Rigid Lines and Cable Connectors

SPINNER supplies three types of rigid line systems: the EIA system, the SMS system and the flaring technique system (BT).

The indicated technical data are also valid for rigid line elbows, which perform significantly better than the values established by the relevant international standards. The proof voltage values refer to sea level.

EIA System

Coaxial flange connectors, generally known as “EIA flanges”, are connected by a coupling element. The flange connector system complies with EIA STD RS-225, 339 IEC, DIN EN 122150 and MIL-F 24044. EIA flange connectors are excellently suited for pressurized systems and outdoor installations.

SMS System

The SPINNER quick clamping system, called “SMS”, complies with international rigid line standards including EIA STD RS 225, 339 IEC and DIN EN 122150.

Its parts are connected by coupling elements and secured by clamps. The major advantage of the SMS system is that customers can easily cut the rigid line to length on site without the need for flaring or brazing. Assembly is therefore very simple and requires no special tools.

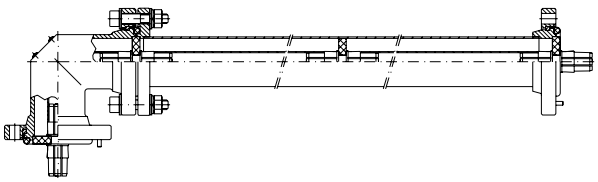
The SMS system is only suitable for indoor use.

Flaring Technique System (BT)

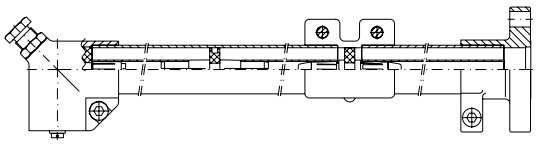
The outer conductor tube is flared using a SPINNER flaring tool. Its parts are connected by coupling elements. The electrical contact at the outer conductor consists of a metallic ring mounted on the edge of the coupling elements’ insulation disk. The resulting very stable connection ensures high RF tightness and a repeatable electrical length.

The 52-120 BT flaring technique system is intended for indoor use and designed to handle RF power at levels up to 860 MHz. Please keep in mind that internal supports may be required, depending on the line length, to prevent the inner conductor from sagging.

Note:
For DVB or DAB operation, please note that the transmittable power is limited either by the proof voltage, taking the crest factor into account, or by the average power. When operating multiple transmitters, please base this on the sum of the individual proof voltages. The same thing applies to analog operating mode.



Example of assembly EIA



Example of assembly SMS

Rigid Lines & Cable Connectors

EIA and SMS/BT Components

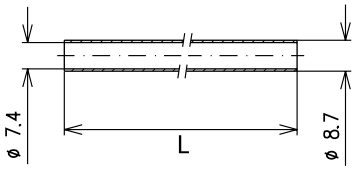
Size	Average Power at +40 °C Ambient Temperature		
	100 MHz	230 MHz	860 MHz
7/8" EIA	≤ 7.60 kW	≤ 5.0 kW	≤ 2.6 kW
1 5/8" EIA	≤ 20.0 kW	≤ 13.5 kW	≤ 7.0 kW
3 1/8" EIA	≤ 67.0 kW	≤ 44.0 kW	≤ 23.0 kW
4 1/2" EIA (339 IEC 50-105)	≤ 112.0 kW	≤ 74.0 kW	≤ 38.0 kW
6 1/8" EIA	≤ 224.0 kW	≤ 148.0 kW	≤ 78.0 kW (800 MHz)
7/8" SMS	≤ 7.60 kW	≤ 5.0 kW	≤ 2.6 kW
1 5/8" SMS-1	≤ 19.60 kW	≤ 13.0 kW	≤ 7.0 kW
1 5/8" SMS-2	≤ 20.0 kW	≤ 13.5 kW	≤ 7.0 kW
3 1/8" SMS	≤ 63.0 kW	≤ 42.0 kW	≤ 22.0 kW
4 1/2" SMS	≤ 106.0 kW	≤ 70.0 kW	≤ 37.0 kW
52-120 SMS	≤ 140.0 kW	≤ 92.0 kW	≤ 47.0 kW
52-120 BT	≤ 142.0 kW	≤ 93.0 kW	≤ 48.0 kW
6 1/8" SMS	≤ 213.0 kW	≤ 140.0 kW	≤ 72.0 kW (800 MHz)

Rigid Line Components 7/8" EIA

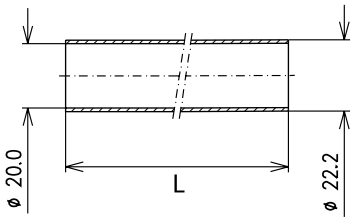
- Very stable rigid line system
- Low insertion loss
- Low VSWR
- PTFE insulation
- Designed for pressure tight systems
- For outdoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	≈ 0.28 kg ≈ 0.57 kg	**BN A02402** **BN K20265C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	≈ 1.35 kg ≈ 2.70 kg	**BN A02403** **BN K21751C0004**
Inner support		≈ 0.01 kg	**BN 542768**
Fixed flange for brazing		≈ 0.17 kg	**BN 006121**
Coupling element incl. screw set		≈ 0.05 kg	**BN 911715**
90° Elbow		≈ 0.59 kg	**BN 837105**
Impedance		50 Ω	
Cut off frequency for H11-Mode		6.3 GHz	
Proof voltage at sea level (NN)		3.8 kV	
Frequency range		0 ≤ f ≤ 5.3 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 7.6 kW ≤ 5.0 kW ≤ 2.6 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	1.21 1.84 3.55	

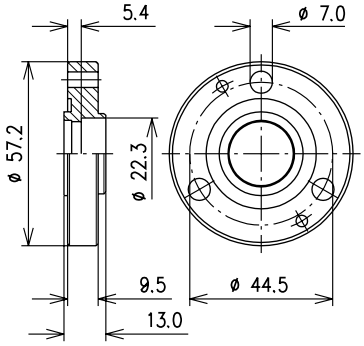
Rigid Line Components 7/8" EIA



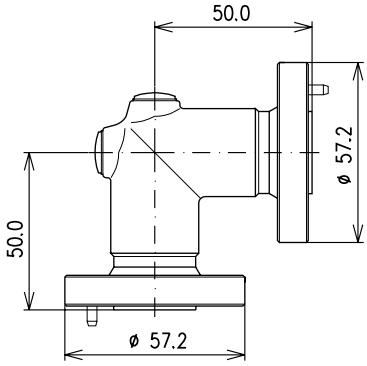
Inner conductor tube
BN A02402; BN K20265



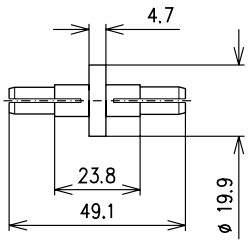
Outer conductor tube (not painted)
BN A02403; BN K21751



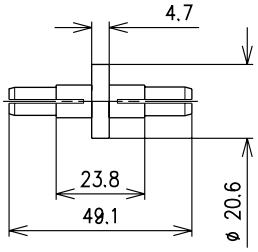
Fixed flange for brazing
BN 006121



90° Elbow
BN 837105



Inner support
BN 542768



Coupling element
BN 911715

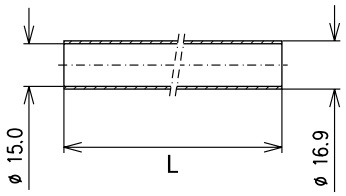
Length of rigid line L	Number inner supports required
1.0 m ≤ L ≤ 2.0 m	1
2.0 m < L ≤ 3.0 m	2
3.0 m < L ≤ 4.0 m	3

Rigid Line Components 1 5/8" EIA

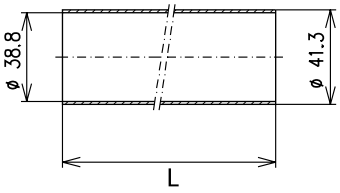
- Very stable rigid line system
- Low insertion loss
- Low VSWR
- PTFE insulation
- Designed for pressure tight systems
- For outdoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	0.89 kg 1.78 kg	**BN A02406** **BN K19640C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	2.78 kg 5.56 kg	**BN A02407** **BN K19608C0004**
Inner support		0.04 kg	**BN 859906**
Fixed flange for brazing		0.42 kg	**BN 006111**
Coupling element incl. screw set		0.16 kg	**BN 918311**
90° Elbow		1.36 kg	**BN 938520**
Impedance		50 Ω	
Cut off frequency for H11-Mode		3.2 GHz	
Proof voltage at sea level (NN)		7.0 kV	
Frequency range		0 ≤ f ≤ 2.7 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 20.0 kW ≤ 13.5 kW ≤ 7.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.63 0.95 1.83	

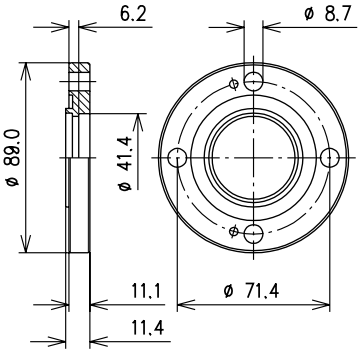
Rigid Line Components 1 5/8" EIA



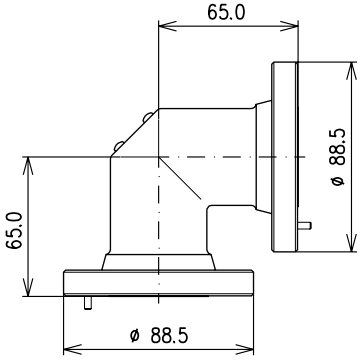
Inner conductor tube
BN A02406; BN K19640



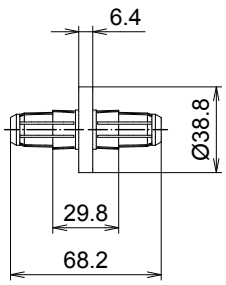
Outer conductor tube (not painted)
BN A02407; BN K19608



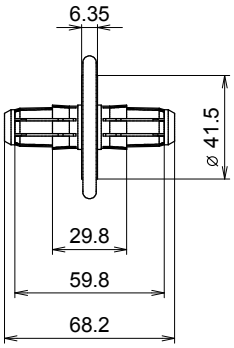
Fixed flange for brazing
BN 006111



90° Elbow
BN 938520



Inner support
BN 859906



Coupling element
BN 918311

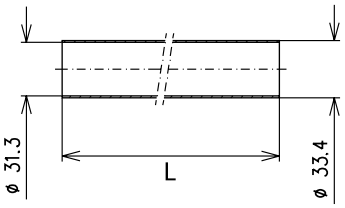
Length of rigid line L	Number inner supports required
1.4 m ≤ L ≤ 2.8 m	1
2.8 m < L ≤ 4.0 m	2

Rigid Line Components 3 1/8" EIA

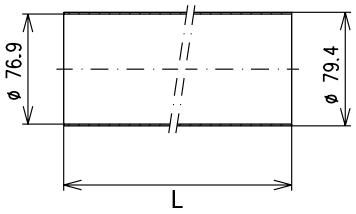
- Very stable rigid line system
- Low insertion loss
- Low VSWR
- PTFE insulation
- Designed for pressure tight systems
- For outdoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	1.90 kg 3.80 kg	**BN A02415** **BN K22770C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	5.90 kg 11.80 kg	**BN A02416** **BN K26569C0004**
Inner support		0.27 kg	**BN 870003**
Fixed flange for brazing		0.75 kg	**BN 004942**
Coupling element incl. screw set		0.58 kg	**BN 918710**
90° Elbow		3.22 kg	**BN 921920**
Impedance		50 Ω	
Cut off frequency for H11-Mode		1.6 GHz	
Proof voltage at sea level (NN)		14.0 kV	
Frequency range		0 ≤ f ≤ 1.3 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 67.0 kW ≤ 44.0 kW ≤ 23.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.32 0.48 0.92	

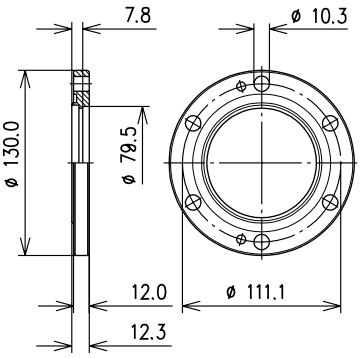
Rigid Line Components 3 1/8" EIA



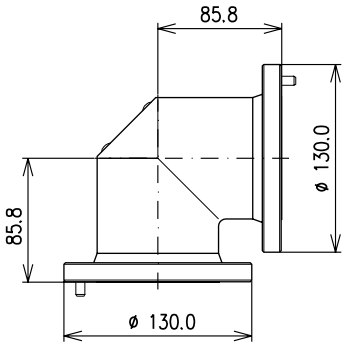
Inner conductor tube
BN A02415; BN K22770



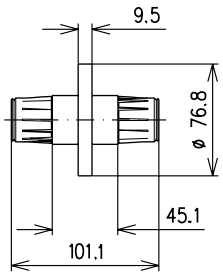
Outer conductor tube (not painted)
BN A02416; BN K26569



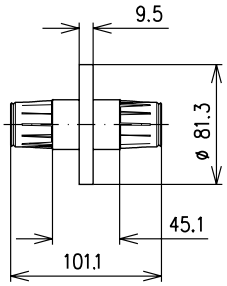
Fixed flange for brazing
BN 004942



90° Elbow
BN 921920



Inner support
BN 870003



Coupling element
BN 918710

Length of rigid line L	Number inner supports required
2.0 m ≤ L ≤ 4.0 m	1

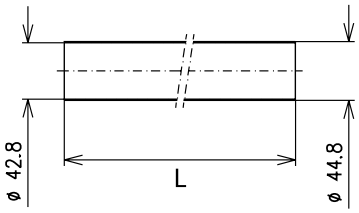
Rigid Line Components 4 1/2" EIA [1]

- Very stable rigid line system
- Low insertion loss
- Low VSWR
- PTFE insulation
- Designed for pressure tight systems
- For outdoor application

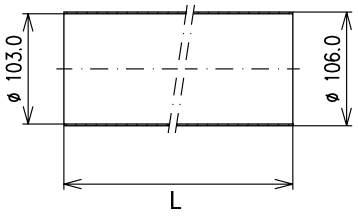
		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	2.50 kg 5.00 kg	**BN A02421** **BN K26291C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	8.80 kg 17.60 kg	**BN A02422** **BN K20852C0004**
Inner support		0.60 kg	**BN 648602**
Fixed flange for brazing		1.29 kg	**BN 648601**
Coupling element incl. screw set		1.07 kg	**BN 822810**
90° Elbow		6.10 kg	**BN 704001**
Impedance		50 Ω	
Cut off frequency for H11-Mode		1.2 GHz	
Proof voltage at sea level (NN)		19.0 kV	
Frequency range		0 ≤ f ≤ 1.0 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 112.0 kW ≤ 74.0 kW ≤ 38.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.24 0.36 0.69	

[1] 339 IEC 50-105

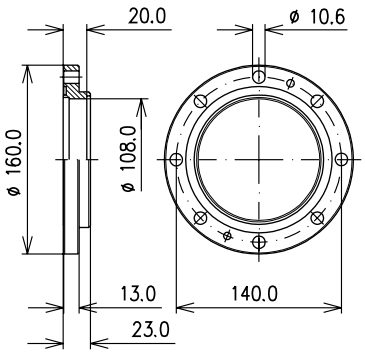
Rigid Line Components 4 1/2" EIA [1]



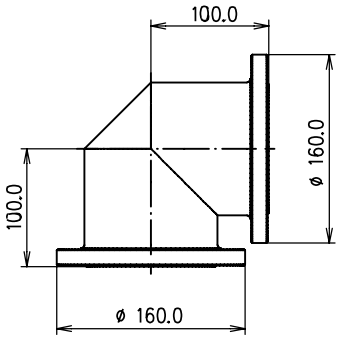
Inner conductor tube
BN A02421; BN K26291



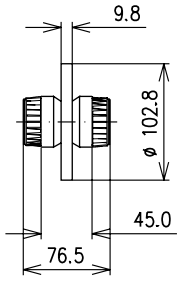
Outer conductor tube (not painted)
BN A02422; BN K20852



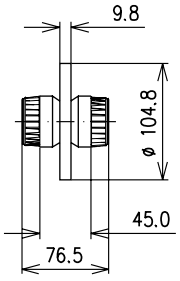
Fixed flange for brazing
BN 648601



90° Elbow
BN 704001



Inner support
BN 648602



Coupling element
BN 822810

Length of rigid line L	Number inner supports required
2.5 m ≤ L ≤ 4.0 m	1

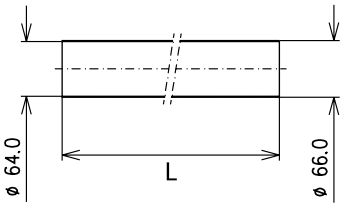
[1] 339 IEC 50-105

Rigid Line Components 6 1/8" EIA

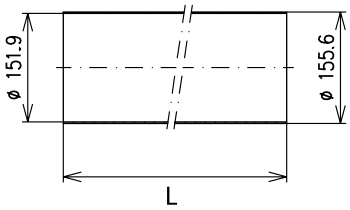
- Very stable rigid line system
- Low insertion loss
- Low VSWR
- PTFE insulation
- Designed for pressure tight systems
- For outdoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	3.52 kg 7.04 kg	**BN A02427** **BN K23334C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	15.81 kg 31.62 kg	**BN A02428** **BN K26568C0004**
Inner support		2.45 kg	**BN 532784**
Fixed flange for brazing		1.75 kg	**BN 008550**
Coupling element incl. screw set		2.12 kg	**BN 919310**
90° Elbow		6.66 kg	**BN 873208**
Impedance		50 Ω	
Cut off frequency for H11-Mode		830 MHz	
Proof voltage at sea level (NN)		28.0 kV	
Frequency range		0 ≤ f ≤ 800 MHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 800 MHz	≤ 224.0 kW ≤ 148.0 kW ≤ 78.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 800 MHz	0.16 0.24 0.46	

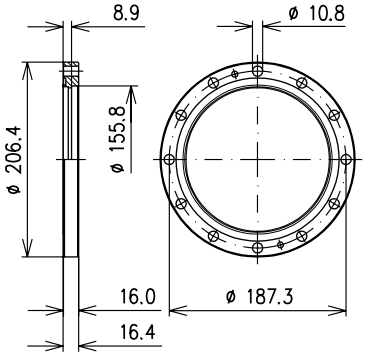
Rigid Line Components 6 1/8" EIA



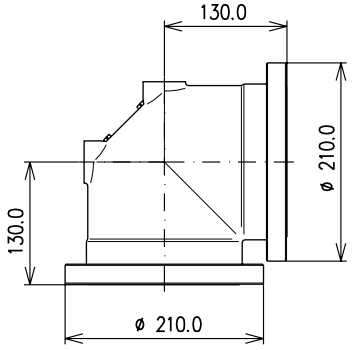
Inner conductor tube
BN A02427; BN K23334



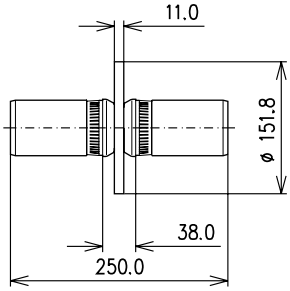
Outer conductor tube (not painted)
BN A02428; BN K26568



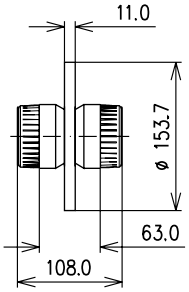
Fixed flange for brazing
BN 008550



90° Elbow
BN 873208



Inner support
BN 532784



Coupling element
BN 919310

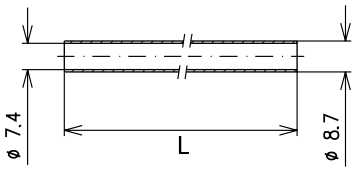
Length of rigid line L	Number inner supports required
3.0 m ≤ L ≤ 4.0 m	1

Rigid Line Components 7/8" SMS

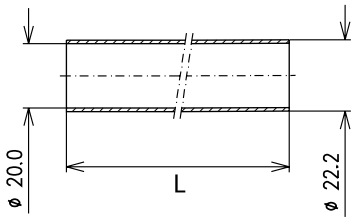
- Outer conductor system without contact ring in copper/copper alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	0.28 kg 0.57 kg	**BN A02402** **BN K20265C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	1.35 kg 2.70 kg	**BN A024 03** **BN K21751C0004**
Inner support		0.01 kg	**BN 542768**
Adapter SMS clamp to 7/8" EIA		0.23 kg	**BN 542767**
Adapter SMS clamp to 7-16 female		0.15 kg	**BN 542779**
Coupling element for 7/8" EIA incl. screw set		0.05 kg	**BN 911715**
Rigid line splice		0.11 kg	**BN 542769**
90° Elbow		0.16 kg	**BN 542762**
Impedance		50 Ω	
Cut off frequency for H11-Mode		6.3 GHz	
Proof voltage at sea level (NN)		3.8 kV	
Frequency range		0 ≤ f ≤ 5.3 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 800 MHz	≤ 7.6 kW ≤ 5.0 kW ≤ 2.6 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 800 MHz	1.21 1.84 3.55	
Installation instruction		M 36123	

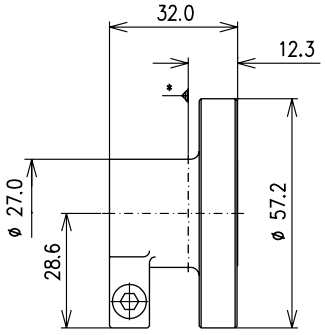
Rigid Line Components 7/8" SMS



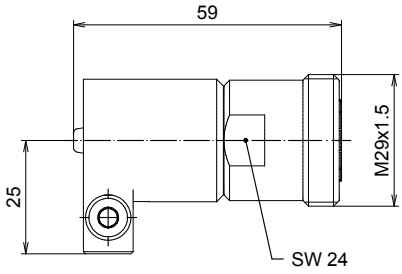
Inner conductor tube
BN A02402; BN K20265



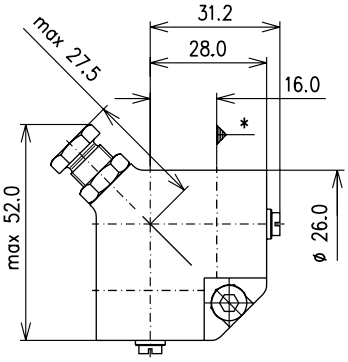
Outer conductor tube (not painted)#
BN A02403; BN K21751



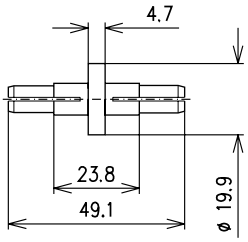
Adapter SMS clamp to 7/8" EIA
BN 542767



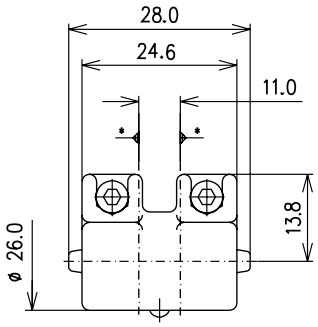
Adapter SMS clamp to 7-16 female
BN 542779



90° Elbow with adjustment screw
BN 542762



Inner support
BN 542768



Rigid line splice
BN 542769

Length of rigid line L	Number inner supports required
1.0 m ≤ L ≤ 2.0 m	1
2.0 m < L ≤ 3.0 m	2
3.0 m < L ≤ 4.0 m	3

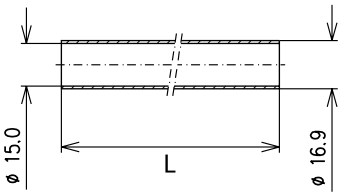
* Reference plane

Rigid Line Components 1 5/8" SMS-1

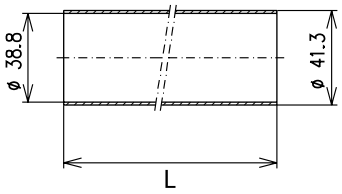
- Outer conductor system aluminium/aluminium alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	0.89 kg 1.78 kg	**BN A02406** **BN K19640C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	0.86 kg 1.72 kg	**BN A02409** **BN K20201C0004**
Inner support		0.04 kg	**BN 859906**
Adapter SMS-1 clamp to 1 5/8" EIA		0.21 kg	**BN B13487C1000**
Coupling element for 1 5/8" EIA incl. screw set		0.16 kg	**BN 918311**
Rigid line splice		0.29 kg	**BN 532704**
90° Elbow		0.29 kg	**BN 532702**
Impedance		50 Ω	
Cut off frequency for H11-Mode		3.2 GHz	
Proof voltage at sea level (NN)		7.0 kV	
Frequency range		0 ≤ f ≤ 2.7 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 800 MHz	≤ 19.6 kW ≤ 13.0 kW ≤ 7.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 800 MHz	0.75 1.13 2.19	
Installation instruction		M 36124	

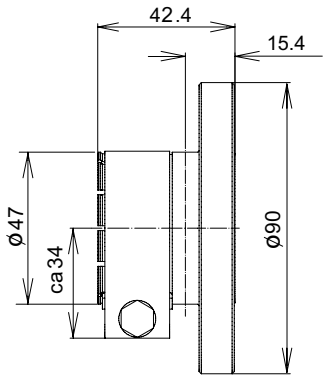
Rigid Line Components 1 5/8" SMS-1



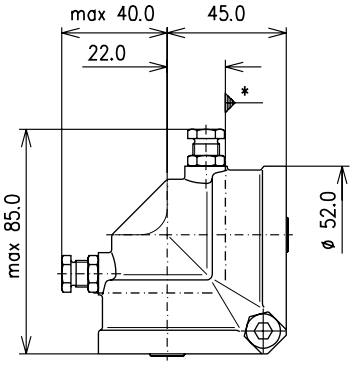
Inner conductor tube
BN A02406; BN K19640



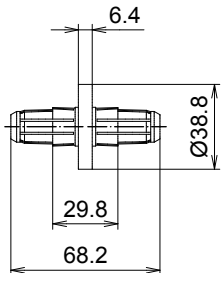
Outer conductor tube (not painted)
BN A02409; BN K20201



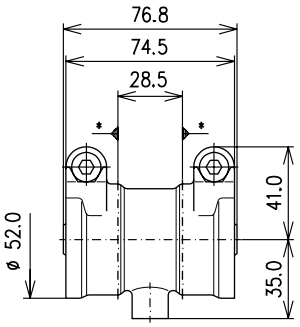
Adapter SMS-1 clamp to 1 5/8" EIA
BN B13487C1000



90° Elbow with adjustment screws
BN 532702



Inner support
BN 859906



Rigid line splice
BN 532704

Length of rigid line L	Number inner supports required
1.4 m ≤ L ≤ 2.8 m	1
2.8 m < L ≤ 4.0 m	2

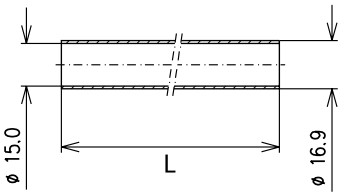
* Reference plane

Rigid Line Components 1 5/8" SMS-2

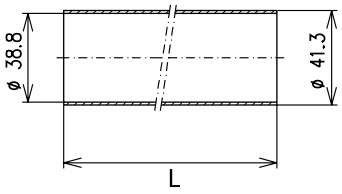
- Outer conductor system without contact ring, in copper/copper alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	0.90 kg 1.80 kg	**BN A02406** **BN K19640C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	2.80 kg 5.60 kg	**BN A02407** **BN K19608C0004**
Inner support		0.04 kg	**BN 859906**
Adapter SMS-2 clamp to 1 5/8" EIA		0.21 kg	**BN B13487C1000**
Coupling element for 1 5/8" EIA incl. screw set		0.16 kg	**BN 918311**
Rigid line splice		0.46 kg	**BN 542749**
90° Elbow		0.66 kg	**BN 542742**
Impedance		50 Ω	
Cut off frequency for H11-Mode		3.2 GHz	
Proof voltage at sea level (NN)		7.0 kV	
Frequency range		0 ≤ f ≤ 2.7 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 20.0 kW ≤ 13.5 kW ≤ 7.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.63 0.95 1.83	
Installation instruction		M 36129	

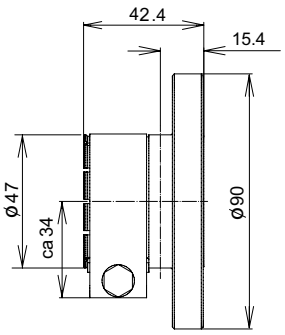
Rigid Line Components 1 5/8" SMS-2



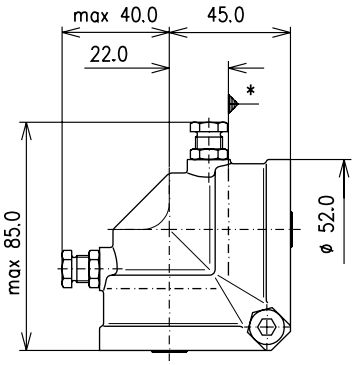
Inner conductor tube
BN A02406; BN K19640



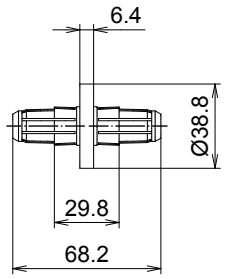
Outer conductor tube (not painted)
BN A02407; BN K19608



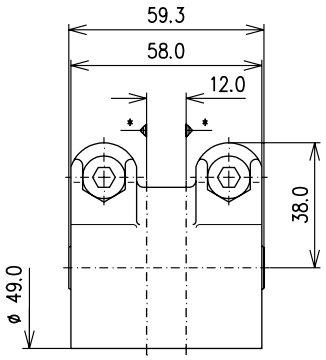
Adapter SMS-2 clamp to 1 5/8" EIA
BN B13487C1000



90° Elbow with adjustment screws
BN 542742



Inner support
BN 859906



Rigid line splice
BN 542749

Length of rigid line L	Number inner supports required
1.4 m ≤ L ≤ 2.8 m	1
2.8 m < L ≤ 4.0 m	2

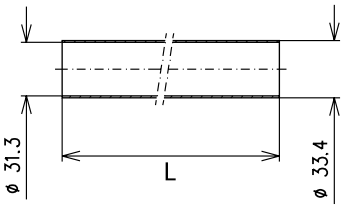
* Reference plane

Rigid Line Components 3 1/8" SMS

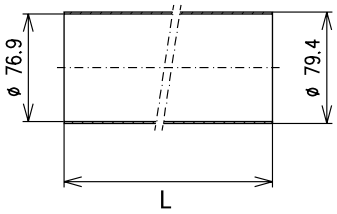
- Outer conductor system aluminium/aluminium alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	1.90 kg 3.80 kg	**BN A02415** **BN K22770C0004**
Outer conductor tube (aluminium)	L = 2 m L = 4 m	1.70 kg 3.40 kg	**BN A02417** **BN K20202C0004**
Inner support		0.27 kg	**BN 870003**
Adapter SMS clamp to 3 1/8" EIA		0.40 kg	**BN B10865C1000**
Coupling element for 3 1/8" EIA incl. screw set		0.58 kg	**BN 918710**
Rigid line splice		0.64 kg	**BN 532721**
90° Elbow		1.32 kg	**BN 532723**
Impedance		50 Ω	
Cut off frequency for H11-Mode		1.6 GHz	
Proof voltage at sea level (NN)		14.0 kV	
Frequency range		0 ≤ f ≤ 1.3 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 63.0 kW ≤ 42.0 kW ≤ 22.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.37 0.56 1.08	
Installation instruction		M 36125	

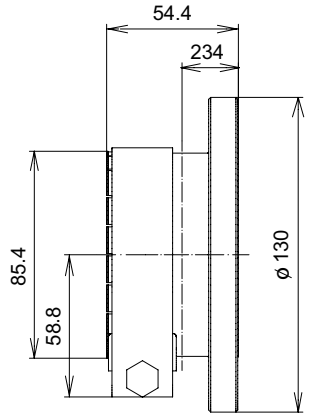
Rigid Line Components 3 1/8" SMS



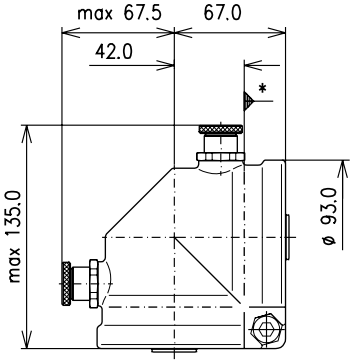
Inner conductor tube
BN A02415; BN K22770



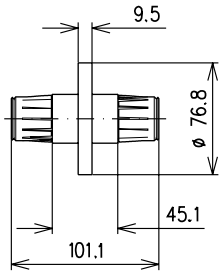
Outer conductor tube (not painted)
BN A02417; BN K20202



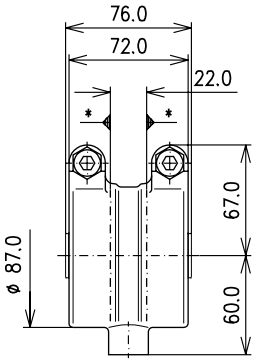
Adapter SMS clamp to 3 1/8" EIA
BN B10865C1000



90° Elbow with adjustment screws
BN 532723



Inner support
BN 870003



Rigid line splice
BN 532721

Length of rigid line L	Number inner supports required
2.0 m ≤ L ≤ 4.0 m	1

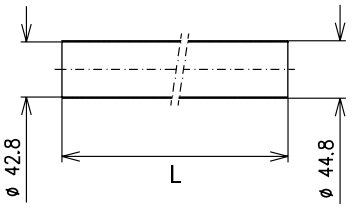
* Reference plane

Rigid Line Components 4 1/2" SMS

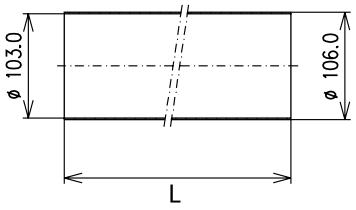
- Outer conductor system aluminium/aluminium alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	2.50 kg 5.00 kg	**BN A02421** **BN K26291C0004**
Outer conductor tube (aluminium)	L = 2 m L = 4 m	2.70 kg 5.40 kg	**BN A02423** **BN K20203C0004**
Inner support		0.60 kg	**BN 648602**
Adapter SMS clamp to 4 1/2" EIA (339 IEC 50-105)		0.93 kg	**BN 532766**
Coupling element for 4 1/2" EIA (339 IEC 50-105) incl. screw set		1.07 kg	**BN 822810**
Rigid line splice		2.02 kg	**BN 532763**
90° Elbow		3.72 kg	**BN 532761**
Impedance		50 Ω	
Cut off frequency for H11-Mode		1.2 GHz	
Proof voltage at sea level (NN)		19.0 kV	
Frequency range		0 ≤ f ≤ 1.0 GHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 106.0 kW ≤ 70.0 kW ≤ 37.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.28 0.42 0.82	
Installation instruction		M 36126	

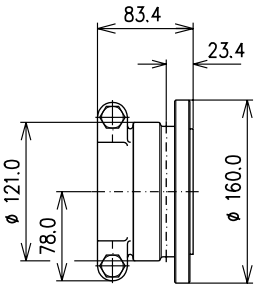
Rigid Line Components 4 1/2" SMS



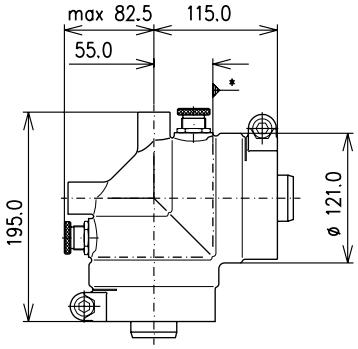
Inner conductor tube
BN A02421; BN K26291



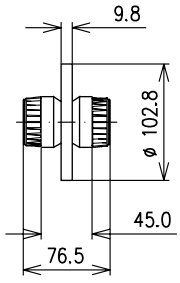
Outer conductor tube (not painted)
BN A02423; BN K20203



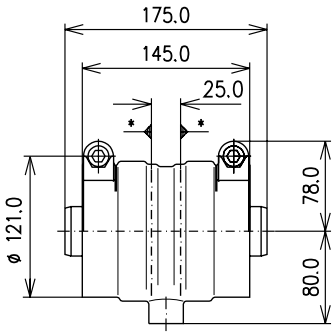
Adapter SMS clamp to 4 1/2" EIA [1]
BN 532766



90° Elbow with adjustment screws
BN 532761



Inner support
BN 648602



Rigid line splice
BN 532763

Length of rigid line L	Number inner supports required
2.5 m ≤ L ≤ 4.0 m	1

[1] 339 IEC 50-105
* Reference plane

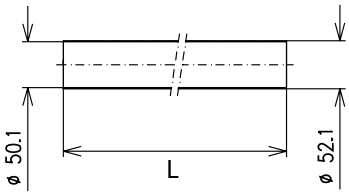
Rigid Line Components 52-120 SMS

- Outer conductor system aluminium/aluminium alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

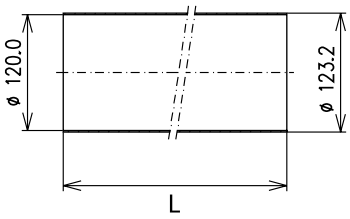
		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	2.90 kg 5.80 kg	**BN A02424** **BN K24058C0004**
Outer conductor tube (aluminium)	L = 2 m L = 4 m	3.20 kg 6.40 kg	**BN A02426** **BN K20206C0004**
Inner support		1.78 kg	**BN 542705**
Adapter SMS clamp to 4 1/2" EIA (339 IEC 50-105)		6.94 kg	**BN 542720**
Coupling element for 4 1/2" EIA (339 IEC 50-105) incl. screw set		1.07 kg	**BN 822810**
Adapter SMS clamp to 6 1/8" EIA		9.50 kg	**BN 542701**
Coupling element for 6 1/8" EIA incl. screw set		2.12 kg	**BN 919310**
Adapter SMS clamp to 52-120 BT		0.90 kg	**BN 542726**
Coupling element 52-120 BT incl. screw set		1.31 kg	**BN 528101**
Rigid line splice		3.34 kg	**BN 542704**
90° Elbow		5.22 kg	**BN 542702**
Impedance		50 Ω	
Cut off frequency for H11-Mode		1.0 GHz	
Proof voltage at sea level (NN)		22.0 kV	
Frequency range		0 ≤ f ≤ 890 MHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 140.0 kW ≤ 92.0 kW ≤ 47.0 kW (≤ 57.0 kW) [1]	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.24 0.36 0.69	
Installation instruction		M 36127	

[1] In this case it is necessary to paint the rigid line with a black, heat resistant varnish

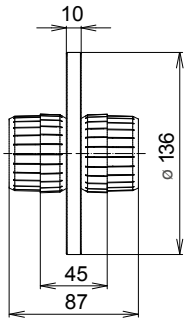
Rigid Line Components 52-120 SMS



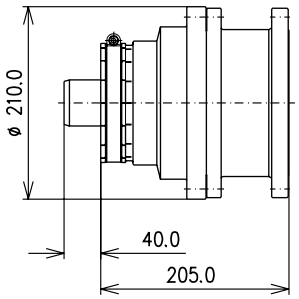
Inner conductor tube
BN A02424; BN K24058



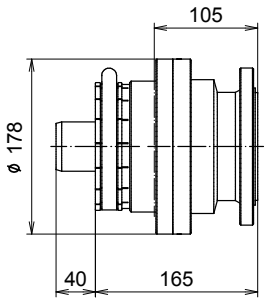
Outer conductor tube (not painted)
BN A02426; BN K20206



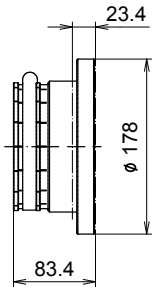
Coupling element 52-120 BT incl. screw set
BN 528101



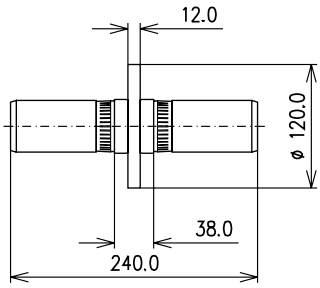
Adapter SMS clamp to 6 1/8" EIA
BN 542701



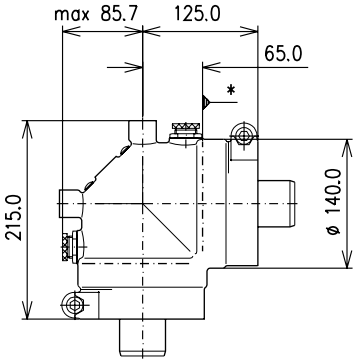
Adapter SMS clamp to 4 1/2" EIA[1]
BN 542720



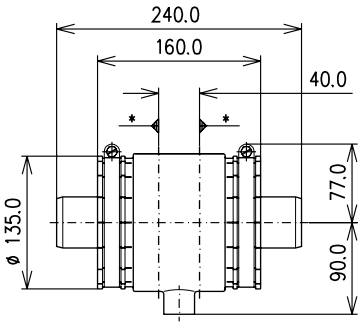
Adapter SMS clamp to 52-120 BT
BN 542726



Inner support
BN 542705



90° Elbow with adjustment screws
BN 542702



Rigid line splice
BN 542704

Length of rigid line L	Number inner supports required
3.0 m ≤ L ≤ 4.0 m	1

[1] 339 IEC 50-105
* Reference plane

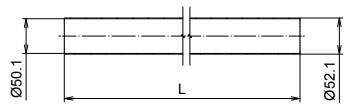
Rigid Line Components 52-120 BT

- Outer conductor system copper/copper alloy
- Easy assembly
- SPINNER flaring tool BN 511400 with Insert BN 511445 available
- PTFE insulation
- For indoor application

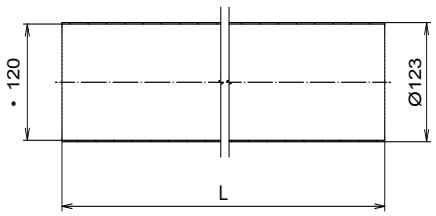
		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	2.90 kg 5.80 kg	**BN A02424** **BN K24058C0004**
Outer conductor tube (copper)	L = 2 m L = 4 m	10.21 kg 20.42 kg	**BN A02425** **BN K33221C0004**
Inner support		1.78 kg	**BN 542705**
Flange		1.72 kg	**BN 049917S012**
Coupling element 52-120 BT including screw set		1.31 kg	**BN 528101**
90° Elbow		8.52 kg	**BN 528165**
Adapter 52-120 BT (without coupling element) to 4 1/2" EIA (339 IEC 50-105)		4.06 kg	**BN 528118**
Coupling element for 4 1/2" EIA (339 IEC 50-105) incl. screw set		1.07 kg	**BN 822810**
Adapter 52-120 BT (without coupling element) to 6 1/8" EIA		5.30 kg	**BN 528117**
Coupling element for 6 1/8" EIA incl. screw set		2.12 kg	**BN 919310**
Impedance		50 Ω	
Cut off frequency for H11-Mode		1.0 GHz	
Proof voltage at sea level (NN)		22.0 kV	
Frequency range		0 ≤ f ≤ 860 MHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 860 MHz	≤ 142.0 kW ≤ 93.0 kW ≤ 48.0 kW (≤ 60.0 kW) [1]	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 860 MHz	0.22 0.33 0.63	

[1] In this case it is necessary to paint the rigid line with a black, heat resistant varnish

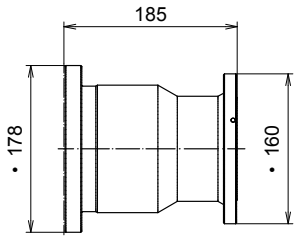
Rigid Line Components 52-120 BT



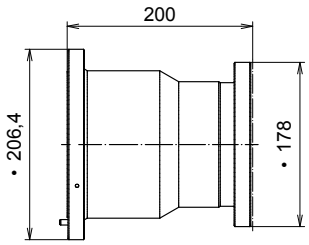
Inner conductor tube
BN A02424; BN K24058



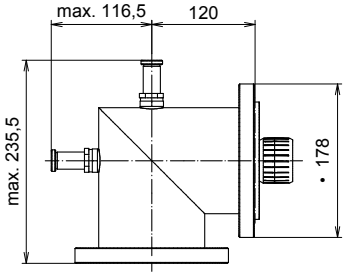
Outer conductor tube (not painted)
BN A02425; BN K33221



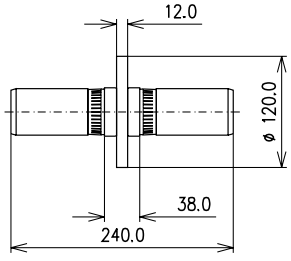
Adapter 52-120 BT to 4 1/2" EIA [1]
BN 528118



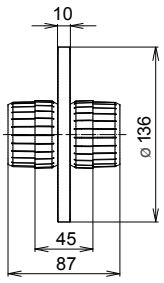
Adapter 52-120 BT to 6 1/8" EIA
BN 528117



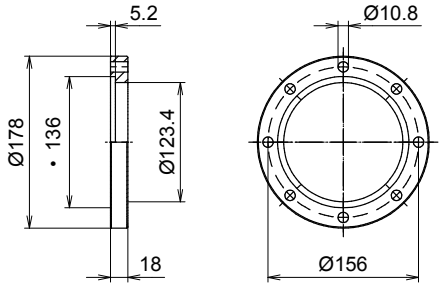
90° Elbow with adjustment screws
BN 528165



Inner support
BN 542705



Coupling element, including screw set
BN 528101



Flange, nickel plated
BN 049917S012

Length of rigid line L	Number inner supports required
3.0 m ≤ L ≤ 4.0 m	1

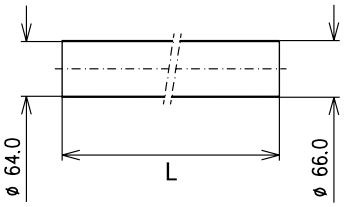
[1] 339 IEC 50-105

Rigid Line Components 6 1/8" SMS

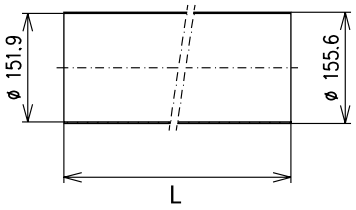
- Outer conductor system aluminium/aluminium alloy
- Quick and simple assembly
- No special tools required
- PTFE insulation
- For indoor application

		Weight	Part Number
Inner conductor tube (copper)	L = 2 m L = 4 m	3.50 kg 7.00 kg	**BN A02427** **BN K23334C0004**
Outer conductor tube (aluminium)	L = 2 m L = 4 m	5.50 kg 11.00 kg	**BN A02429** **BN K20204C0004**
Inner support		2.45 kg	**BN 532784**
Adapter SMS clamp to 6 1/8" EIA		1.28 kg	**BN 532789**
Coupling element for 6 1/8" EIA incl. screw set		2.12 kg	**BN 919310**
Rigid line splice		3.44 kg	**BN 532783**
90° Elbow		3.70 kg	**BN 532781**
Impedance		50 Ω	
Cut off frequency for H11-Mode		0.83 GHz	
Proof voltage at sea level (NN)		28.0 kV	
Frequency range		0 ≤ f ≤ 800 MHz	
Average power at +40 °C ambient temperature	100 MHz 230 MHz 800 MHz	≤ 213.0 kW ≤ 140.0 kW ≤ 72.0 kW	
Attenuation at +20 °C ambient temperature (dB/100m)	100 MHz 230 MHz 800 MHz	0.19 0.28 0.54	
Installation instruction		M 36128	

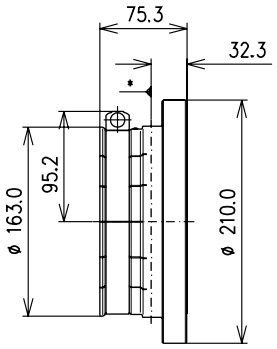
Rigid Line Components 6 1/8" SMS



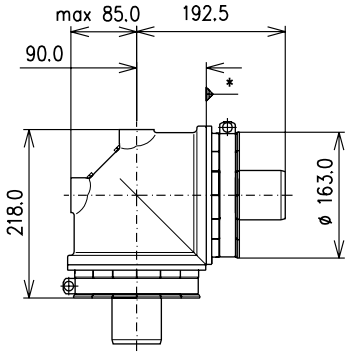
Inner conductor tube
BN A02427; BN K23334



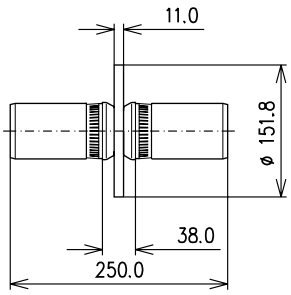
Outer conductor tube (not painted)
BN A02429; BN K20204



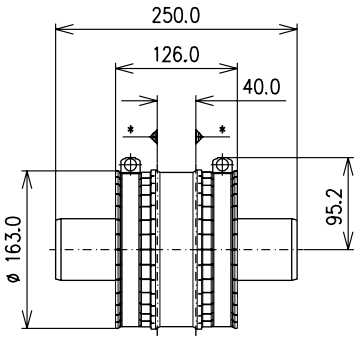
Adapter SMS clamp to 6 1/8" EIA
BN 532789



90° Elbow with adjustment screw
BN 532781



Inner support
BN 532784



Rigid line splice
BN 532783

Length of rigid line L	Number inner supports required
3.0 m ≤ L ≤ 4.0 m	1

* Reference plane

Cable Connectors and Accessories

SPINNER carries N, 4.3-10, 7-16, 7/8” EIA, 1 5/8” EIA, 3 1/8” EIA, 4 1/2” EIA (339 IEC 50-105) and 6 1/8” EIA connectors for cables made by leading manufacturers. They are famous for their superior RF performance and reliability going back over 60 years:

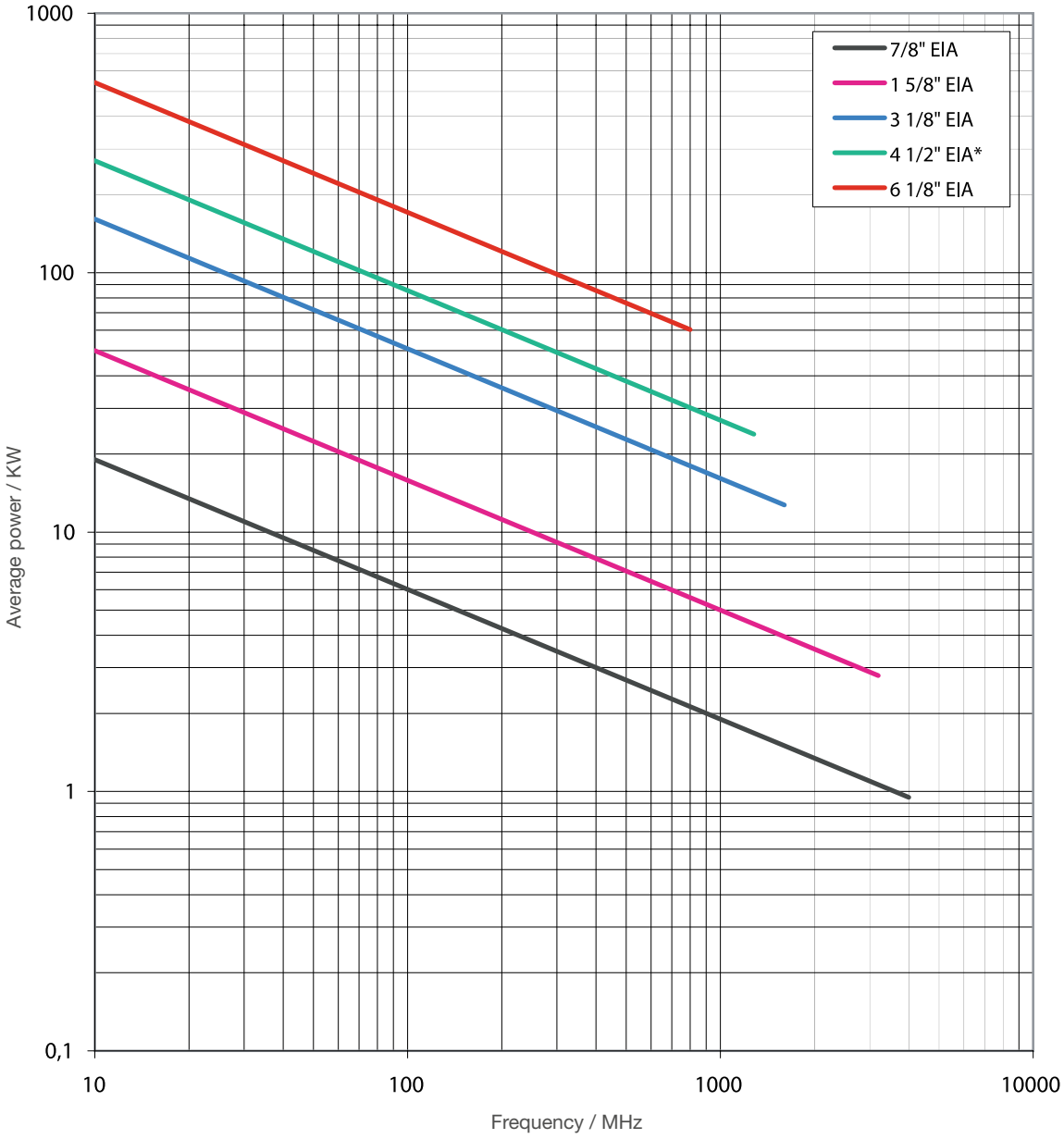
- CAF® design for ultrafast installation: simply push the stripped cable end into the connector.
- Premium design with flared inner and outer contacts for maximum reliability at high RF power levels
- Connectors for air dielectric cables are tight (the barrier and mating are face-sealed) and have inlets for pressurization.
- There is no risk of water ingress and corrosion, since the gap between the outer conductor and the connector is sealed with Plast 2000 or a custom-shaped gasket.

- SPINNER connectors comply with international standards EIA STD RS-225, IEC 60339, MiL-F 24044 and IEC 60169-4/-5.
- SPINNER supplies various adapters in test quality.
- SPINNER supplies special tools for speeding installation and improving reliability.

- The maximum permissible power depends on the frequency, modulation, reflection and environmental conditions.
- The chart shows the maximum CW power for which the EIA connectors are suitable under ideal conditions (no reflection and an ambient temperature of 40°C).
- The power rating can be limited by the connector or cable, whichever is lower.
- It is advisable to ensure a reasonable safety margin.

Cable Connectors

Maximum Power Rating



*339 IEC 50-105

All power ratings apply to an ambient temperature of +40°C ambient temperature and an inner conductor temperature of +120°C.

Note:
The power rating may be reduced by the cable attached to the connector.

Connectors for Foam Dielectric Cables

- CAF® design for ultrafast installation: simply push the stripped cable end into the connector.
- MultiFit® connectors are suitable for the most common cable types.
- The connectors are sealed by a custom-shaped gasket or injected Plast 2000 to prevent water ingress and corrosion.
- SPINNER offers a full range of N, 4.3-10 and 7-16 connectors for the most common cable types in male, female, angle and fixed socket versions.
- If you can't find the connector you need below, please use the SPINNER Product Finder (https://products.spinner-group.com).

Cable Type	Connector					Design	Gasketing Type or PLAST 2000 Volume
	N Male	4.3-10 Male	7-16 Male	7/8" EIA	1 5/8" EIA		
SF ½"-50	**BN 870157** **BN 870171**	**BN 431171**	**BN 847359** **BN 847371**	**BN 715580**		CAF® MultiFit®	Profile gasket Profile gasket
LF ½"-50	**BN 870189** **BN 706417**	**BN 431117**	**BN 847389** **BN 854317**	**BN 715568**		CAF® MultiFit® CAF®	Profile gasket Profile gasket 4 cm³
LF 7/8"-50			**BN 844840** **BN 854302**	**BN 715558** **BN 715508**	**BN 723458**	CAF® MultiFit®	7 cm³ Profile gasket
LF 1 1/4"-50				**BN 715587**	**BN 723484**	CAF®	15 cm³
LF 1 5/8"-50				**BN 715588**	**BN 723486**	CAF®	20 cm³
LF 2 1/4"-50					**BN 723473**	CAF®	28 cm³

Cable compatibilty:
Please see the connector data sheets available at https://products.spinner-group.com to check if the connector fits to your cable.

Foam Dielectric Jumper Cables

SPINNER supplies premium jumper cables in sizes 1/4", 3/8", 1/2" and 7/8" with all common connector types like N, 4.3-10, 7-16, 7/8" EIA and 1 5/8" EIA. They feature top monitored quality to meet your particular need.

Production is fully automated to ensure consistently high quality, competitive prices and short lead times.

Connectors for Air Dielectric Cables

- SPINNER connectors are famous for their superior RF performance and reliability.
- CAF® design for ultrafast installation: simply push the stripped cable end into the connector.
- Premium design with flared inner and outer contacts for maximum reliability at high RF power levels.
- All connectors have a sealing ring or profile between the outer connector and body.
- The gap between the outer conductor and the connector is additionally sealed with Plast 2000 or a profile gasket to prevent water ingress and corrosion.
- All connectors have sealed mating faces and inlets for pressurization.
- All connectors comply with EIA STD RS-225, IEC 60339, MiL-F 24044 or IEC 60169-4/-5.

Connectors for HELIFLEX Cables

Cable Type	Connector								Type	PLAST 2000 Volume in cm³
	7-16 Male	13-30 Male	7/8" EIA	1 5/8" EIA	3 1/8" EIA	4 1/2" EIA 339 IEC 50-105	6 1/8" EIA	100-230		
HCA 38-50	**BN 970628 BN 970638** [1]	–	**BN 971305** [1]	–	–	–	–		CAF®	3
HCA 58-50	**BN 925525**	–	**BN 978718**	–	–	–	–		CAF®	5
HCA 78-50	**BN 491818**	**BN 398718**	**BN 979128**	**BN 978918**	–	–	–		CAF®	7
HCA 118-50	–	**BN 711908**	–	**BN 858210**	–	–	–		Premium	10
HCA 158-50	–	–	**BN 839110**	**BN 936510**	–	–	–		Premium	20
HCA 295-50	–	–	–	–	**BN 930050**	–	–		Premium	50
HCA 300-50					**BN 930070** [2]				Premium	40
HCA 400-50	–	–	–	–	**BN 930010**	–	–		Premium	70
HCA 495-50	–	–	–	–	–	**BN 838603**	–		Premium	120
HCA 550-50	–	–	–	–	–	**BN 658203**	**BN 656702**	**BN 656702**	Premium	250
HCA 618-50	–	–	–	–	–	–	**BN 871109**	**BN 871109**	Premium	300
HCA 900-50	–	–	–	–	–	–		**BN 514632**	Premium	

Connectors for HCA 38-50, 58-50 and 78-50 cables: Adapters for hoses must be ordered separately.
Connectors for HCA 118-50 and larger cables: Connectors are supplied with G 1/8" inner thread as gas inlet. 6x1mm copper pipe can be mated by flaring it as a gas inlet. Hose adapters must be ordered separately.

[1] Without gas inlet
[2] Gas inlet G1/8" or M12x1.5

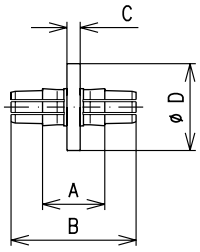
Connectors for HELIAX Cables

Cable Type	Connector								
	N Male	N Female	7-16 Male	7-16 Female	7/8" EIA	1 5/8" EIA	3 1/8" EIA	4 1/2" EIA 339 IEC 50-105	6 1/8" EIA
HJ5-50	**BN 492180**	**BN 491780**	**BN 491880**	**BN 491080**	**BN 979180**	**BN 978980**			
HJ7-50A				**BN 690780**	**BN 839180**	**BN 936580**			
HJ8-50B							**BN 930080**		
HJ11-50							**BN 977980**	**BN 838680**	**BN 841480**
HJ9HP-50									**BN 656781**
HJ9-50								**BN 658280**	**BN 656780**

Connectors are supplied with a NPT 1/8" gas inlet.

Coupling Elements, Sealant and Gas Inlets

- EIA coupling elements have PTFE insulator and stainless steel screws.
- Coupling elements comply with EIA STD RS-225, IEC 60339, MiL-F 24044 or IEC 60169-4/-5.
- O-ring and set of stainless steel screws included

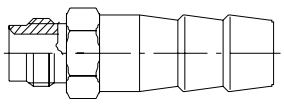


EIA Coupling Elements

Connector Size		7/8" EIA	1 5/8" EIA	3 1/8" EIA	4 1/2" EIA 339 IEC 50-105	6 1/8" EIA
Coupling element complete with O-ring and screw set		**BN 911715**	**BN 918311**	**BN 918710**	**BN 822810**	**BN 919310**
Dimensions (mm)	A	23.8	29.8	45.1	45.0	63.0
	B	49.1	59.8	101.1	76.5	108.0
	C	4.7	6.35	9.5	9.8	11.0
	D	20.6	41.5	81.3 [1]	104.75	153.7
Spare O-ring and screw set			**BN B22391**	**BN B22426**		**BN B22428**

PLAST 2000 Sealant

Part Number	
BN 151671	PLAST 2000 tube 20 cm^3 (can be screwed directly into the connector)
BN 150597	Plast 2000 tube 70 cm^3 (injection gun BN 070551 necessary)
BN 070551	Injection gun for PLAST 2000 with thread M9



Gas Inlet Adapters

Part Number	
BN 004773	Gas inlet M10 x 0.75 for Heliflex cables 38 - 78 for hose with 6 mm inner diameter
BN 004777	Gas inlet M10 x 0.75 for Heliflex cables 38 - 78 for hose with 10 mm inner diameter
BN 004782	Gas inlet M10 x 0.75 for Heliflex cables 38 - 78 for hose with 13 mm inner diameter
BN 004771	Gas inlet M12 x 1.5 for Heliflex cables 118 - 618 for hose with 6 mm inner diameter
BN 004770	Gas inlet M12 x 1.5 for Heliflex cables 118 - 618 for hose with 10 mm inner diameter
BN 004781	Gas inlet M12 x 1.5 for Heliflex cables 118 - 618 for hose with 13 mm inner diameter