ANTENNA SYSTEM'S CONNECTORS

cpe italia

GROUP

HISTORY OF EVOLUTION

CPE has been established on 1978, with a primary mission to trade professional electronic components, but with a strong determination to grow to better serve Customer needs and give answers to Customer requirements.

Throughout a newly settled Engineering group, new products were developed, to fully support the Customers.

With the gathered experience and know how, the company is satisfying demands of assembled cables of any kind (RF, coaxial, microwave, power, signal, optical fiber, etc.) for a variety of applications (telecommunication, broadcasting, defense industries, research and scientific institutes, oceanographic, etc.).

Assembled cables are no longer CPE italia's only manufactured products of added value: today the Company can offer wiring harnesses, electromechanical assemblies and ...more will come.

Product innovations and time constraints to give solutions to Customer have led CPE Italia to establish links with partners such as

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Sensor System, one of the Italian leader in sensor and inclinometers manufacturers

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PARTNERS

CARLISLE INTERCONNECT TECHNOLOGIES

DICONEX Produits Hyperfréquences

DELPHI

IEH

odu®

IMS CONNECTOR SYSTEMS Your global connection

HARWIN INTERCONNECT DESIGN & MANUFACTURE

Habia Cable

GHIELMETTI

FCT electronic gmbh

ICORE ICORE INTERNATIONAL GROUP

HiRel CONNECTORS INC.

GISMA STECKVERBINDER GMBH

OSI® Kommunikations-und Systemtechnik GmbH & Co. KG a ROSENBERGER Company

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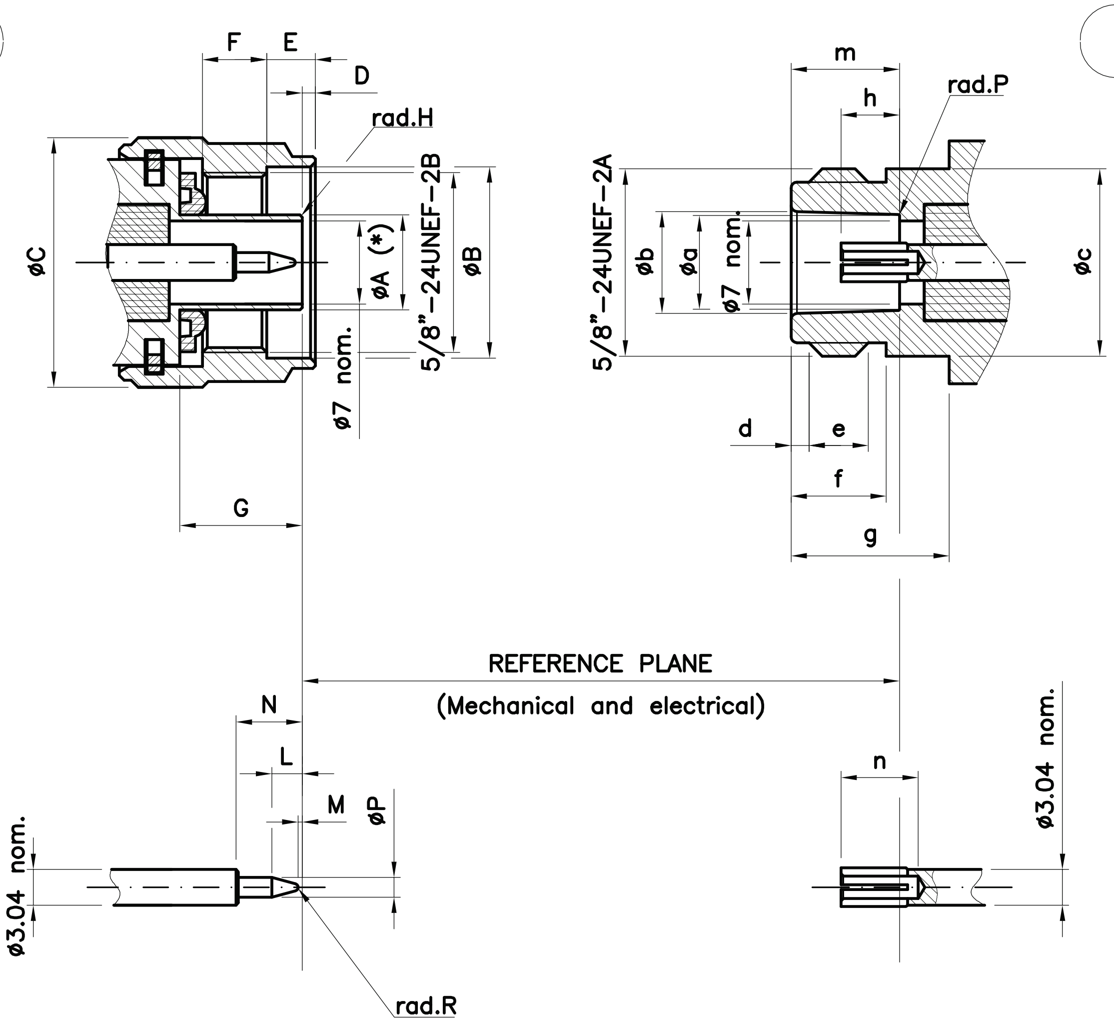
The N series coaxial connectors are frequently used in microwave applications and high frequency. They are mechanically very robust and the screw type coupling mechanism guarantees reliable connection even against shock and vibrations.

N connectors are supplied with sealing rings and therefore they are suitable for outdoor applications with a high degree of protection (IP68) and a good intermodulation product.

N INTERFACE DIMENSIONS

PLUG

JACK



PLUG		
Letter	mm	
	min.	max.
øA	–	8.027
øB	16.0	–
øC	–	21.0
D	0.41	1.52
E	4.013	4.267
F	4.50	–
G	9.25	–
rad.H	–	0.15
L	2.79	3.56
M	0.0	1.57
N	5.3	–
øP	1.60	16.76
rad.R	–	0.64

JACK		
Letter	mm	
	min.	max.
øa	8.027	8.13
øb	8.53	8.74
øc	–	15.93
d	1.19	1.96
e	4.37	–
f	6.76	–
g	10.72	–
h	4.75	5.26
m	9.05	9.19
n	5.33	–
rad P	–	0.13

(*) Note: slotted version dimension, to meet electrical and mechanical requirements

TECHNICAL DATA

Interface dimensions applicable to the standards:	
	- IEC 60169-16 - CECC 122210 - MIL-PRF-39012
Materials:	
- Bodies and nuts	Brass
- Center male contacts	Brass
- Spring loaded contacts	Beryllium copper, Spring bronze
- Insulators	PTFE
- Crimp ferrules	Copper, Soft brass
- Gaskets	Silicone rubber
- Other metal parts	Brass
Platings:	
- Bodies	Silver,Ternary alloy,Nickel plated
- Center contacts	Gold,Silver plated
- Crimp ferrules and other methal parts	Nickel,Silver,Ternary alloy plated

NOTE: All products are RoHS compliant

ELECTRICAL DATA

Impedance	50 Ohm
Frequency range	DC to 11GHz
V.S.W.R. (1)	
- Straight types (typ.)	≤ 1,30
- Right angle types (typ.)	≤ 1,50
Working voltage (at sea level) (1)	≤ 1000Vrms, 50Hz
Dielectric withstanding voltage (at sea level) (1)	≤ 2500Vrms, 50Hz

Insulation resistance	≥ 5GOhm
Center contact resistance	≤ 1 mOhm
Outer contact resistance	≤ 0,25mOhm
Intermodulation product 3rd order (1)	≤ -155 dBc (2x20W) ; f = ≤ 1,88 GHz

MECHANICAL DATA

Engagement / Disengagement torque force	≤ 0,066 Nm
Recommended coupling nut torque	0,7 to 1,1 Nm
Coupling nut proof torque	≤ 1,7 Nm
Center contact captivation (axial force)	≥ 28 N
Coupling nut mechanism retention force	≥ 450 N
Degree of protection (mated pairs)	CEI EN60529 - IP67 (with heat-shrink sleeve) - IP68 (overmoulding)
Connector durability (mating cycles)	≥ 500

ENVIRONMENTAL DATA

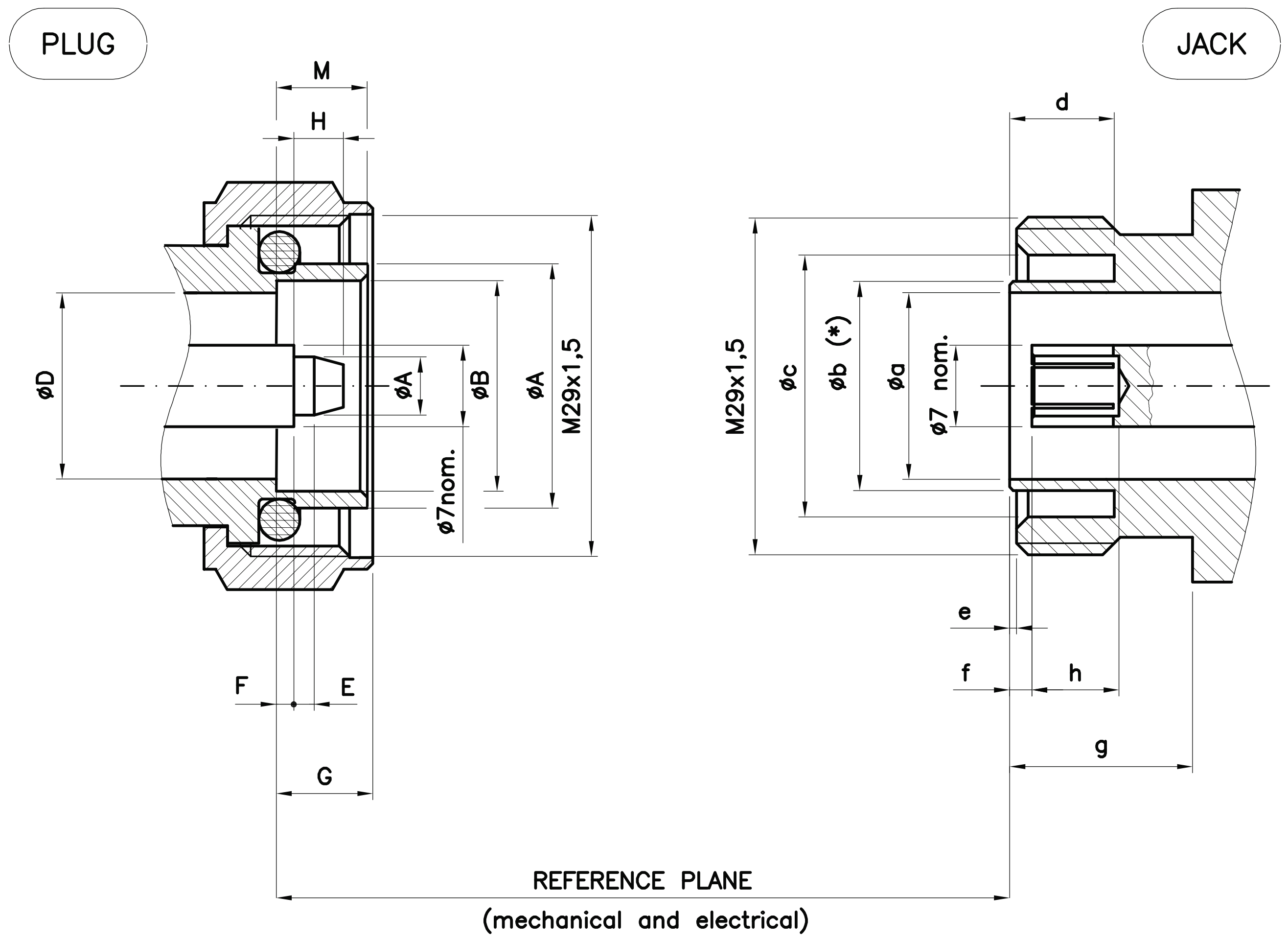
Temperature range	-55°C to +125°C
Climatic category	55/155/21
Vibrations	MIL-STD-202, Method 204, Condition B
Shock	MIL-STD-202, Method 213, Condition I
Termal shock	MIL-STD-202, Method 107, Condition B
Corrosion (salt spray)	MIL-STD-202, Method 101, Condition B

(1) Guidelines values depending on cable and connector types

7/16 DESCRIPTION

The 7/16 series coaxial connectors are mechanically very robust and stable.
The connectors are suitable in medium high power transmission systems.
7/16 connectors are supplied with sealing rings and therefore they are suitable for outdoor applications with a high degree of protection (IP68) and a good intermodulation product.

7/16 INTERFACE DIMENSIONS



PLUG		
Letter	mm	
	min.	max.
ØA	4.96	5.04
ØB	18.03	18.21
ØC	20.6	21.4
ØD	15.85	16.25
E	1.40	1.60
F	1.47	1.77
G	7.00	9.00
H	–	4.5
M	7.00	8.00

JACK		
Letter	mm	
	min.	max.
Øa	15.85	16.25
(*)Øb	17.9	17.95
Øc	22.1	22.9
d	8.1	–
e	0.5	0.7
f	1.77	2.07
g	10	–
h	5	–

(*) Note: slotted outer contact version, on request

TECHNICAL DATA

Interface dimensions applicable to the standards:	
	- IEC 60169-4
	- CECC 122190
Materials:	
- Bodies and nuts	Brass
- Center male and outer contacts	Brass
- Spring loaded contacts	Spring bronze
- Insulators	PTFE
- Crimp ferrules	Copper, Soft brass
- Gaskets	Silicone rubber
- Other metal parts	Brass
Platings:	
- Bodies	Silver,Ternary alloy,Nickel plated
- Center and outer contacts	Silver plated
- Crimp ferrules and other methal parts	Nickel,Silver,Ternary alloy plated

NOTE: All products are RoHs compliant

ELECTRICAL DATA

Impedance	50 Ohm
Frequency range	DC to 7,5GHz
V.S.W.R. (1)	
- Straight types (typ.)	≤ 1,20
- Right angle types (typ.)	≤ 1,30
Working voltage (at sea level) (1)	≤ 2700Vrms, 50Hz
Dielectric withstanding voltage (at sea level) (1)	≤ 4000Vrms, 50Hz

Insulation resistance	≥ 10GOhm
Center contact resistance	≤ 0,4 mOhm
Outer contact resistance	≤ 1,5mOhm
Intermodulation product 3rd order (1)	≤ -155 dBc (2x20W) ; f = ≤ 1,88 GHz

MECHANICAL DATA

Gauge retantion force:	
- Center female contact	≥ 6 N
- Spring loaded outer contact of jack connector	≥ 15 N
Recommended coupling nut torque	25 to 30 Nm
Coupling nut proof torque	≤ 35 Nm
Center contact captivation (axial force)	≥ 200 N
Coupling nut mechanism retention force	≥ 1000 N
Degree of protection (mated pairs)	CEI EN60529 - IP67 (with heat-shrink sleeve) - IP68 (overmoulding)
Connector durability (mating cycles)	≥ 500

ENVIRONMENTAL DATA

Temperature range	-55°C to +155°C
Climatic category	55/155/56
Vibrations	MIL-STD-202, Method 204, Condition D
Shock	MIL-STD-202, Method 213, Condition J
Termal shock	MIL-STD-202, Method 107, Condition B
Corrosion (salt spray)	MIL-STD-202, Method 101, Condition B

(1) Guidelines values depending on cable and connector types

EIA FLANGE DESCRIPTION

The EIA FLANGE series coaxial connectors, due to their mechanical robustness, are used in high power radio systems.
The series is "hermaphrodite" (without male / female contact),conseguently the mechanical Coupling between two flanges is obtained using stainless steel screws, while the electrical connection between the two central contacts is obtained using a coupling element (bullet).
The connectors are supplied with sealing rings and therefore they are suitable for outdoor application with a high degree of protection (IP68)

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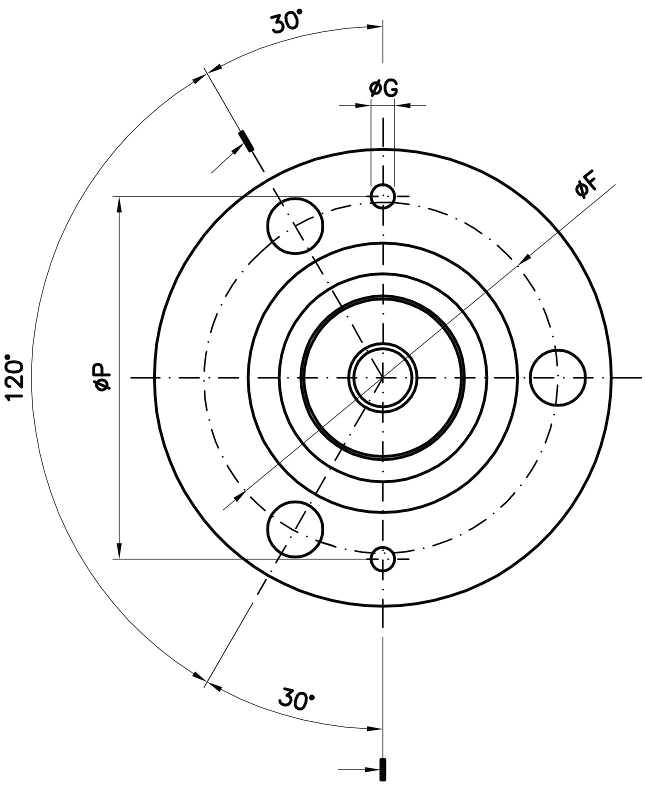
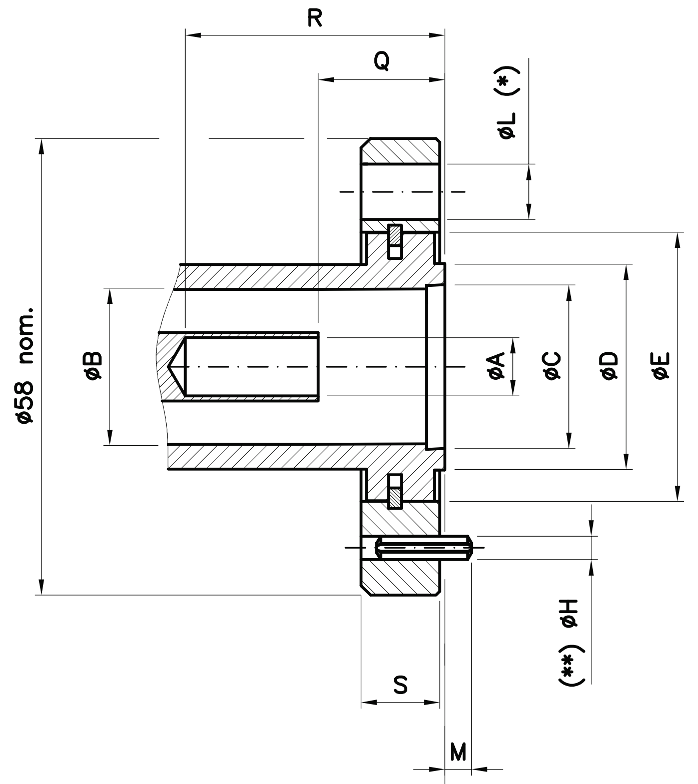
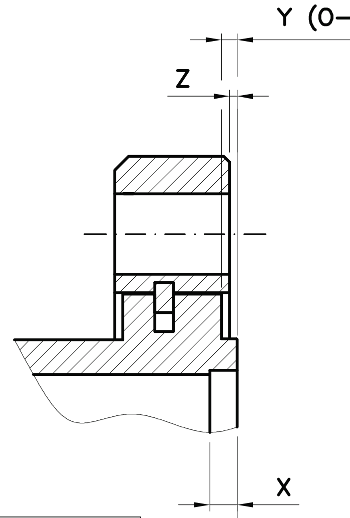
7/8" EIA FLANGE INTERFACE DIMENSIONS

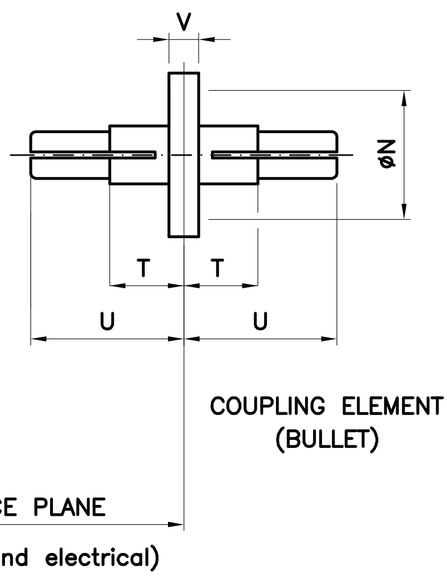




(*) Optional threated holes M6

(**) Optional (guide pin)





Letter	mm	
	min.	max.
øA	7.34	7.44
øB	19.86	20.02
øC	20.70	20.85
øD	26.00	26.20
øE	34.20	34.40
øF	44.35	44.45
øG	3.30	3.40
øH	3.08	3.10
øL	6.95	7.25
M	–	4.5
øN	20.50	20.60
øP	45.92	46.12
Q	11.90	12.70
R	34.20	–
S	10 nom.	
T	–	11.90

Letter	mm	
	min.	max.
U	–	34.15
V	4.60	4.70
Z	0.20	0.60
X	2.35	2.50
Y	1.20	1.35

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7/8" EIA FLANGE CHARACTERISTICS

TECHNICAL DATA

Interface dimensions applicable to the standards:	CECC 122150
Materials:	
- Bodies and nuts	Brass
- Center contacts	Brass
- Coupling element (bullet)	Spring bronze
- Insulators	PTFE
- Gaskets	Silicone rubber
- Other metal parts	Brass
- Hardware kit	Stainless steel
Platings:	
- Bodies	Silver,Ternary alloy,Nickel plated
- Center contacts and coupling element	Silver plated
- Other methal parts	Nickel,Silver,Ternary alloy plated

NOTE: All products are RoHS compliant

ELECTRICAL DATA

Impedance	50 Ohm
Frequency range	DC to 3GHz
V.S.W.R. (1)	
- Straight types (typ.)	≤ 1,04
Working voltage (at sea level) (1)	≤ 2500Vrms, 50Hz
Dielectric withstanding voltage (at sea level) (1)	≤ 3800Vrms, 50Hz

7/8" EIA FLANGE CHARACTERISTICS

Average power rating (at 40°C) (1)

- 50 MHz	8,5 KW
- 100 MHz	8 KW
- 200 MHz	4,1 KW
- 500 MHz	2,6 KW
- 1000 MHz	1,9 KW
- 2500 MHz	1,2 KW
- 3000 MHz	1 KW

Insulation resistance	≥ 10GOhm
Center contact resistance	≤ 0,25mOhm
Outer contact continuity	≤ 0.08mOhm
Intermodulation product 3rd order (1)	≤ -155 dBc (2x20W) ; f = ≤ 1,88 GHz

MECHANICAL DATA

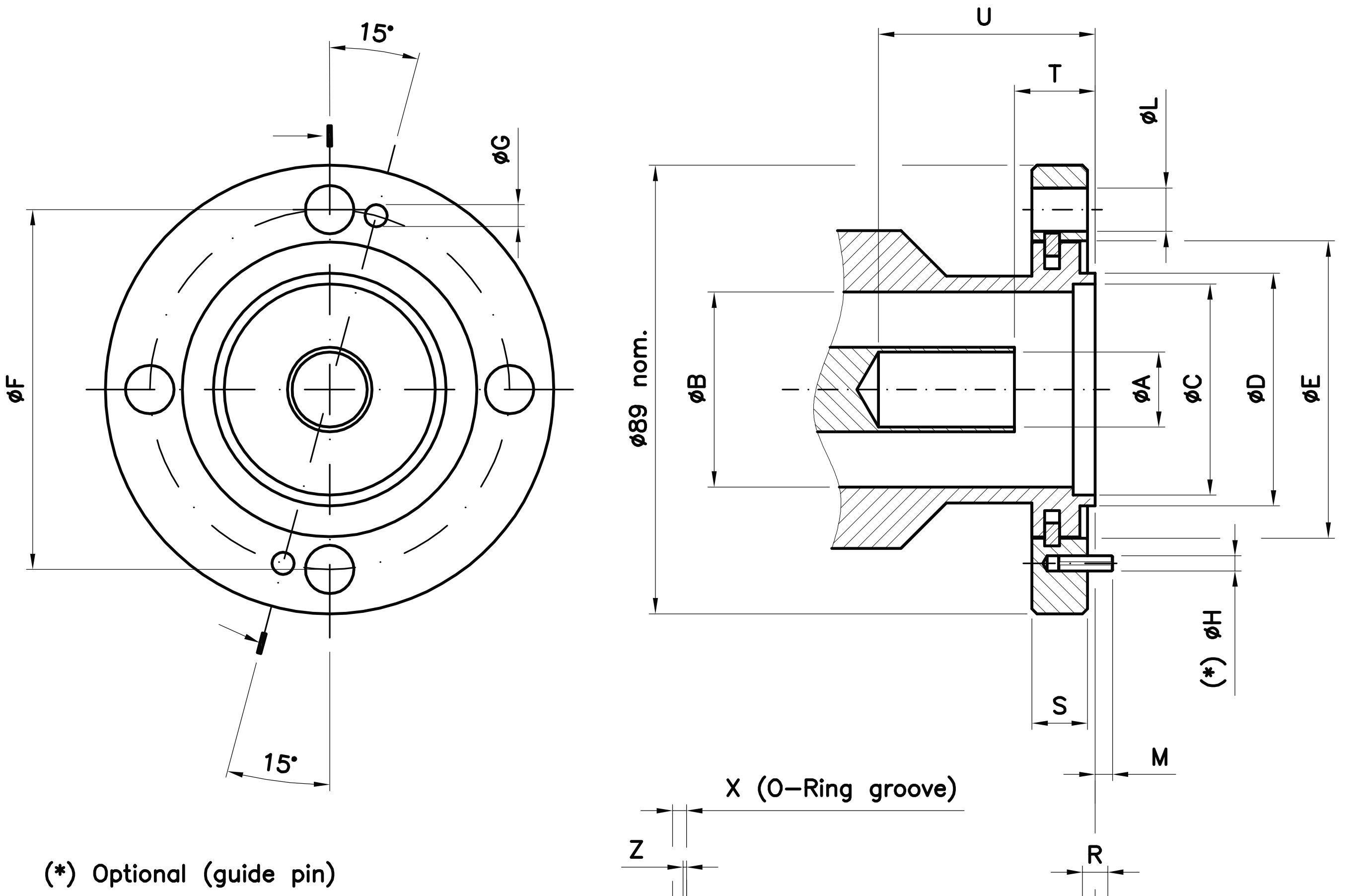
Engagement / Disengagement force of coupling element into center contact	35 ÷ 65 N
Degree of protection (mated pairs)	CEI EN60529 - IP67 (with heat-shrink sleeve) - IP68 (overmoulding)
Connector durability (mating cycles)	≥ 50

ENVIRONMENTAL DATA

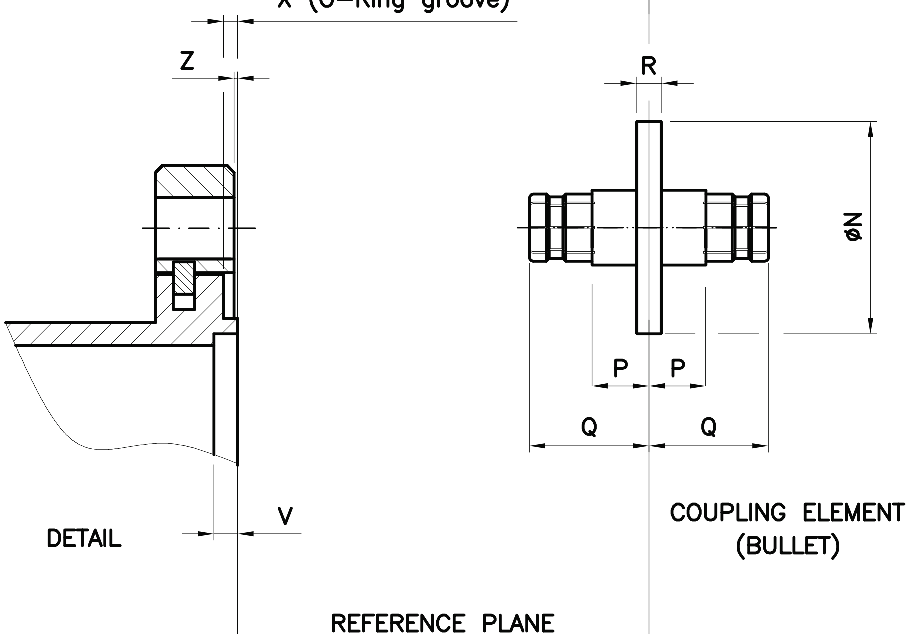
Temperature range	-55°C to +155°C
Climatic category	55/155/21

(1) Guidelines values depending on cable and connector types

1-5/8" EIA FLANGE INTERFACE DIMENSIONS



(*) Optional (guide pin)



Letter	mm	
	min.	max.
øA	14.87	15.00
øB	38.71	38.86
øC	41.80	41.95
øD	46.10	46.40
øE	58.60	58.80
øF	71.32	71.42
øG	3.30	3.40
øH	3.08	3.10
øL	8.60	8.80
M	–	7.0
øN	41.40	41.50
P	–	15.00
Q	–	41.30
R	6.30	6.40
S	11.0 nom.	
T	15.00	15.90

Letter	mm	
	min.	max.
U	41.30	–
V	3.20	3.30
Z	0.20	0.60
X	1.95	2.05

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1-5/8" EIA FLANGE CHARACTERISTICS

TECHNICAL DATA

Interface dimensions applicable to the standards:	CECC 122150
Materials:	
- Bodies and nuts	Brass
- Center contacts	Brass
- Coupling element (bullet)	Spring bronze
- Insulators	PTFE
- Gaskets	Silicone rubber
- Other metal parts	Brass
- Hardware kit	Stainless steel
Platings:	
- Bodies	Silver,Ternary alloy,Nickel plated
- Center contacts and coupling element	Silver plated
- Other methal parts	Nickel,Silver,Ternary alloy plated

NOTE: All products are RoHS compliant

ELECTRICAL DATA

Impedance	50 Ohm
Frequency range	DC to 3GHz
V.S.W.R. (1)	
- Straight types (typ.)	≤ 1,04
Working voltage (at sea level) (1)	≤ 4700Vrms, 50Hz
Dielectric withstanding voltage (at sea level) (1)	≤ 7000Vrms, 50Hz

1-5/8" EIA FLANGE CHARACTERISTICS

Average power rating (at 40°C) (1)

- 50 MHz	22 KW
- 100 MHz	15 KW
- 200 MHz	10.2 KW
- 500 MHz	7 KW
- 1000 MHz	4.7 KW
- 2500 MHz	3 KW
- 3000 MHz	—

Insulation resistance	≥ 10GOhm
Center contact resistance	≤ 0,12mOhm
Outer contact continuity	≤ 0.04mOhm
Intermodulation product 3rd order (1)	≤ -155 dBc (2x20W) ; f = ≤ 1,88 GHz

MECHANICAL DATA

Engagement / Disengagement force of coupling element into center contact	45 ÷ 90 N
Degree of protection (mated pairs)	CEI EN60529 - IP67 (with heat-shrink sleeve) - IP68 (overmoulding)
Connector durability (mating cycles)	≥ 50

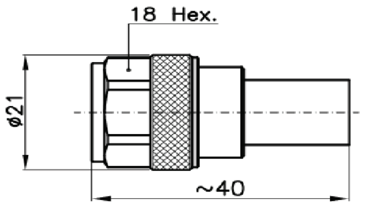
ENVIRONMENTAL DATA

Temperature range	-55°C to +155°C
Climatic category	55/155/21

(1) Guidelines values depending on cable and connector types

RG 213/214 FLEX.CABLES

P/N 20.300.141-509

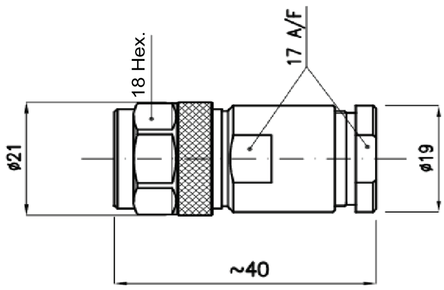


N STRAIGHT PLUG

only for RG213 cable

Cable attachment (inner/outer): solder/crimp

P/N 20.300.140-028

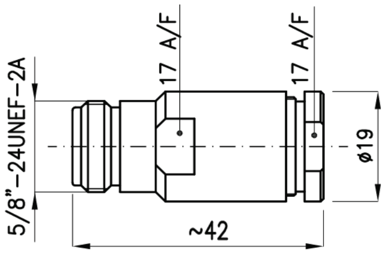


N STRAIGHT PLUG

Assembly instruction: 93-093

Cable attachment (inner/outer): solder/clamp

P/N 20.300.040-082

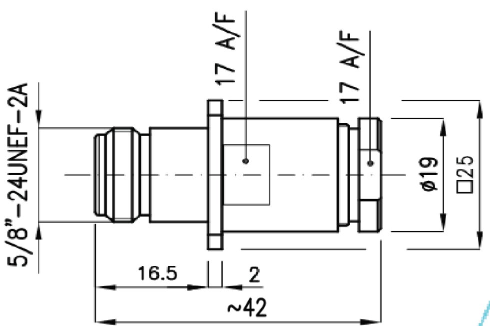


N STRAIGHT JACK

Assembly instruction: 93-093

Cable attachment (inner/outer): solder/clamp

P/N 20.302.060-499



N STRAIGHT JACK SQUARE FLANGE

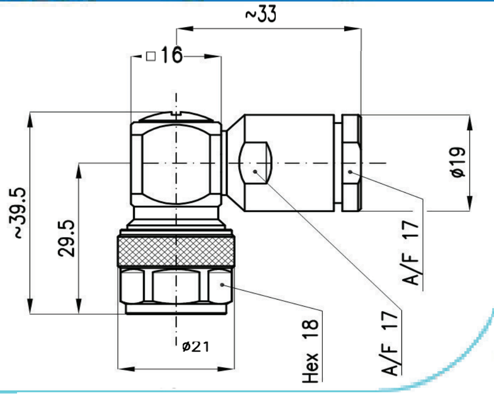
Assembly instruction: 93-093

Panel cutout: PC01 (see page 75)

Cable attachment (inner/outer): solder/clamp

NOTE: Technical drawings on request

P/N 20.300.320-432

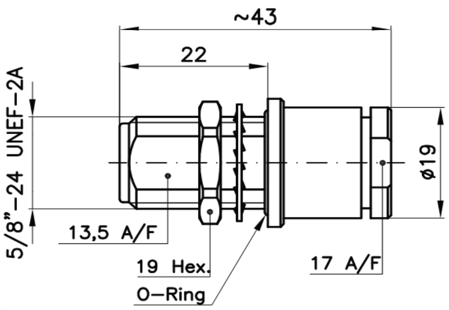


N RIGHT-ANGLE PLUG

Assembly instruction: 93-131

Cable attachment (inner/outer): solder/clamp

P/N 20.310.045-419



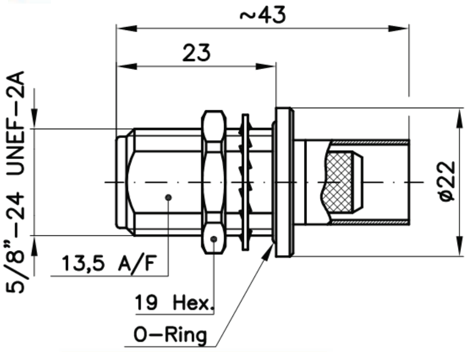
N STRAIGHT JACK BULKHEAD

Assembly instruction: 93-093

Panel cutout: PC03 (see page 75)

Cable attachment (inner/outer): solder/clamp

P/N 20.304.062-587



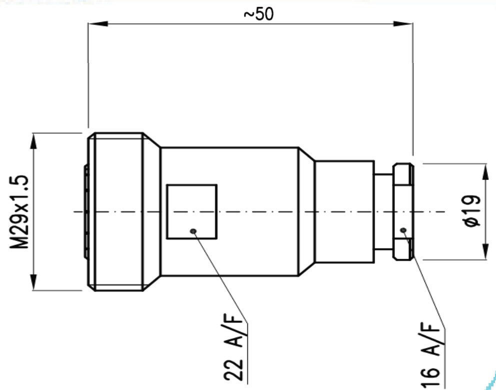
N STRAIGHT JACK BULKHEAD

only for RG214 cable

Panel cutout: PC03 (see page 75)

Cable attachment (inner/outer): full-crimp

P/N 20.500.030-059



7/16 STRAIGHT JACK

Assembly instruction: 93-019

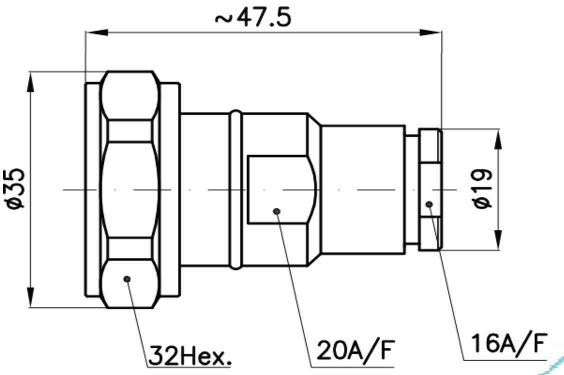
Note: Also be used for RG393/U cable

Cable attachment (inner/outer): solder/clamp

NOTE: Technical drawings on request

RG 213/214 FLEX.CABLES

P/N 20.500.130-077



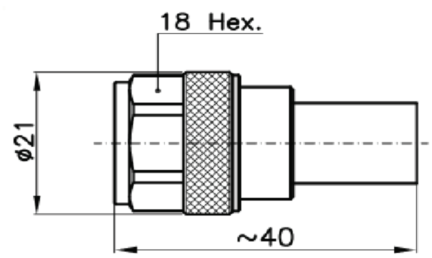
7/16 STRAIGHT PLUG

Assembly instruction: 93-019

Note: Also be used for RG393/U cable

Cable attachment (inner/outer): solder/clamp

P/N 20.300.142-109

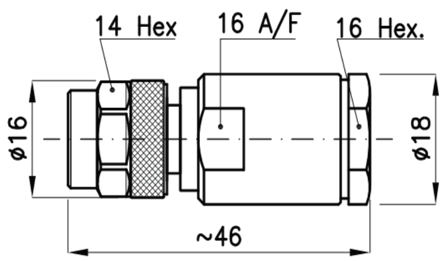


N STRAIGHT PLUG

only for RG214 cable

Cable attachment (inner/outer): solder/crimp

P/N 20.100.140-468

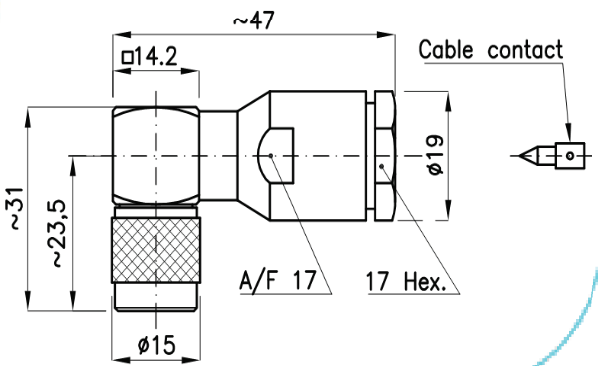


TNC STRAIGHT PLUG

Assembly instruction: 93-178

Cable attachment (inner/outer): solder/clamp

P/N 20.100.340-615



TNC RIGHT-ANGLE PLUG

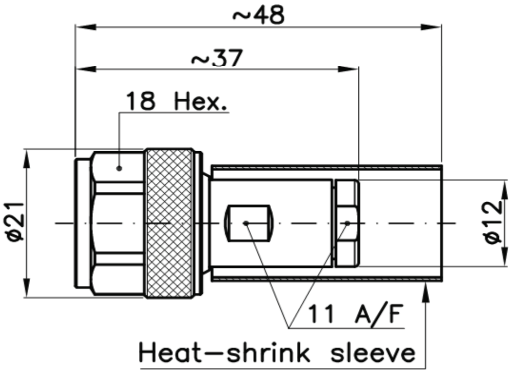
Assembly instructions : 93-187

Cable attachment (inner/outer): solder/clamp

NOTE: Technical drawings on request

LMR 300 FLEX. CABLE

P/N 20.300.120-503



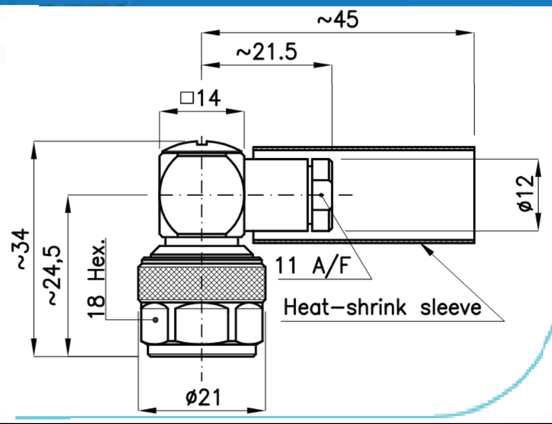
N STRAIGHT PLUG

Assembly instruction: 93-149

Cable attachment (inner/outer): plugged-in/clamp

Note: Also be used for INC48 cable

P/N 20.300.320-498

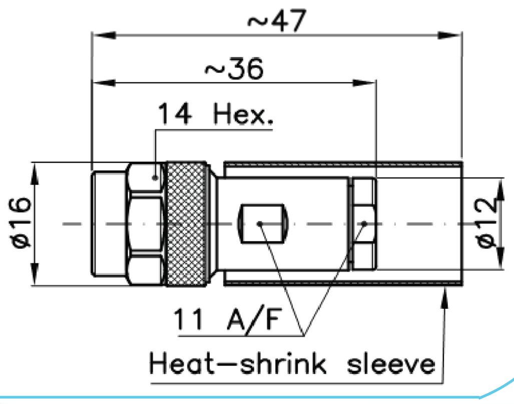


N RIGHT-ANGLE PLUG

Assembly instruction: 93-132

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.100.160-505

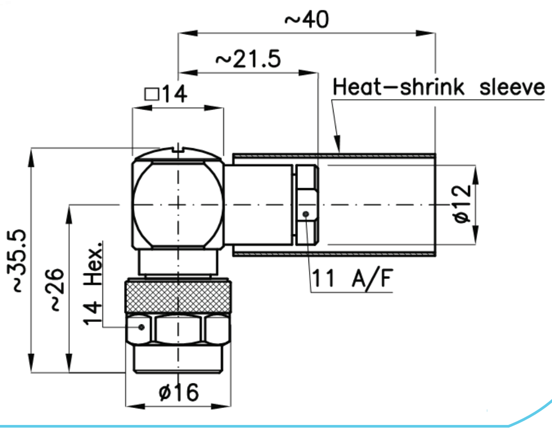


TNC STRAIGHT PLUG

Assembly instruction: 93-149

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.100.360-491



TNC RIGHT-ANGLE PLUG

Assembly instruction: 93-132

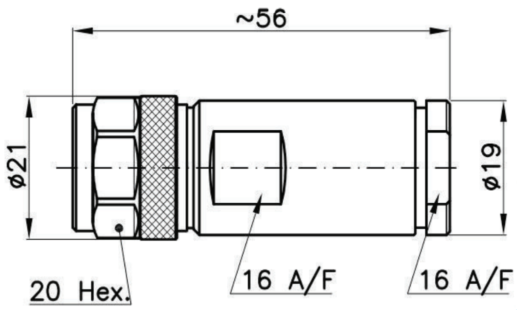
Cable attachment (inner/outer): plugged-in/clamp

Note: Also be used for INC48 cable

NOTE: Technical drawings on request

LMR 400 FLEX. CABLE

P/N 20.300.198-400

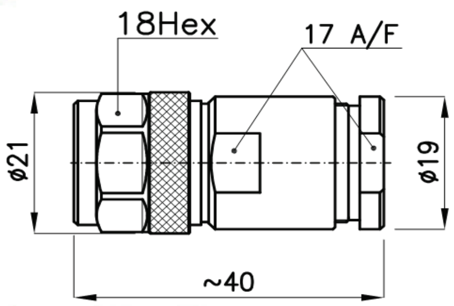


N STRAIGHT PLUG

Assembly instruction: 93-100

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.140-493



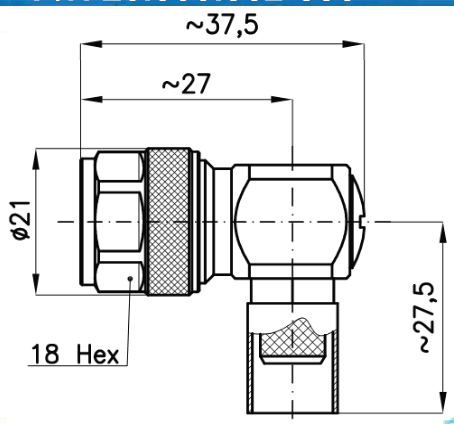
N STRAIGHT PLUG

Assembly instruction: 93-093

Cable attachment (inner/outer): solder/clamp

Note: Also be used for ECOFLEX10 cable

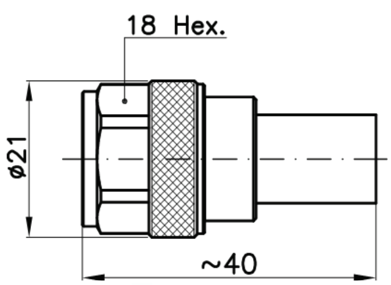
P/N 20.300.362-536



N RIGHT-ANGLE PLUG

Cable attachment (inner/outer): solder/crimp

P/N 20.300.141-509



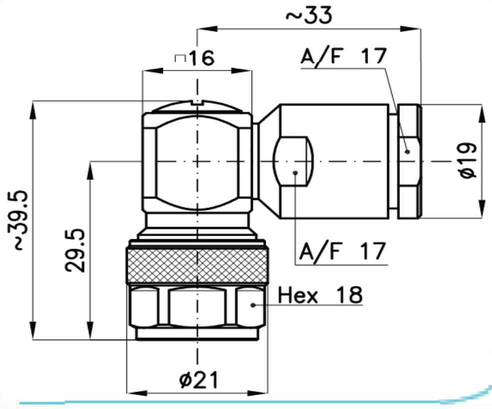
N STRAIGHT PLUG

Cable attachment (inner/outer): solder/crimp

NOTE: Technical drawings on request

LMR 400 FLEX. CABLE

P/N 20.300.320-495

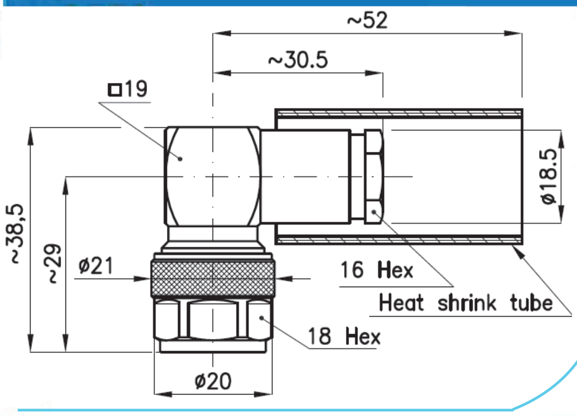


N RIGHT-ANGLE PLUG

Assembly instruction: 93-137

Cable attachment (inner/outer): solder/clamp

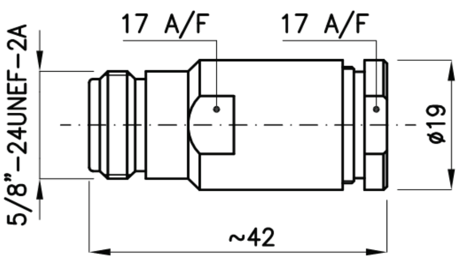
P/N 20.300.320-687



N RIGHT-ANGLE PLUG

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.040-494

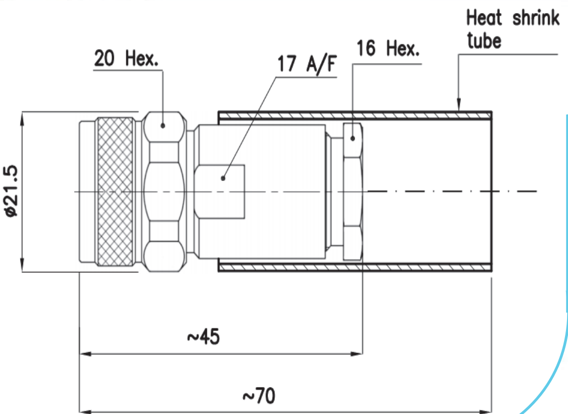


N STRAIGHT JACK

Assembly instruction: 93-093

Cable attachment (inner/outer): solder/clamp

P/N 20.300.140-649



N RIGHT-ANGLE PLUG

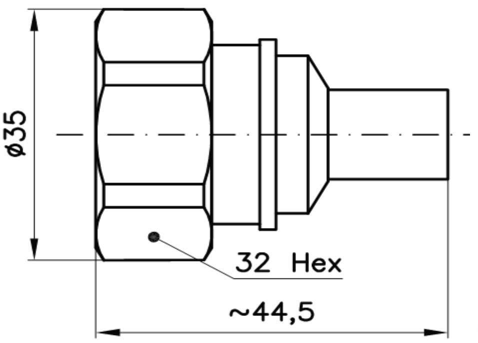
Assembly instruction: 93-183

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

LMR 400 FLEX. CABLE

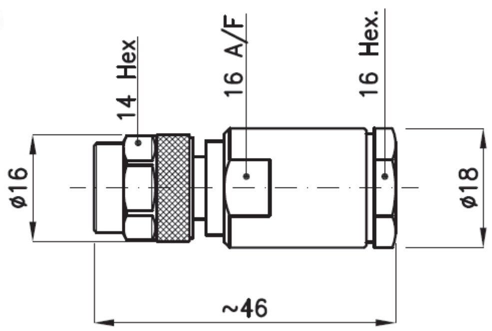
P/N 20.500.131-508



7/16 STRAIGHT PLUG

Cable attachment (inner/outer): plugged-in/crimp

P/N 20.100.140-669

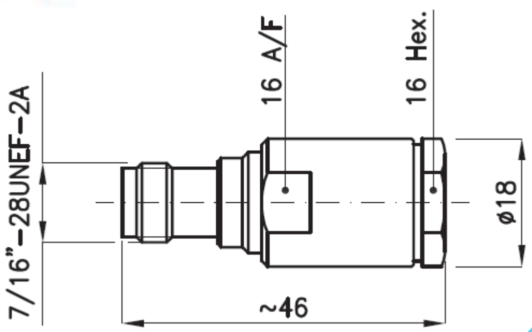


TNC STRAIGHT PLUG

Assembly instruction: 93-178

Cable attachment (inner/outer): solder/clamp

P/N 20.100.098-691

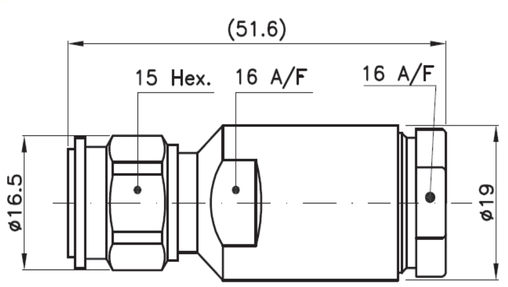


TNC STRAIGHT JACK

Assembly instruction: 93-178

Cable attachment (inner/outer): solder/clamp

P/N 20.100.190-725



TNC STRAIGHT PLUG

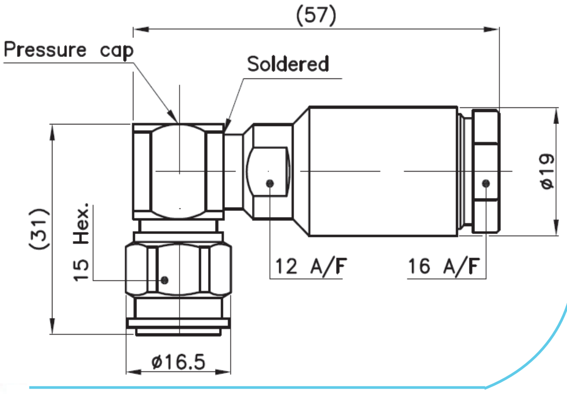
Assembly instruction: 93-210

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

LMR 400 FLEX. CABLE

P/N 20.100.390-726

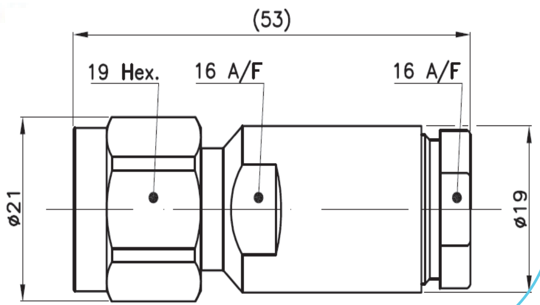


TNC RIGHT-ANGLE PLUG

Assembly instruction: 93-210

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.190-723

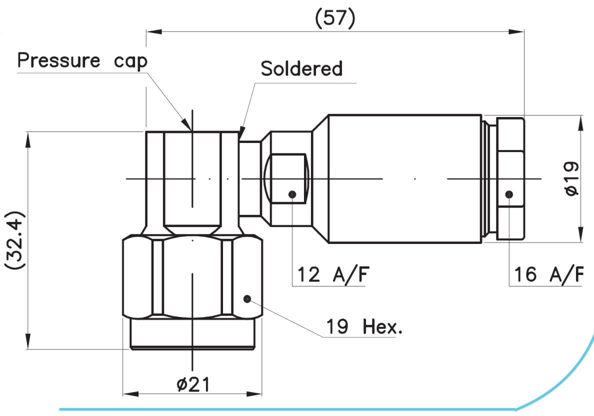


N STRAIGHT PLUG

Assembly instruction: 93-210

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.390-724



N RIGHT-ANGLE PLUG

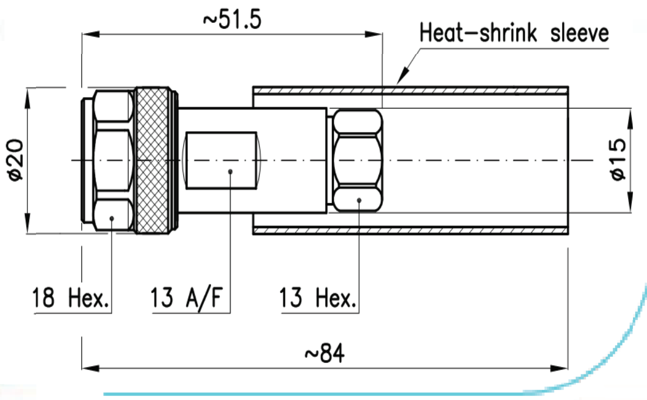
Assembly instruction: 93-210

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/4" SUPERFLEX CORRUGATED CABLE

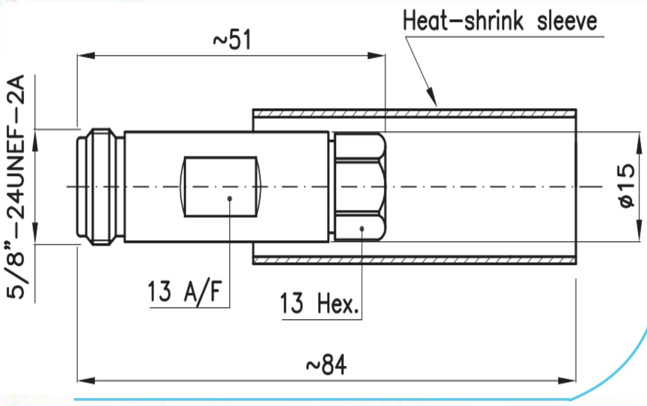
P/N 20.300.170-629



N STRAIGHT PLUG

Assembly instruction: 93-181
Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.070-648



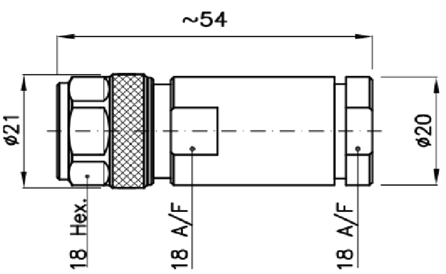
N STRAIGHT JACK

Assembly instruction: 93-181
Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/4" FOAM CORRUGATED CABLE

P/N 20.300.140-124

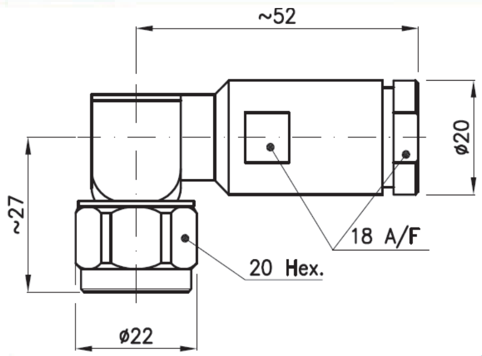


N STRAIGHT PLUG

Assembly instruction: 93-112

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.340-184

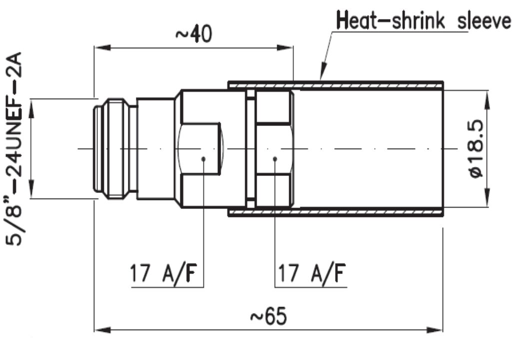


N RIGHT-ANGLE PLUG

Assembly instruction: 93-112

Cable attachment (inner/outer): plugged-in/clamp

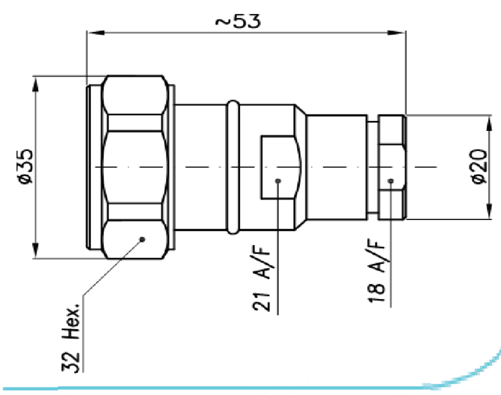
P/N 20.300.098-707



N STRAIGHT JACK

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.500.131-443



7/16 STRAIGHT PLUG

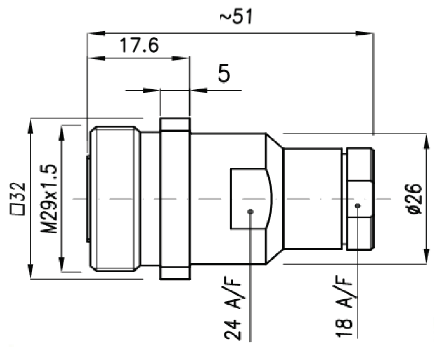
Assembly instruction: 93-112

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/4" FOAM CORRUGATED CABLE

P/N 20.502.030-448



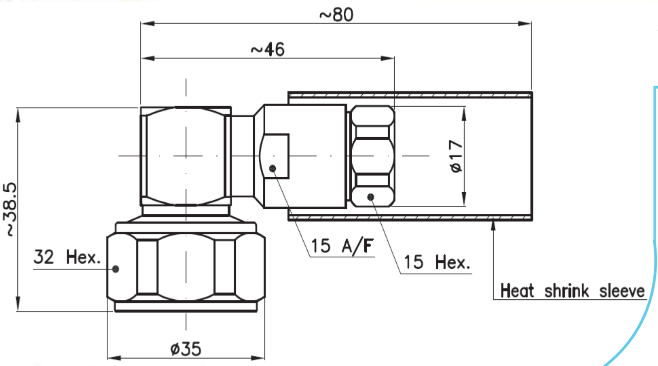
7/16 STRAIGHT JACK SQUARE FLANGE

Assembly instruction: 93-112

Panel cutout: PC02 (see page 75)

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.500.530-103



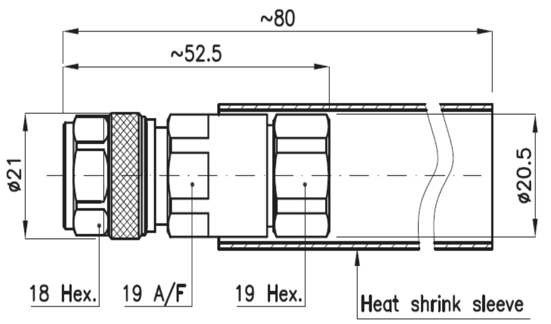
7/16 RIGHT-ANGLE PLUG

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/2" SUPERFLEX CORRUGATED CABLE

P/N 20.030.023-305

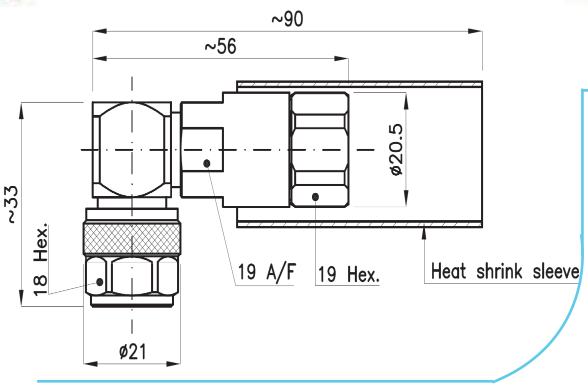


N STRAIGHT PLUG

Assembly instruction: 93-156

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.330-304

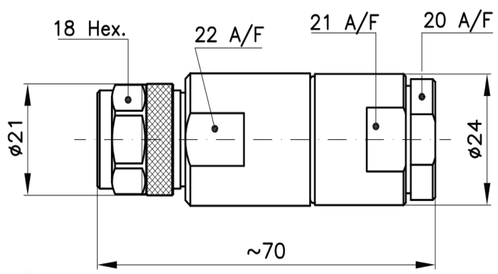


N RIGHT-ANGLE PLUG

Assembly instruction: 93-156

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.170-462



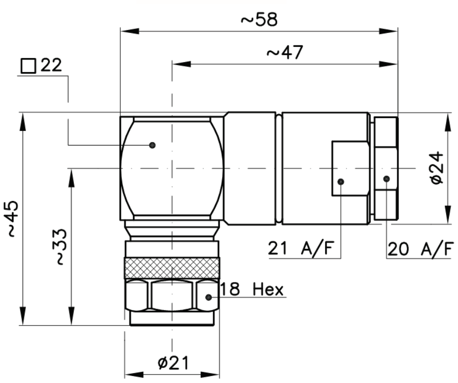
N STRAIGHT PLUG

Assembly instruction: 93-128

Cable attachment (inner/outer): plugged-in/clamp

PREMIUM VERSION

P/N 20.300.370-460



N RIGHT-ANGLE PLUG

Assembly instruction: 93-164

Cable attachment (inner/outer): plugged-in/clamp

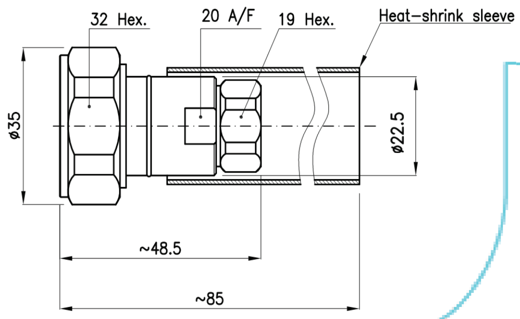
PREMIUM VERSION

NOTE: Technical drawings on request

cpe italia GROUP

1/2" SUPERFLEX CORRUGATED CABLE

P/N 20.500.170-545

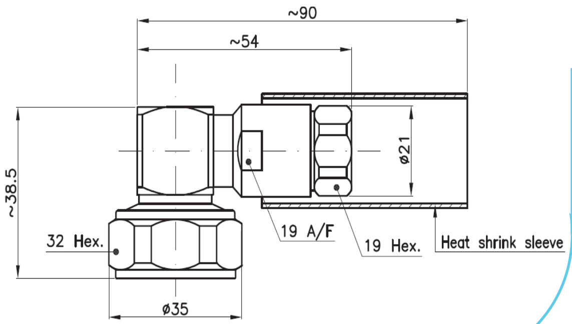


7/16 STRAIGHT PLUG

Assembly instruction: 93-156

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.500.330-302

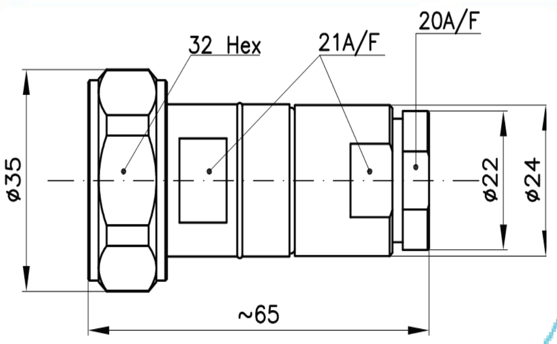


7/16 RIGHT-ANGLE PLUG

Assembly instruction: 93-156

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.500.170-465



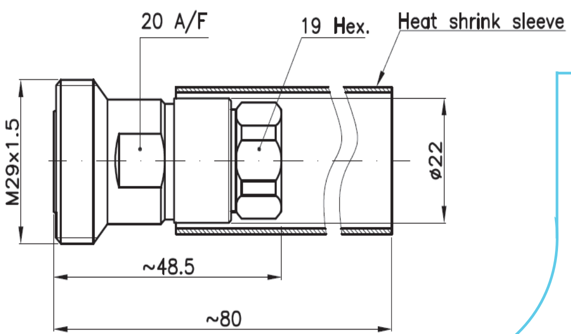
7/16 STRAIGHT PLUG

Assembly instruction: 93-128

Cable attachment (inner/outer): plugged-in/clamp

PREMIUM VERSION

P/N 20.500.030-209



7/16 STRAIGHT JACK

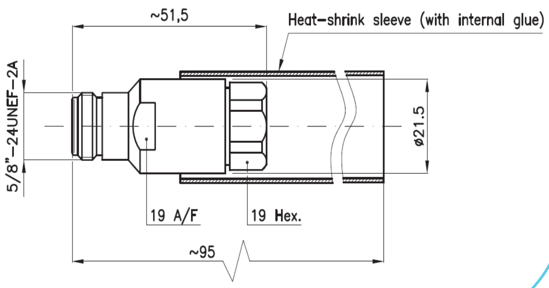
Assembly instruction: 93-156

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/2" SUPERFLEX CORRUGATED CABLE

P/N 20.300.038-684

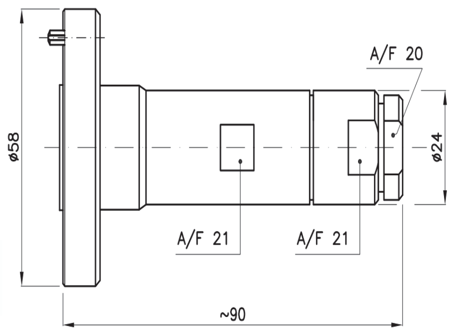


N STRAIGHT JACK

Assembly instruction: 93-156

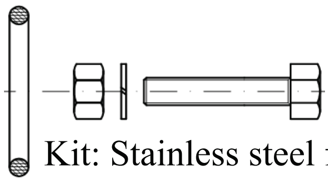
Cable attachment (inner/outer): plugged-in/clamp

P/N 25.000.130-003



7/8" STRAIGHT EIA FLANGE

Assembly instruction: 93-128



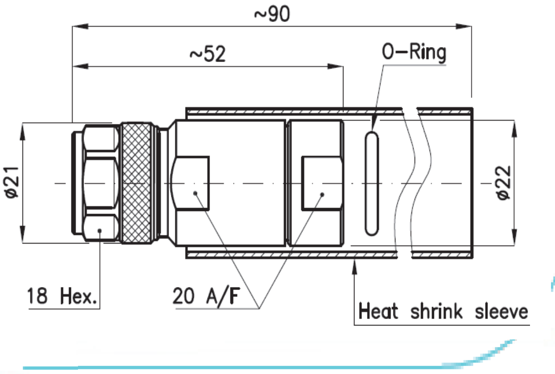
Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/2" FOAM CORRUGATED CABLE

P/N 20.300.178-581

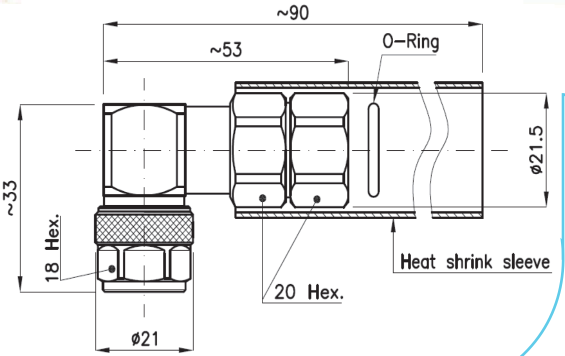


N STRAIGHT PLUG

Assembly instruction 93-203

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.378-576

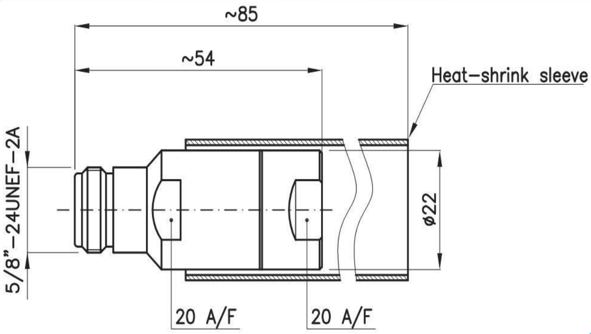


N RIGHT-ANGLE PLUG

Assembly instruction 93-203

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.078-618

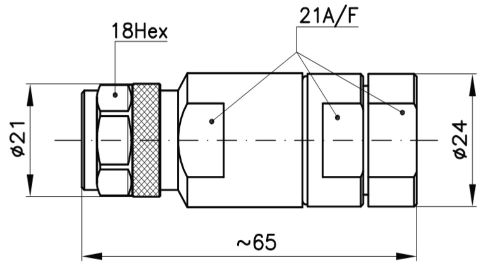


N STRAIGHT JACK

Assembly instruction: 93-157

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.300.170-463



N STRAIGHT PLUG WITH

Assembly instruction: 93-127

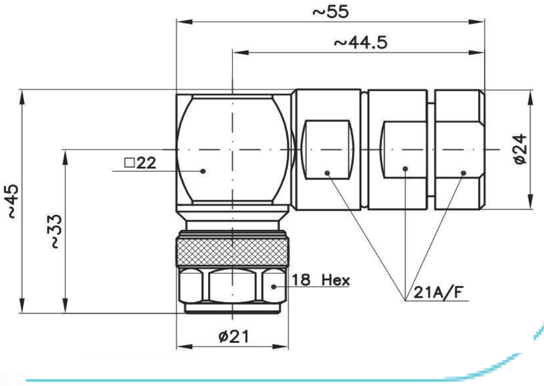
Cable attachment (inner/outer): plugged-in/clamp

PREMIUM VERSION

NOTE: Technical drawings on request

1/2" FOAM CORRUGATED CABLE

P/N 20.300.370-461



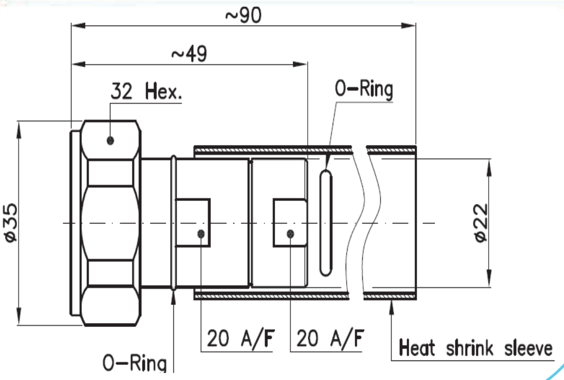
N RIGHT-ANGLE PLUG

Assembly instruction: 93-158

Cable attachment (inner/outer): plugged-in/clamp

PREMIUM VERSION

P/N 20.500.170-554

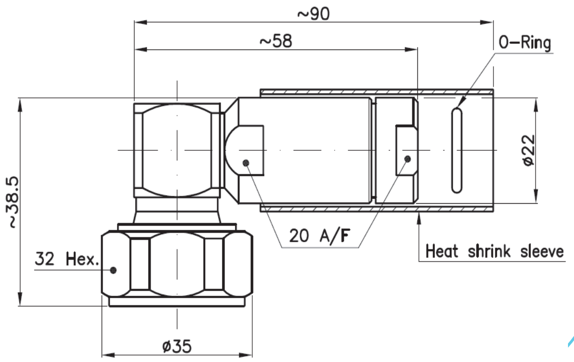


7/16 STRAIGHT PLUG

Assembly instruction 93-203

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.500.530-063

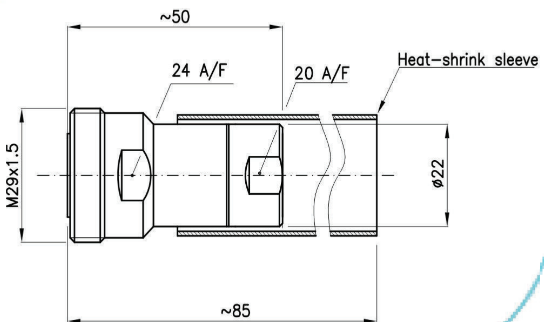


7/16 RIGHT-ANGLE PLUG

Assembly instruction 93-203

Cable attachment (inner/outer): plugged-in/clamp

P/N 20.500.070-588



7/16 STRAIGHT JACK

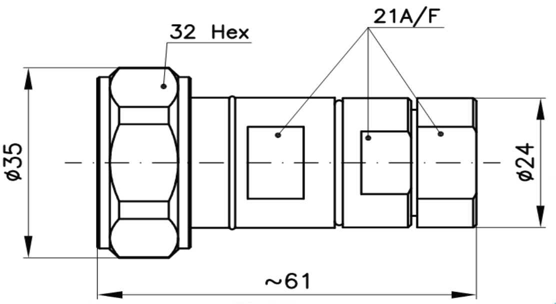
Assembly instruction: 93-157

Cable attachment (inner/outer): plugged-in/clamp

NOTE: Technical drawings on request

1/2" FOAM CORRUGATED CABLE

P/N 20.300.370-464



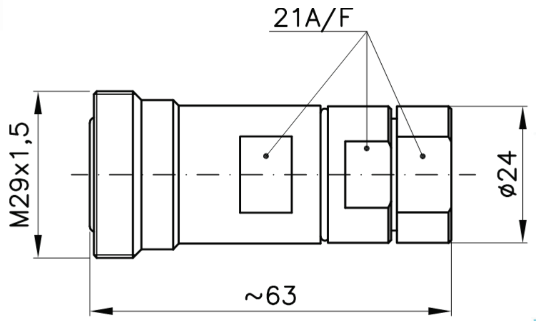
7/16 STRAIGHT PLUG

Assembly instruction: 93-127

Cable attachment (inner/outer): plugged-in/clamp

PREMIUM VERSION

P/N 20.500.030-522



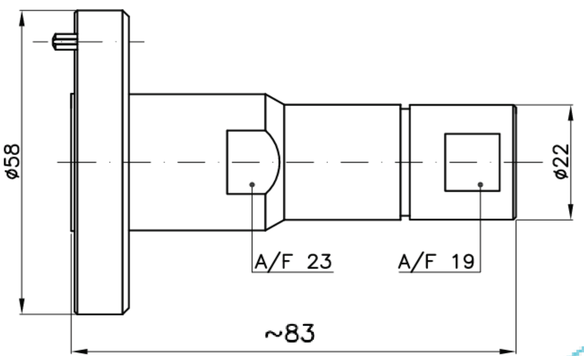
7/16 STRAIGHT JACK

Assembly instruction: 93-127

Cable attachment (inner/outer): plugged-in/clamp

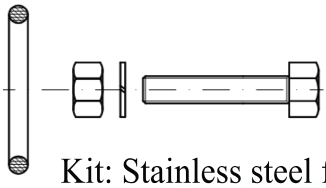
PREMIUM VERSION

P/N 25.000.030-001



7/8" STRAIGHT EIA FLANGE

Assembly instruction: 93-175

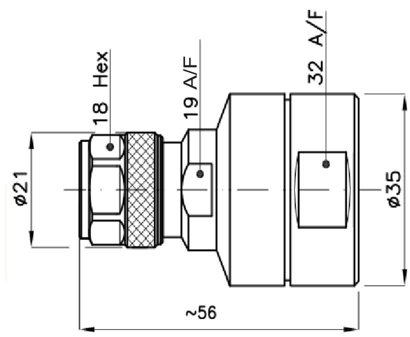


Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

Cable attachment (inner/outer): plugged-in/clamp

7/8" FOAM CORRUGATED CABLE

P/N 20.300.130-048

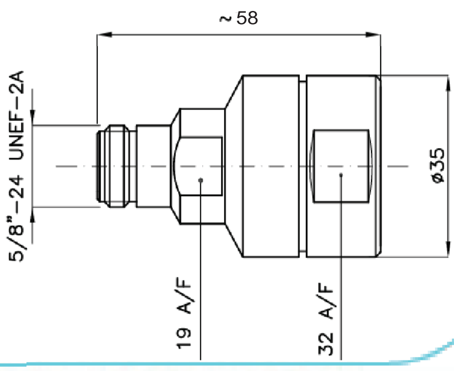


N STRAIGHT PLUG

Assembly instruction: 93-151

Cable attachment (inner/outer): elastic spring/clamp

P/N 20.300.030-047

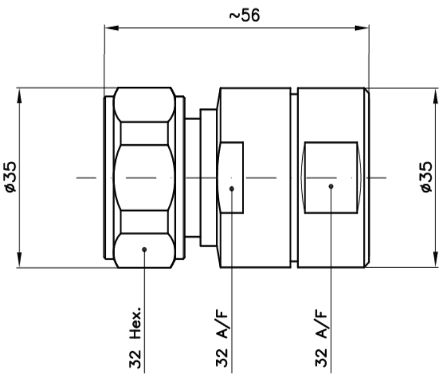


N STRAIGHT JACK

Assembly instruction: 93-151

Cable attachment (inner/outer): elastic spring/clamp

P/N 20.500.130-543

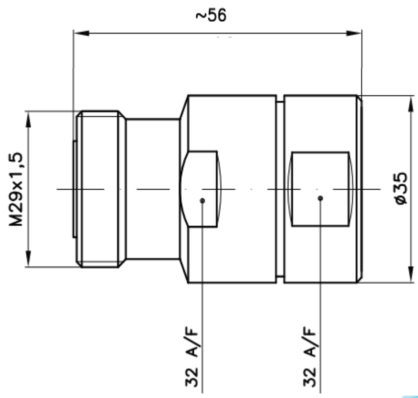


7/16 STRAIGHT PLUG

Assembly instruction: 93-151

Cable attachment (inner/outer): elastic spring/clamp

P/N 20.500.030-553



7/16 STRAIGHT JACK

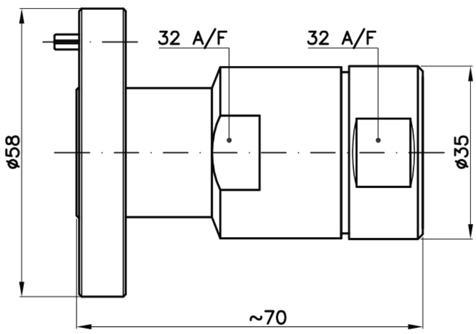
Assembly instruction: 93-151

Cable attachment (inner/outer): elastic spring/clamp

NOTE: Technical drawings on request

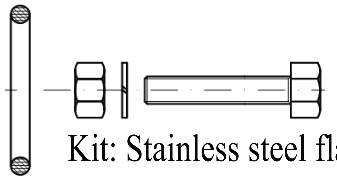
7/8" FOAM CORRUGATED CABLE

P/N 25.000.230-044



7/8" STRAIGHT EIA FLANGE

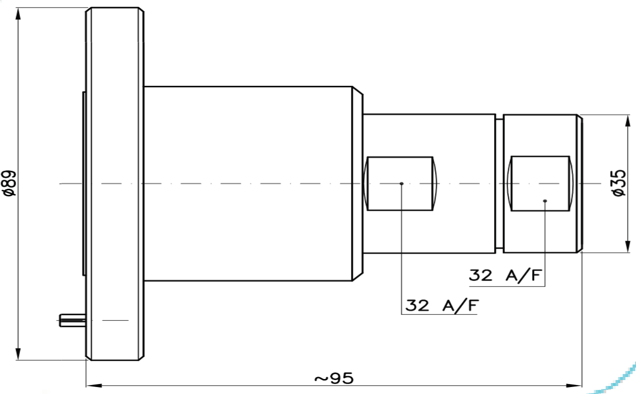
Assembly instruction: 93-162



Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

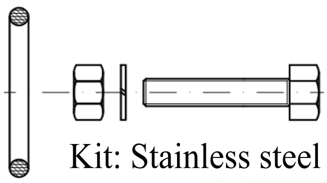
Cable attachment (inner/outer): Self-tapping/clamp

P/N 25.100.250-045



1.5/8" STRAIGHT EIA FLANGE

Assembly instruction: 93-159



Kit: Stainless steel flange assembling (4x) and O-Ring (1x)

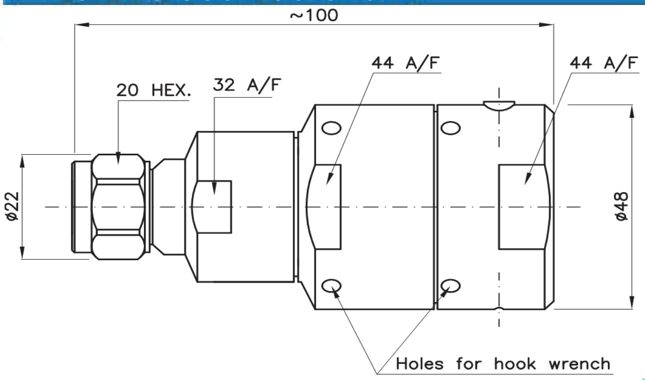
Cable attachment (inner/outer): Screwed/clamp

NOTE: Technical drawings on request

cpe italia GROUP

1.1/4" FOAM CORRUGATED CABLE

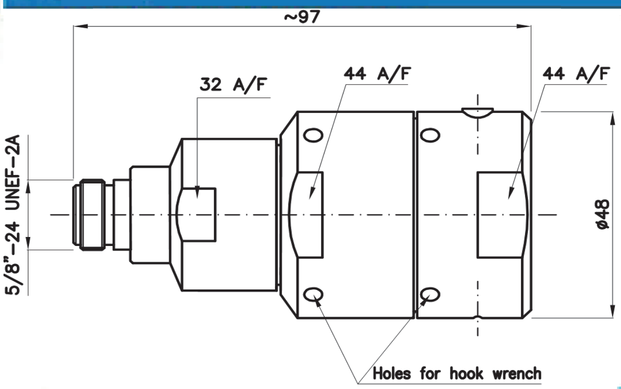
P/N 20.300.130-049



N STRAIGHT PLUG

Cable attachment (inner/outer): screwed/clamp

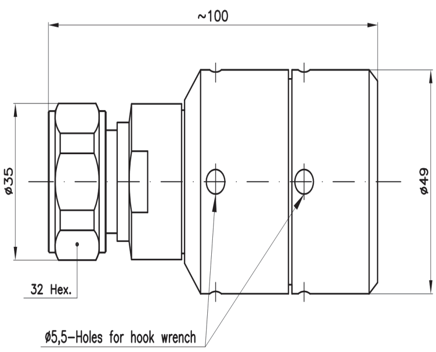
P/N 20.300.030-050



N STRAIGHT JACK

Cable attachment (inner/outer): screwed/clamp

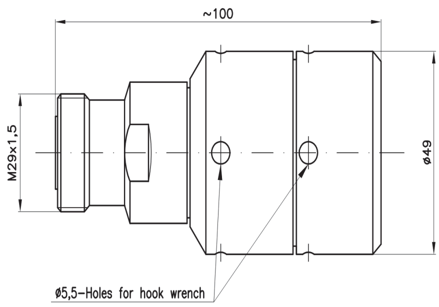
P/N 20.500.130-609



7/16 STRAIGHT PLUG

Cable attachment (inner/outer): screwed/clamp

P/N 20.500.030-610



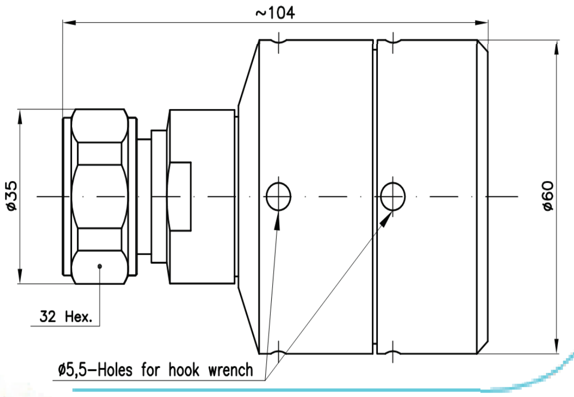
7/16 STRAIGHT JACK

Cable attachment (inner/outer): screwed/clamp

NOTE: Technical drawings on request

1.5/8" FOAM CORRUGATED CABLE

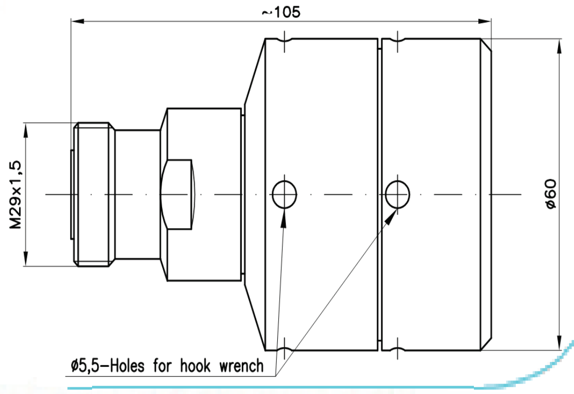
P/N 20.500.130-607



7/16 STRAIGHT PLUG

Cable attachment (inner/outer): screwed/clamp

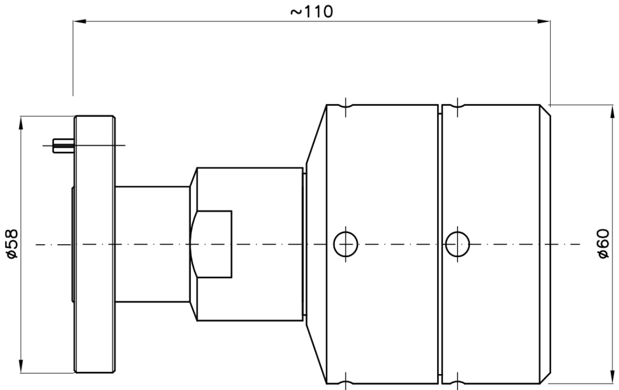
P/N 20.500.030-608



7/16 STRAIGHT JACK

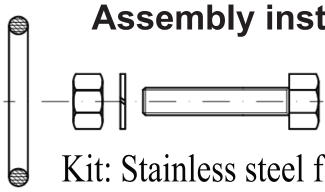
Cable attachment (inner/outer): screwed/clamp

P/N 25.000.450-020



7/8" STRAIGHT EIA FLANGE

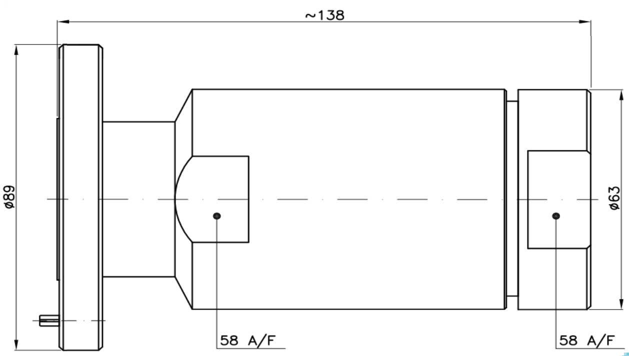
Assembly instruction 93-017



Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

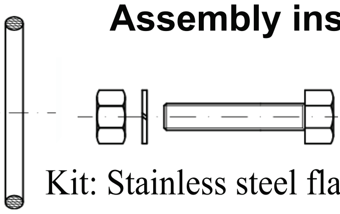
Cable attachment (inner/outer): screwed/clamp

P/N 25.101.080-017



1.5/8" STRAIGHT EIA FLANGE

Assembly instruction: 93-061



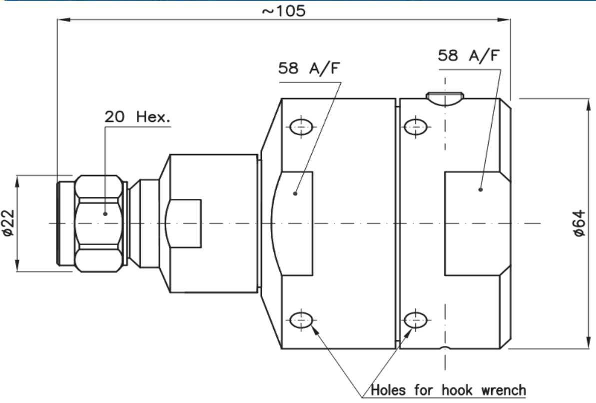
Kit: Stainless steel flange assembling (4x) and O-Rings(1x)

Cable attachment (inner/outer): screwed/clamp

NOTE: Technical drawings on request

1.5/8" FOAM CORRUGATED CABLE

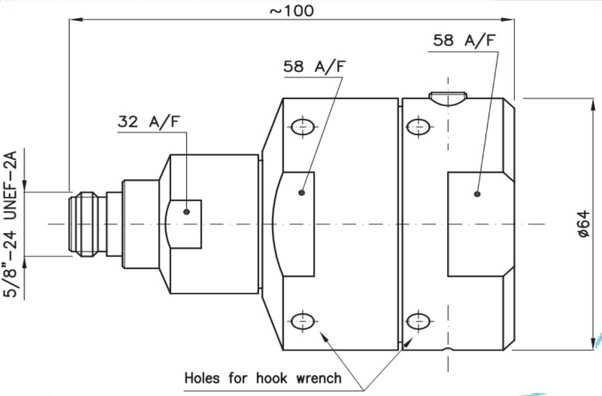
P/N 20.300.130-080



N STRAIGHT PLUG

Cable attachment (inner/outer): screwed/clamp

P/N 20.300.030-081



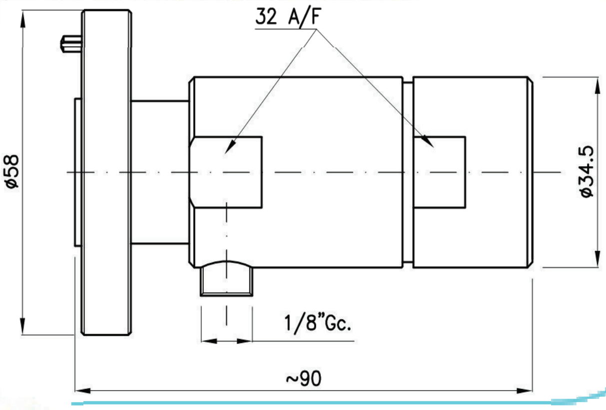
N STRAIGHT JACK

Cable attachment (inner/outer): screwed/clamp

NOTE: Technical drawings on request

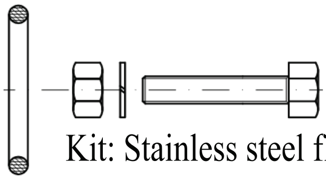
7/8" AIR CORRUGATED CABLE

P/N 25.000.630-008



7/8" STRAIGHT EIA FLANGE

Assembly instruction: 93-171



Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

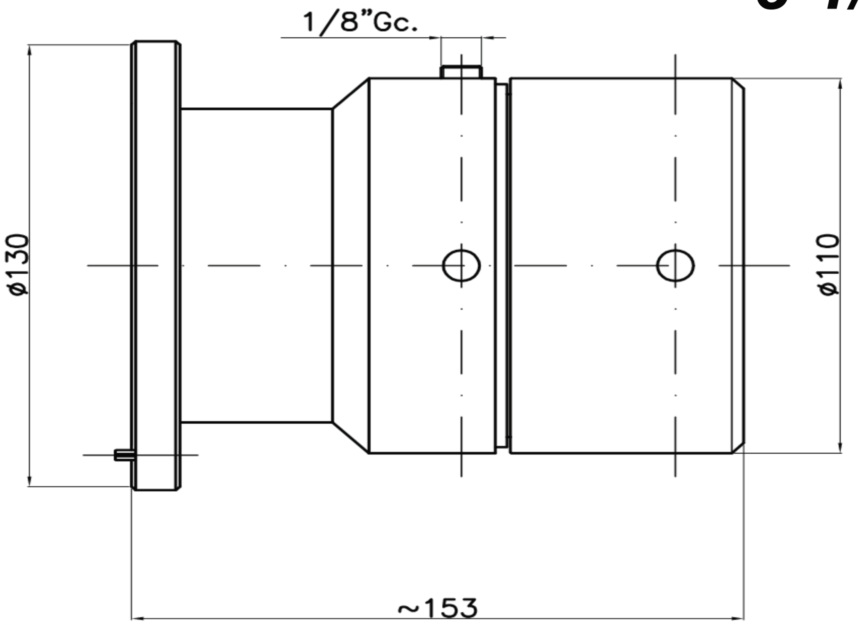
Cable attachment (inner/outer): Self-tapping/clamp

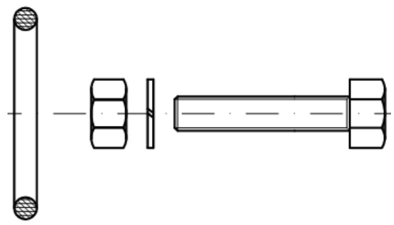
NOTE: Technical drawings on request

3-1/8" AIR CORRUGATED CABLE

P/N 25.000.630-008

3-1/8" STRAIGHT EIA FLANGE





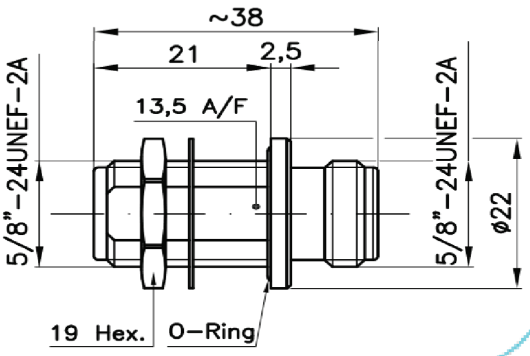
Kit: Stainless steel flange assembling (4x) and O-Ring (1x)

Cable attachment (inner/outer): Screwed/clamp

NOTE: Technical drawings on request

ADAPTERS - IN SERIES

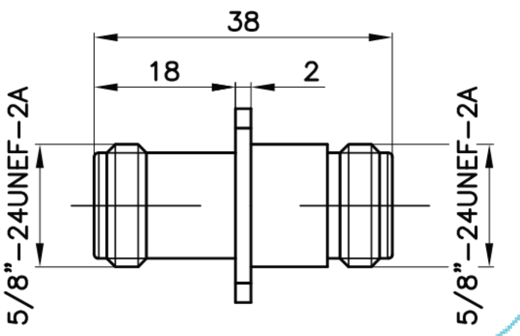
P/N 30.031.004-091



N JACK - JACK BULKHEAD

Panel cutout: PC03 (see page 75)

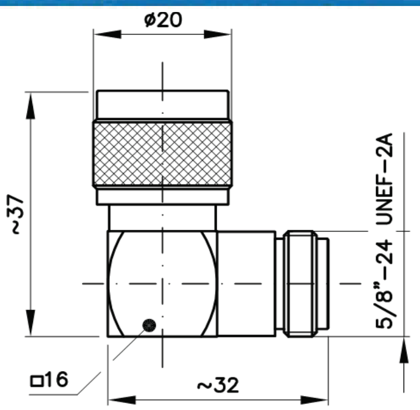
P/N 30.032.002-092



N JACK - JACK SQUARE FLANGE (4 Holes)

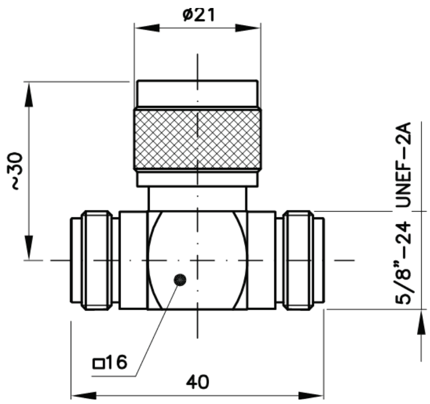
Panel cutout: PC01 (see page 75)

P/N 30.030.204-003



N JACK - PLUG RIGHT ANGLE

P/N 30.034.704-129

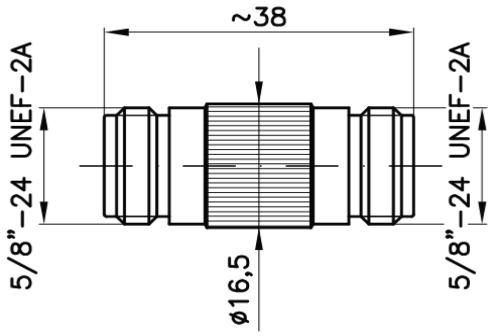


N JACK - PLUG - JACK

NOTE: Technical drawings on request

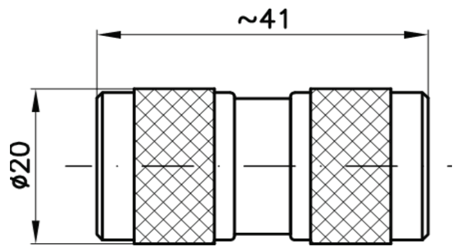
ADAPTERS - IN SERIES

P/N 30.030.004-005



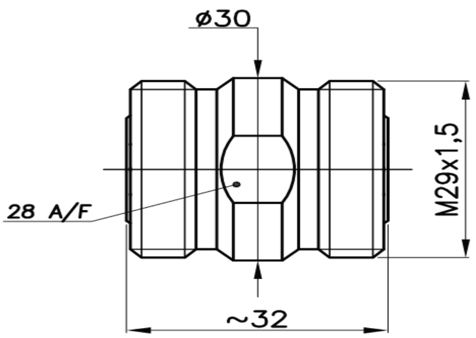
N JACK - JACK

P/N 30.030.104-022



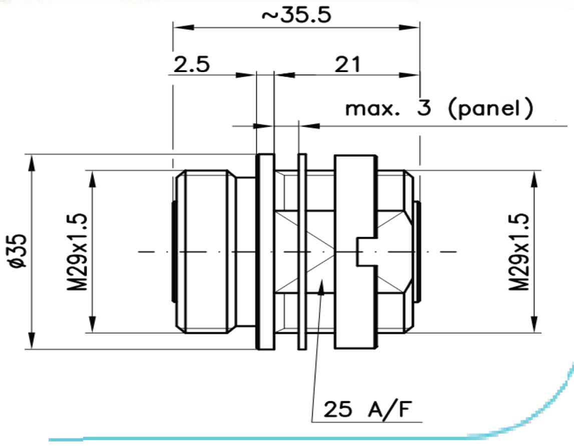
N PLUG - PLUG

P/N 30.050.003-006



7/16 JACK - JACK

P/N 30.051.005-108



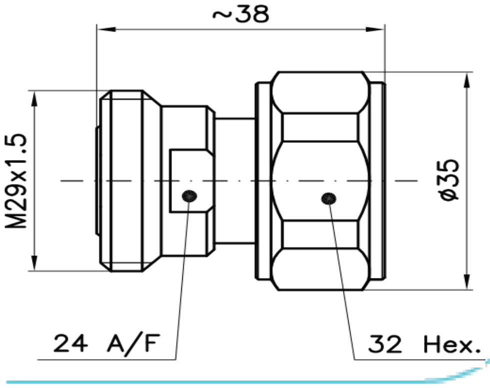
7/16 JACK - JACK BULKHEAD

Panel cutout PC04 (see page 75)

NOTE: Technical drawing on request

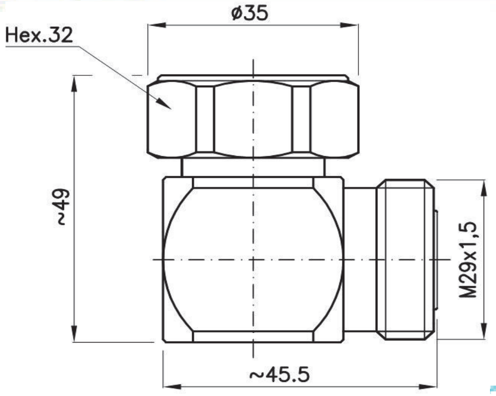
ADAPTERS - IN SERIES

P/N 30.050.303-111



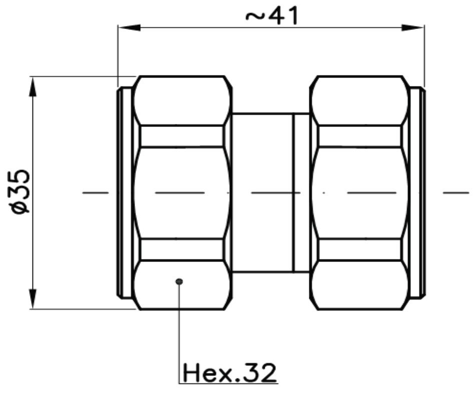
7/16 JACK - PLUG

P/N 30.050.205-007



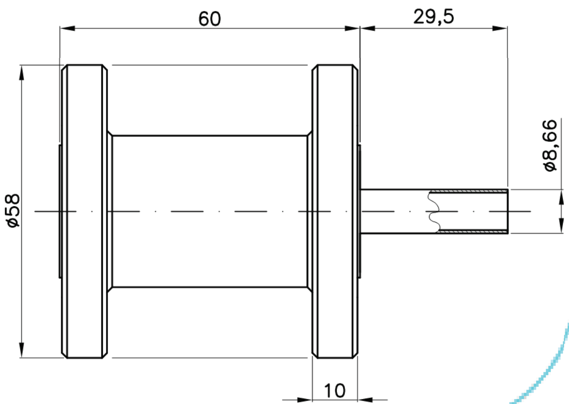
7/16 PLUG - JACK RIGHT ANGLE

P/N 30.050.103-008

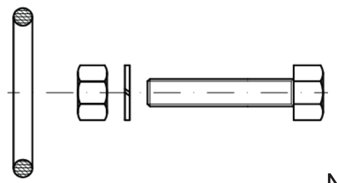


7/16 PLUG - PLUG

P/N 30.102.400-010



7/8" EIA FLANGE - PANEL MOUNTING



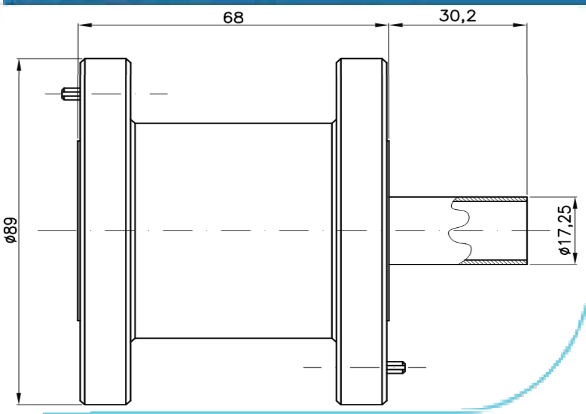
NOTE: Technical drawings on request

Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

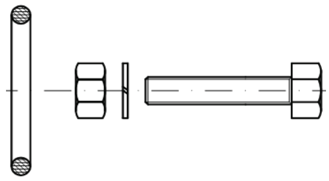
GROUP

ADAPTERS - IN SERIES

P/N 30.112.403-011

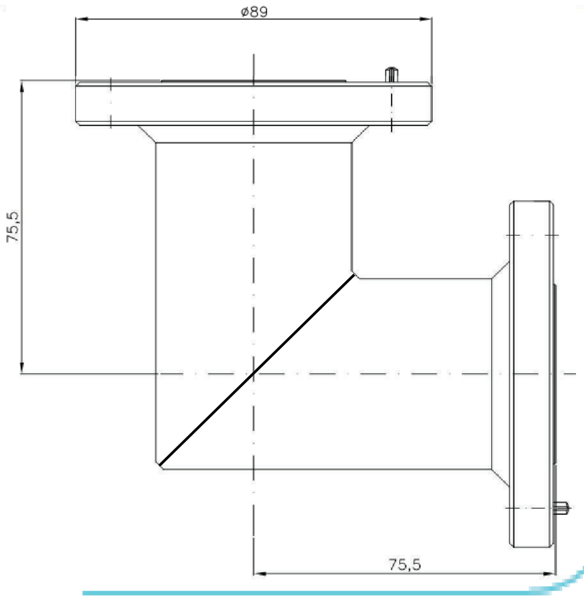


1.5/8" EIA FLANGE - PANEL MOUNTING

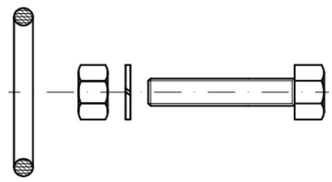


Kit: Stainless steel flange assembling (4x) and O-Ring (1x)

P/N 30.110.108-025

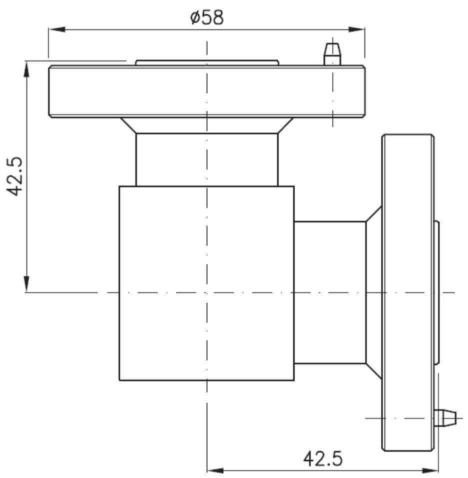


1.5/8" EIA FLANGE - RIGHT ANGLE

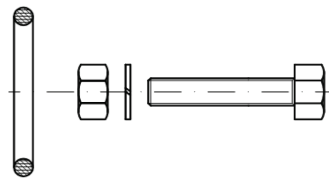


Kit: Stainless steel flange assembling (8x) and O-Rings(2x)

P/N 30.100.069-085



7/8" EIA FLANGE - RIGHT ANGLE

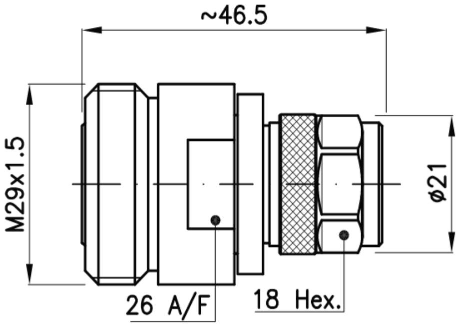


Kit: Stainless steel flange assembling (8x) and O-Rings(2x)

NOTE: Technical drawings on request

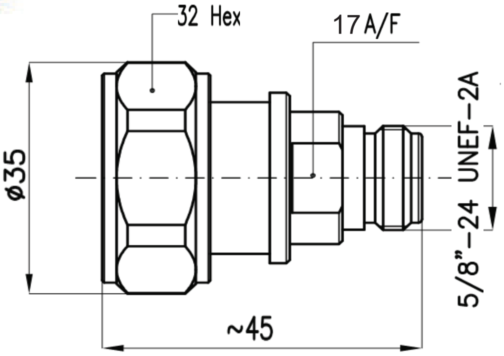
ADAPTERS-BETWEEN SERIES

P/N 35.010.103-003



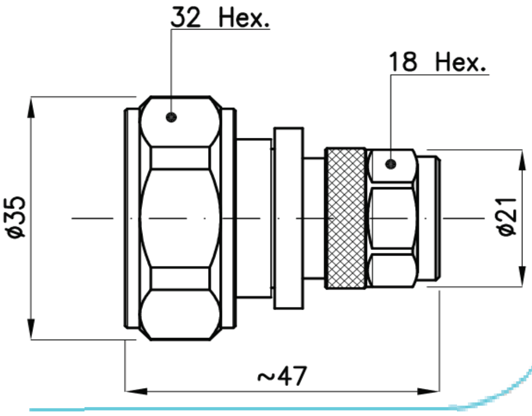
7/16 JACK - N PLUG

P/N 35.011.103-004



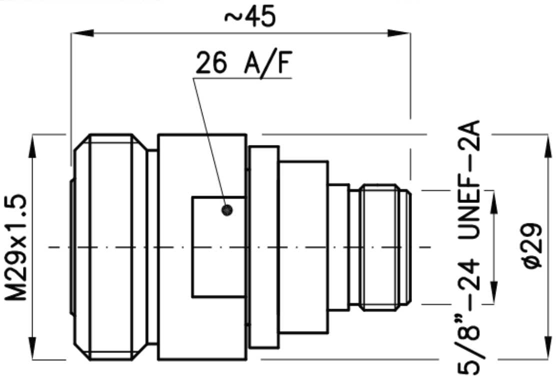
7/16 PLUG - N JACK

P/N 35.012.103-005



7/16 PLUG - N PLUG

P/N 35.013.103-006

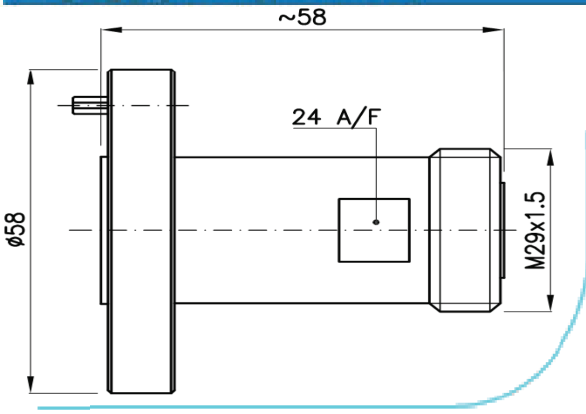


7/16 JACK - N JACK

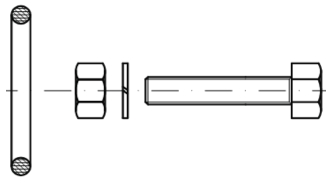
NOTE: Technical drawings on request

ADAPTERS-BETWEEN SERIES

P/N 35.023.103-007

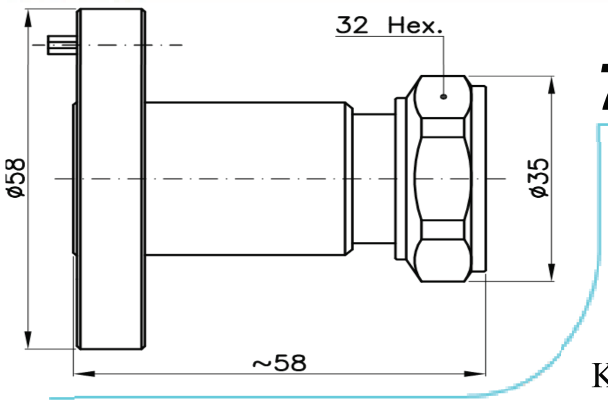


7/8" EIA FLANGE - 7/16 JACK

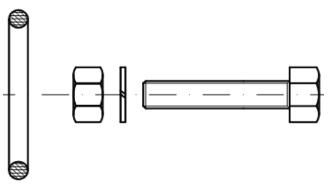


Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

P/N 35.025.103-128

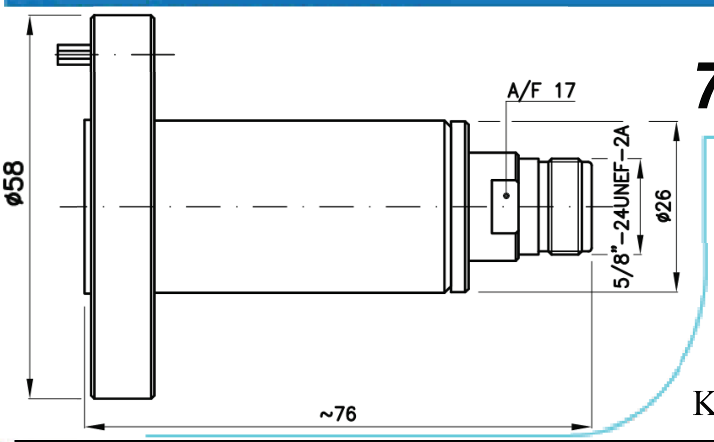


7/8" EIA FLANGE - 7/16 PLUG

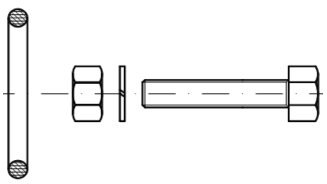


Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

P/N 35.043.003-009

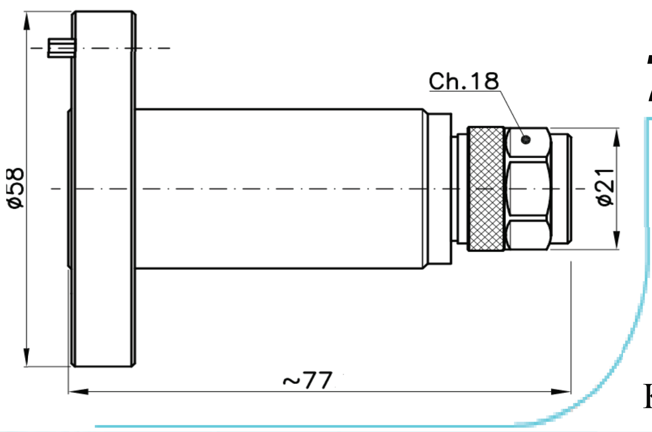


7/8" EIA FLANGE - N JACK

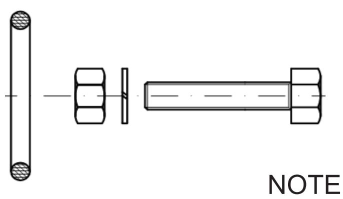


Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

P/N 35.040.003-010



7/8" EIA FLANGE - N PLUG

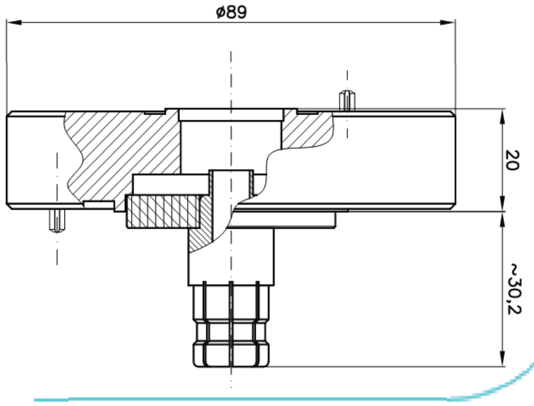


NOTE: Technical drawings on request

Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

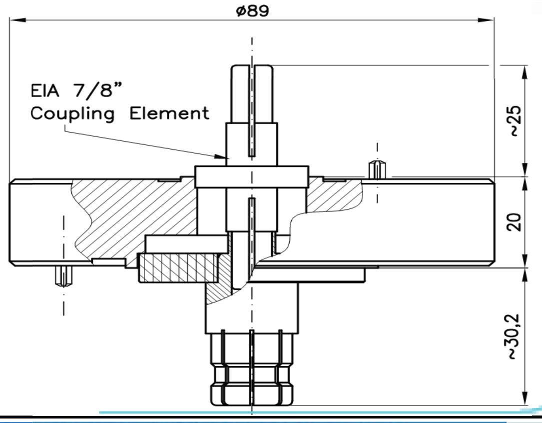
ADAPTERS-BETWEEN SERIES

P/N 35.053.103-011



7/8" EIA FLANGE - 1.5/8" EIA FLANGE

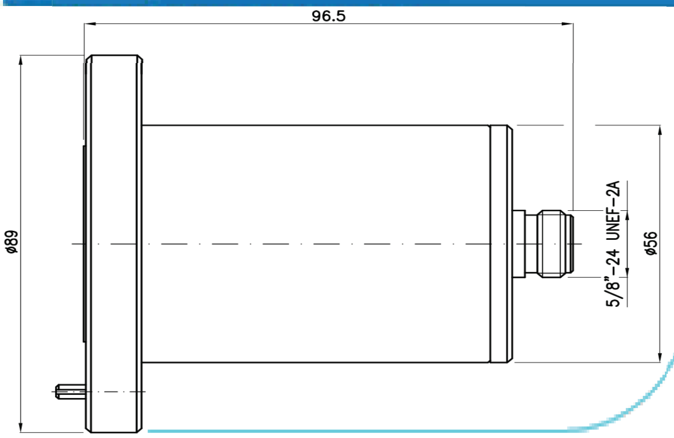
P/N 35.053.103-163



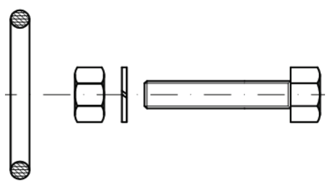
7/8" EIA FLANGE - 1.5/8" EIA FLANGE

NOTE: WITH TWO COUPLING ELEMENTS

P/N 35.033.003-008

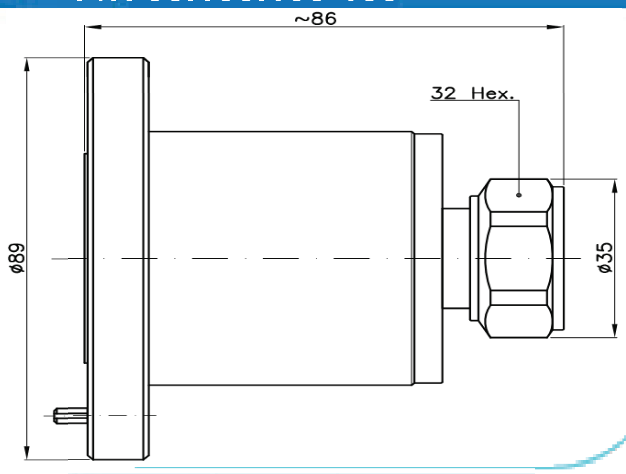


1.5/8" EIA FLANGE - N JACK

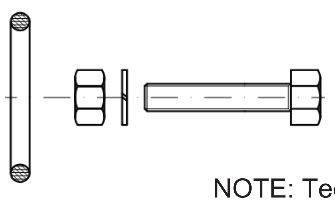


Kit: Stainless steel flange assembling (4x) and O-Ring (1x)

P/N 35.155.105-153



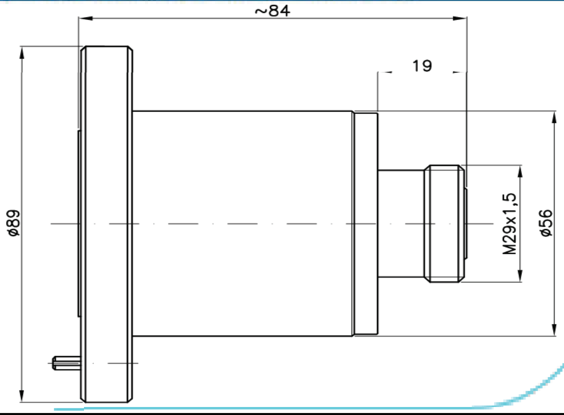
1.5/8" EIA FLANGE - 7/16 PLUG



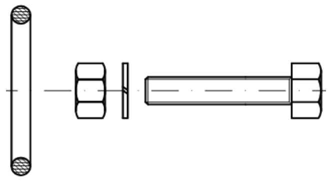
NOTE: Technical drawings on request

Kit: Stainless steel flange assembling (4x) and O-Ring(1x)

P/N 35.154.105-122



1.5/8" EIA FLANGE - 7/16 JACK

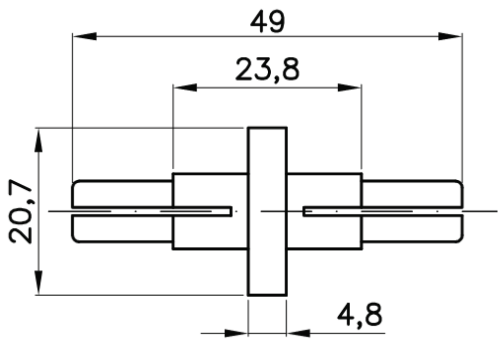


Kit: Stainless steel flange assembling (4x) and O-Ring (1x)

NOTE: Technical drawings on request

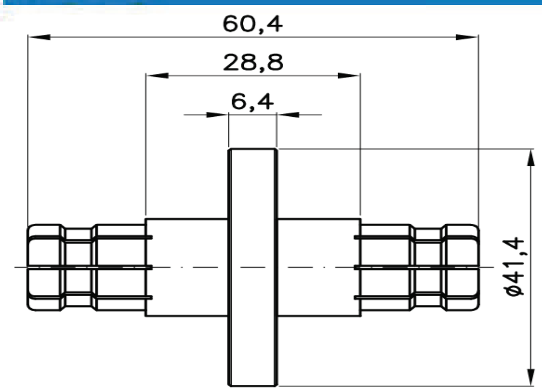
ACCESSORIES

P/N 32.000.011-001



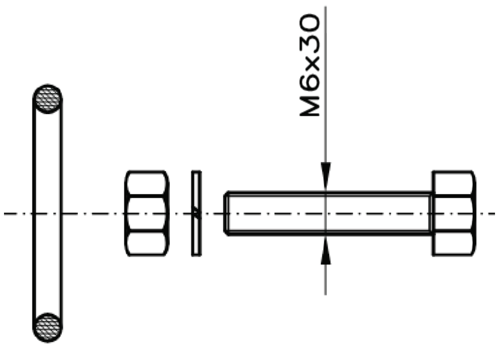
COUPLING ELEMENT FOR 7/8" EIA FLANGE

P/N 32.000.111-002



COUPLING ELEMENT FOR 1.5/8" EIA FLANGE

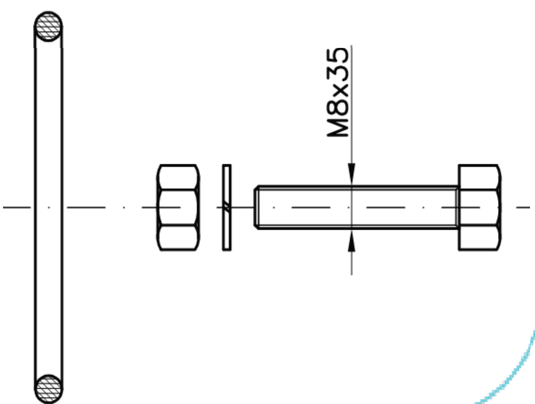
P/N 25.091.696-049



HARDWARE KIT AND O-RING FOR 7/8" EIA FLANGE

Kit: Stainless steel flange assembling (3x) and O-Ring (1x)

P/N 25.191.696-050



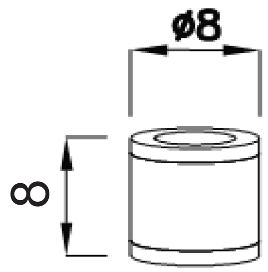
HARDWARE KIT AND O-RING FOR 1.5/8" EIA FLANGE

NOTE: Technical drawings on request

Kit: Stainless steel flange assembling (4x) and O-Ring(1x)

ACCESSORIES

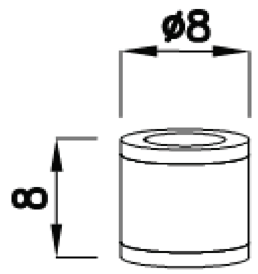
P/N 62.220.200-012



GAS CAPSULE

DC sparkover voltage: 90 V ± 20%
Nominal impulse discharge current: 20KA,wave 8/20μs
Nominal AC-sparkover-voltage 100V/μs: ≤ 500 V
Rated discharge current: 20 A

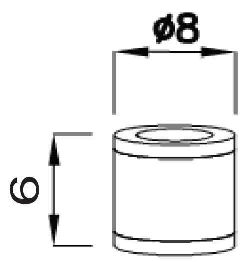
P/N 62.620.300-013



GAS CAPSULE

DC sparkover voltage: 230 V ± 20%
Nominal impulse discharge current: 10KA,wave 8/20μs
Nominal AC-sparkover-voltage 100V/μs: ≤ 500 V
Rated discharge current: 20 A

P/N 62.620.200-016



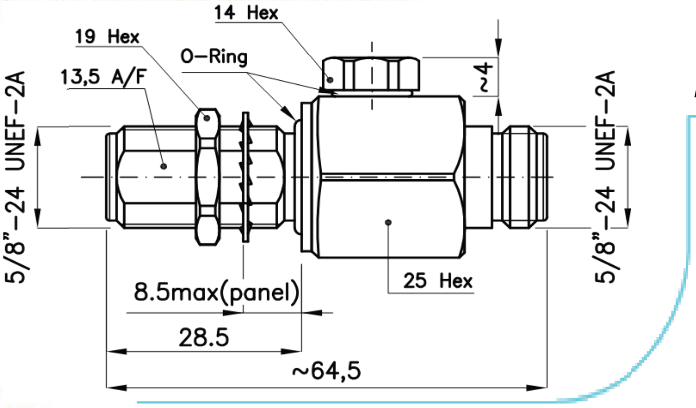
GAS CAPSULE

DC sparkover voltage: 90 V ± 20%
Nominal impulse discharge current: 20KA,wave 8/20μs
Nominal AC-sparkover-voltage 100V/μs: ≤ 500 V
Rated discharge current: 20 A

NOTE: Technical drawings on request

SURGE ARRESTERS

P/N 38.100.205-001 (*)

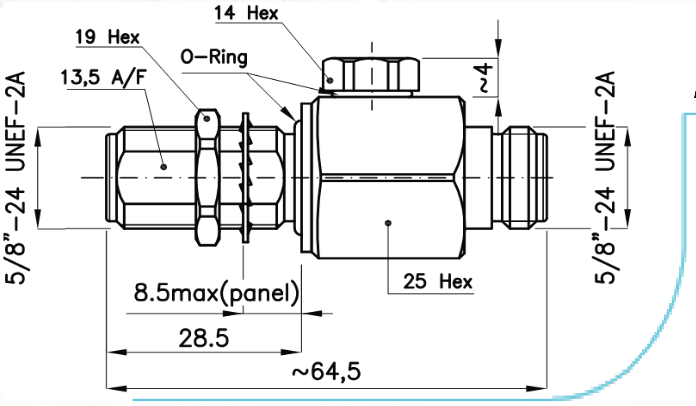


N **JACK - JACK BULKHEAD**

Panel cutout: PC03 (see page 64)

(*) Gas capsule 90V. included

P/N 38.100.205-002 (*)

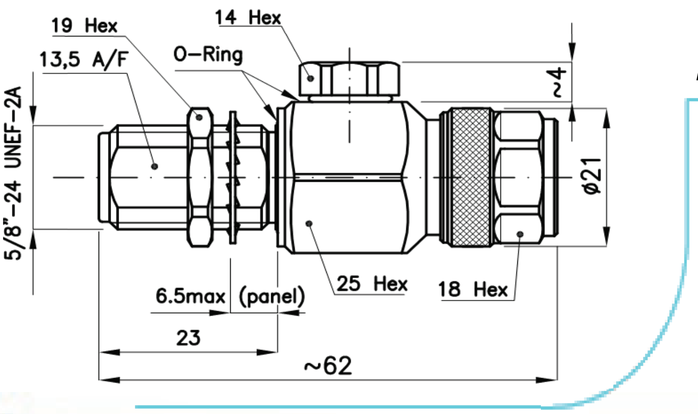


N **JACK - JACK BULKHEAD**

Panel cutout: PC03 (see page 64)

(*) Gas capsule 230V. included

P/N 38.109.206-031 (*)

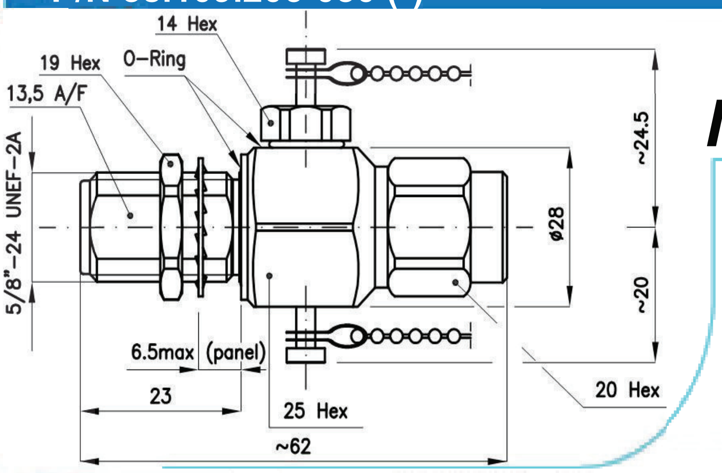


N **JACK BULKHEAD - PLUG**

Panel cutout: PC03 (see page 64)

(*) Gas capsule 230V. included

P/N 38.109.206-030 (*)



N **JACK BULKHEAD - PLUG (WITH CHAIN)**

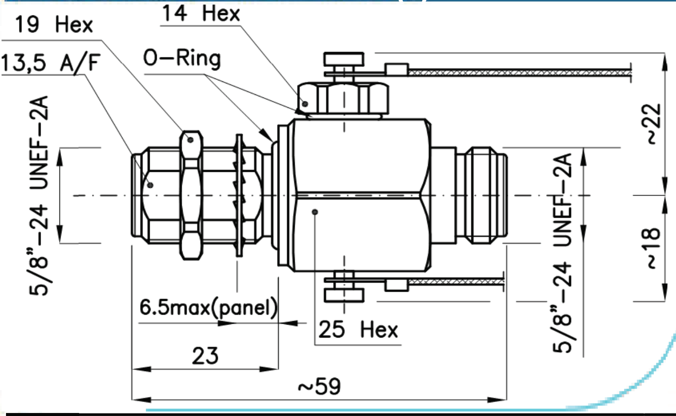
Panel cutout: PC03 (see page 64)

(*) Gas capsule 230V. included

NOTE: Technical drawings on request

SURGE ARRESTERS

P/N 38.100.206-032 (*)



N JACK - JACK BULKHEAD (with metal rope)

Panel cutout: PC03 (see page 64)

(*) Gas capsule not included

NOTE: Technical drawings on request

1/4″ S Superflexible physical foamed insulation coaxial cable

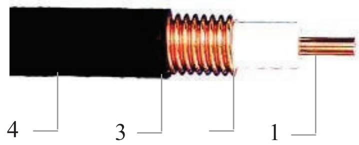
NOTE: Technical drawings on request

RF 50 1/4″ S

Description	TYPE No.	PART No.
Standard cable	RF5014S	06.014.C00-001
Fire retardant cable	RF5014SZ	06.014.C00-001/FR

Construction		
Inner Conductor	Material	Copper clad aluminum wire
	Diameter, mm	1.90±0.02
Insulation	Material	Physically foamed PE
	Diameter, mm	4.70±0.20
Outer conductor	Material	Helically corrugated copper
	Diameter, mm	6.40±0.20
Jacket	Material	PE or fire retardant PE
	Diameter, mm	7.40±0.20
Mechanical properties		
Bending radius, mm	Single	20
	Repeated	25
	Moving	-
Pulling strength, N		680
Crush resistance, kg/mm		1.8
Bending moment, N.m		0.8
Recommended temperature ℃	Store	-70~+85
	Installation	-40~+60
	Operation	-55~+85

Electrical properties	
Inner conductor DC resistance, Ω/km	9.84
Outer conductor DC resistance, Ω/km	5.06
Impedance, Ω	50±1
Inductance,µH/m	0.20
Capacitance, PF/m	79.4
Propagation velocity, %	84
DC breakdown voltage, kV	1.6
Insulation resistance, MΩ•km	>5×10^3
Peak power, kW	6.4
Screening attenuation, dB	>>120 ®
Cut-off frequency, GHz	20.4



1: Inner Conductor 2: Insulation
3: Outer conductor 4: Jacket

Attenuation and average power		
Frequency MHz	Nom. attenuation @20℃,dB/100m	Power rate @20℃,kW
10	1.83	3.97
100	5.89	1.23
200	8.41	0.865
450	12.80	0.567
800	17.40	0.419
900	18.40	0.395
1000	19.60	0.372
1500	24.30	0.299
1800	26.90	0.271
2000	28.50	0.256
2300	30.70	0.237
3000	35.60	0.204

- Maximum attenuation value shall be 105% of the nominal attenuation value

VSWR	
806~960MHz	≤1.15
1700~2200MHz	≤1.15
5~3000MHz	≤1.25

Note:

- For fire retardant jacket, recommended temperatures are:

Store temperature -30~+80℃
Installation temperature -25~+60℃
Operation temperature -30~+80℃

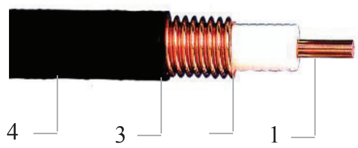
Meet the IEC requirements according to:

IEC 60754-1/2 : smoke emission ; halogen free ; no corrosive
IEC 60332-1 : flame retardant
IEC 61034 low smoke

Low loss physical foamed insulation coaxial cable

RF 50 1/2″ S - PREMIUM

Description	TYPE No.	PART No.
Standard cable	RF5012S	06.012.S00-002
Fire retardant cable	RF5012S Z	06.012.S00-002/FR



1: Inner Conductor 2: Insulation
3: Outer conductor 4: Jacket

Construction		
Inner Conductor	Material	Copper clad aluminum wire
	Diameter, mm	3.55±0.04
Insulation	Material	Physically foamed PE
	Diameter, mm	9.20±0.20
Outer conductor	Material	Helically corrugated copper
	Diameter, mm	12.00±0.20
Jacket	Material	PE or fire retardant PE
	Diameter, mm	13.60±0.20

Mechanical properties			
Bending radius, mm	Single Repeated Moving	25 30 200	
Pulling strength, N		800	
Crush resistance, kg/mm		1.9	
Recommend temperature, ℃	PE jacket	Store Installation Operation	-70~+85 -40~+60 -55~+85
	Fire retardant PE jacket	Store Installation Operation	-30~+80 -25~+60 -30~+80

Electrical properties	
Impedance, Ω	50±1
Capacitance, PF/m	82
Inductance, μH/m	0.205
Propagation velocity, %	81
DC breakdown voltage, kV	2.5
Insulation resistance, MΩ•km	>5×10³
Peak power, kW	15.6
Screening attenuation, dB	>>120
Cut-off frequency, GHz	10.2

Attenuation and average power

Frequency MHz	Nom. attenuation @20℃,dB/100m	Power rate @20℃,kW
10	1.04	10.1
100	3.41	3.08
450	7.59	1.38
690	9.58	1.158
800	10.40	1.01
900	11.20	0.943
1000	11.80	0.889
1800	16.60	0.634
2000	17.60	0.597
2200	18.61	0.566
2400	19.59	0.539
2500	20.07	0.529
2600	20.55	0.518
2700	21.02	0.507
3000	22.40	0.469

- Maximum attenuation value shall be 105% of the nominal attenuation value

VSWR	
820~960 MHz	≤1.15
1700~2200 MHz	≤1.15
2300~2400 MHz	≤1.15
2500~2700 MHz	≤1.15

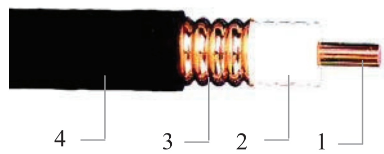
Standards	
2011/65/EU	Compliant

NOTE: Technical drawings on request

Low loss physical foamed insulation coaxial cable

RF 50 1/4″

Description	Type No.	Part No.
Standard cable	RF5014	06.014.C00-004
Fire retardant cable	RF50Z14	06.014.C00-004/FR



1: Inner Conductor 2: Insulation

3: Outer conductor 4: Jacket

Construction		
Inner conductor	Material	Bare Copper wire
	Dia. , mm	2.40±0.025
Insulation	Material	Physically foamed PE
	Dia., mm	6.40±0.20
Outer conductor	Material	Annular corrugated copper
	Dia., mm	7.50±0.20
Jacket	Material	PE or fire retardant PE
	Dia., mm	10.0±0.2

Mechanical properties		
Bending radius,mm	Single	30
	Repeated	76
	Moving	-
Pulling strength		910
Crush resistance, kg/mm		1.4
Recommended temperature, ℃	Store	-70℃~+85℃
	Installation	-40℃~+60℃
	Operation	-55℃~+85℃

Electrical properties	
Impedance, Ω	50±1
Capacitance, pF/m	80
Propagation velocity, %	82
Insulation test voltage, kV	2
Insulation resistance, MΩ•km	>10000
Peak power, kW	13
Screening attenuation, dB	>>120
Cut-off frequency, GHz	15.8
Max. Operating frequency, GHz	19
PIM3, dBc	≥160
Inductance, μH/m	0.195

Attenuation and average power

Frequency ,MHz	Nom.attenuation @20℃,dB/100m	Power rate @20℃,kW
100	4.2	1.8
450	9.2	0.82
800	12.4	0.61
900	13.2	0.57
1000	14	0.54
1800	19.2	0.39
1900	19.8	0.38
2200	21.4	0.35
2500	23	0.33
2700	24	0.31
3000	26	0.29

● Maximum attenuation value will be 105% of the nominal attenuation value.

VSWR	TYPICAL	PREMIUM
400-500 MHz	≤1.10	≤1.07
800-1000 MHz	≤1.10	≤1.08
1700-2700 MHz	≤1.10	≤1.09

Note：

● For fire retardant jacket, recommended temperatures are:

Storage temperature	-30℃~+80℃
Installation temperature	-25℃~+60℃
Operation temperature	-30℃~+80℃

Meet the IEC requirements according to:

IEC 60754-1/2 : smoke emission ; halogen free ; no corrosive

IEC 60332-1 : flame retardant

IEC 61034 low smoke

HANSEN INDUSTRIES CORPORATION

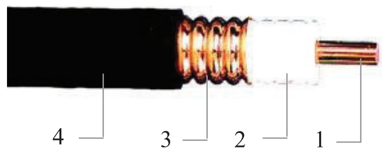
FOAM DIELECTRIC COAXIAL CABLES

Low loss physical foamed insulation coaxial cable

NOTE: Technical drawings on request

RF 50 1/2″

Description	TYPE No.	PART NO.
Standard cable	RF5012	06.012.C00-005
Fire retardant cable	RF5012 Z	06.012.C00-005 /FR



1: Inner Conductor   2: Insulation
3: Outer conductor   4: Jacket

Construction		
Inner Conductor	Material	Copper clad aluminum wire
	Diameter, mm	4.80±0.05
Insulation	Material	Physically foamed PE
	Diameter, mm	12.20±0.30
Outer conductor	Material	Ring corrugated copper
	Diameter, mm	13.80±0.20
Jacket	Material	PE or fire retardant PE
	Diameter, mm	15.80±0.20
Mechanical properties		
Bending radius , mm	Single	70
	Repeated	125
	Moving	350
Pulling strength, N		1130
Crush resistance, kg/mm		2.0
Recommended temperature ℃	Store	-70~+85
	Installation	-40~+60
	Operation	-55~+85
Electrical properties		
Impedance, Ω		50±1
Capacitance, PF/m		75.8
Propagation velocity, %		88
DC breakdown voltage, kV		4.0
Insulation resistance, MΩ•km		$>5\times10^3$
Peak power, kW		40
Screening attenuation, dB		>>120
Cut-off frequency, GHz		8.8

Attenuation and average power		
Frequency MHz	Nom. attenuation @20℃,dB/100m	Power rate @20℃,kW
10	0.672	11.30
100	2.17	3.49
200	3.10	2.44
450	4.75	1.59
800	6.46	1.17
900	6.87	1.10
1000	7.28	1.04
1500	9.09	0.833
1800	10.10	0.753
2000	10.70	0.710
2500	12.10	0.627
3000	13.40	0.565

- Maximum attenuation value shall be 105% of the nominal attenuation value

VSWR	TYPICAL	PREMIUM
800~1000MHz	≤1.15	≤1.09
1700~2200MHz	≤1.15	≤1.10
5~3000MHz	≤1.25	≤1.20

Note:

- For fire retardant cable, recommended temperatures are:
  - Store temperature -30~+80℃
  - Installation temperature -25~+60℃
  - Operation temperature -30~+80℃

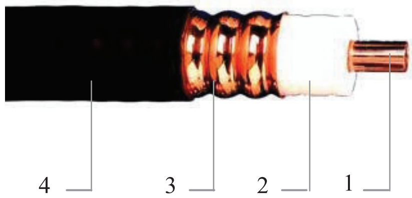
Meet the IEC requirements according to:

IEC 60754-1/2 : smoke emission ; halogen free ; no corrosive
IEC 60332-1 : flame retardant
IEC 61034 low smoke

FOAM DIELECTRIC COAXIAL CABLES

7/8″ low loss physical foamed insulation coaxial cable
RF 50 7/8″ -

NOTE: Technical drawings on request



1: Inner Conductor 2: Insulation
3: Outer conductor 4: Jacket

Description	TYPE No.	PART NO.
Standard cable	RF5078	06.078.C00-007
Fire retardant cable	RF5078 Z	06.078.C00-007/FR

Construction		
Inner Conductor	Material	Smooth copper tube
	Diameter, mm	8.95±0.05
Insulation	Material	Physically foamed PE
	Diameter, mm	22.50±0.40
Outer conductor	Material	Ring corrugated copper
	Diameter, mm	24.90±0.30
Jacket	Material	PE or fire retardant PE
	Diameter, mm	27.30±0.20
Mechanical properties		
Bending radius, mm	Single	120
	Repeated	250
	Moving	500
Pulling strength, N		1470
Crush resistance, kg/mm		1.4
Recommended temperature ,℃	Store	-70~+85
	Installation	-40~+60
	Operation	-55~+85
Electrical properties		
Impedance, Ω		50±1
Capacitance, PF/m		75
Propagation velocity, %		88
DC breakdown voltage, kV		6.0
Insulation resistance, MΩ•km		$>5\times10^{3}$
Peak power, kW		91
Screening attenuation, dB		>>120
Cut-off frequency, GHz		5.0

Attenuation and average power		
Frequency MHz	Nom. attenuation @20℃,dB/100m	Power rate @20℃,kW
10	0.366	24.6
100	1.19	7.56
200	1.72	5.26
450	2.65	3.41
800	3.63	2.48
900	3.88	2.33
1000	4.12	2.19
1500	5.18	1.74
1800	5.75	1.57
2000	6.11	1.48
2500	6.95	1.30
3000	7.76	1.16

- Maximum attenuation value shall be 105% of the nominal attenuation value

VSWR	TYPICAL	PREMIUM
800~1000MHz	≤1.15	≤1.08
1700~2200MHz	≤1.15	≤1.10
5~3000MHz	≤1.25	≤1.20

Note:

- For fire retardant cable, recommended temperatures are:

Store temperature -30~+80℃
Installation temperature -25~+60℃
Operation temperature -30~+80℃

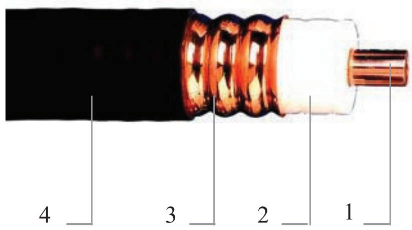
Meet the IEC requirements according to:

IEC 60754-1/2 : smoke emission ; halogen free ; no corrosive
IEC 60332-1 : flame retardant
IEC 61034 low smoke

FOAM DIELECTRIC COAXIAL CABLES

1-1/4″ low loss physical foamed insulation coaxial cable
RF 50 1-1/4″

NOTE: Technical drawings on request



1: Inner Conductor 2: Insulation
3: Outer conductor 4: Jacket

Description	TYPE No.	PART NO.
Standard cable	RF50114	06.114.C00-008
Fire retardant cable	RF50114 Z	06.114.C00-008/FR

Construction		
Inner Conductor	Material	Smooth copper tube
	Diameter, mm	13.10±0.10
Insulation	Material	Physically foamed PE
	Diameter, mm	32.80±0.40
Outer conductor	Material	Ring corrugated copper
	Diameter, mm	35.80±0.30
Jacket	Material	PE or fire retardant PE
	Diameter, mm	38.80±0.30
Mechanical properties		
Bending radius, mm	Single	200
	Repeated	380
	Moving	-
Pulling strength, N		5900
Crush resistance, kg/mm		2.2
Recommended temperature ,℃	Store	-70~+85
	Installation	-40~+60
	Operation	-55~+85
Electrical properties		
Impedance, Ω		50±1
Capacitance, PF/m		75
Propagation velocity, %		89
DC breakdown voltage, kV		9.0
Insulation resistance, MΩ•km		>5×10^{3}
Peak power, kW		205
Screening attenuation, dB		>>120
Cut-off frequency, GHz		3.3

Attenuation and average power

Frequency MHz	Nom. attenuation @20℃,dB/100m	Power rate @20℃,kW
10	0.253	38.6
100	0.832	11.7
200	1.20	8.12
450	1.87	5.22
800	2.59	3.78
900	2.77	3.53
1000	2.94	3.32
1500	3.73	2.62
1800	4.16	2.35
2000	4.43	2.21
2500	5.08	1.92
3000	5.68	1.72

- Maximum attenuation value shall be 105% of the nominal attenuation value

VSWR

800~1000MHz	≤1.15
1700~2200MHz	≤1.15
5~3000MHz	≤1.25

Note:

- For fire retardant cable, recommended temperatures are:

Store temperature -30~+80℃
Installation temperature -25~+60℃
Operation temperature -30~+80℃

Meet the IEC requirements according to:

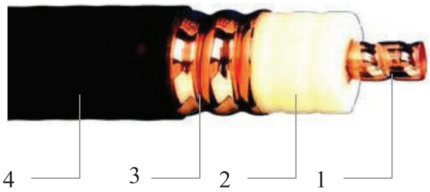
IEC 60754-1/2 : smoke emission ; halogen free ; no corrosive
IEC 60332-1 : flame retardant
IEC 61034 low smoke

HANSEN INDUSTRIES CORPORATION

FOAM DIELECTRIC COAXIAL CABLES

1-5/8″ low loss physical foamed insulation coaxial cable
RF 50 1-5/8″

NOTE: Technical drawings on request



1: Inner Conductor 2: Insulation
3: Outer conductor 4: Jacket

Description	TYPE No.	PART NO.
Standard cable	RF50158	06.158.C00-009
Fire retardant cable	RF50158 Z	06.158.C00-009/FR

Construction		
Inner Conductor	Material	Helically corrugated copper
	Diameter, mm	17.30±0.10
Insulation	Material	Physically foamed PE
	Diameter, mm	43.50±0.60
Outer conductor	Material	Ring corrugated copper
	Diameter, mm	46.50±0.30
Jacket	Material	PE or fire retardant PE
	Diameter, mm	49.50±0.40
Mechanical properties		
Bending radius, mm	Single	300
	Repeated	510
	Moving	--
Pulling strength, N		3630
Crush resistance, kg/mm		2.1
Recommended temperature ,℃	Store	-70~+85
	Installation	-40~+60
	Operation	-55~+85
Electrical properties		
Impedance, Ω		50±1
Capacitance, PF/m		76
Propagation velocity, %		88
DC breakdown voltage, kV		11
Insulation resistance, MΩ•km		>5×10^3
Peak power, kW		315
Screening attenuation, dB		>>120
Cut-off frequency, GHz		2.5

Attenuation and average power		
Frequency MHz	Nom. attenuation @20℃,dB/100m	Power rate @20℃,kW
10	0.202	54.3
100	0.671	16.4
150	0.834	13.2
200	0.976	11.3
300	1.22	9.01
450	1.53	7.18
800	2.13	5.15
900	2.29	4.81
1000	2.43	4.52
1500	3.11	3.54
1800	3.47	3.17
2000	3.71	2.96
2500	4.27	2.58

- Maximum attenuation value shall be 105% of the nominal attenuation value

VSWR	
800~1000MHz	≤1.15
1700~2200MHz	≤1.15
5~3000MHz	≤1.25

Note:
- For fire retardant cable, recommended temperatures are:

Store temperature -30~+80℃
Installation temperature -25~+60℃
Operation temperature -30~+80℃

Meet the IEC requirements according to:
IEC 60754-1/2 : smoke emission ; halogen free ; no corrosive
IEC 60332-1 : flame retardant
IEC 61034 low smoke

Hansen® HANSEN INDUSTRIES CORPORATION

AIR DIELECTRIC COAXIAL CABLES

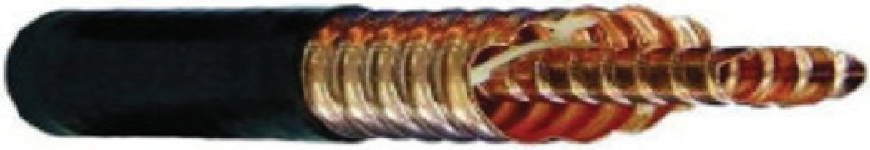
CABLE CONSTRUCTION

NOTE: Technical drawings on request

7/8"

1 - 5/8"

3 -1/8"



CHARACTERISTICS

	3-1/8"	1-5/8"	7/8"
peak rating power MW 550 ~ 1600 kHz	50 kW	10 kW	3kW
peak rating power FM 88 ~ 108 MHz	10 kW	5 kW	0,3 kW
peak rating power TV CH1 to CH 68	10 kW	1 kW	0,3 kW
Inner conductor type	Helix corrugated copper tube	Helix corrugated copper tube	Smooth copper tube
Inner conductor diameter	34,7 mm	18,5 mm	9,3 mm
Dielectric type	PE Strip	PE Strip	PE Strip
Dielectric diameter	75,2 mm	39,7 mm	20,8 mm
Outer conductor type	Helix corrugated copper tube	Helix corrugated copper tube	Helix corrugated copper tube
Outer conductor diameter	85,4 mm	46,5 mm	25,2 mm
Outer jacket type	PE	PE	PE
Outer jacket diameter	91 mm	51 mm	29 mm
Cable weight	3538 kg/km	1545 kg/km	786 kg/km
Minimum Bending radius single	380 mm	180 mm	90 mm
Minimum Bending radius multiple	1100 mm	550 mm	300 mm
permissible temp. range installation	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C
permissible temp. range option	-45°C ~ +85°C	-45°C ~ +85°C	-45°C ~ +85°C
impedence	50 Ohm ±0,5	50 Ohm ±0,5	50 Ohm ±0,5
propagation velocity	96%	95%	93%
Maximum operating Freq.	1,55 GHz	3,0 GHz	3,0 GHz
Cut Off Frequency	1,66 GHz	3,1 GHz	6,0 GHz
Peak Power	940 kW	270 kW	73 kW
DC Break down voltage	9,7 kV	5,2 kV	2,7 kV
DC resistance inner conductor	0,40 Ohm/km	1,10 Ohm/km	0,40 Ohm/km
DC resistance outer conductor	0,12 Ohm/km	0,31 Ohm/km	0,12 Ohm/km
Capacitance	70 pF/m	71 pF/m	71 pF/m
VSWR MW	≤ 1,06	≤ 1,06	≤ 1,06
VSWR FM	≤ 1,08	≤ 1,08	≤ 1,08
VSWR TV - CH 1 ~ CH12	≤ 1,10	≤ 1,10	≤ 1,10
VSWR TV - CH 12 ~ CH24	≤ 1,12	≤ 1,12	≤ 1,12
VSWR TV - CH 25 ~ CH68	≤ 1,13	≤ 1,13	≤ 1,13

NOTE: Technical drawings on request

CHARACTERISTICS

	3-1/8"		1-5/8"		7/8"	
Attenuation and Average power rating @ Frequency	attenuation dB/100 m	Average Power rating kW	attenuation dB/100 m	Average Power rating kW	attenuation dB/100 m	Average Power rating kW
0,50 MHz	0,025	790	0,043	270	0,081	73
1 MHz	0,035	560	0,061	198	0,115	73
1,6 MHz	0,044	440	0,077	156	0,146	68
3 MHz	0,060	320	0,106	114	0,200	50
6 MHz	0,086	227	0,150	81	0,283	35
10 MHz	0,111	176	0,194	62	0,370	27
20 MHz	0,158	124	0,275	44	0,520	19,2
30 MHz	0,193	80	0,350	27,9	0,640	12,6
100 MHz	0,370	43	0,650	15,2	1,190	6,8
200 MHz	0,520	30	0,900	10,7	1,690	4,8
500 MHz	0,850	18,5	1,460	6,7	2,720	2,99
800 MHz	1,011	14,4	1,870	5,2	3,500	2,34
1000 MHz	1,260	12,7	2,100	4,6	3,900	2,08
2000 MHz	-	-	3,100	3,2	5,800	1,43
Standard condition for attenuation:VSWR 1,0 cable temperature 20°C atmospheric pressure						
Standard condition for average power:VSWR 1,0 ambient temp. 40°C , inner conductor temp 200°C dry air, atmospheric pressure no solar loading						

GROUNDING KIT

Device peculiarities

- simple
- low cost
- high reliability
- easily installable
- with performancies validated by authorized Entities and fully demonstrated “on field”
- able to assure full functionality and security in the extreme environmental situations in term of temperature, humidity and sun irradiation

thus allowing to fully protect the installed cables, antennas and varius equipments against lightening damages, the connection continuity is than guaranted to all service Users (**broadcasting, mobile telephone system**) even in the worst atmosphere conditions.

GROUNDING KIT

What are they

Grounding kit are simple components from both view points, functional and mechanical but they are able to connect to ground in an effective way the outer conductor of a coaxial cable.
They are made by a metal contact (or band) to be coupled with the external surface of the cable to be protected; its output will be connected to the metal tower structure by means of a dedicated cable. A special gasket will assure the waterproofing feature toward the external environment in order to garantee the lasting of the electrical contact functionality. In addition, a metal collar (jaws) will maintain the necessary pressure level to guarantee the contact effectivenees in the future.

Why using them

Their use is necessary to avoid that overvoltages produced by lightnings directly falling over the telecommunication systems or generated by these falling nearby, will damage the involved devices or the coaxial cables connecting them to the antennas.
Consequencies would be the interruption of the service to Users.

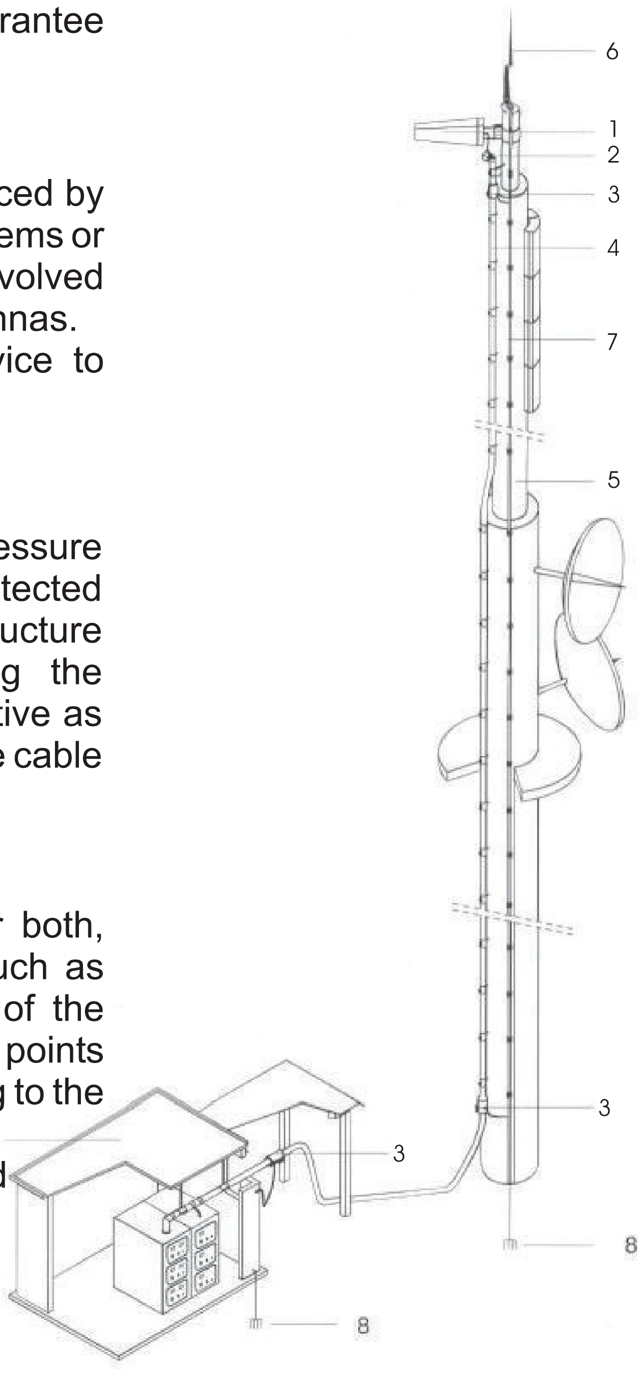
How do they work

The contact spring (or metal band) that determines the pressure over the surface of the external coaxial cable to be protected convey the lightning current toward the tower metal structure that, in turn, scatter it to ground without affecting the telecommunication systems. Its action is as much effective as lower is the resistance between the contact spring and the cable surface.

Where are they used

They are used on all telecommunication systems, for both, military and civil purposes, that need to reduce as much as possible the possibility to go out of service because of the lightning consequencies. They will be installed on several points of the cable according to the connection lenght, according to the probability of the system to be hit by the lightnings (evaluation defined according to the statistc result) and according to the system complexity.

1 - Antenna
2 - Coaxial protection against lightnings
3 - Grounding kits with a direct connection
To the grounding equipotential line of the tower
4 - RF coaxial cable
5 - Tower
6 - Lightning arrester
7 - Ground cable or ground strap
8 - Ground electrode
9 - Housing of receiver/transmitter equipments



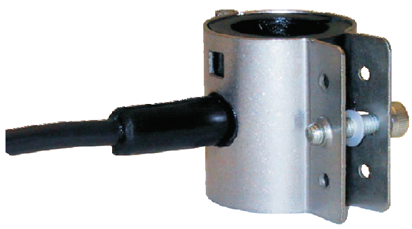
GROUNDING KIT

GROUND CONDUCTOR CONNECTION VERSIONS

To satisfy all installation needs, different solutions have been foreseen as far as the ground conductor vs the contact spring is concerned. The objective is that to obtain an interconnection between the coaxial cable and the ground system by avoiding mechanical tortions / mechanical strain of the conductor itself (to remind that its large section of 16 square mm could cause heavy efforts on the contact spring with some negative consequences: reduction of its contact quality or the contact surface on the coaxial cable external conductor. In both cases the effectivenes of the grounding kit could be geopardized.

STRAIGHT

It allows a linear connection between the grounding kit and the choosen spanning.
This solution is recommended when the spanning point is nearby the grounding kit and if no other coaxial cable other than the one to be protected crosses the area.
It can also be used in any other situations of the communications system provide that, because of other installation constraints, it does not imply sharp plies nor excessive bends of the cable itself.

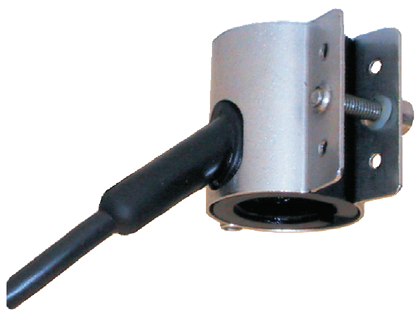


R/A

This is the solution according to which the ground conductor is parallel to the axis of the grounding kit.
Its compactness allows its installation in some very narrow areas or when the coaxial cables to be protected are very closed to each other.
The grounding conductor is initially connected to the grounding system in a parallel line to the protected cable, before bending it in a wide shape to avoid mechanical straining on the contact spring that would result in a lower effectiveness of the grounding kit.

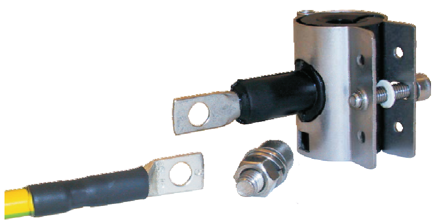
AT 45°

This version represent a good compromise between the previous ones.
Should the grounding kit and the grounding connection point of the tower be in line, the grounding conductor can be connected without any straining and, eventually, with a light inclination.
Should other cables be present, the 45° inclination allows to install the grounding conductor parallel to the cable to be protected and than crossed among the other cables present on the structure.



APART

Taking into consideration that sometimes the installer must evaluate the most appropriate solution when already on site (grounding position on the tower difficult to be managed or to be specifically analysed) a neutral version is available. This enable the installer to undertake whatever decisio according to the existing situation. In this case the kit is not supplied as a unique device, but rather the ground conductor (already connected to the cable terminal) is supplied separately as an addons. It is than possible to define the length according to the real situation and to connect the other side of the ground conductor to the cable terminal associated to the contact spring.

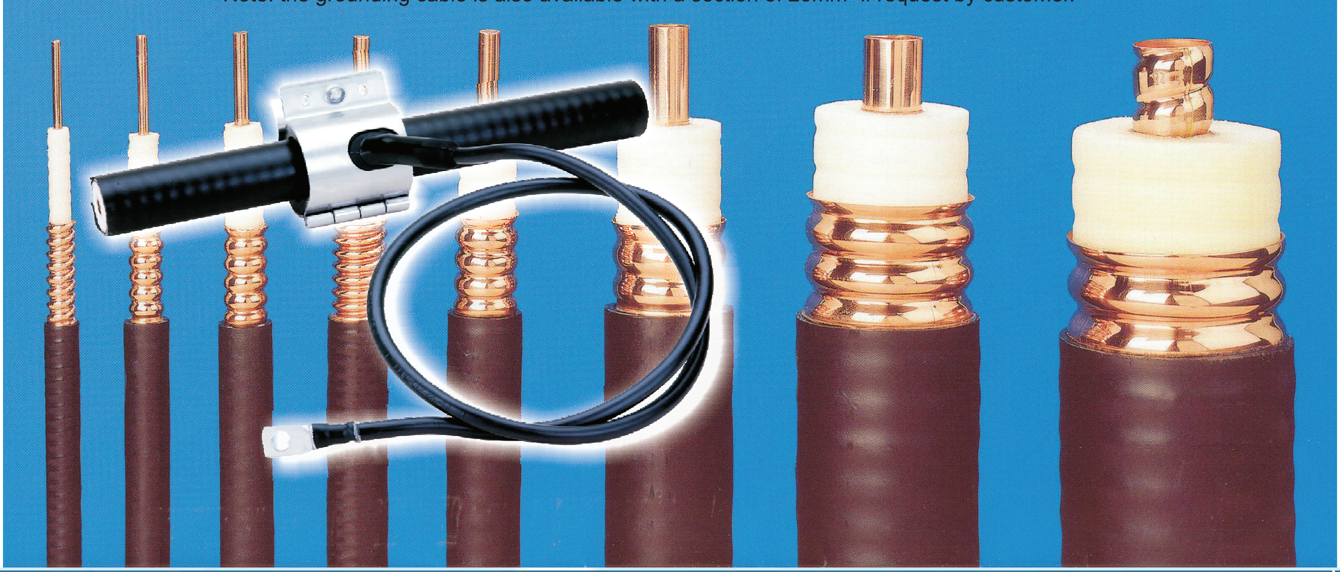


GROUNDING KIT

VERSION FOR CORRUGATED COAXIAL CABLE

CABLE TYPE	GROUNDING CONDUCTOR				
	STRAIGHT	90°	45°	$16mm^2$	CODE
1/4” LCF+3/8” SFLX	X			X	11.020.603-165
1/4” LCF+3/8” SFLX		X		X	11.120.603-166
1/4” LCF+3/8” SFLX			X	X	11.500.603-169
3/8” LCF	X			X	11.000.100-170
3/8” LCF		X		X	11.100.100-249
3/8” LCF			X	X	11.500.100-252
1/2” LCF	X			X	11.000.200-172
1/2” LCF		X		X	11.100.200-173
1/2” LCF			X	X	11.500.200-176
1/2” SFLX	X			X	11.000.002-254
1/2” SFLX		X		X	11.100.002-256
1/2” SFLX			X	X	11.500.002-258
7/8” LCF/SFLX	X			X	11.000.304-179
7/8” LCF/SFLX		X		X	11.100.304-180
7/8” LCF/SFLX			X	X	11.500.300-260
1 1/4” LCF	X				11.010.400-184***
1 1/4” LCF		X			11.110.400-185***
1 1/4” LCF			X		11.510.400-188***
1 5/8” LCF	X				11.010.500-189***
1 5/8” LCF		X			11.110.500-190***
1 5/8” LCF			X		11.510.500-193***
2 1/4” LCF	X				11.010.700-194***
2 1/4” LCF		X			11.110.700-195***

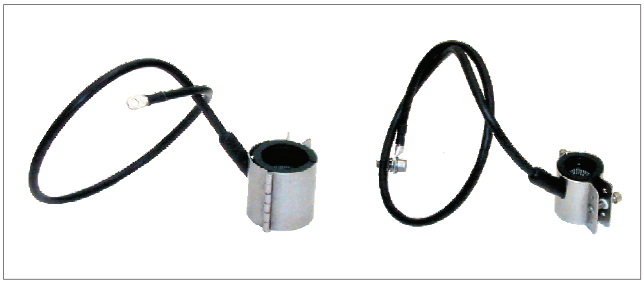
Note: the grounding cable is also available with a section of 25mm² if request by customer.



GROUNDING KIT

VERSION FOR "COMMSCOPE" CABLE

CABLE TYPE	GROUNDING CONDUCTOR				
	STRAIGHT	90°	45°	$16mm^2$	CODE
1/2" SFLX			X	X	11.507.002-272
1/2"			X	X	11.507.200-274
7/8"			X	X	11.507.300-273
1 1/4"			X		11.517.400-275
1 5/8" LCF			X		11.517.500-243



VERSION FOR COAXIAL CABLE USING A STRANDED WIRE AS SHIELD

CABLE TYPE	GROUNDING CONDUCTOR				
	STRAIGHT	90°	45°	$16mm^2$	CODE
RG-58/RG-223	X			X	11.003.000-163
RG-58/RG-223		X		X	11.103.000-164
RG-59/ET2PA981	X			X	11.002.000-161
RG-59/ET2PA981		X		X	11.002.000-162
CMT 300/L45466-B15-C10	X			X	11.006.000-262
CMT 300/L45466-B15-C10		X		X	11.106.000-264
L45466-B18-C76/C56			X	X	11.505.000-198
L45466-B18-C76/C56	X			X	11.005.000-200

Note: the grounding cable is also available with a section of 25mm² if request by customer.

CABLE TYPE	OUTER CONDUCTOR DIAMETER	SHIELD OUTER DIAMETER	CONFIGURATION
RG-58	3,6 mm	4,95 mm	
RG-59	4,4 mm	6,1 mm	
RG-223	4,2 mm	5,3 mm	
CMT 300/L45466-B15-C10	5,6 mm	7,6 mm	
L45466-B18-C56	8 mm	10,2 mm	
L45466-B18-C76	8 mm	10,3 mm	

GROUNDING KIT

Technical specifications:

- Compact structure
- Easily installable in a short time
- Tested to the atmospheric discharges (lightning tests to verify the compliance to the standards IEC 61312-1 c/o CESI)
- Low contact resistance (lower than 1 mOhm)
- Waterproof test according to Ip67 (test done by CESI)
- Resistant to corrosion
- Resistant to environmental agents (Std IEC 68-2-14)

Materials

- Tightening jaws/Metal band: Steel AISI 304
- Gasket: EPDM Rubber
- Contact: Stainless steel
- Grounding cable: Copper stranded wire of 16 mm².
  Insulated with PVC black colour - Std CEI 20-22
  (Different sections can be used according to Customer Requirements)

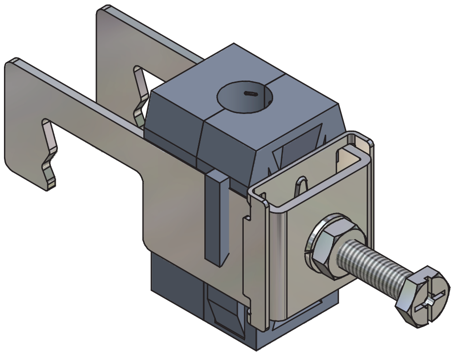
CESI Certifications:

P / n	TYPE	CABLE VERSION
A7031112	Lightning tests	Monolithic version
AT-A3/023236	Lightning tests	Commscope
AT-A3/023234	Lightning tests	Corrugated
AT-A3/023232	Lightning tests	Corrugated
AT-A3/023231	Lightning tests	Corrugated
A0/010545	Protection level	IP66 / IP67
A0/010535	Protection level	IP66 / IP67
A0/001770	Protection level	IP66 / IP67
A2/015744	Vibration test	

GROUNDING KIT

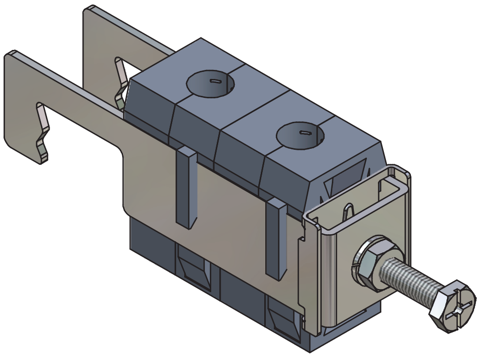
P/N 14.020.210-268

CABLE CLAMPS COMPLETE WITH CALIBRATED SADDLES



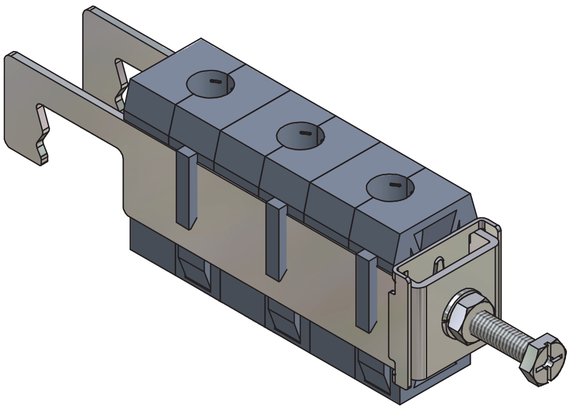
1/4"x1

P/N 14.023.000-264



1/4"x2

P/N 14.022.210-269



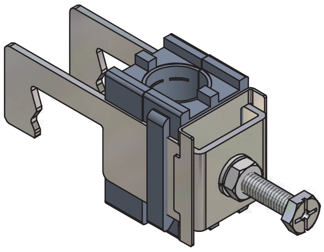
1/4"x3

NOTE: Technical drawings on request

GROUNDING KIT

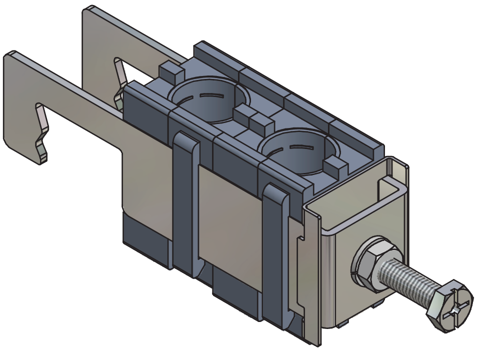
P/N 14.030.040-137

CABLE CLAMPS COMPLETE WITH CALIBRATED SADDLES



1/2"x1

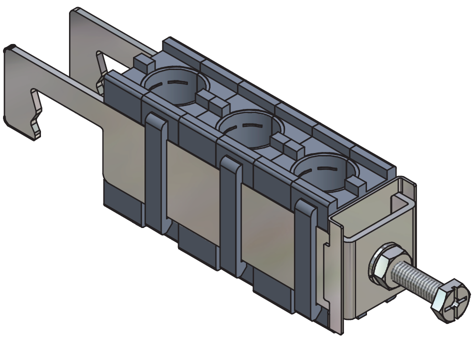
P/N 14.031.040-151



1/2"x2

P/N 14.032.040-165

1/2"x3

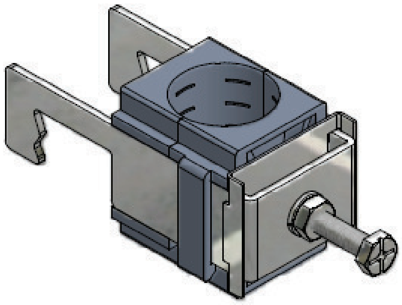


NOTE: Technical drawings on request

GROUNDING KIT

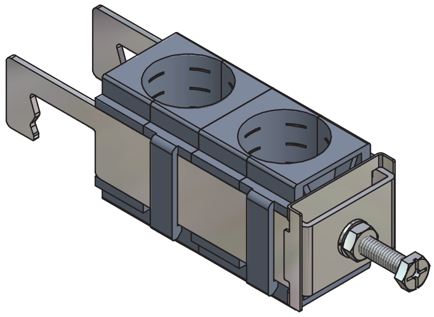
P/N 14.030.080-141

CABLE CLAMPS COMPLETE WITH CALIBRATED SADDLES



7/8"x1

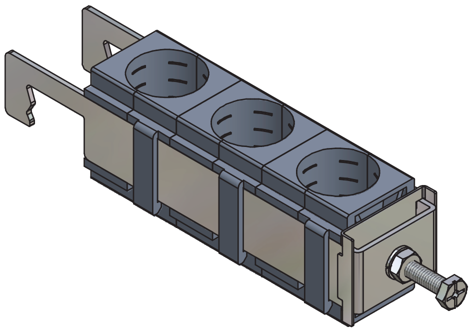
P/N 14.031.80-155



7/8"x2

P/N 14.032.080-169

7/8"x3

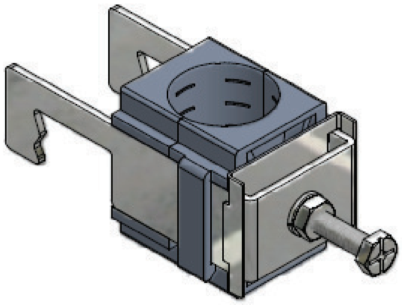


NOTE: Technical drawings on request

GROUNDING KIT

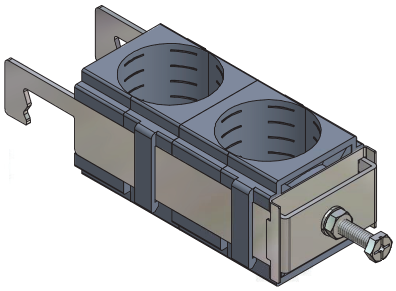
P/N 14.040.210-273

CABLE CLAMPS COMPLETE WITH CALIBRATED SADDLES



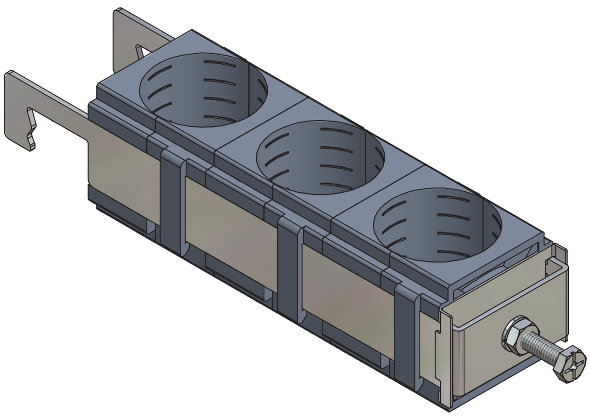
1-1/4"x1

P/N 14.041.210-274



1-1/4"x2

P/N 14.042.210-275



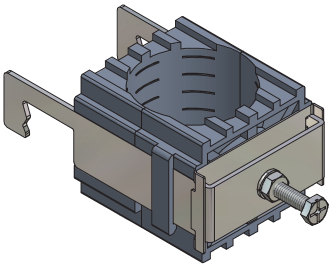
1-1/4"x3

NOTE: Technical drawings on request

GROUNDING KIT

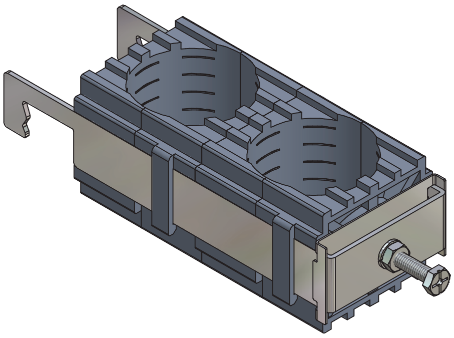
P/N 14.040.210-276

CABLE CLAMPS COMPLETE WITH CALIBRATED SADDLES



1-5/8"x1

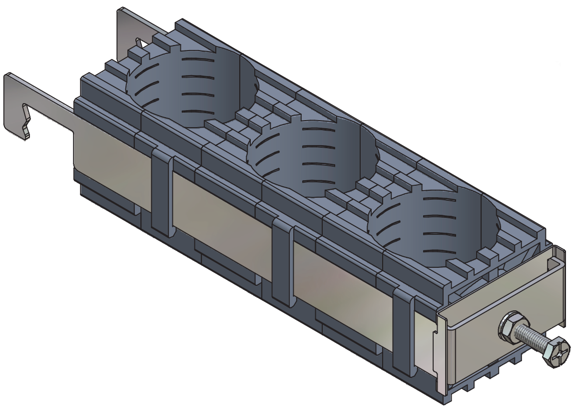
P/N 14.041.210-277



1-5/8"x2

P/N 14.042.210-278

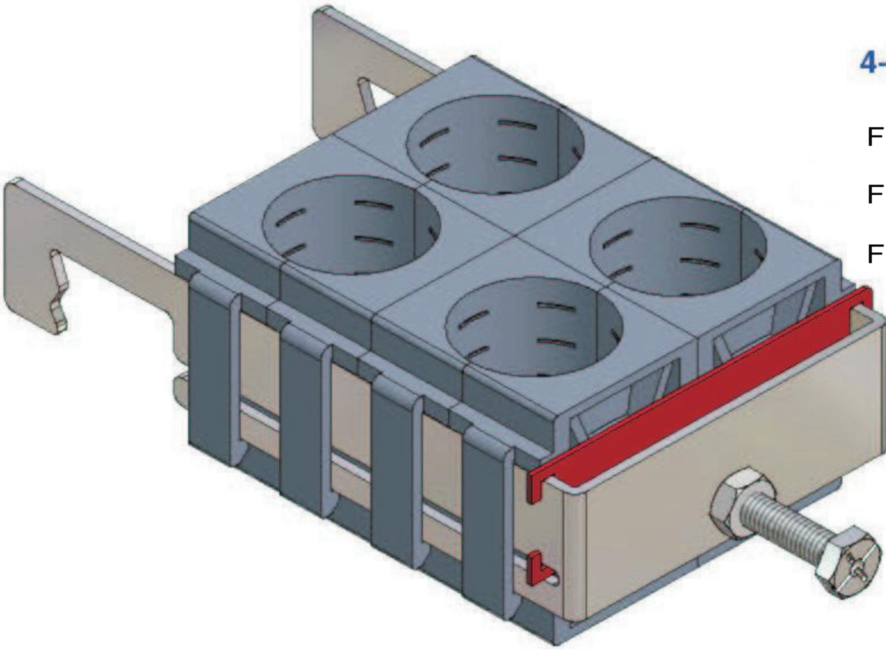
1-5/8"x3



NOTE: Technical drawings on request

GROUNDING KIT

CABLE CLAMPS COMPLETE WITH CALIBRATED SADDLES FOR CABLES 1/4" - 1/2" - 7/8"



4-RF CABLES

For 1/4" **P/N 14.023.000-260**

For 1/2" **P/N 14.023.040-259**

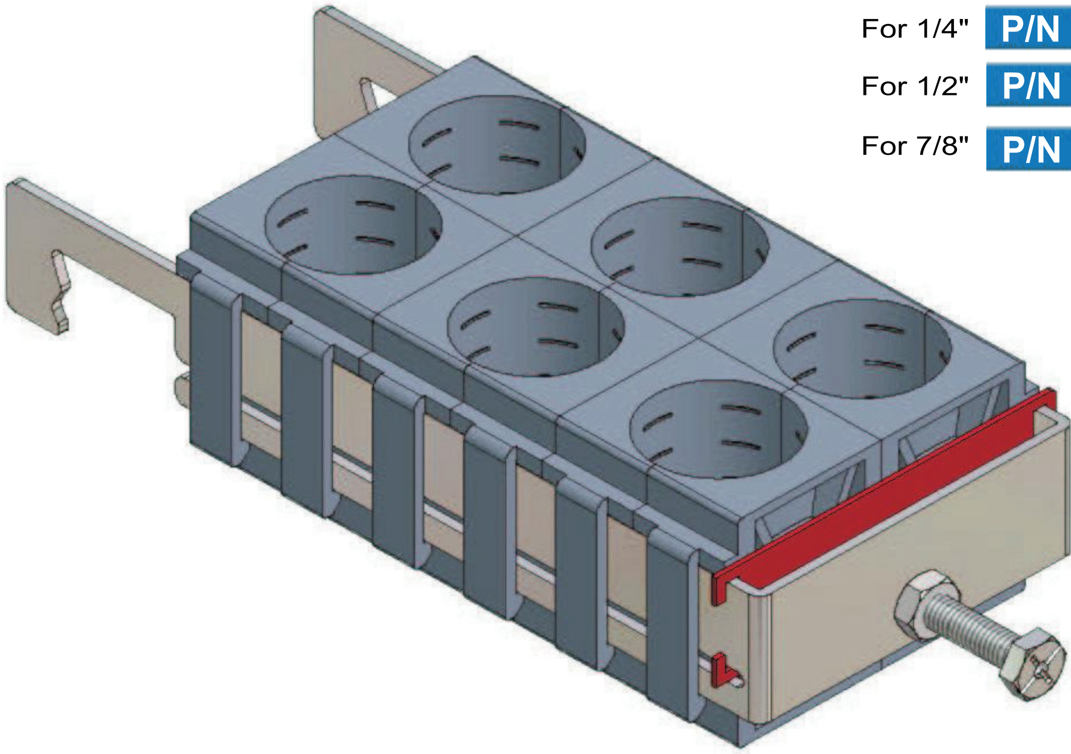
For 7/8" **P/N 14.023.070-258**

8-RF CABLES

For 1/4" **P/N 14.024.000-263**

For 1/2" **P/N 14.024.040-262**

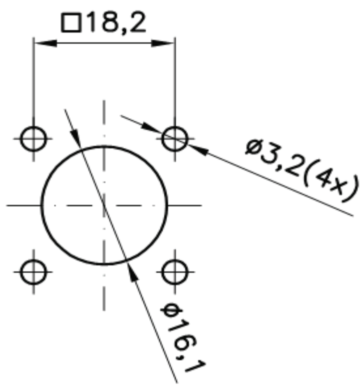
For 7/8" **P/N 14.024.070-261**



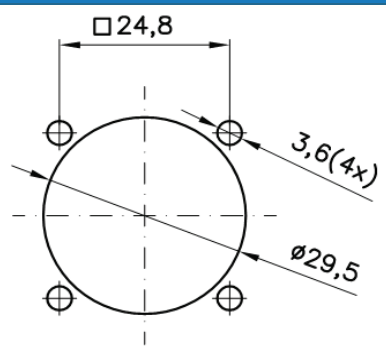
NOTE: Technical drawings on request

PANEL CUTOUT DIMENSIONS

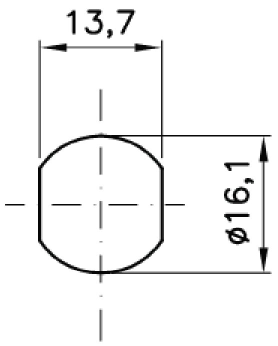
PC01



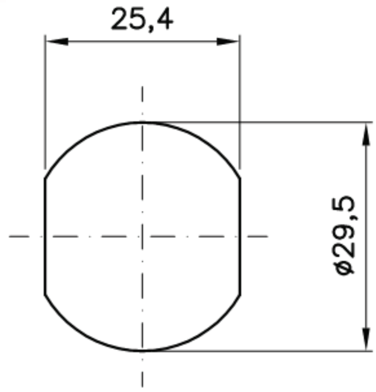
PC02



PC03



PC04



NOTE: Technical drawings on request

Company Capabilities

DESIGN
° Implemented internally by CPE's Technical Office
° According to the appropriate international standards
° Monitoring and verification with customer is very much appreciated
° By using the most updated and sophisticated CAD tools

DEVELOPMENT
° Synergy between Technical Office and Prototype Lab
° Check and result measurements are constantly performed prior to releasing the project for production
° Documentation to production departments includes process flow after having been discussed with production specialists
° Special care to documentation updating and security

MANUFACTURING - ASSEMBLING - INTEGRATION
° Any detailed description of the equipment settings, procedure to be followed, special attention and intermediate checks have to be described in detail on the released document to factory
° Flow of operations must be avalaible to all operators involved
° A check list must be filled in order to allow complete product traceability
° Each product will be reconsigned by its Lot number
° When appropriate/requested al products will show the serial number as well

TEST
° Final tests are performed by skilled specialists and the result obtained are recorded
° Their frequent assessments are also made in order to constantly ascertain production process effectiveness

Quality Certification

EN ISO 9001:2008
EN ISO 14001: 2004
EN ISO 9100 : 2009

All company activities must comply with the procedures described by the quality manual.
Audits are performed by internal Quality Assurance People as well as by external Advisors, external certified Centres and COSTUMERS.

cpe italia GROUP

"The future is now"

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