

SUCOFLEX® 500

High performance
up to 70 GHz



SUCOFLEX 500

When it comes to test and measurement, the SUCOFLEX 500 assemblies guarantee the highest level of satisfaction. Thanks to their unique cable and connector design, they deliver the best phase and amplitude stability versus flexure, movement, temperature and tensile stress, in combination with outstanding return and insertion loss up to 70 GHz.

Due to the rotary swaged low-loss inner conductor and the rugged construction, SUCOFLEX 500 assemblies typically withstand more than 100,000 flexures without degradation of performance and therefore have a very long life-time.

HUBER+SUHNER supplies all SUCOFLEX 500 standard length products within five working days and customised lengths are available within ten working days worldwide.



Short delivery time



Outstanding performance

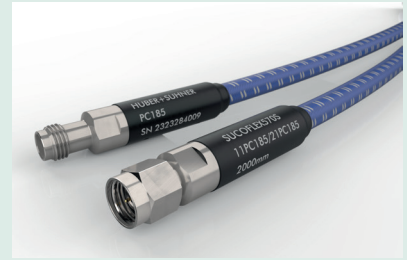


Excellent price-performance ratio

SUCOFLEX 570S

70 GHz

- Very long life time (>20'000 Flex cycles)
- Excellent insertion loss
- Outstanding phase and amplitude stability with flexure and movement



SUCOFLEX 550S

40-50 GHz

- Very long life time (>100'000 flex cycles)
- Excellent insertion loss
- Outstanding phase and amplitude stability with flexure and movement



SUCOFLEX 526S

26.5 GHz

- Very long life time (>100'000 flex cycles)
- Excellent insertion loss
- Outstanding phase and amplitude stability with flexure and movement



SUCOFLEX 526V

26.5 GHz

- Extremely flexible and ease of handling
- High stable electrical performance
- Best-in-class phase and amplitude stability with flexure, movement, temperature and tensile stress



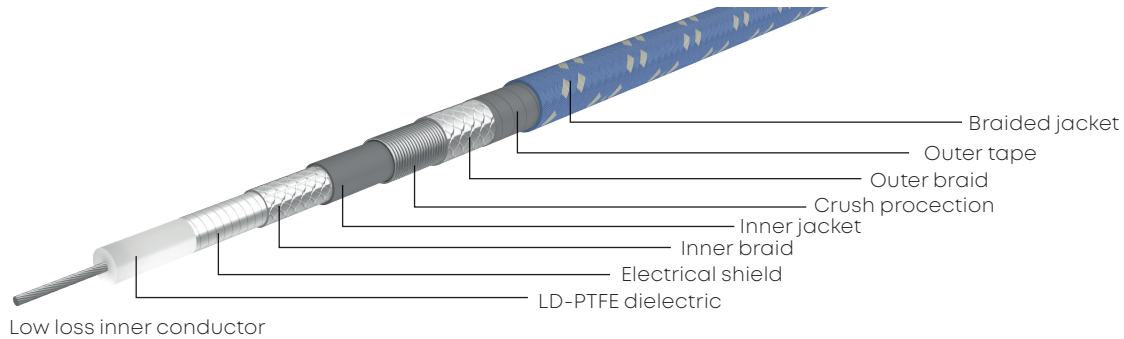
Applications

- Bench top testing
- RF production testing
- Automated test equipment
- Vector network analyzers (VNAs)
- Scalar analyzers
- Portable test equipment
- RF module testing
- High speed digital testing (HSDT)

SUCOFLEX 500S

Unique cable construction

Low loss inner conductor



Mechanical data

Frequency	26.5 GHz	40 GHz	50 GHz	70 GHz
Cable	SUCOFLEX 526S	SUCOFLEX 550S	SUCOFLEX 550S	SUCOFLEX 570S
Connector	3.5 mm	2.92 mm	2.4 mm	1.85 mm
Diameter (mm)	7.7	6.1		5.8
Min. bending radius (mm)	25.4			
Typ. flex life (cycles)	> 100'000			> 20'000
Min. assembly length	300			
Max. assembly length	50'000	20'000		2'000

Environmental data

Operating temperature (°C)	-55 to +125
2011/65/EC (RoHS)	compliant

Electrical data

Impedance (Ω)	50			
Velocity of propagation (%)	77			
Typ. return loss (dB)	25	19	17	16
Typ. insertion loss assembly (dB/m)	1.63	3.41	3.87	6.48
Min. screening effectiveness (dB) up to 18 GHz	90			
Typ. amplitude stability vs. movement (dB)	±0.05			
Typ. amplitude stability vs. flexure (dB)	±0.05			
Typ. Phase stability vs. Flexure (°)	+/-3	+/-5	+/-6	+/-8
Relative time delay matching: +/-1ps	available on request			
Relative time delay matching: +/-0.5ps per pair	available on request			
Absolute time delay matching: +/-1ps	see absolute time delay matched assemblies page 5			

Absolute time delay matched assemblies

SUCOFLEX 570S

Art. No	Part No.	Connector 1	Connector 2	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB) @ 67 GHz	Absolute time delay matched
85153051	PMA SF570S/11PC185/11PC185/24in	1.85 mm Male	1.85 mm Male	24	70	4.65	14.0	+/- 1ps
85153052	PMA SF570S/11PC185/11PC185/36in	1.85 mm Male	1.85 mm Male	36	70	6.48	14.0	+/- 1ps
85153053	PMA SF550S/11PC185/21PC185/36in	1.85 mm Male	1.85 mm Female	36	70	6.48	14.0	+/- 1ps

SUCOFLEX 550S

Art. No	Part No.	Connector 1	Connector 2	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB) @ 67 GHz	Absolute time delay matched
85153038	PMA SF550S/11PC24/11PC24/24in	2.4 mm Male	2.4 mm Male	24	50	2.89	14.9	+/- 1ps
85153039	PMA SF550S/11PC24/11PC24/36in	2.4 mm Male	2.4 mm Male	36	50	4.07	14.9	+/- 1ps
85153050	PMA SF550S/11PC24/21PC24/36in	2.4 mm Male	2.4 mm Female	36	50	4.07	14.9	+/- 1ps

Stock assemblies

SUCOFLEX 570S

Art. No	Cable	Connector 1	Connector 2	Length (mm)	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB) @ 67 GHz
85149825	SUCOFLEX 570S	1.85 mm Male	1.85 mm Male	914	36	70	6.48	14.0
85140576	SUCOFLEX 570S	1.85 mm Male	1.85 mm Female	914	36	70	6.48	14.0

SUCOFLEX 550S

Art. No	Cable	Connector 1	Connector 2	Length (mm)	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB)
85120066	SUCOFLEX 550S	2.4 mm Male	2.4 mm Male	914	36	50	4.07	14.9
85120068	SUCOFLEX 550S	2.4 mm Male	2.4 mm Male	1219	48	50	5.24	14.9
85120070	SUCOFLEX 550S	2.4 mm Male	2.4 mm Female	914	36	50	4.07	14.9
85120072	SUCOFLEX 550S	2.4 mm Male	2.4 mm Female	1219	48	50	5.24	14.9
85120074	SUCOFLEX 550S	2.92 mm Male	2.92 mm Male	914	36	40	3.61	14.9
85120075	SUCOFLEX 550S	2.92 mm Male	2.92 mm Male	1219	48	40	4.65	14.9
85123657	SUCOFLEX 550S	2.92 mm Male	2.92 mm Female	914	36	40	3.61	14.9
85123658	SUCOFLEX 550S	2.92 mm Male	2.92 mm Female	1219	48	40	4.65	14.9

SUCOFLEX 526S

Art. No	Cable	Connector 1	Connector 2	Length (mm)	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB)
85088164	SUCOFLEX 526S	3.5 mm Male	3.5 mm Male	914	36	26.5	1.64	19.0
85090629	SUCOFLEX 526S	3.5 mm Male	3.5 mm Female	914	36	26.5	1.64	19.0

SUCOFLEX 500

Available connectors

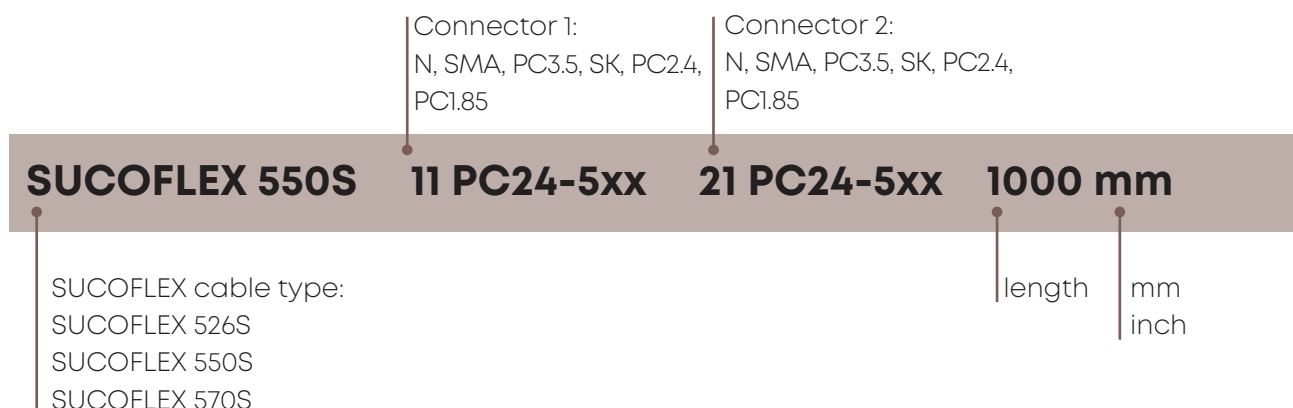
	SUCOFLEX 526S		SUCOFLEX 526V	SUCOFLEX 550S		SUCOFLEX 570 S
	18 GHz	26.5 GHz	26.5 GHz	40 GHz	50 GHz	70 GHz
N straight male	SF_11_N-501					
N straight female	SF_21_N-501					
SMA straight male	SF_11_SMA-501					
3.5 mm straight male		SF_11_PC35-501				
3.5 mm straight female		SF_21_PC35-501				
3.5 mm ruggedised PORT female		SF_21_PC35-502				
3.5 mm ruggedised PORT female			35VF			
3.5 mm ruggedised DUT male			35VM			
3.5 mm DUT female			35F			
2.92 mm straight male				SF_11_SK-501		
2.92 mm straight female				SF_21_SK-501		
2.4 mm straight male					SF_11_PC24-501	
2.4 mm straight female					SF_21_PC24-501	
1.85 mm straight male						SF_11_PC185-501
1.85 mm straight female						SF_21_PC185-501

Order information

Unlike other similar solutions, the SUCOFLEX 500S assemblies are available in tailored lengths and can be delivered within 10 working days if the order is up to ten pieces.

For ordering, please follow the instruction below.

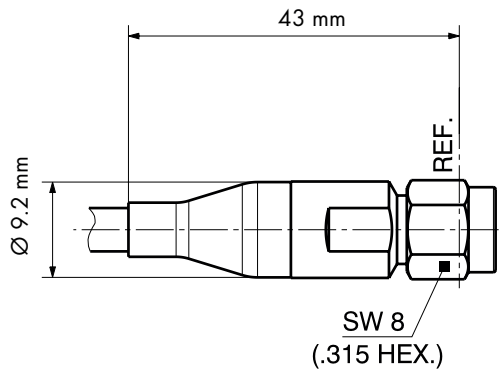
Example: SUCOFLEX 550S/11 PC24-501/21 PC24-501/1000mm



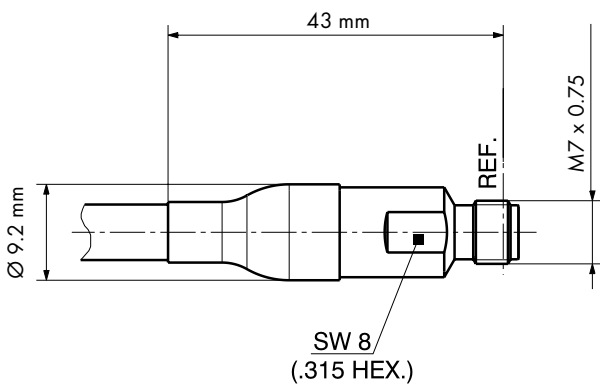
SUCOFLEX 500S

Connector configuration

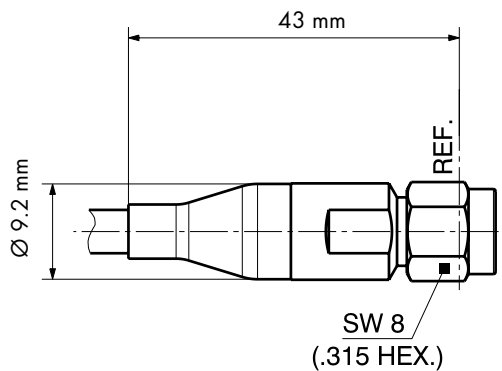
1.85 mm Male (SF_11_PC185-501)



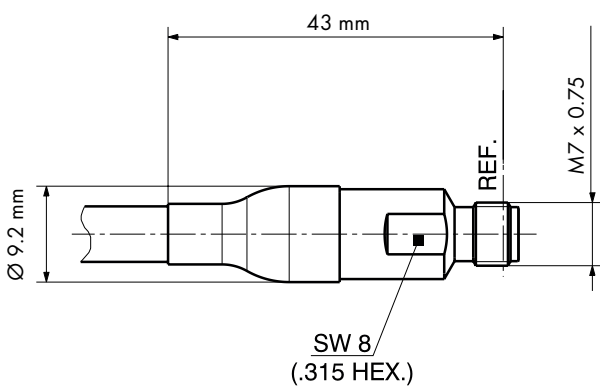
1.85 mm Female (SF_21_PC185-501)



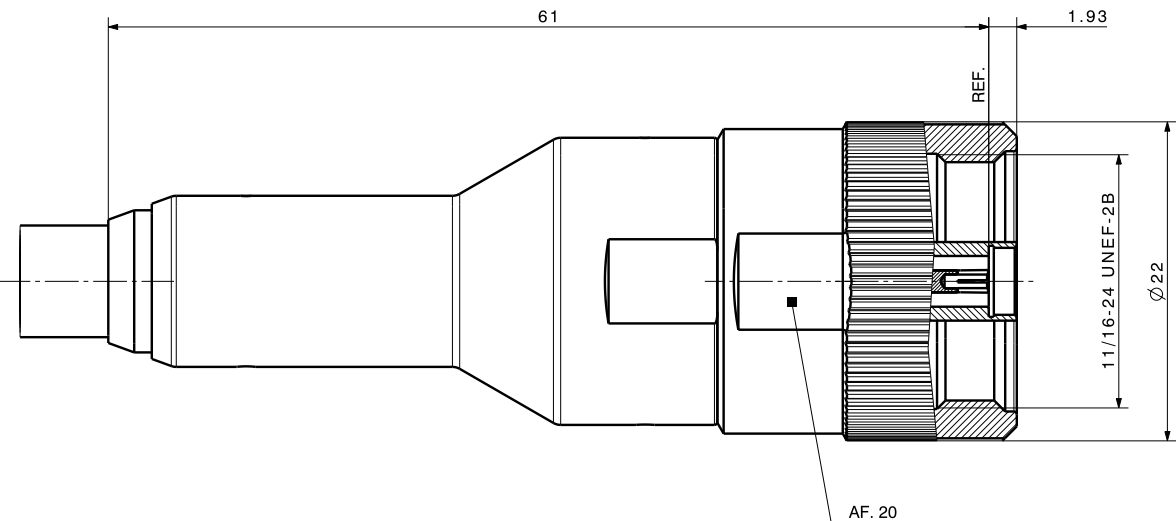
2.4 mm Male (SF_11_PC24-501)



2.4 mm Female (SF_21_PC24-501)



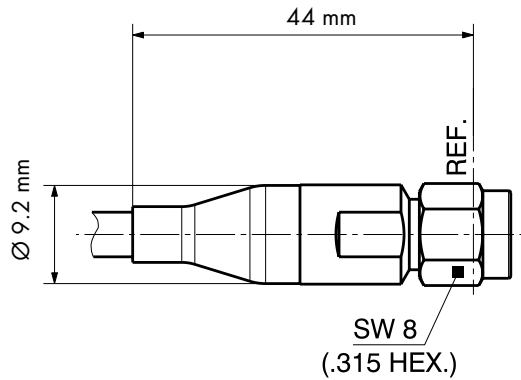
2.4 mm ruggedised PORT Female (SF_21_PC24-502)



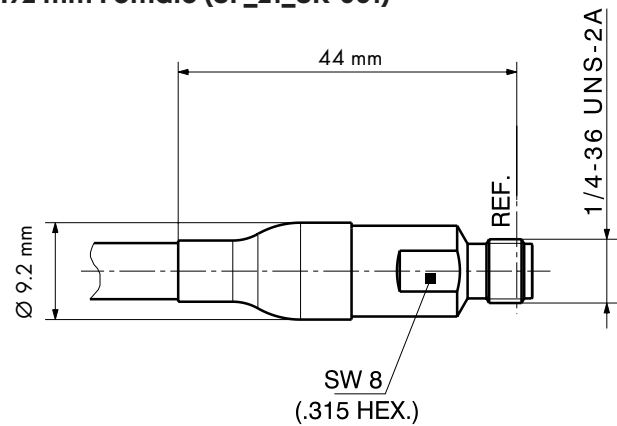
SUCOFLEX 500S

Connector configuration

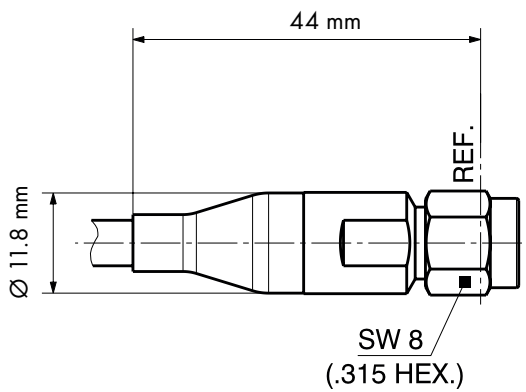
2.92 mm Male (SF_11_SK-501)



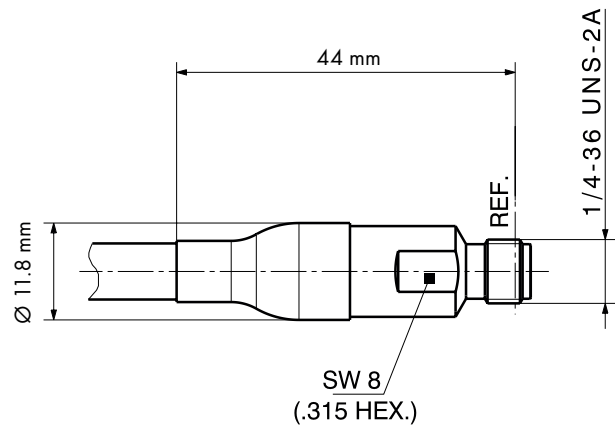
2.92 mm Female (SF_21_SK-501)



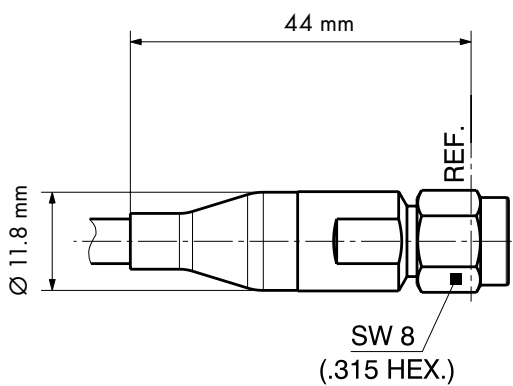
3.5 mm Male (SF_11_PC35-501)



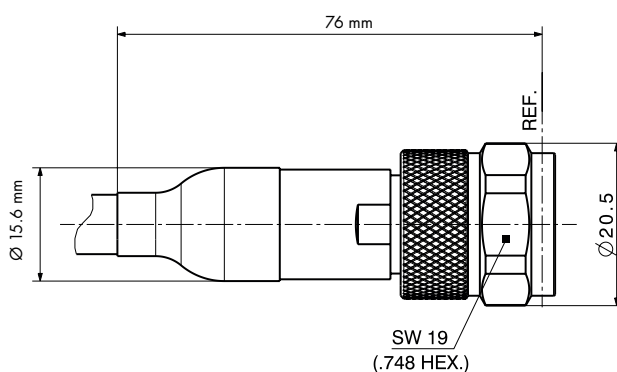
3.5 mm Female (SF_21_PC35-501)



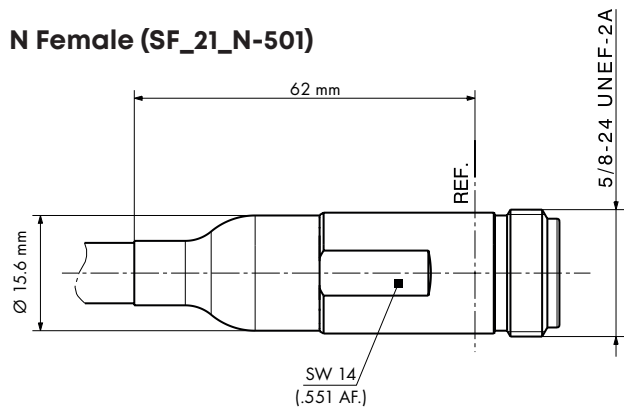
SMA Male (SF_11_SMA-501)



N Male (SF_11_N-501)



N Female (SF_21_N-501)



SUCOFLEX 526V

The only VNA microwave cable assembly worldwide with a typical 50 ppm phase variation vs. temperature between +15 and +30 °C. No "PTFE phase knee" at +19 °C as seen on conventional VNA test cable assemblies which cause phase variations and unstable measurements in critical laboratory conditions.



Available assemblies

Product configuration

Art. No.	85069744	85081169	85070046	85081172	85070047	85081177
Cable type	SUCOFLEX 526V					
Length	25" (635 mm)	25" (635 mm)	38" (965 mm)	38" (965 mm)	48" (1219 mm)	48" (1219 mm)
Connector 1	3.5 mm ruggedised PORT female (35VF)					
Connector 2	3.5 mm ruggedised DUT male (35VM)	3.5 mm DUT female (35F)	3.5 mm ruggedised DUT male (35VM)	3.5 mm DUT female (35F)	3.5 mm ruggedised DUT male (35VM)	3.5 mm DUT female (35F)

Mechanical data

Diameter	13 mm
Min. bending radius	50 mm
Crush resistance	80 kN/m
Typ. flex life	>100 000 cycles 2.0 Mio. for slight movements

Environmental data

Operating temperature	laboratory conditions, analyser specific (+15 to +30 °C)
2011/65/EC (RoHS)	compliant

Electrical data

Art. No.	85069744	85081169	85070046	85081172	85070047	85081177
Impedance	50 Ω					
Operating frequency	up to 26.5 GHz					
Velocity of propagation	80 %					
Time delay	4.15 ns/m					
Return loss	typ. 25 dB min. 20 dB					
Insertion loss	max. 2.5 dB		max. 3.6 dB		max. 4.4 dB	
Min. screening effectiveness	> 90 dB					
Amplitude stability vs. movement	max. 0.05 dB					
Amplitude stability vs. flexure	max. 0.08 dB					
Phase stability vs. flexure	max. 3.9°		max. 7.4°		max. 10°	
Phase stability vs. tensile stress	max. 0.1°/GHz (100 N)					
Phase stability vs. temperature	typ. 50 ppm (+15 to +30 °C)					

Order information

Art. No.	Description
85069744	SF526V/35VF/35VM/25in
85081169	SF526V/35VF/35F/25in
85070046	SF526V/35VF/35VM/38in
85081172	SF526V/35VF/35F/38in
85070047	SF526V/35VF/35VM/48in
85081177	SF526V/35VF/35F/48in

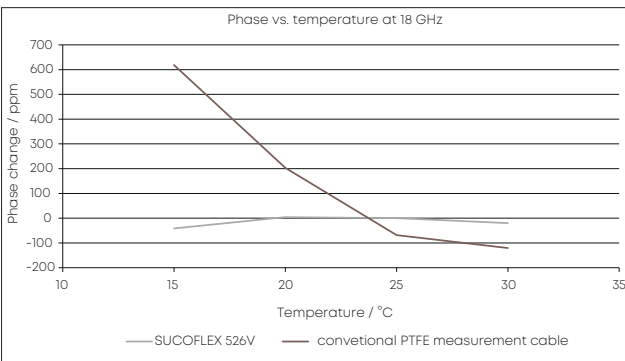
SUCOFLEX 526V

Phase shift vs. temperature (+15°C to + 30°C)

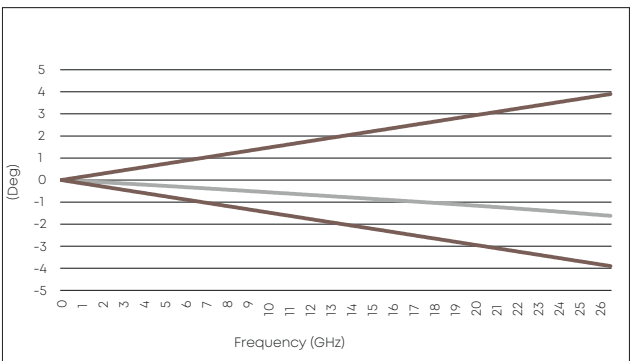
		SUCOFLEX 526V	Conventional VNA test lead
Assembly length (in (mm))	Frequency (GHz)*	Phase shift /° (for 50 ppm, 80% VOP)	Phase shift /° (for 700 ppm, 84% VOP)
25 (635)	18	0.9	11.4
25 (635)	26.5	1.3	16.7

*Other frequencies on request

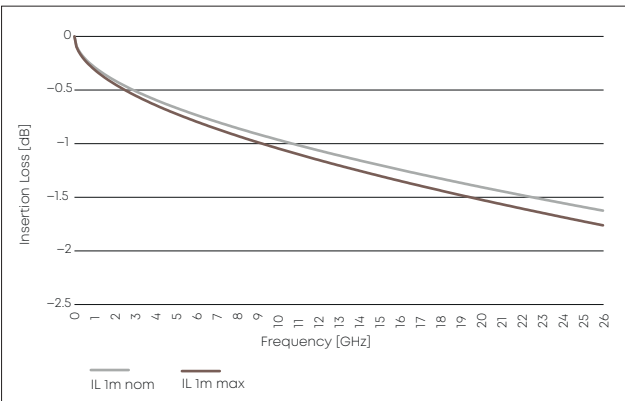
Phase stability vs. temperature performance



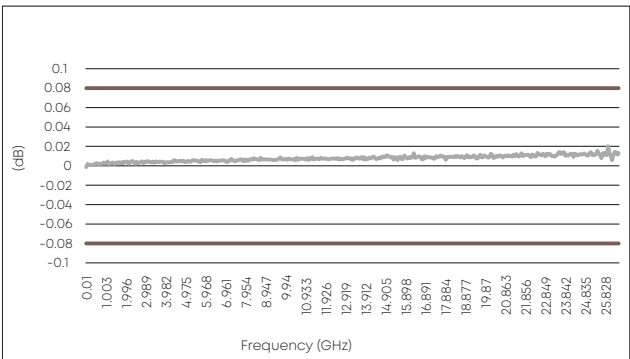
Phase stability vs. flexure



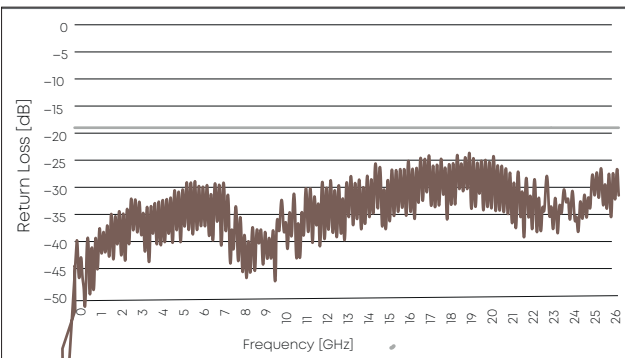
Insertion loss



Loss stability vs. flexure



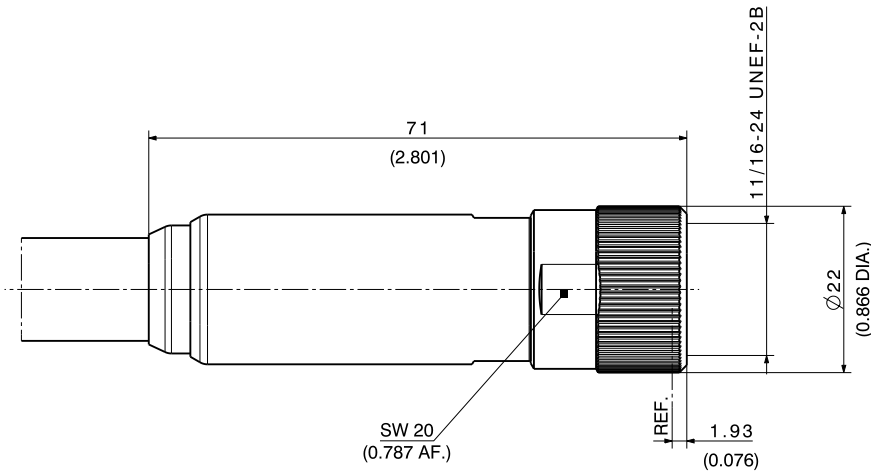
Return loss SUCOFLEX 526V with PC3.5 connectors



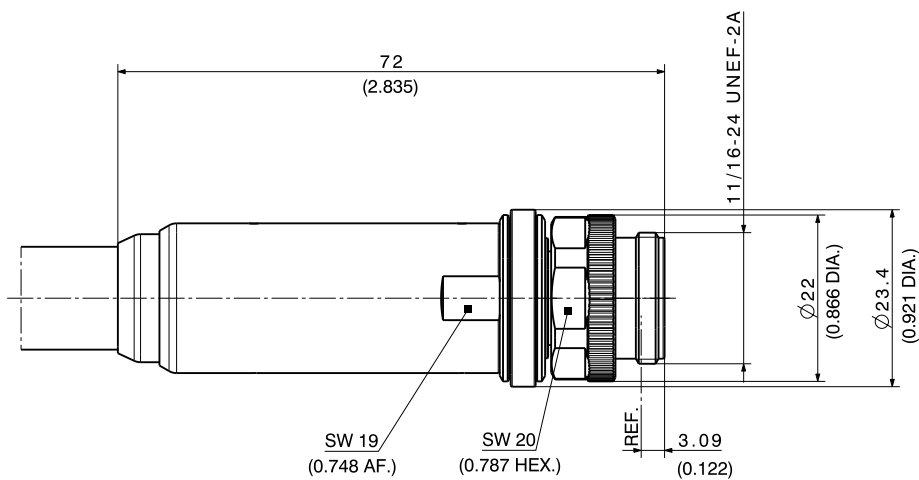
SUCOFLEX 526V

Connector configuration

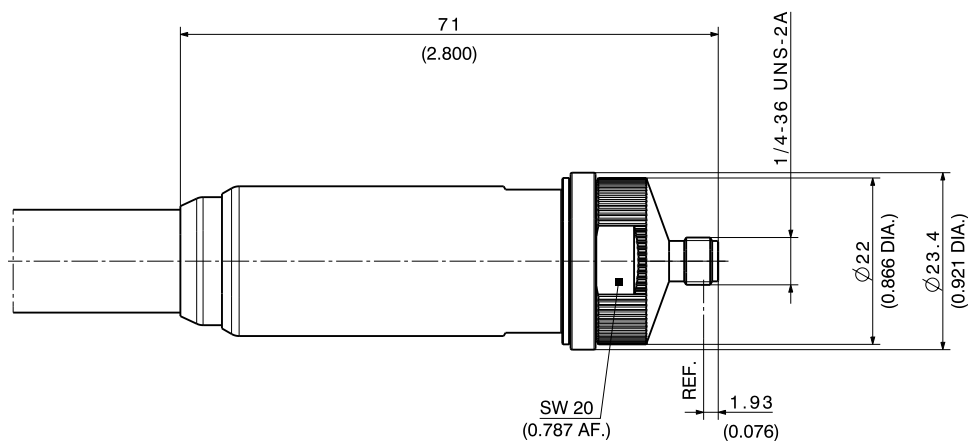
35VF (3.5 mm ruggedised PORT female)



35VM (3.5 mm ruggedised DUT male)



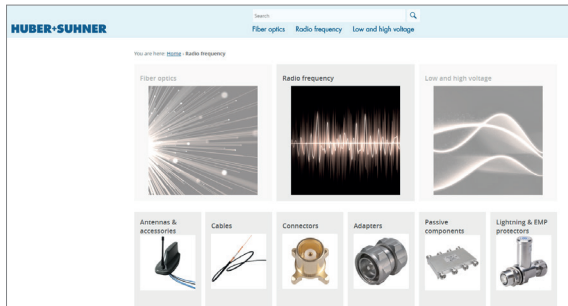
35F (3.5 mm DUT female)



Cable and assembly tools

Use our online tools for fast and efficient calculation and configuration or contact your HUBER+SUHNER partner for specific information.

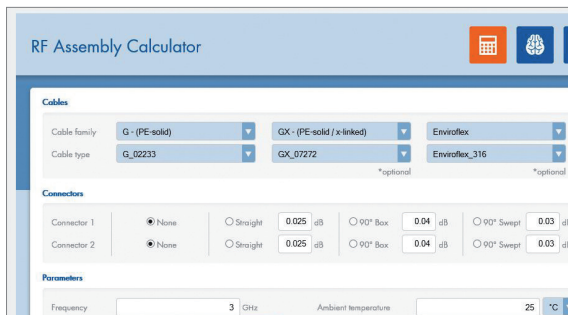
1. EVALUATE with our eCatalogue



Choose suitable cables by using our "eCatalogue".

<https://ecatalog.hubersuhner.com/>

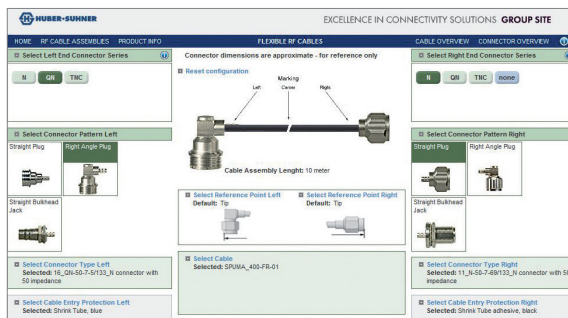
2. CALCULATE with the assembly calculator



Compare the suitable products and calculate the electrical performance by using the "RF assembly calculator".

<http://rfcablecalc.hubersuhner.com>

3. CONFIGURE with the assembly configurator



By using the "RF assembly configurator" you can define the complete assembly.

<http://rfwebpcf.hubersuhner.com>

HUBER+SUHNER AG
Radio Frequency
Degersheimerstrasse 14
9100 Herisau
Switzerland
Phone +41 71 353 41 11
hubersuhner.com

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Waiver

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