

# SUCOFLEX<sup>®</sup> 500

High performance up to 50 GHz

Edition 2019/06



Short delivery time



Outstanding performance



Excellent price-performance ratio



## 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 50 GHz.

Due to the rotary swaged low-loss inner conductor and the rugged construction, all SUCOFLEX 500S assemblies 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.



## SUCOFLEX 550S

40-50 GHz

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



## SUCOFLEX 526S

26.5 GHz

- Very long life time (>100'000 flex cycles)
- Excellent insertion loss
- 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

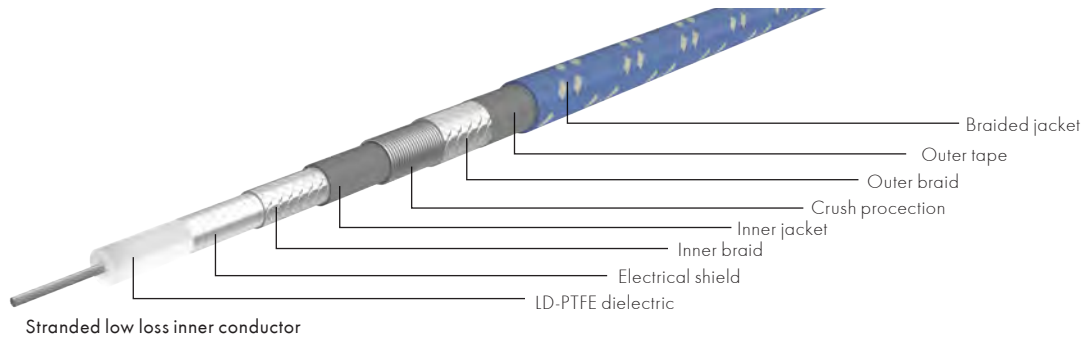
- Bench top testing
- RF production testing
- Automated test equipment
- Vector network analyzers (VNAs)
- Scalar analyzers
- Portable test equipment
- RF module testing
- High speed digital testing (HSDT)

„Historically, solutions come in standard lengths that are expensive with a long delivery wait, so we are thrilled to be able to offer high performance microwave cable assemblies that are customisable, affordable and quick.“

*Daniel Ulmer, Product Manager*

# SUCOFLEX 550S - Unique cable construction

Stranded low loss inner conductor



## Mechanical data

Frequency	26.5 GHz	40 GHz	50 GHz
Cable	SUCOFLEX 526S	SUCOFLEX 550S	SUCOFLEX 550S
Connector	PC3.5	SK / 2.92 mm	PC2.4
Diameter (mm)	7.7	6.1	
Min. bending radius (mm)	25.4		
Typ. flex life (cycles)	> 100'000		
Min. assembly length	300		
Max. assembly length	50'000	20'000	

## Environmental data

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

## Electrical data

Impedance (Ω)	50		
Velocity of propagation (%)	77		
Time delay (ns/m)	4.32		
Typ. return loss (dB)	25	19	17
Min. return loss (dB)	19	15	15
Typ. insertion loss assembly (dB/m)	1.63	3.41	3.87
Max. insertion loss assembly (dB/m)	1.77	3.72	4.22
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

# SUCOFLEX 550S – Stock assemblies

Delivery time within five working days worldwide

Art. No	Cable	Connector 1	Connector 2	Gender	Length (mm)	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB)
85120065	SUCOFLEX 550S	11 PC24	11 PC24	male/male	610	24	50	2.89	14.9
85120066	SUCOFLEX 550S	11 PC24	11 PC24	male/male	914	36	50	4.07	14.9
85118941	SUCOFLEX 550S	11 PC24	11 PC24	male/male	1000		50	4.22	14.9
85120068	SUCOFLEX 550S	11 PC24	11 PC24	male/male	1219	48	50	5.24	14.9
85118942	SUCOFLEX 550S	11 PC24	11 PC24	male/male	1500		50	6.33	14.9
85120069	SUCOFLEX 550S	11 PC24	21 PC24	male/female	610	24	50	2.89	14.9
85120070	SUCOFLEX 550S	11 PC24	21 PC24	male/female	914	36	50	4.07	14.9
85118943	SUCOFLEX 550S	11 PC24	21 PC24	male/female	1000		50	4.22	14.9
85120072	SUCOFLEX 550S	11 PC24	21 PC24	male/female	1219	48	50	5.24	14.9
85124229	SUCOFLEX 550S	11 PC24	21 PC24	male/female	1500		50	6.33	14.9
85120073	SUCOFLEX 550S	11 SK	11 SK	male/male	610	24	40	2.58	14.9
85120074	SUCOFLEX 550S	11 SK	11 SK	male/male	914	36	40	3.61	14.9
85118944	SUCOFLEX 550S	11 SK	11 SK	male/male	1000		40	3.72	14.9
85120075	SUCOFLEX 550S	11 SK	11 SK	male/male	1219	48	40	4.65	14.9
85123652	SUCOFLEX 550S	11 SK	11 SK	male/male	1500		40	5.57	14.9
85123656	SUCOFLEX 550S	11 SK	21 SK	male/female	610	24	40	2.58	14.9
85123657	SUCOFLEX 550S	11 SK	21 SK	male/female	914	36	40	3.61	14.9
85118945	SUCOFLEX 550S	11 SK	21 SK	male/female	1000		40	3.72	14.9
85123658	SUCOFLEX 550S	11 SK	21 SK	male/female	1219	48	40	4.65	14.9
85123655	SUCOFLEX 550S	11 SK	21 SK	male/female	1500		40	5.57	14.9

# SUCOFLEX 526S – Stock assemblies

Art. No	Cable	Connector 1	Connector 2	Gender	Length (mm)	Length (inch)	Frequency (GHz)	max. IL (dB)	min. RL (dB)
85090623	SUCOFLEX 526S	11 PC35	11 PC35	male/male	500	20	26.5	1.01	1.25
85088164	SUCOFLEX 526S	11 PC35	11 PC35	male/male	914	36	26.5	1.64	1.25
85090624	SUCOFLEX 526S	11 PC35	11 PC35	male/male	1000	39	26.5	1.77	1.25
85092087	SUCOFLEX 526S	11 PC35	11 PC35	male/male	1500	59	26.5	2.52	1.25
85090625	SUCOFLEX 526S	11 PC35	11 PC35	male/male	2000	79	26.5	3.27	1.25
85090626	SUCOFLEX 526S	11 PC35	11 PC35	male/male	3000	79	26.5	4.77	1.25
85093097	SUCOFLEX 526S	11 PC35	21 PC35	male/female	500	20	26.5	1.01	1.25
85090629	SUCOFLEX 526S	11 PC35	21 PC35	male/female	914	36	26.5	1.64	1.25
85093184	SUCOFLEX 526S	11 PC35	21 PC35	male/female	1000	39	26.5	1.77	1.25
85091104	SUCOFLEX 526S	11 PC35	21 PC35	male/female	1219	48	26.5	2.10	1.25
85089172	SUCOFLEX 526S	11 N	11 N	male/male	1000	39	18	1.43	1.25
85089173	SUCOFLEX 526S	11 SMA	11 SMA	male/male	1000	39	18	1.43	1.25

# SUCOFLEX 500 - Available connectors

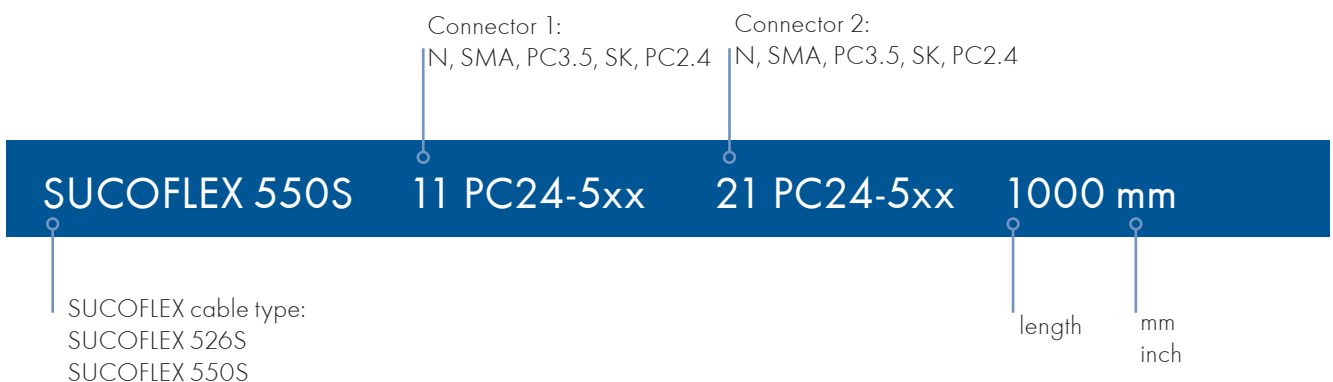
	SUCOFLEX 526S		SUCOFLEX 526V	SUCOFLEX 550S	
	18 GHz	26.5 GHz	26.5 GHz	40 GHz	50 GHz
N straight male	SF_11_N-501				
N straight female	SF_21_N-501				
SMA straight male	SF_11_SMA-501				
PC 3.5 straight male		SF_11_PC35-501			
PC 3.5 straight female		SF_21_PC35-501			
PC 3.5 ruggedised PORT female			35VF		
PC 3.5 ruggedised DUT male			35VM		
PC 3.5 DUT female			35F		
SK / 2.92 straight male				SF_11_SK-501	
SK / 2.92 straight female				SF_21_SK-501	
PC 2.4 straight male					SF_11_PC24-501
PC 2.4 straight female					SF_21_PC24-501

## Order information

Unlike other similar solutions, the SUCOFLEX 550S is available in tailored lengths and can be delivered within just ten days if the order is up to ten pieces.

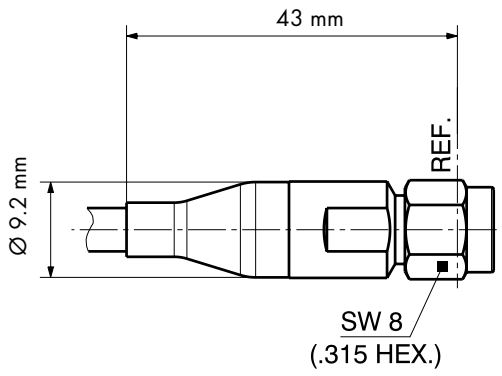
For ordering, please follow the instruction below.

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

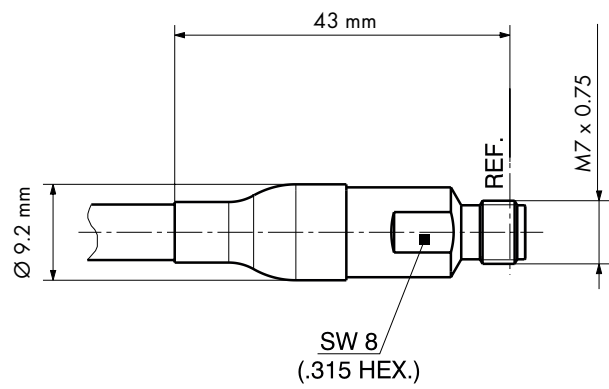


# SUCOFLEX 500S - Connector configuration

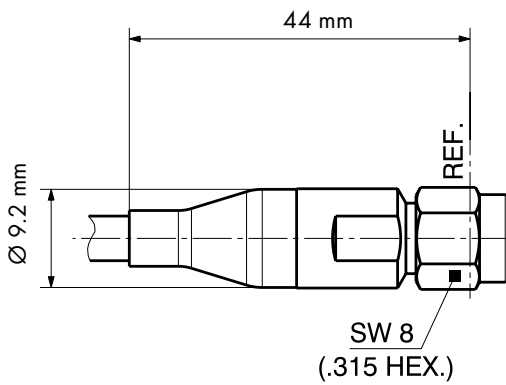
SF\_11\_PC24-501



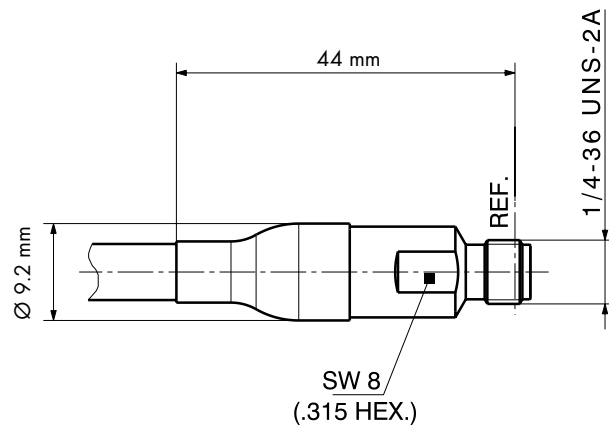
SF\_21\_PC24-501



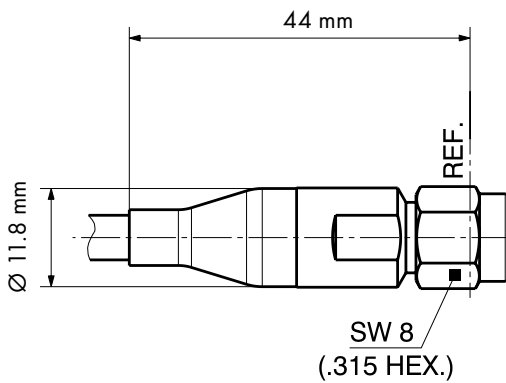
SF\_11\_SK-501



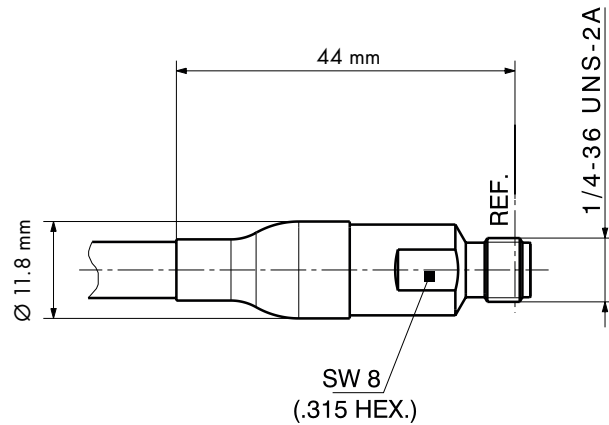
SF\_21\_SK-501



SF\_11\_PC35-501

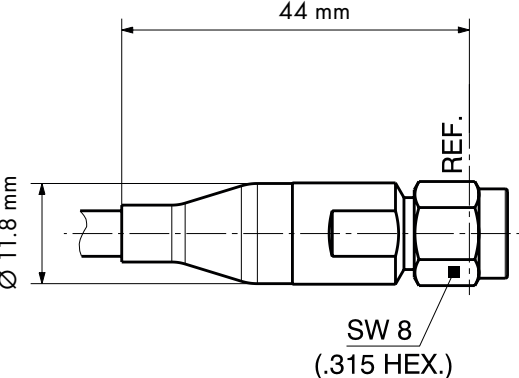


SF\_21\_PC35-501

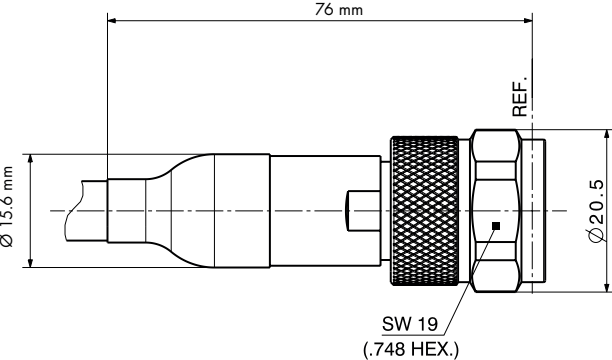


# SUCOFLEX 500S - Connector configuration

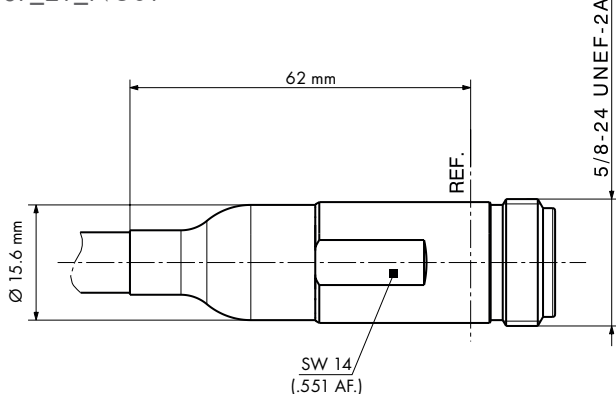
SF\_11\_SMA-501



SF\_11\_N-501



SF\_21\_N-501





# SUCOFLEX 526V

The only VNA microwave cable 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

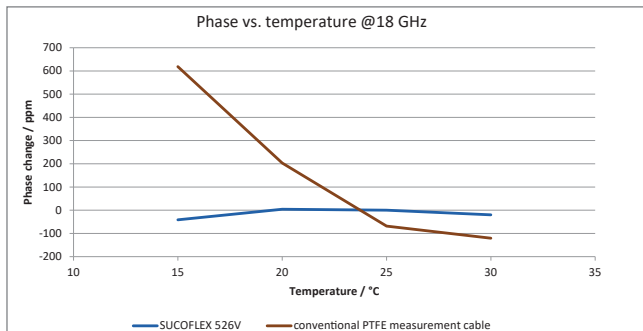
# SUCOFLEX 526V

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

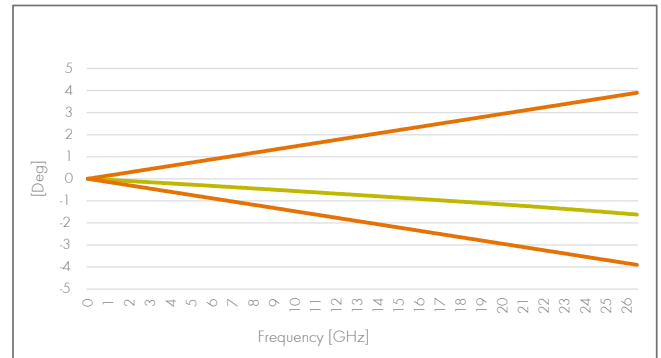
Assembly length (in (mm))	Frequency (GHz)*	SUCOFLEX 526V	Conventional VNA test lead
25 (635)	18	0.9	11.4
25 (635)	26.5	1.3	16.7

\*Other frequencies on request

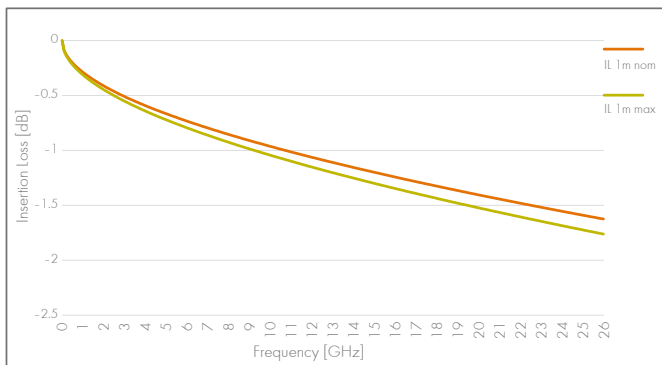
## Phase stability vs. temperature performance



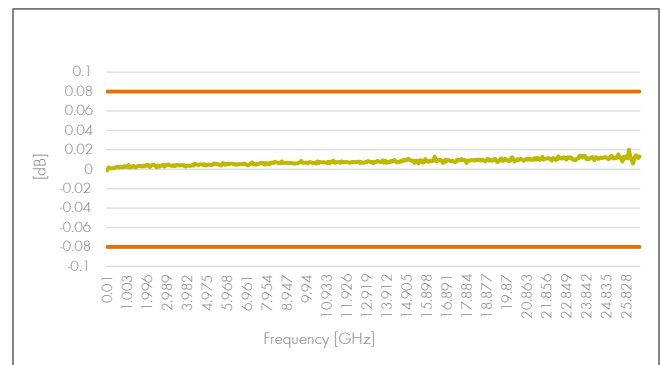
## Phase stability vs. flexure



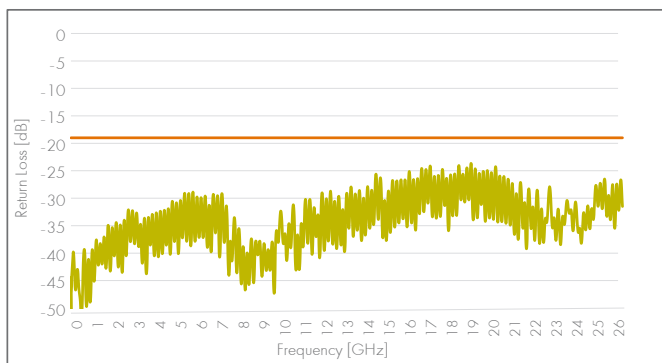
## Insertion loss



## Loss stability vs. flexure

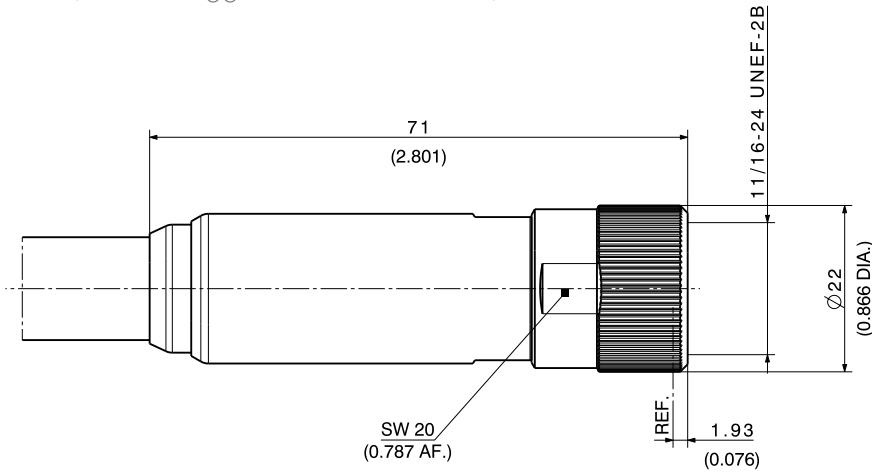


## Return loss SUCOFLEX 526V with PC3.5 connectors

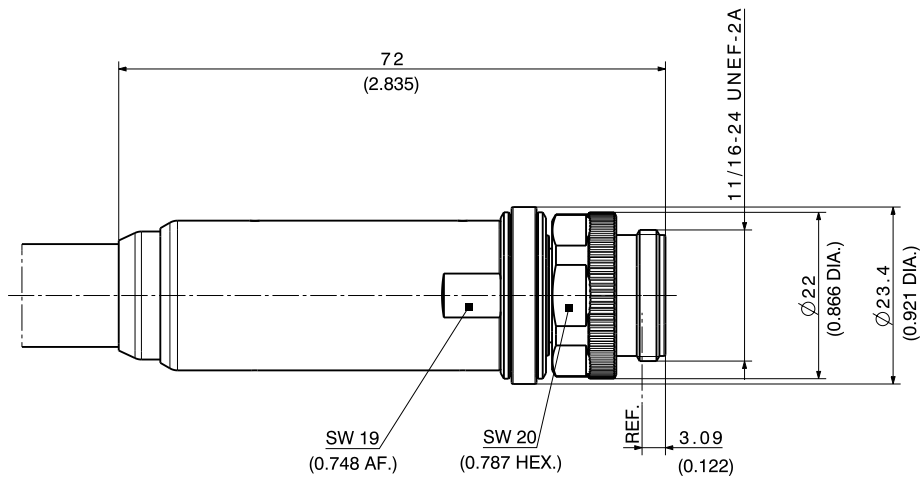


# SUCOFLEX 526V - Connector configuration

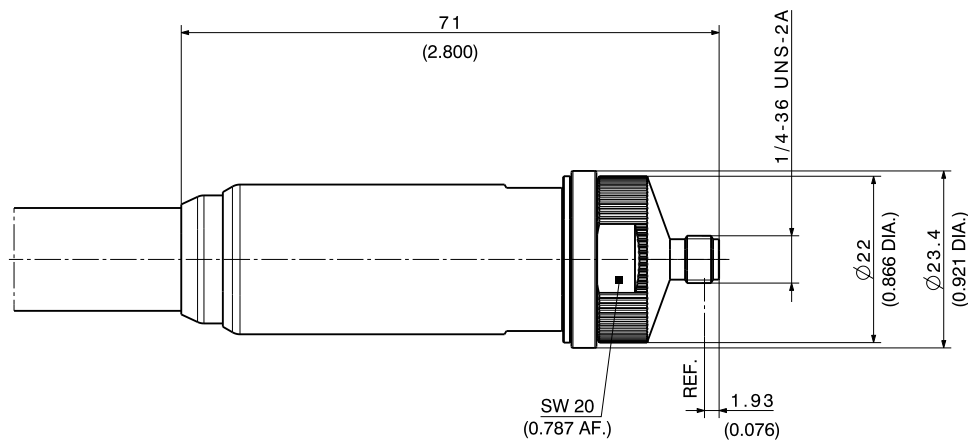
35VF (3.5 mm ruggedised PORT female)



35VM (3.5 mm ruggedised DUT male)



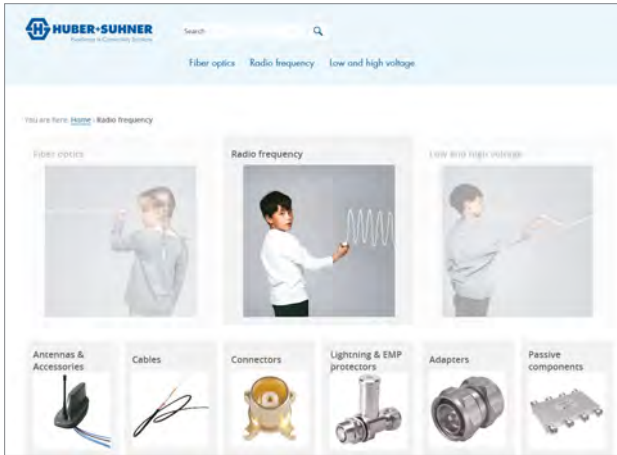
35F (3.5 mm DUT female)



# Cable and assembly tools

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

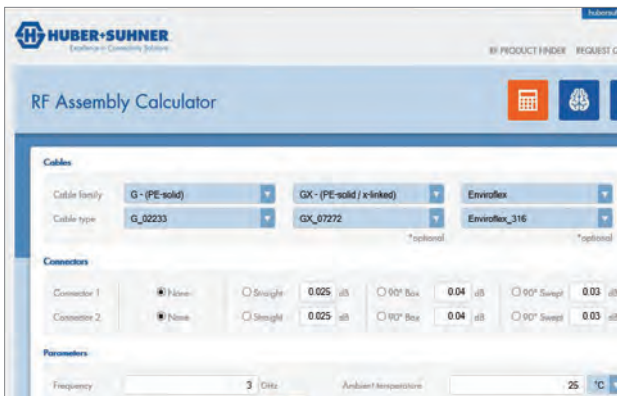
## 1. EVALUATE with our eCatalogue



Choose suitable cables by using our "eCatalogue".

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

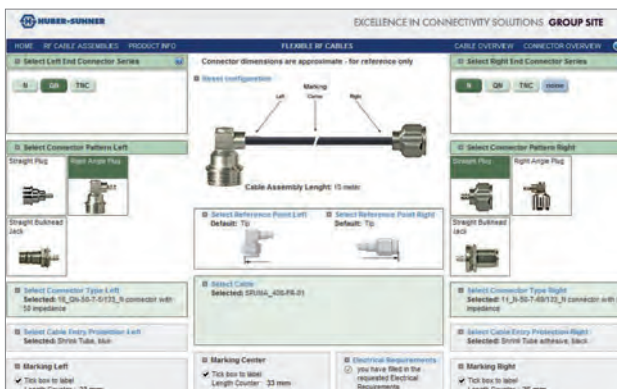
## 2. CALCULATE with the assembly calculator



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>

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ISO 14001, IATF 16949 and IRIS.

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