



# SERIES 7/16 COAXIAL CONNECTORS

## DESCRIPTION

HUBER+SUHNER 7/16 connectors are mechanically very rugged coaxial connectors with screw lock. They have a characteristic impedance of  $50 \Omega$  and are applicable with excellent electrical properties up to 7.5 GHz.

Transmission of medium to high power in transmitting stations and low loss transmission of received signals such as in mobile phone base stations are typical applications.

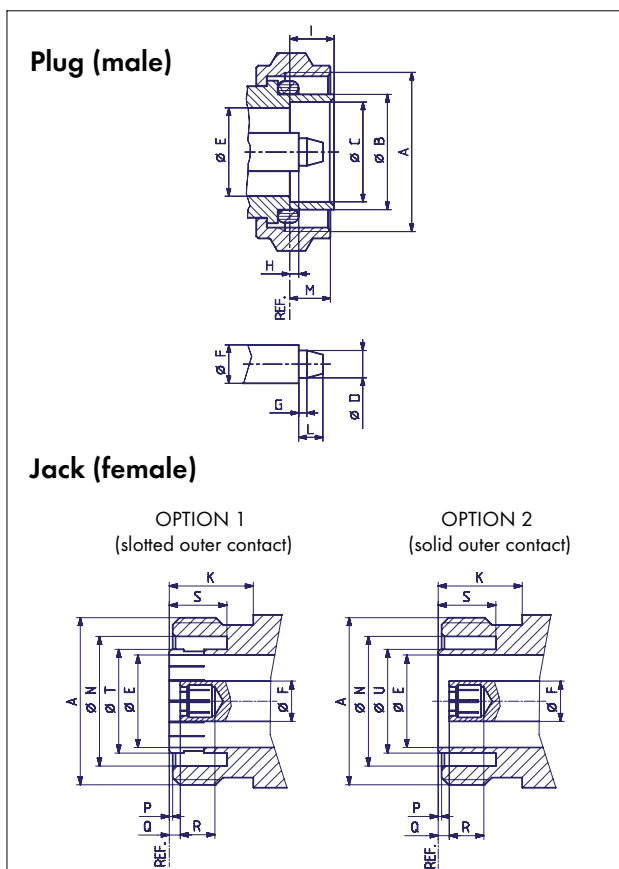
For these purposes low intermodulation product and water-proof types are also available.

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## INTERFACE DIMENSIONS



## INTERFACE DIMENSIONS (MM / INCHES)

	Plug		Jack	
	min.	max.	min.	max.
A	M29 × 1.5		M29 × 1.5	
B	20.60/.811	21.40/.843	—	—
C	18.03/.710	18.21/.717	—	—
D	4.96/.195	5.04/.198	—	—
E	15.85/.624	16.25/.640	15.85/.624	16.25/.640
F	7.00/.276 nom.		7.00/.276 nom.	
G	1.40/.055	1.60/.063	—	—
H	1.47/.058	1.77/.070	—	—
I	7.00/.276	8.00/.315	—	—
K	—	—	10.00/.394	—
L	—	4.50/.177	—	—
M	7.00/.276	9.00/.354	—	—
N	—	—	22.10/.870	22.90/.902
P	—	—	0.50/.020	0.70/.028
Q	—	—	1.77/.070	2.07/.082
R	—	—	5.00/.197	—
S	—	—	8.10/.319	—
T	—	—	—	18.50/.728*
U	—	—	—	18.00/.709

\* prior to slotting

IP rating (interface, mated) IP68

**Interface dimensions conformable to the Standards:**

International **IEC 61169-4**  
 Europe: **CECC 22 190**  
 Germany **DIN 47223, VG 95250**

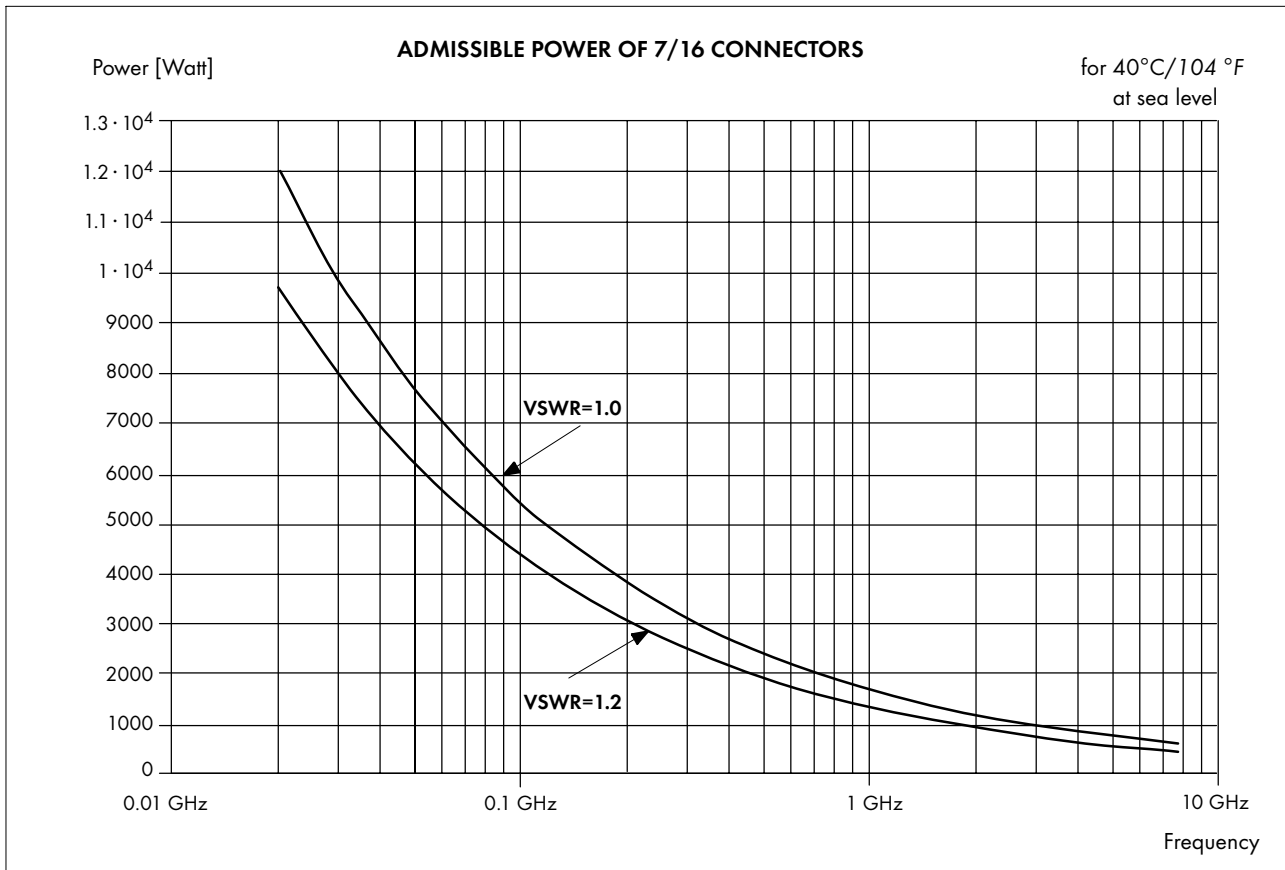
**TECHNICAL DATA**

ELECTRICAL DATA	REQUIREMENTS
Impedance	50 Ω
Frequency range	DC ... 7.5 GHz <span style="float: right;">combination types: DC - 1 GHz</span>
Dielectric withstanding voltage (at sea level) - combination system	4.0 kV rms, 50 Hz 2.5 kV rms, 50 Hz
Working voltage (at sea level) - combination system	≤ 2.5 kV rms, 50 Hz ≤ 1.0 kV rms, 50 Hz
Insulation resistance	≥ 10 <sup>4</sup> MΩ
Contact resistance - centre contact - outer contact	≤ 0.4 mΩ ≤ 1.5 mΩ
RF-leakage (at 1 GHz)	≥ 128 dB
VSWR	see table below

TYPICAL VSWR *	FREQUENCY RANGE			CABLE GROUP
	1 GHz	2.5 GHz	5 GHz	
straight connectors	1.04	1.05	1.12	M5, M7
	1.05	1.07	1.10	U29, U32
	1.03	1.05	1.10	S39
right angle connectors	1.04	1.05	1.12	M5, M7

\* Values which can be achieved when connectors are perfectly fixed onto the cable.

Other connectors and cables on request



MECHANICAL DATA	REQUIREMENTS
Coupling nut torque - recommended - proof torque	25 Nm ... 30 Nm / 221 in. lbs ... 260 in. lbs 35 Nm / 310 in. lbs
Coupling nut retention force	≥ 1000 N / 225.0 lbs
Contact captivation	≥ 200 N / 45.0 lbs
Cable retention force <sup>1)</sup>	see pages 28 - 34
Durability (matings)	≥ 500

1) Value considers maximum load of the cables without irreversible variations of specifications.

ENVIRONMENTAL DATA	CECC 22190 TEST CONDITIONS	EQUIVALENT MIL TEST CONDITIONS
Temperature range		- 65°C ... + 165°C / - 85 °F ... + 329 °F
Climatic category	4.6.5 → 55/155/56	
Corrosion (mated connectors)	4.6.10 → IEC-68-2-11 Ka	Saltspray test acc. to MIL-STD-202, Method 101, Condition B
Vibration	4.6.3 → IEC 68-2-6 Fc	

MATERIAL DATA		
CONNECTOR PART	MATERIAL	PLATING
Bodies	brass	SUCOPLATE®
Pin contacts	brass	silver
Outer contacts, jacks Socket contact	spring bronze	silver
Crimp ferrules	copper	SUCOPLATE®
Insulators, standard version	PTFE or PFA	
Gaskets	silicone rubber	

Some connectors may have a specification that differs from the above mentioned data.

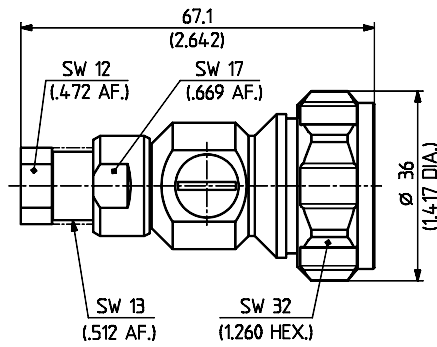
**The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.**

## CABLE CONNECTORS

### Straight cable plugs (male)

#### > for corrugated cables

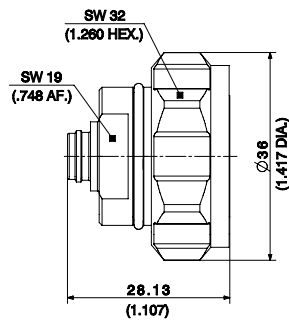
- > cable entry clamp
- > centre contact soldered
- > degree of protection IP 68



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
11_716-50-5-4/003_-Z	23003412	M5 (SUCCOFEED ¼"HF)	bulk 10 pcs.	27297	149 g / 5.25 oz.

#### > for SUCCOFORM cables

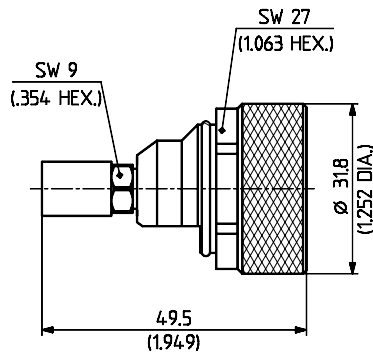
- > cable entry soldered
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
11_716-50-5-6/003_-Y	84008435	Y13 (Sucoform 250-01)	bulk 10 pcs.	0000215393	75 g / 2.65 oz.

#### > for flexible cables

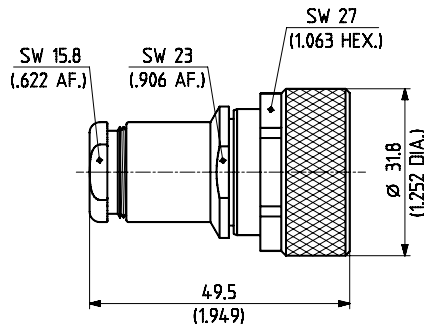
- > cable entry crimp
- > centre contact plugged



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
11_716-50-6-3/003_-E	22652341	S24 (S 06162 D-02)	single	27330	8.65	86 g / 3.01 oz.

> for flexible cables

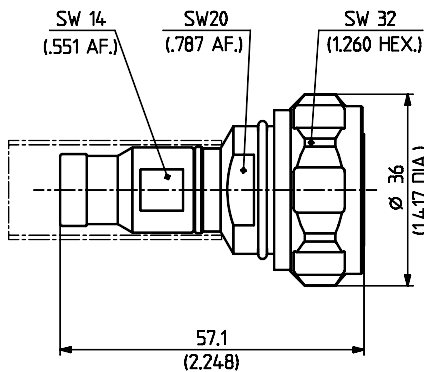
- > cable entry HUBER+SUHNER® pressure-sleeve
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
11_716-50-7-3/003_E	22544075	U28 (RG 213/U)	single	9018	105 g/3.68 oz.
11_716-50-7-4/003_E	22544076	U33 (RG 214/U)	single	9018	100 g/3.50 oz.

> for corrugated cables

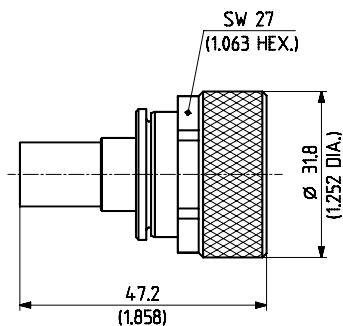
- > cable entry soldered
- > centre contact soldered
- > degree of protection IP 66



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
11_716-50-7-20/003_Z	22658154	M7 (SUCOFEED 3/8"HF)	bulk 10 pcs.	27186	115 g/4.05 oz.

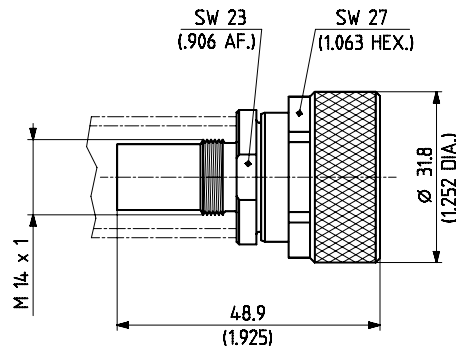
> for flexible cables

- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
11_716-50-7-1/003_E	22544073	U29 (RG 213/U)	single	9017	3 D	85 g/2.98 oz.
11_716-50-7-2/003_E	22544074	U32 (RG 214/U)	single	9017	3 D	85 g/2.98 oz.

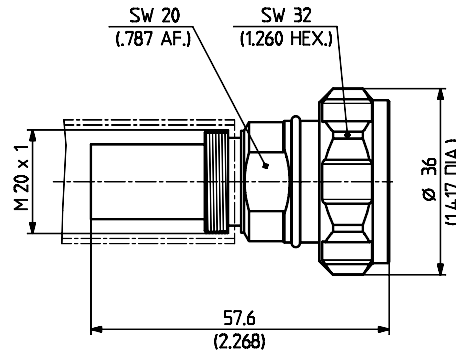
- > for flexible cables
- > cable entry crimp
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
11_716-50-7-14/003_E	22646908	S32 (S 07262 BD)	single	27003	D	91 g/3.19 oz. *

\* types available with additional sealing ferrule (IP67)

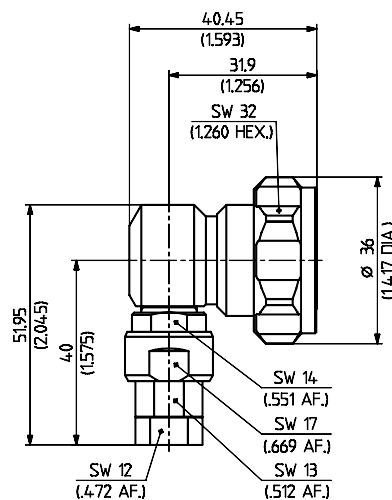
- > for flexible cables
- > cable entry crimp
- > centre contact plugged-in
- > degree of protection IP 67



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
11_716-50-10-3/003_Z	23002520	S39 (S 10172 B-11)	bulk 10 pcs.	27354	12.4	100 g/3.52 oz.

### Right angle cable plugs (male)

- > for corrugated cables
- > cable entry clamp
- > centre contact soldered
- > degree of protection IP 68



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
16_716-50-5-2/003_Z	23016774	M5 (SUCOFEEED ¼" HF)	bulk 10 pcs.	27369	150 g/5.25 oz.

- > for flexible cables
- > cable entry crimp
- > centre contact soldered

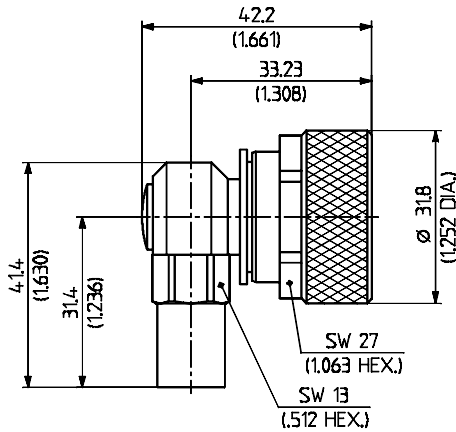


Fig. 1

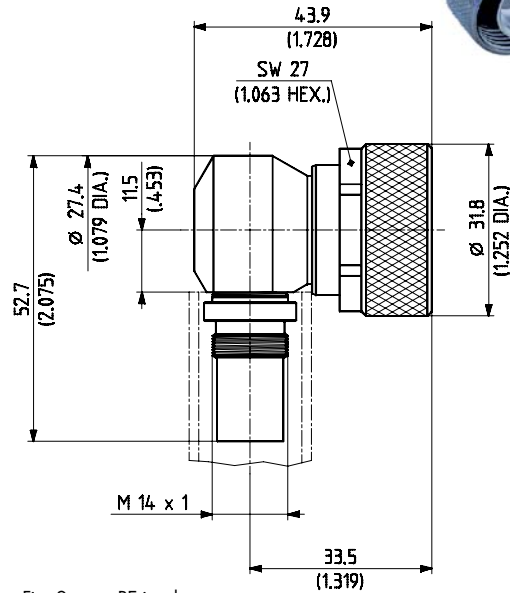
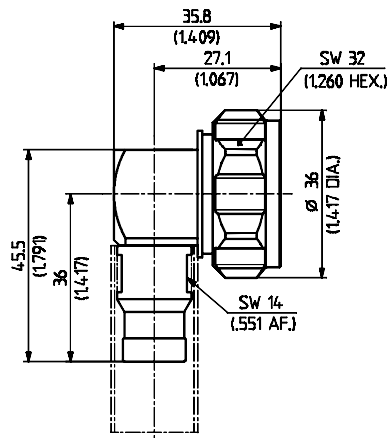


Fig. 2 PE insulator

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight	Fig.
16_716-50-7-10/003_E	22658839	U33 (RG 393/U) U32 (RG 214/U)	single	9087	D	103 g/3.61 oz.	1
16_716-50-7-11/003_E	22649421	S32 (S 07262 BD)	single	9094	D	154 g/5.39 oz.	2*

\* types available with additional sealing ferrule (IP67)

- > for corrugated cables
- > cable entry soldered
- > centre contact soldered
- > degree of protection IP 66

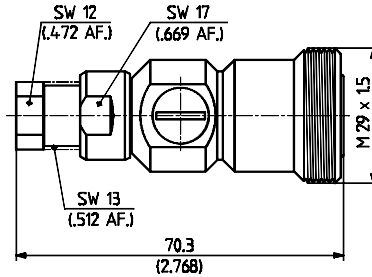


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
16_716-50-7-20/003_Z	22658147	M7 (SUCOFEEED 3/8"HF)	bulk 10 pcs.	27187	114 g/4.02 oz.



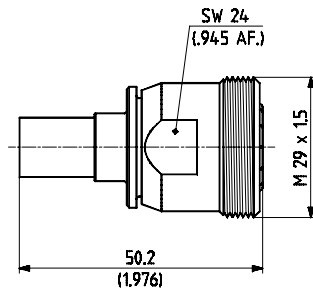
## Straight cable jacks (female)

- > for corrugated cables
- > cable entry clamp
- > centre contact soldered
- > degree of protection IP 68



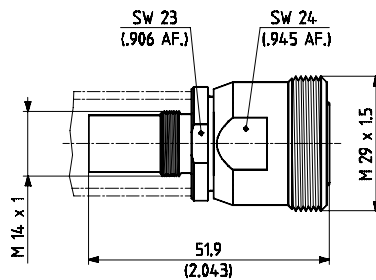
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Weight
21_716-50-5-400/003_Z	23011950	M5 (SUCCOFEED ¼"HF)	bulk 10 pcs.	27297	140 g / 4.90 oz.

- > for flexible cables
- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
21_716-50-7-1/003_E	22544092	U29 (RG 213/U)	single	9017	3 D	90 g/3.15 oz.
21_716-50-7-2/003_E	22544093	U32 (RG 214/U)	single	9017	3 D	90 g/3.15 oz.

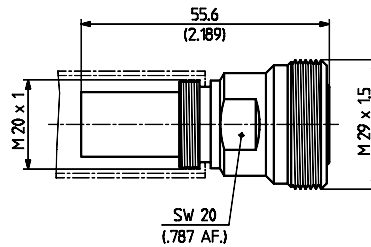
- > for flexible cables
- > cable entry crimp
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
21_716-50-7-11/003_E	22648494	S32 (S 07262 BD)	single	27003	D	97 g/3.40 oz. *

\* types available with additional sealing ferrule (IP67)

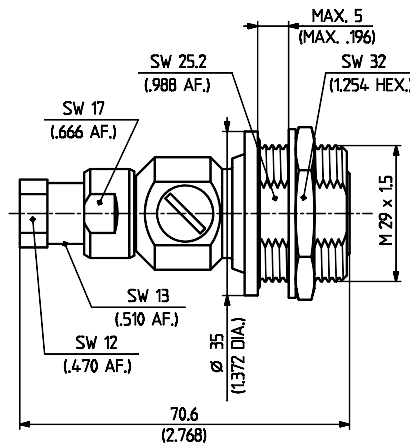
- > for flexible cables
- > cable entry crimp
- > centre contact plugged-in
- > degree of protection IP 67



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
21_716-50-10-1/003_-Z	23002535	S39 (S 10162 B-11)	bulk 10 pcs.	27354	12.4	85 g/2.99 oz.

### Straight bulkhead cable jacks (female)

- > for corrugated cables
- > cable entry clamp
- > centre contact soldered
- > degree of protection IP 68

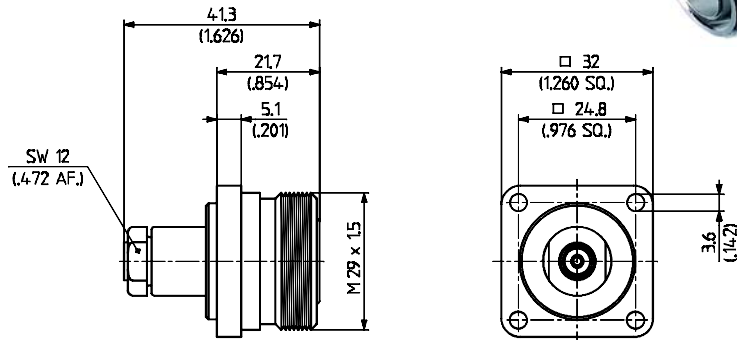


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Weight
24_716-50-5-400/003_-Z	22658272	M5 (SUCOFEED 1/4"HF)	bulk 10 pcs.	27297 / ML 110	171 g/6.03 oz.

## Straight panel cable jacks (female)

### > for SUCOFORM cables

- > cable entry soldered
- > centre contact plugged

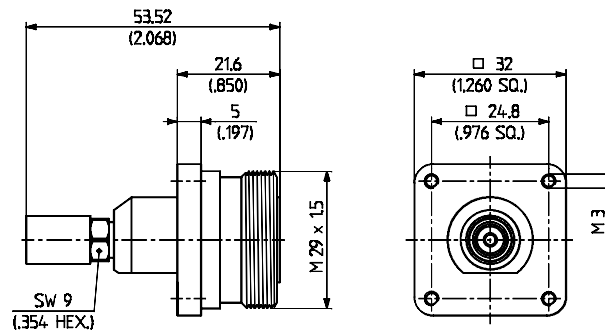
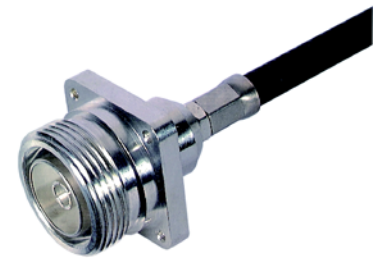


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Weight
25_716-50-5-7/00_-E	23011905	Y13 (Sucoform 250)	single	27117	ML 27	110 g/3.85 oz.

mounting hole ML 27

### > for flexible cables

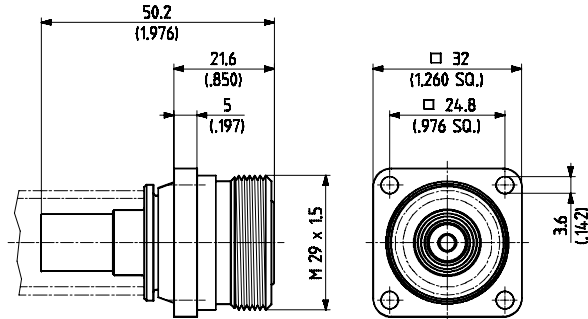
- > cable entry crimp
- > centre contact plugged



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
25_716-50-6-2/003_-V	22652322	S24 (S 06162 D-02)	bulk 20 pcs.	27330	8.65	110 g/3.85 oz.

> for flexible cables

- > cable entry crimp
- > centre contact soldered
- > degree of protection IP 66

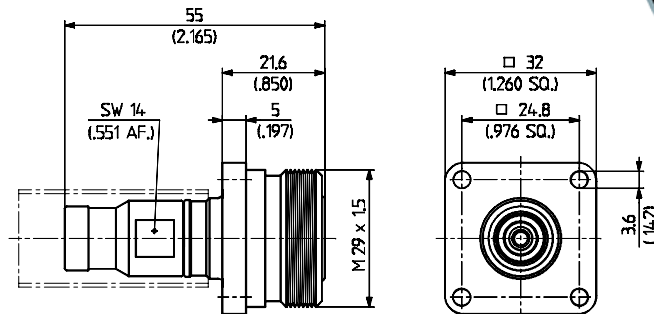
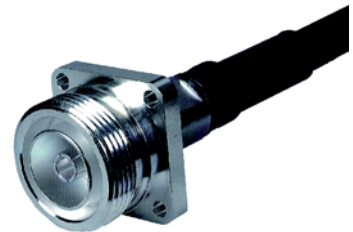


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Weight
25_716-50-7-11/003_E	22649423	S32 (S 07262 BD)	single	27003	D	112 g/3.92 oz.

mounting hole ML 27

> for corrugated cables

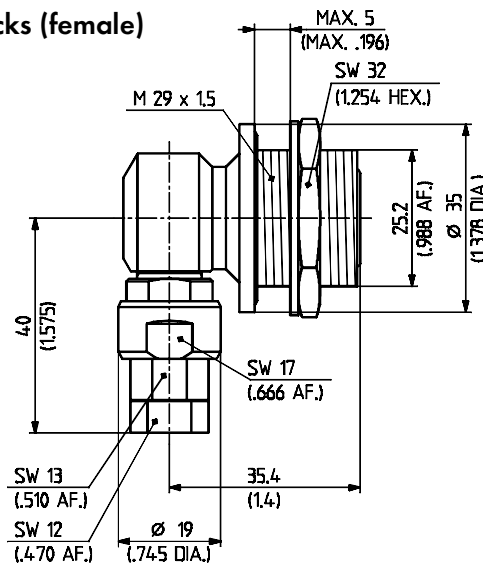
- > cable entry soldered
- > centre contact soldered
- > degree of protection IP 66



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Weight
25_716-50-7-21/003_Z	23000282	M7 (SUCCOFEED <sup>3</sup> / <sub>8</sub> "HF)	bulk 10 pcs.	27188 / ML 27	106 g/3.73 oz.

## Right angle bulkhead cable jacks (female)

- > for corrugated cables
- > cable entry clamp
- > centre contact soldered
- > degree of protection IP 68



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Weight
29_716-50-5-400/003_-Z	22658301	M5 (SUCCOFEED ¼"HF)	bulk 10 pcs.	27315 / ML 110	171 g/6.03 oz.

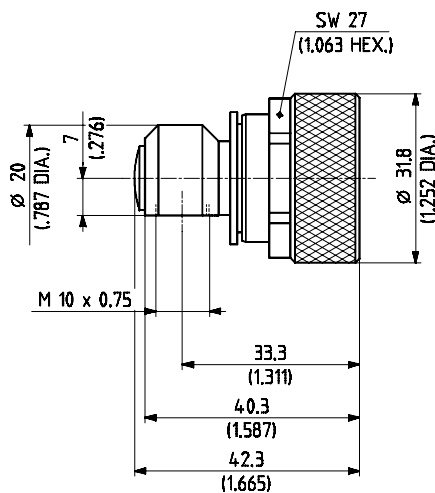
## 7/16 COMBINATION SYSTEM

The HUBER+SUHNER 7/16 combination system enables efficient, low cost and flexible stocking of 7/16 cable connectors. The 11 basic parts can be combined to obtain 48 different cable connector types for almost all coaxial cables with 2.95 mm (.116 in.), 4.7 mm (.185 in.) or 7.25 mm (.285 in.) dielectric diameter. The cable entries are available with both crimp type or pressure-sleeve (no special tools) cable attachment.

Centre conductors are soldered. All cable entries can be used together with any of the combi-heads. Taper sleeves can be supplied for the crimp type cable entries. Straight or right angle configurations are possible with the same sub-assemblies. All types have 50 Ω impedance and are suitable for frequencies up to 1 GHz. The working voltage is limited to 1.0 kV rms.

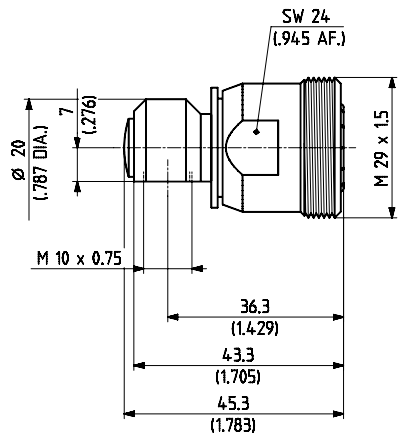
### Combi-heads

- > plug (male)



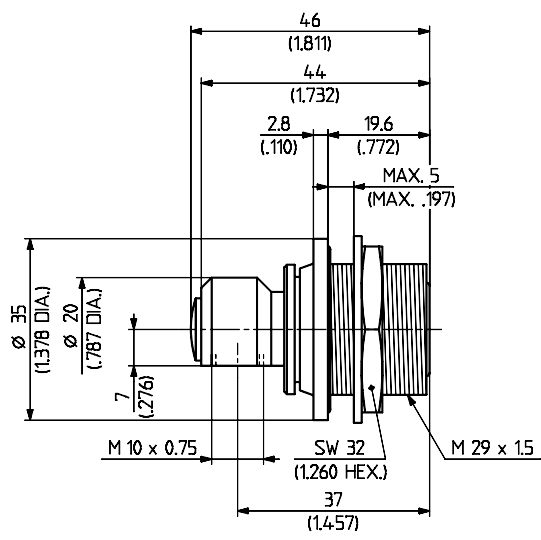
HUBER+SUHNER type	Item no.	Packaging	Weight	Notes
11_716-50-0-2/003_-E	22641432	single	100 g/3.50 oz.	cable entries see page 319/320

> jack (female)



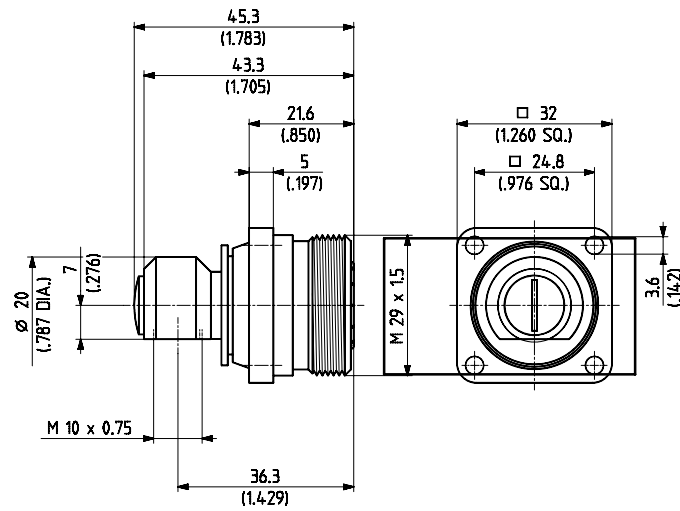
HUBER+SUHNER type	Item no.	Packaging	Weight	Notes
21_716-50-0-2/003_E	22641433	single	103 g/3.61 oz.	cable entries see page 319/320

> bulkhead jack (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Weight	Notes
24_716-50-0-1/003_E	22650517	single	ML 110	126 g/4.44 oz.	cable entries see page 319/320

> panel jack (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Weight	Notes
25_716-50-0-2/003_E	22641434	single	ML 27	124 g/4.34 oz.	cable entries see page 319/320

## Cable entries (for use with all combi-heads)

> cable entry crimp

> taper sleeves see page 406

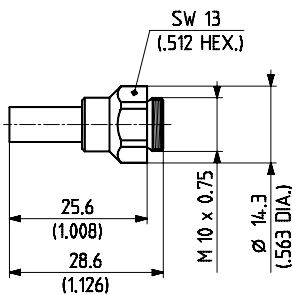


Fig. 1

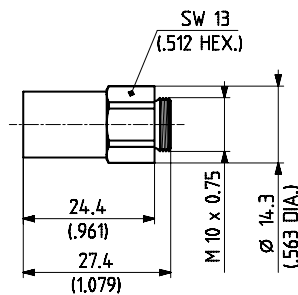


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
71_Z-0-3-21/-33_E	22641435	U7 (RG 58 C/U)	single	9084	B	1
71_Z-0-3-22/-33_E	22641436	U9 (RG 223/U)	single	9084	B	1
71_Z-0-7-21/-33_E	22641440	U29 (RG 213/U)	single	9087	D	2
71_Z-0-7-22/-33_E	22641441	U32 (RG 214/U)	single	9087	D	2

> cable entry pressure sleeve

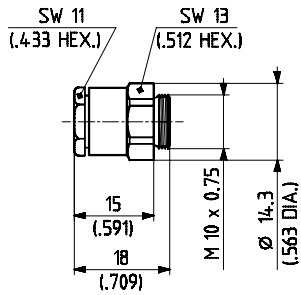


Fig. 1

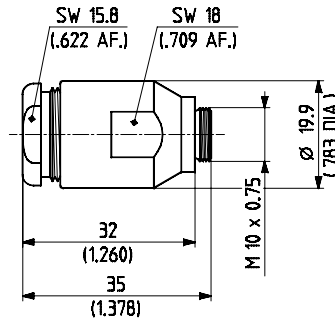


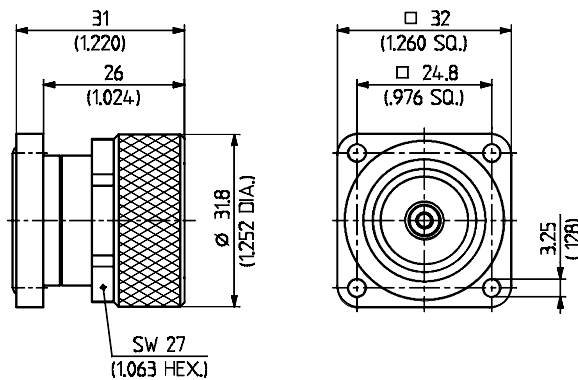
Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	fig.
71_Z0-3-24/-33_E	22641438	U7, 10 (RG 58C/U)	single	9085	1
71_Z0-7-23/-33_E	22641442	U28 (RG 213/U)	single	9088	2
71_Z0-7-24/-33_E	22641443	U33 (RG 214/U)	single	9088	2

## RECEPTACLES WITH SOLDER END

### Receptacles, plugs (male)

- > panel mounted
- > fastening screws see page 407
- > flange with O-ring
- > centre contact captivated for torque



HUBER+SUHNER type	Item no.	Packaging	Weight	Notes
13_716-50-0-4/003_V	22658959	bulk 20 pcs.	98 g/6.00 oz.	centre conductor with threaded stud M3



## Receptacles, jacks (female)

- > panel mounted
- > fastening screws see page 407

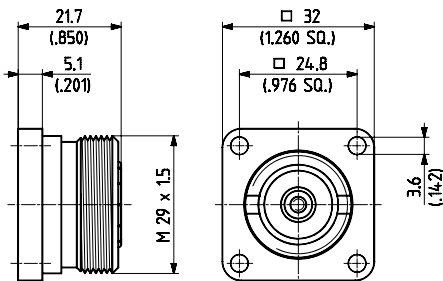


Fig. 1

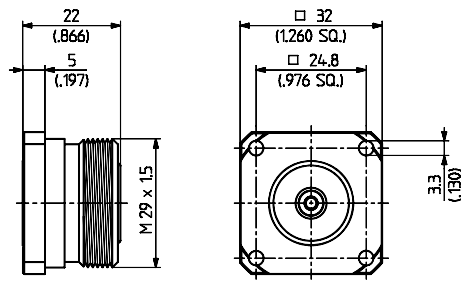
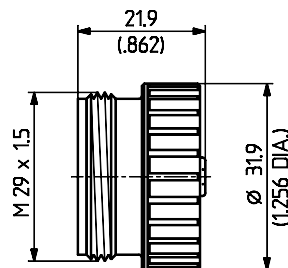


Fig. 2

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Weight	Notes	Fig.
23_716-50-0-1/003_E	22544102	single	ML 27	75 g/2.65 oz.	centre conductor with threaded stud M3	1
23_716-50-0-57/003_V	23015661	bulk 20 pcs.		80 g/2.80 oz.	centre conductor with threaded stud M3	2

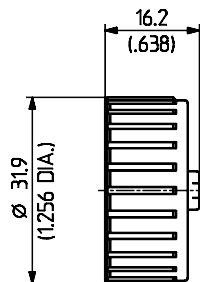
## PROTECTIVE CAPS

- > protective cap for plug
- > made of plastic



HUBER+SUHNER type	Item no.	Packaging	Notes
61_716-0-0-3/-_H	23005876	bulk 100 pcs.	

- > protective cap for jack
- > made of plastic



HUBER+SUHNER type	Item no.	Packaging	Notes
62_716-0-0-4/-_H	23005877	bulk 100 pcs.	water protection according to IP 68