV$_{DC}$/75kV$_{AC}$
Impedance	59Ω
Capacitance	115pF/m
Minimum Bend Radius	152mm
Minimum Ambient Temperature	-51°C
Maximum Conductor Temperature	121°C
Weight	1.07kg/m
Outer Diameter	31.12mm
Colour	Black
Production Test Voltage	90kV RMS (60Hz) – 20 minutes
	Core Conductor to Bare Conductor 5kV RMS – 15 seconds

C2338

320kV$_{DC}$ 4 Core X-Ray

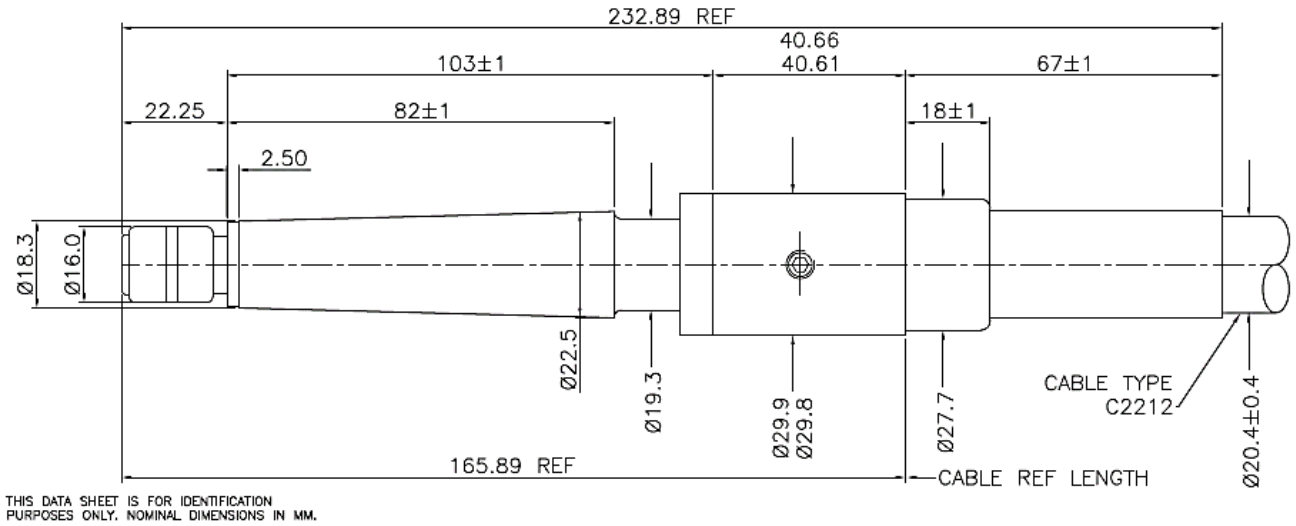


1. Conductor	2x #15AWG (19x0.131") Tinned Copper with .006 Mylar Tape (1x White, 1x Black), 1x #20AWG (7x0.126") Copperweld with .024 Fusable Mylar 0.002" Metalized Mylar Tape, 1x #15AWG (19x.0131") Tinned Copper Uninsulated	
2. Semicon	EPR	Ø 6.6mm
3. Dielectric	Insulating EPR	Ø 32.51mm ± 0.5mm
4. Semicon	EPR	Ø 33.78mm ± 0.5mm
5. Braid	Shield #34AWG T.C. 9 Ends, 24 Carrier 80% Minimum Coverage	Ø 34.80mm ± 0.5mm
6. Jacket	PVC	Ø 38.22mm ± 0.64mm

TECHNICAL DATA

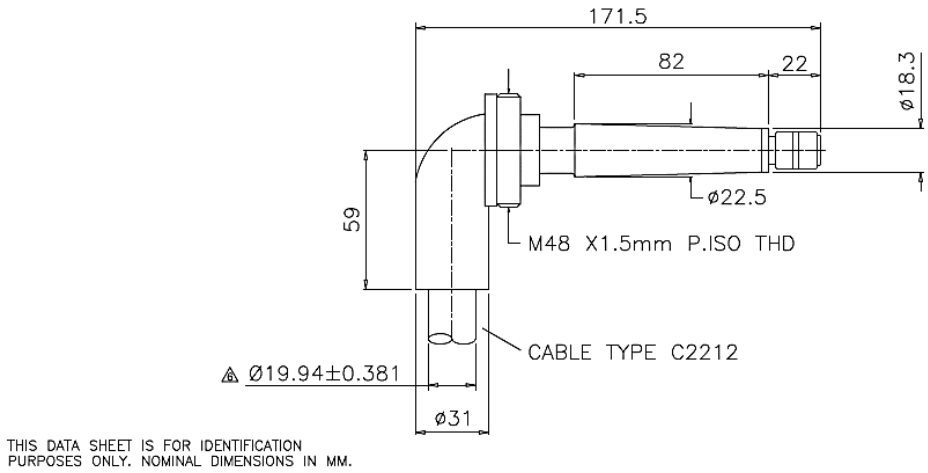
Operating Voltage	320kV$_{DC}$/115kVAC
Impedance	61Ω
Capacitance	102pF/m
Minimum Bend Radius	190.5mm
Minimum Ambient Temperature	-51°c
Maximum Conductor Temperature	121°c
Weight	1.63kg/m
Outer Diameter	38.23mm
Colour	Black

R10 TERMINATIONS



R10 Straight 100kV Phillips on C2212

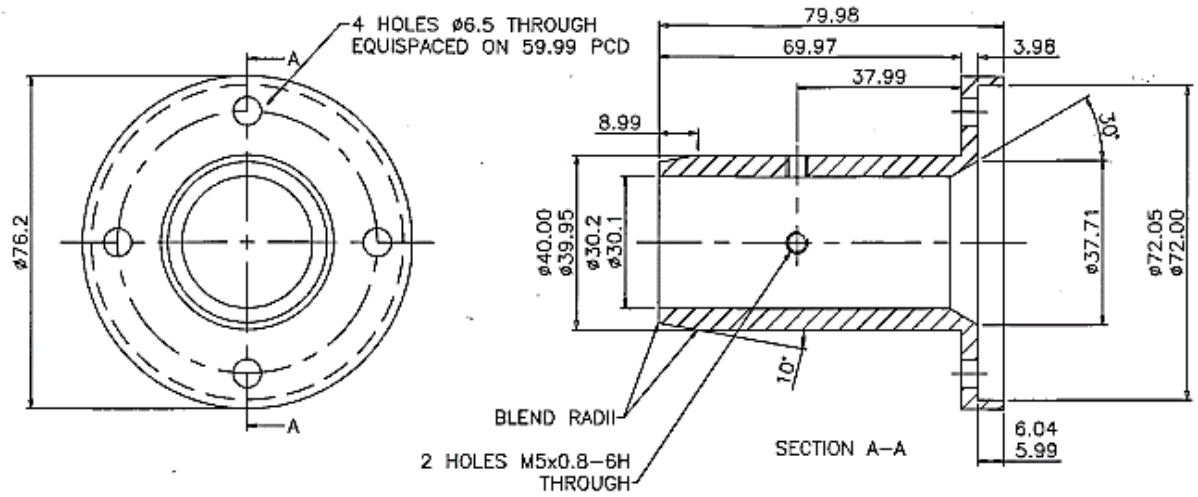
Compatible Flanges – T20051/A, T20052



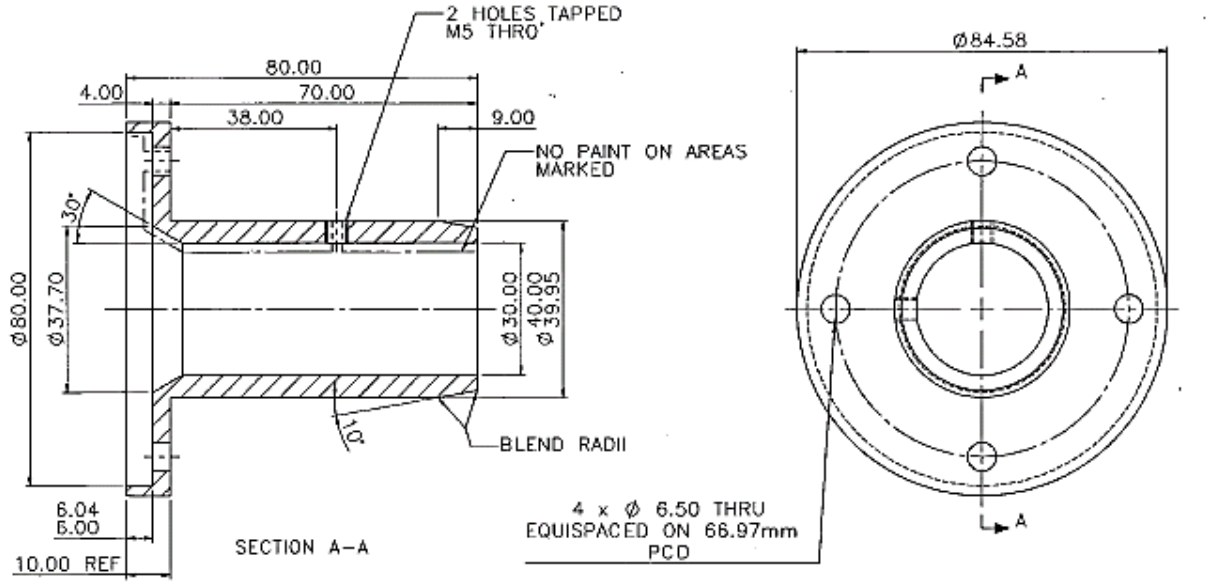
R10 Right Angle 100kV Phillips on C2212

Compatible Flanges – T20785/A, T20785/B

R10 FLANGES

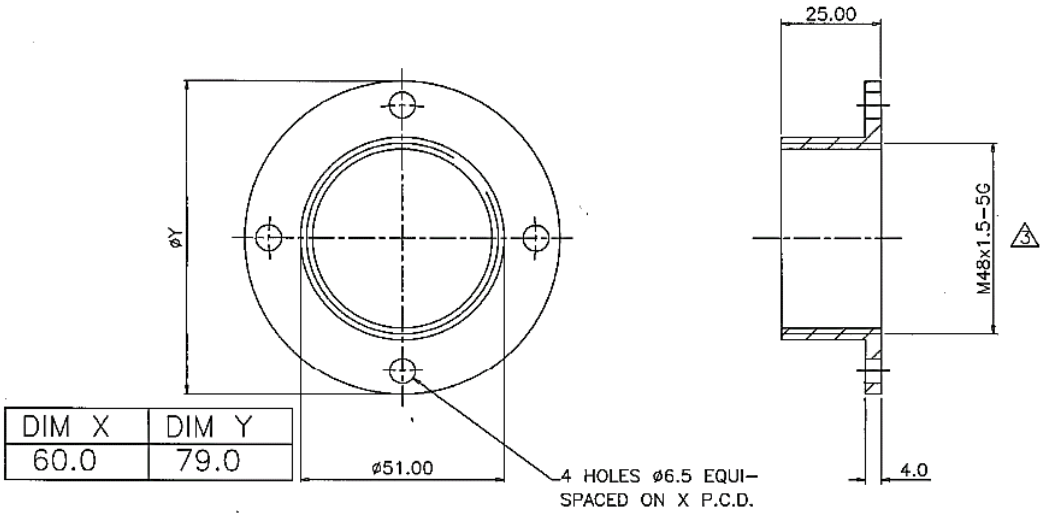


R10 Straight Flange Small
Part Number – T20051/A

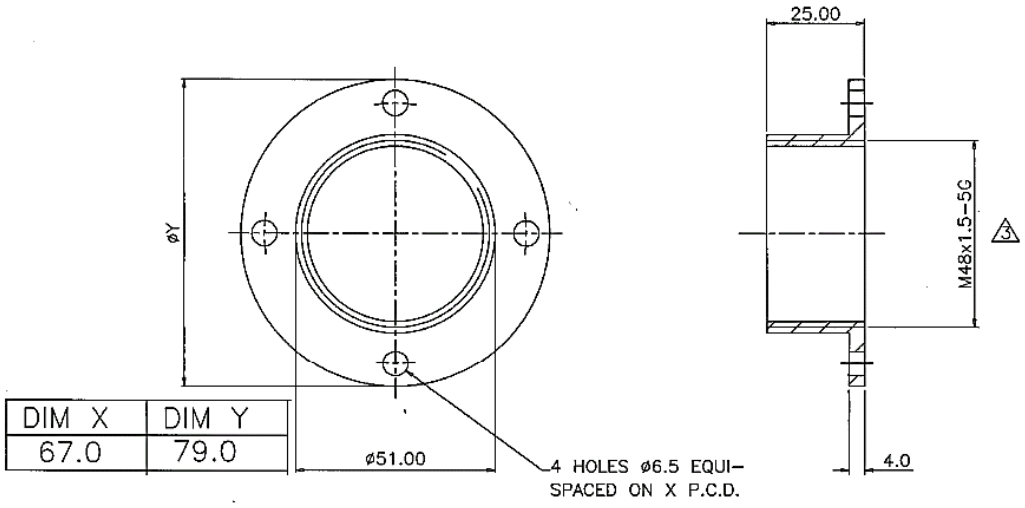


R10 Straight Flange Large
Part Number – T20052

R10 FLANGES

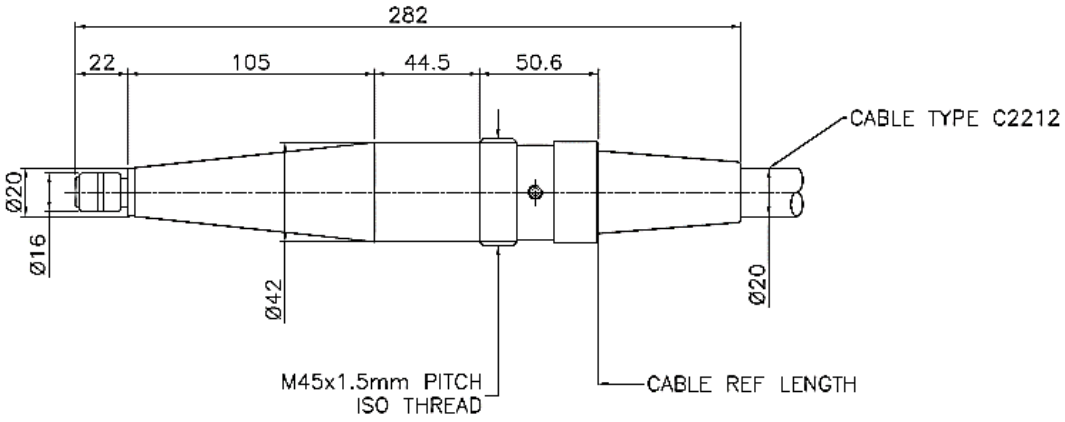


R10 Right Angle Flange Small
Part Number – T20785/A



R10 Right Angle Flange Large
Part Number – T20785/B

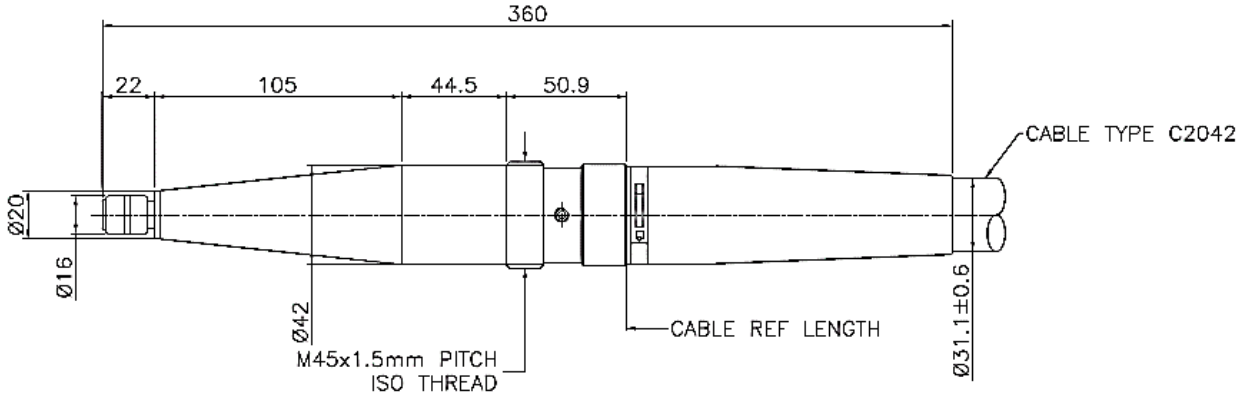
R24 TERMINATIONS



THIS DATA SHEET IS FOR IDENTIFICATION PURPOSES ONLY. NOMINAL DIMENSIONS IN MM.

R24 Euro Straight on C2212

Compatible Flanges – T20131/A, T20697, T22179



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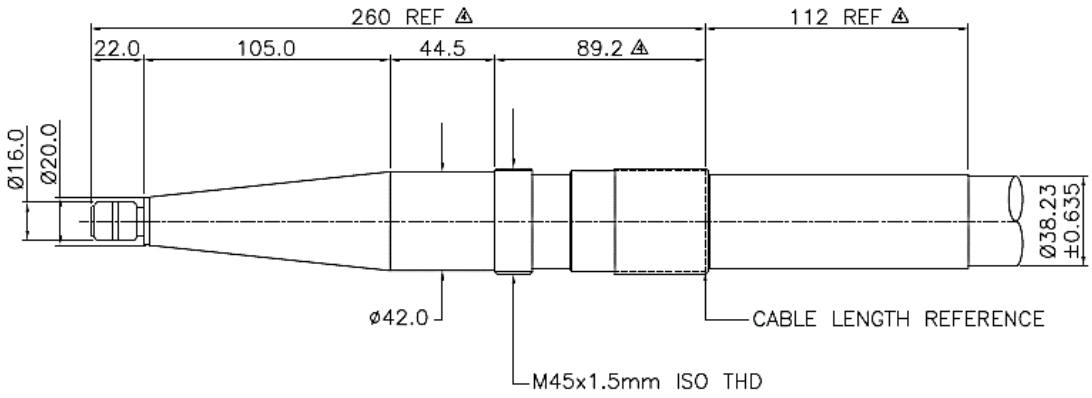
R24 Euro Straight on C2042

Compatible Flanges – T20131/A, T20697, T22179

R24 TERMINATIONS



THIS DATA SHEET IS FOR IDENTIFICATION
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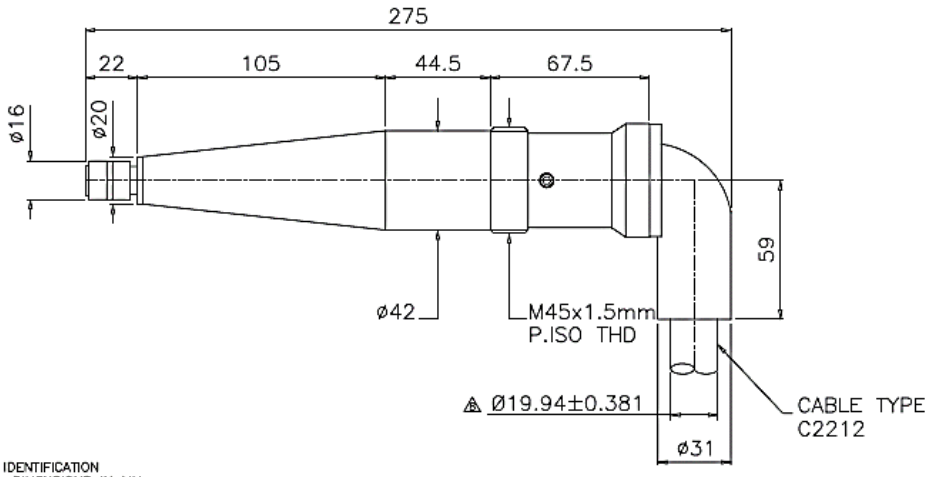
R24 Euro Straight on C2338 (M45 Thread)

Compatible Flanges – T20131/A, T20697, T22179



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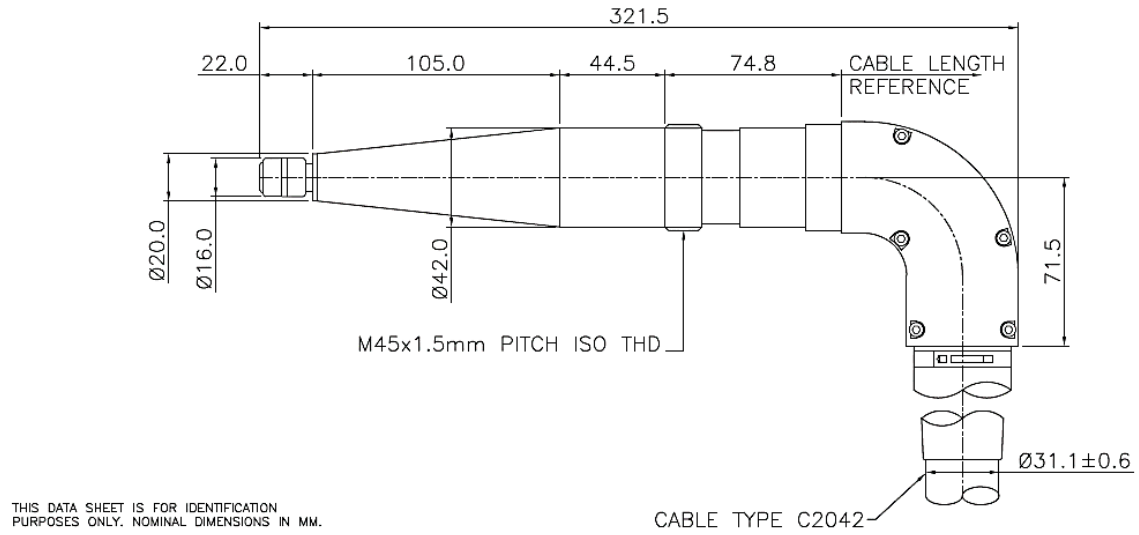
PURPOSES ONLY. NOMINAL DIMENSIONS IN MM.

R24 Right Angle Small on C2212

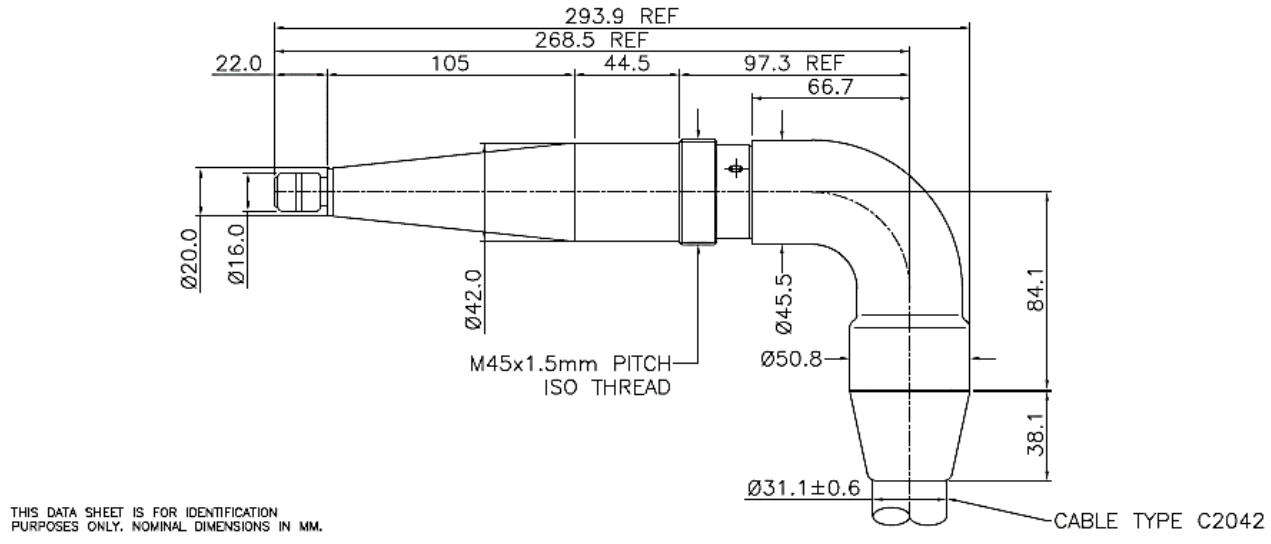
Compatible Flanges – T20844, T22179

R24 TERMINATIONS



R24 Euro Right Angle on C2042

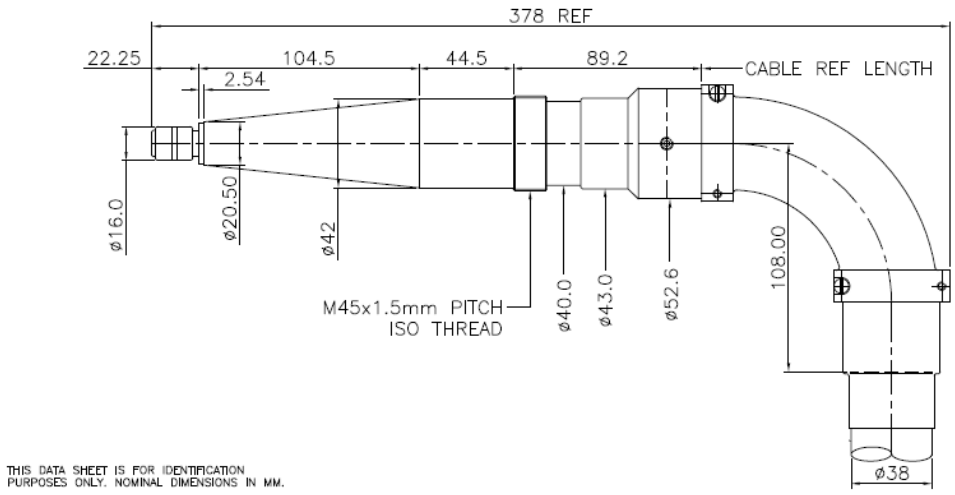
Compatible Flanges – T20045/F, T20697/A, T20844, T22179



R24 Euro Right Angle Short on C2042

Compatible Flanges – T20844, T22179

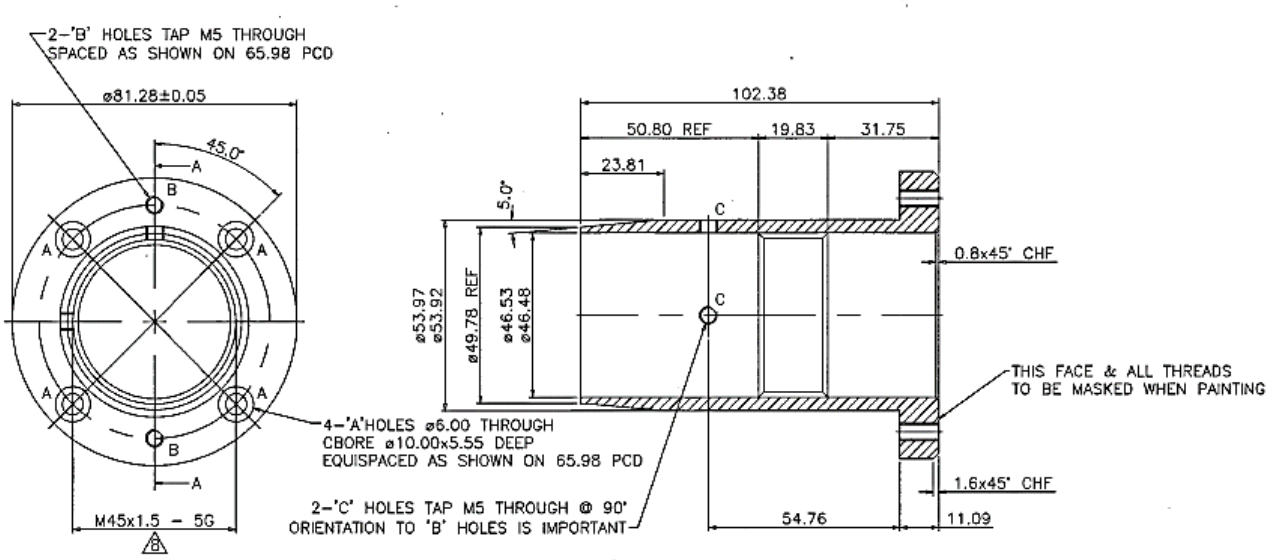
R24 TERMINATIONS



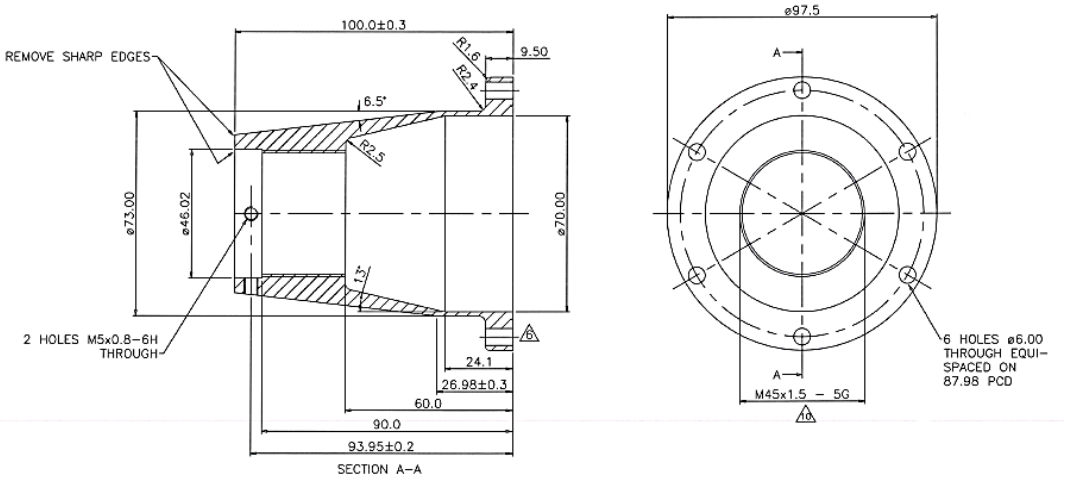
R24 Euro Right Angle on C2338

Compatible Flanges – T20131/A, T20697, T22179

R24 FLANGES

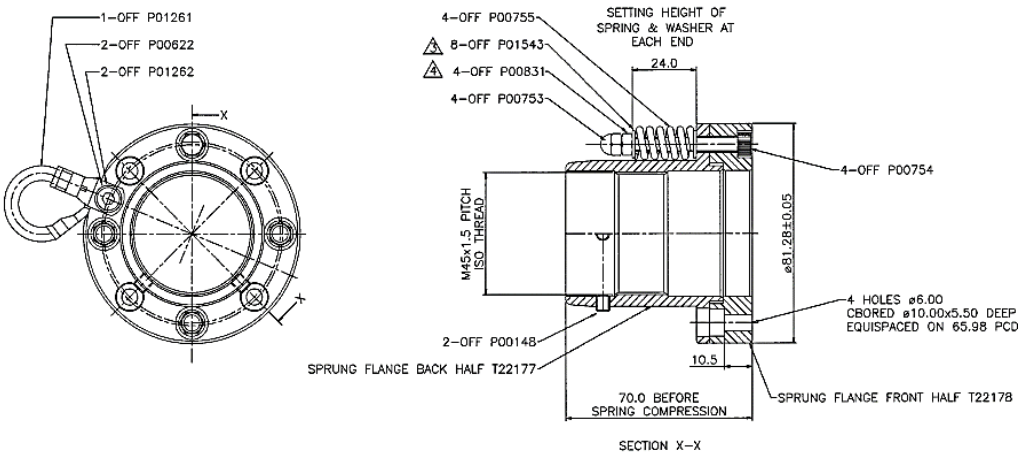


R24 Straight Flange
Part Number – T20131/A

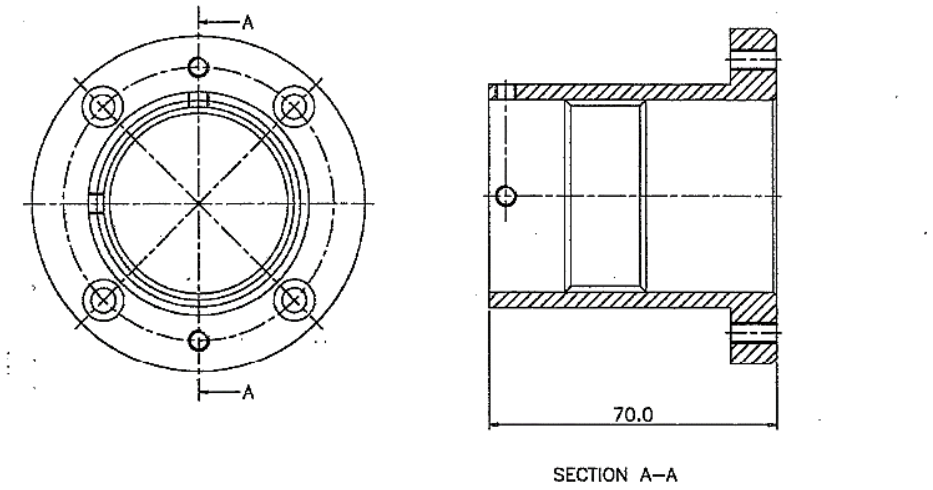


R24 Right Angle Flange
Part Number – T20045/F

R24 FLANGES

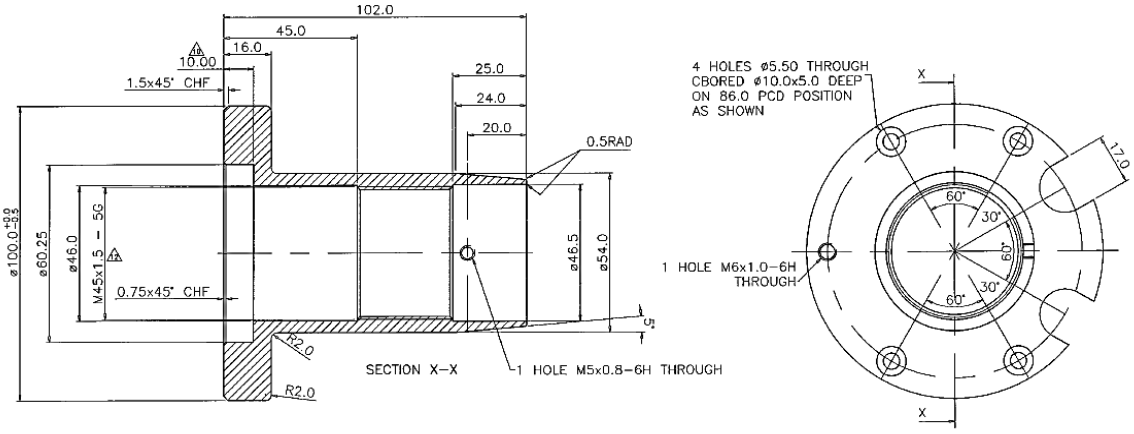


R24 Sprung Flange
Part Number – T22179

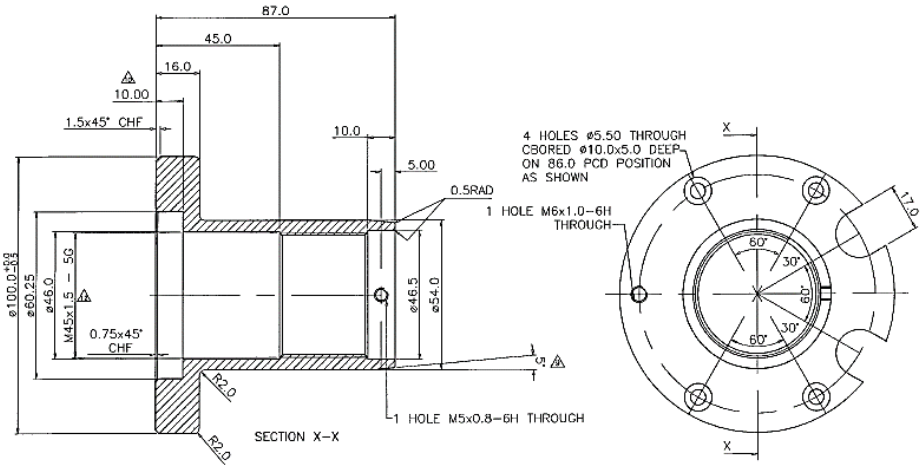


R24 Right Angle Flange Small
Part Number – T20844

R24 FLANGES

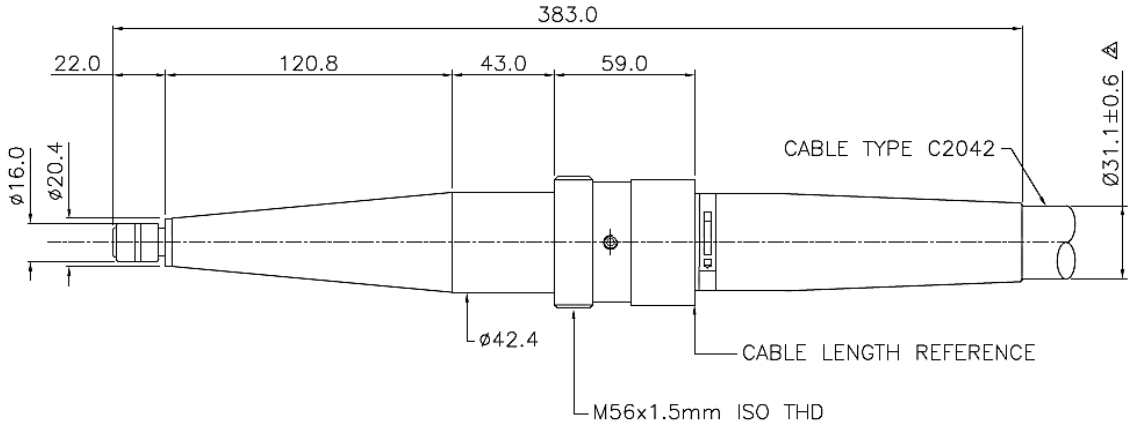


R24 Straight Flange c/w Twin Cut Outs
Part Number – T20697



R24 Right Angle Flange c/w Twin Cut Outs
Part Number – T20697/A

R28 TERMINATIONS



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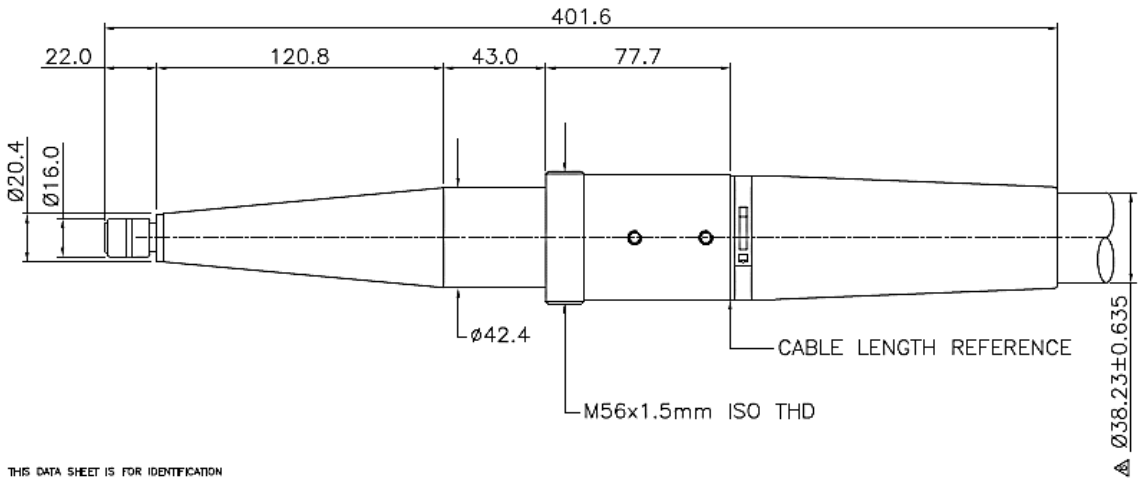
R28 Straight on C2042

Compatible Flanges – T20289, T22182



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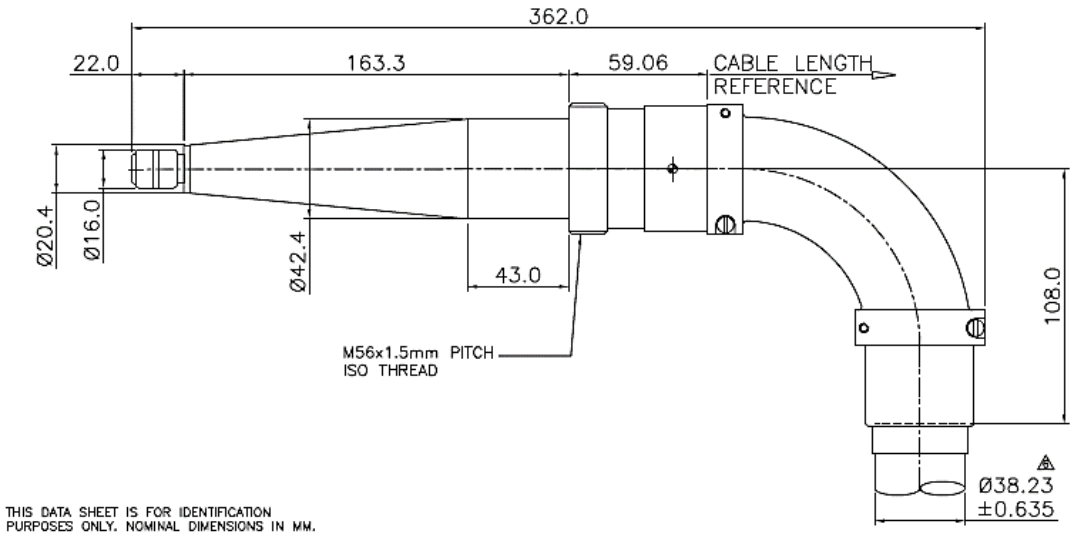
R28 Straight on C2338

Compatible Flanges – T20289, T22182

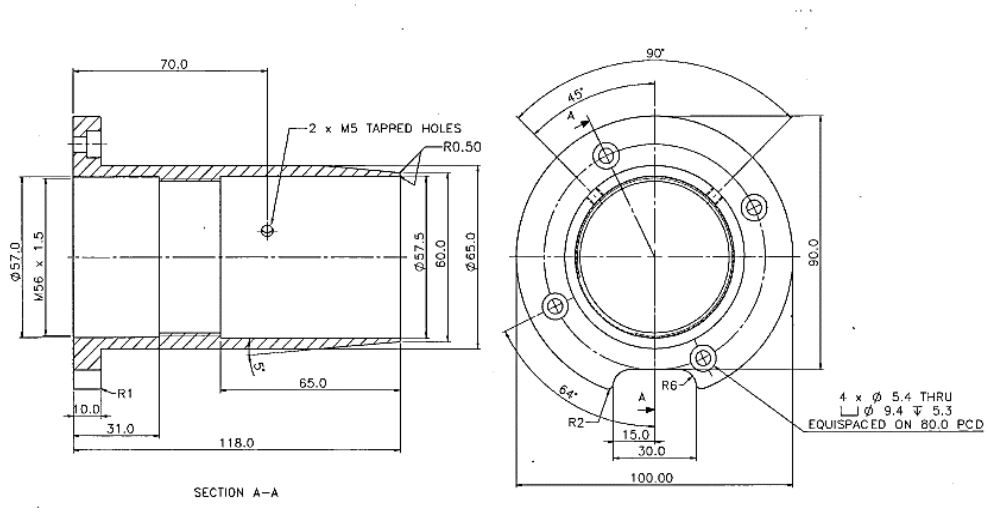
R28 TERMINATIONS



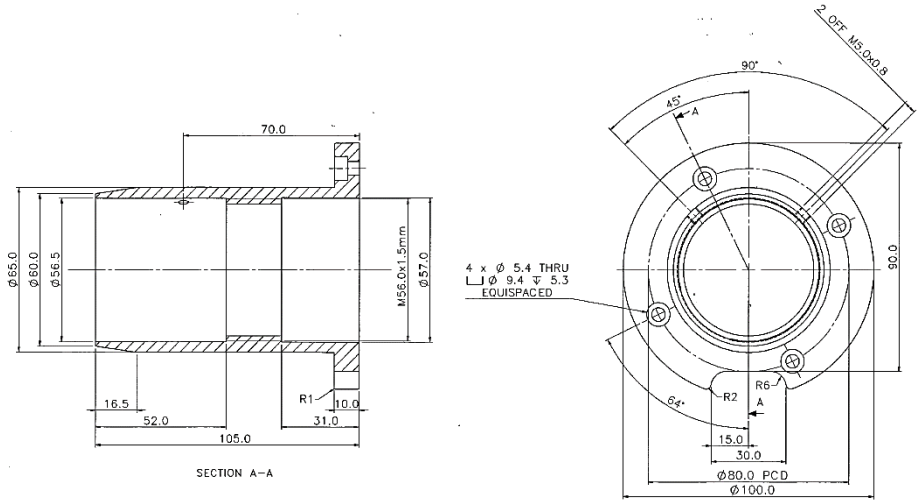
R28 Right Angle on C2338

Compatible Flanges – T20405

R28 FLANGES

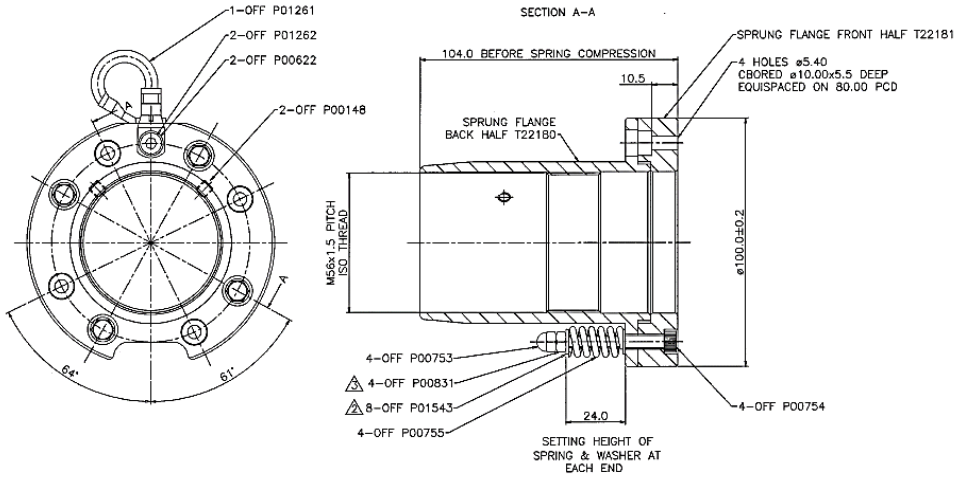


R28 Straight Flange
Part Number – T20289



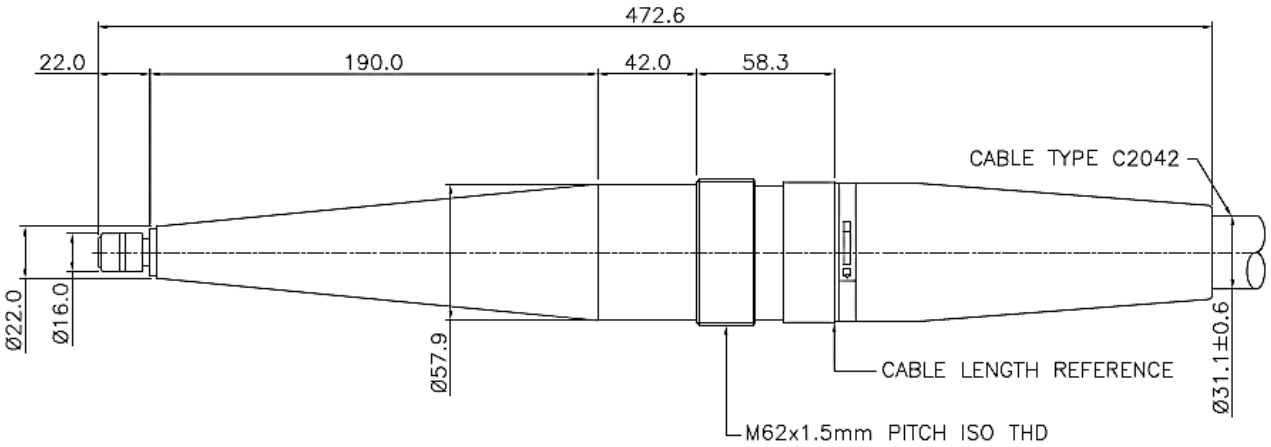
R28 Right Angle Flange
Part Number – T20405

R28 FLANGES



R28 Sprung Flange
Part Number – T22182

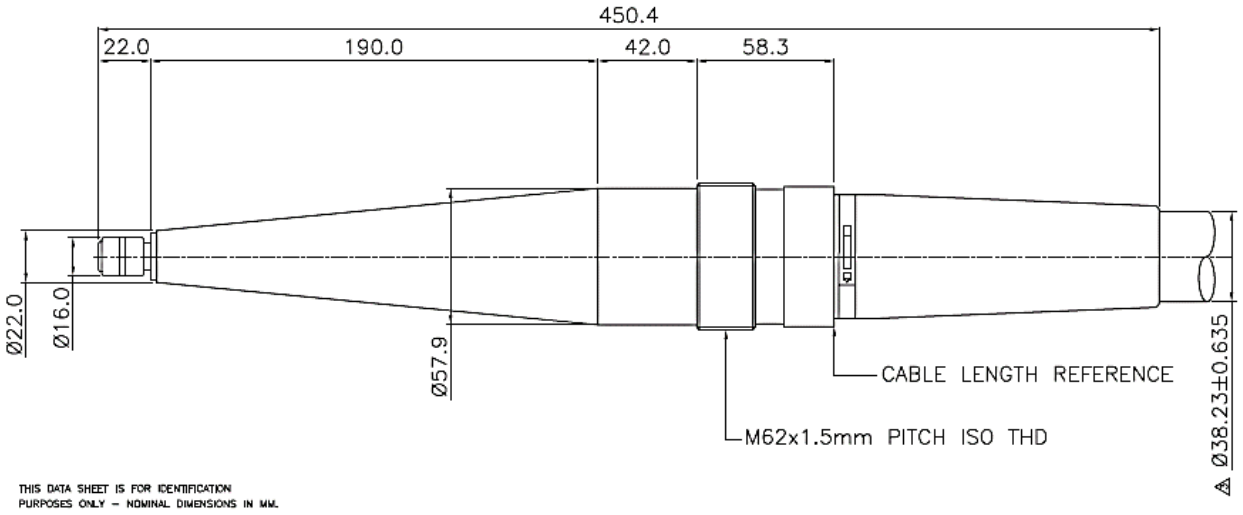
R30 TERMINATIONS



THIS DATA SHEET IS FOR IDENTIFICATION PURPOSES ONLY. NOMINAL DIMENSIONS IN MM.

R30 Seifert Straight on C2042

Compatible Flanges – T20172/A, T22185

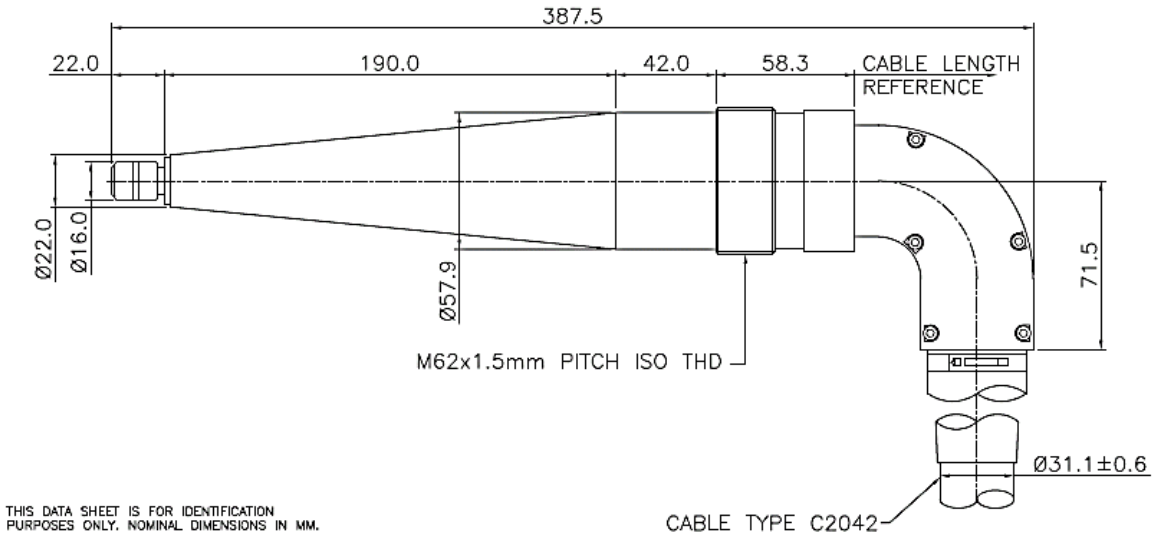


THIS DATA SHEET IS FOR IDENTIFICATION PURPOSES ONLY – NOMINAL DIMENSIONS IN MM.

R30 Seifert Straight on C2338

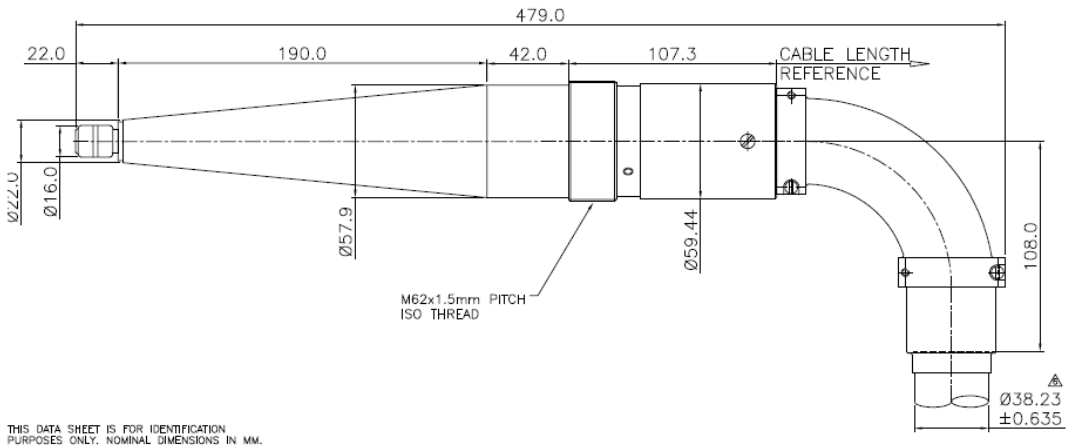
Compatible Flanges – T20172/A, T22185

R30 TERMINATIONS



R30 Seifert Right Angle on C2042

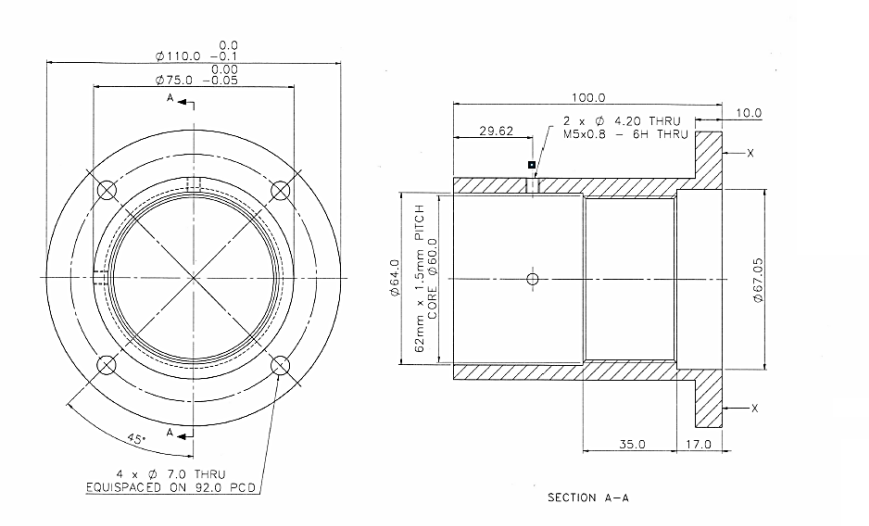
Compatible Flanges – T20172/A, T22185



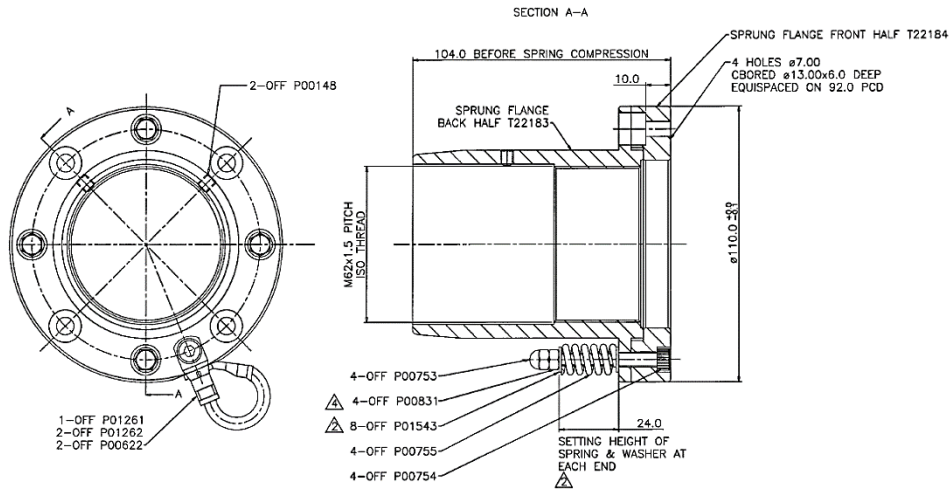
R30 Seifert Right Angle on C2338

Compatible Flanges – T20172/A, T22185

R30 FLANGES



R30 Flange
Part Number – T20172/A

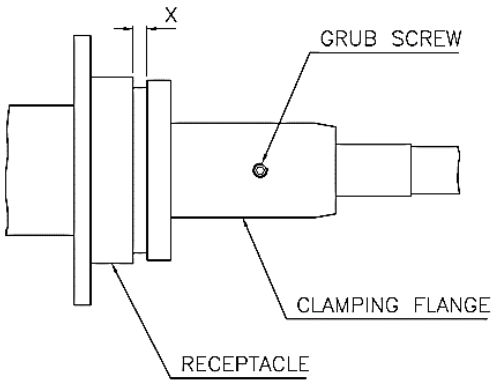


R30 Sprung Flange
Part Number – T22185

INSTALLATION INSTRUCTIONS

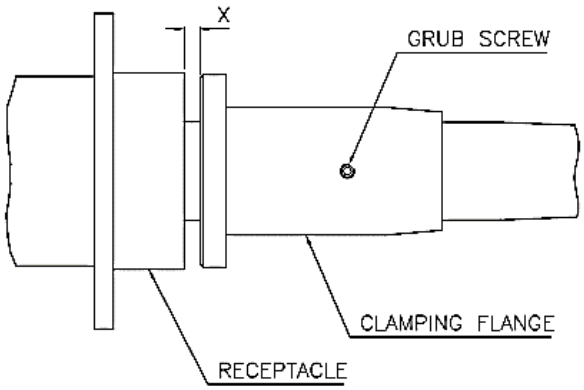
Warning: *High voltage products should only be fitted by trained persons. Cables can retain electrical charge, discharge to earth before handling. Ensure that terminations are fully inserted into their socket before adjusting clamping sleeves and apply suitable insulating grease.*

ADJUST CLAMPING FLANGE SO THAT DIMENSION 'X'
IS 5mm WHEN THE TERMINATION HAS BEEN FULLY
INSERTED INTO THE RECEPTACLE.
ADJUST ORIENTATION OF CLAMPING FLANGE TO
MATCH HOLE POSITIONS IN RECEPTACLE.
NOTE:
ALWAYS ADJUST SO AS TO INCREASE DIMENSION 'X'.
ENSURE CLAMPING SCREWS ARE OF SUITABLE
LENGTH TO ENGAGE IN THE RECEPTACLE BY 5mm
BEFORE THE PRESSURE GAP 'X' IS TAKEN UP.
LOCK CLAMPING FLANGE BY TIGHTENING FLANGE
GRUB SCREWS AGAINST FERRULE.
REMOVE TERMINATION AND GREASE TAPERED SECTION
OF RUBBER TERMINATION WITH HIGH VOLTAGE GREASE.
REPLACE IN RECEPTACLE AND TIGHTEN DOWN
CLAMPING SCREWS EQUALLY.
RELEASE SCREWS AND CHECK 'X' IS 5mm.
IF NOT RE-ADJUST AS ABOVE.
CAUTION:
IT IS IMPORTANT TO CHECK DIMENSION 'X' AFTER
APPROXIMATELY ONE WEEK. ADJUST AS ABOVE IF REQUIRED.



R10 Installation Instructions

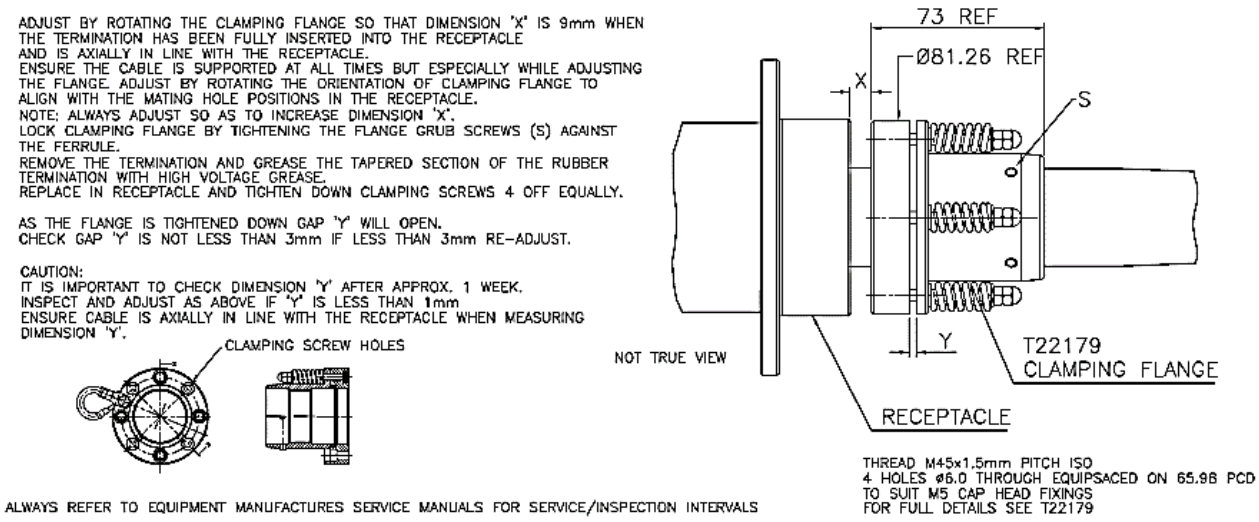
ADJUST CLAMPING FLANGE SO THAT DIMENSION 'X'
IS 6mm WHEN THE TERMINATION HAS BEEN FULLY
INSERTED INTO THE RECEPTACLE.
ADJUST ORIENTATION OF CLAMPING FLANGE TO
MATCH HOLE POSITIONS IN RECEPTACLE.
NOTE:
ALWAYS ADJUST SO AS TO INCREASE DIMENSION 'X'.
ENSURE CLAMPING SCREWS ARE OF SUITABLE
LENGTH TO ENGAGE IN THE RECEPTACLE BY 5mm
BEFORE THE PRESSURE GAP 'X' IS TAKEN UP.
LOCK CLAMPING FLANGE BY TIGHTENING FLANGE
GRUB SCREWS AGAINST FERRULE.
REMOVE TERMINATION AND GREASE TAPERED SECTION
OF RUBBER TERMINATION WITH HIGH VOLTAGE GREASE.
REPLACE IN RECEPTACLE AND TIGHTEN DOWN
CLAMPING SCREWS EQUALLY.
RELEASE SCREWS AND CHECK 'X' IS 6mm
IF NOT RE-ADJUST AS ABOVE.
CAUTION:
IT IS IMPORTANT TO CHECK DIMENSION 'X' AFTER
APPROX. 1 WEEK. ADJUST AS ABOVE IF REQUIRED.



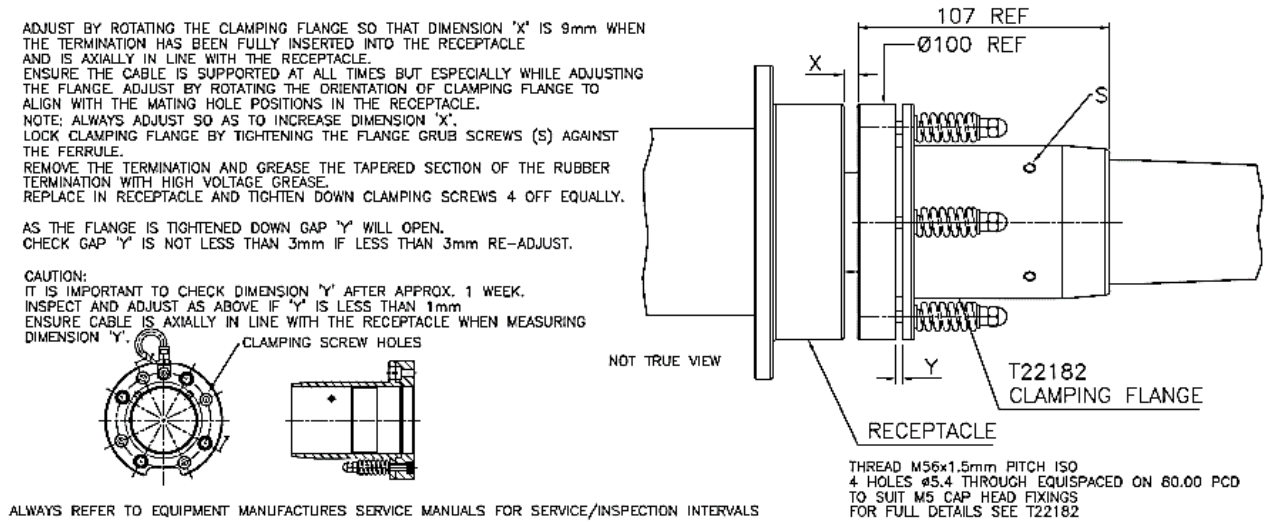
R24, R28 & R30 Installation Instructions

INSTALLATION INSTRUCTIONS

Warning: *High voltage products should only be fitted by trained persons. Cables can retain electrical charge, discharge to earth before handling. Ensure that terminations are fully inserted into their socket before adjusting clamping sleeves and apply suitable insulating grease.*



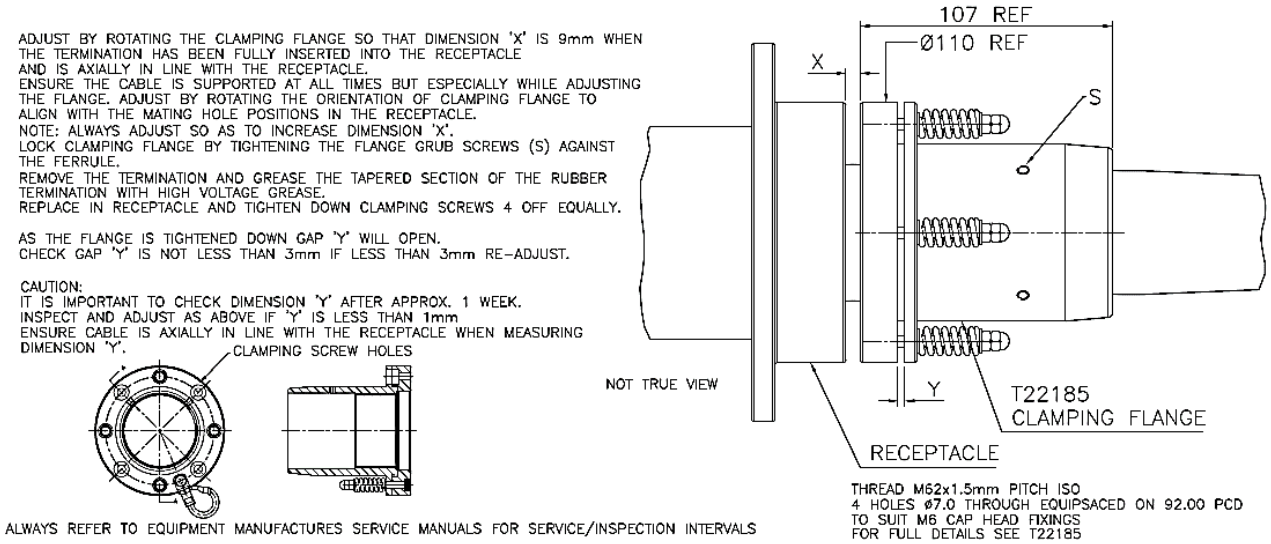
R24 Flange Installation Instructions



R28 Flange Installation Instructions

INSTALLATION INSTRUCTIONS

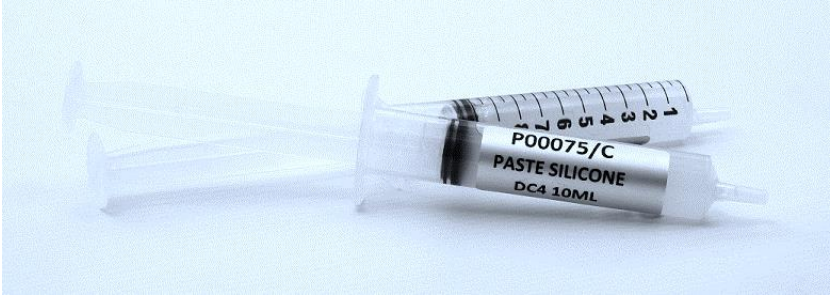
Warning: *High voltage products should only be fitted by trained persons. Cables can retain electrical charge, discharge to earth before handling. Ensure that terminations are fully inserted into their socket before adjusting clamping sleeves and apply suitable insulating grease.*



R30 Flange Installation Instructions

P00075/C

Installation Grease DC4



Trade Name	Dow Corning 4 Electrical Insulating Compound	
Appearance	Translucent White Inorganic Grease	
CAS#	**Weight (%)**	**Component Name**
68037-74-1	70.0 – 90.0	Dimethyl, methyl silicone resin
7631-86-9	7.0 – 13.0	Silica, amorphous
70131-67-8	5.0 – 10.0	Dimethyl siloxane, hydroxyl-terminated
Evaporation	30 hours/200°c max = 2.0%	
Service Temperature	-55°c to +200°c	
Relative Density	1.0g/ml at 25°c	
Dielectric Strength	1.27mm gap – 1.0kV/ml	
Permittivity	3.1 at 100Hz 3.1 at 100kHz	
Dissipation Factor	0.0025 at 100Hz 0.0025 at 100kHz	
Volume Resistivity	0.10 x 10^{15} Ohm/cm at 23°c	
Arc Resistance	120 seconds	

OVERVIEW

Dow Corning 4 (DC4) Electrical Insulating compound is a lubricating, grease like material used as a moisture proof seal for electrical assemblies and terminals. Used for cable connectors, battery terminals, switches and various other plastic on metal combinations.

FEATURES

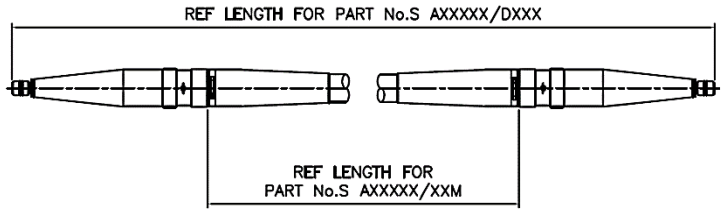
- High dielectric strength
- Low volatility
- Moisture resistant
- Good thermal oxidation and chemical stability
- Retains its grease like consistency from -55°c to +200°c
- Odourless
- Highly water repellent
- Adheres readily to dry metals, ceramics, rubber, plastics and insulating resins

HOW TO USE

DC4 compound can be applied by hand, dispensing equipment, brushing or wiping. A thinner consistency can be achieved by dispersing in solvents such as xylene, mineral spirits and methyl ethyl ketone. Compound can then be applied by brushing, dipping or spraying. DC4 should not be applied to any surface which will be painted or finished.

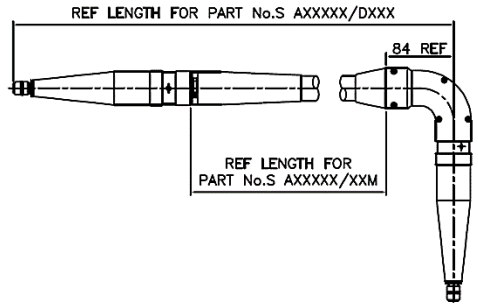
Please refer to the manufacturer's product safety data sheet for full product safety instructions.

CABLE ASSEMBLY MEASUREMENT



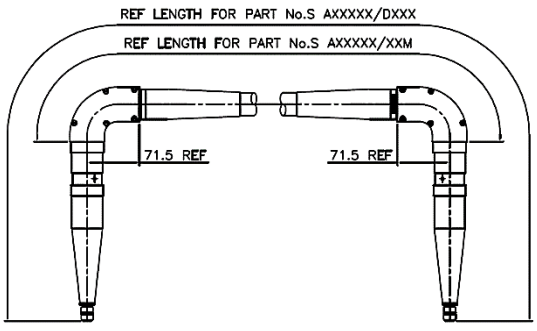
CABLE LENGTH TOLERANCE +/− 100mm

Straight to Straight Terminations



CABLE LENGTH TOLERANCE +/− 100mm

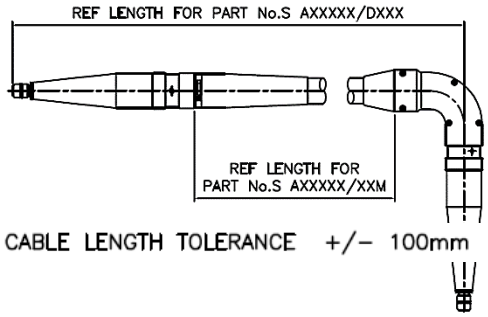
Straight to Right Angle Terminations



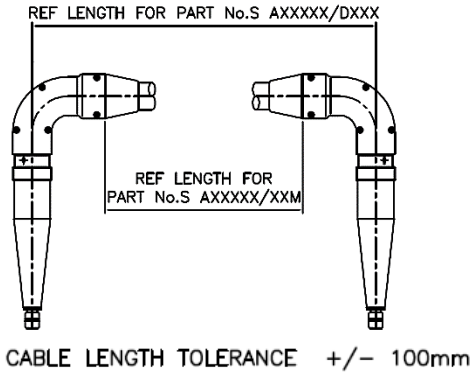
CABLE LENGTH TOLERANCE +/− 100mm

Right Angle to Right Angle Terminations

CABLE ASSEMBLY MEASUREMENT



Straight to Short Right Angle Terminations



Short Right Angle to Short Right Angle Terminations

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