

SERIES 7/16

COAXIAL CONNECTORS

Description

SUHNER 7/16 connectors are mechanically very rugged coaxial connectors with screw lock. They have a characteristic impedance of 50 Ω 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.

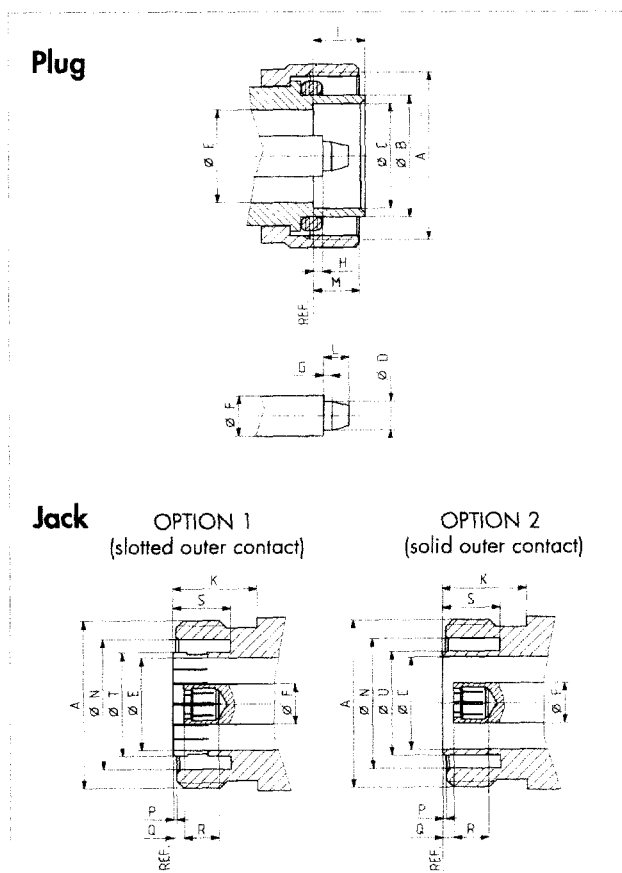
For these purposes low intermodulation product and water-proof types are also available.

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Interface Dimensions



Interface Dimensions in 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	—	—	—	18.5/.728*
U	—	—	—	18.00/.709

* prior to slotting

Standards

Interface dimensions conform to:

IEC 169-4
DIN 47223
VG 95250
CECC 22 190

Technical Data

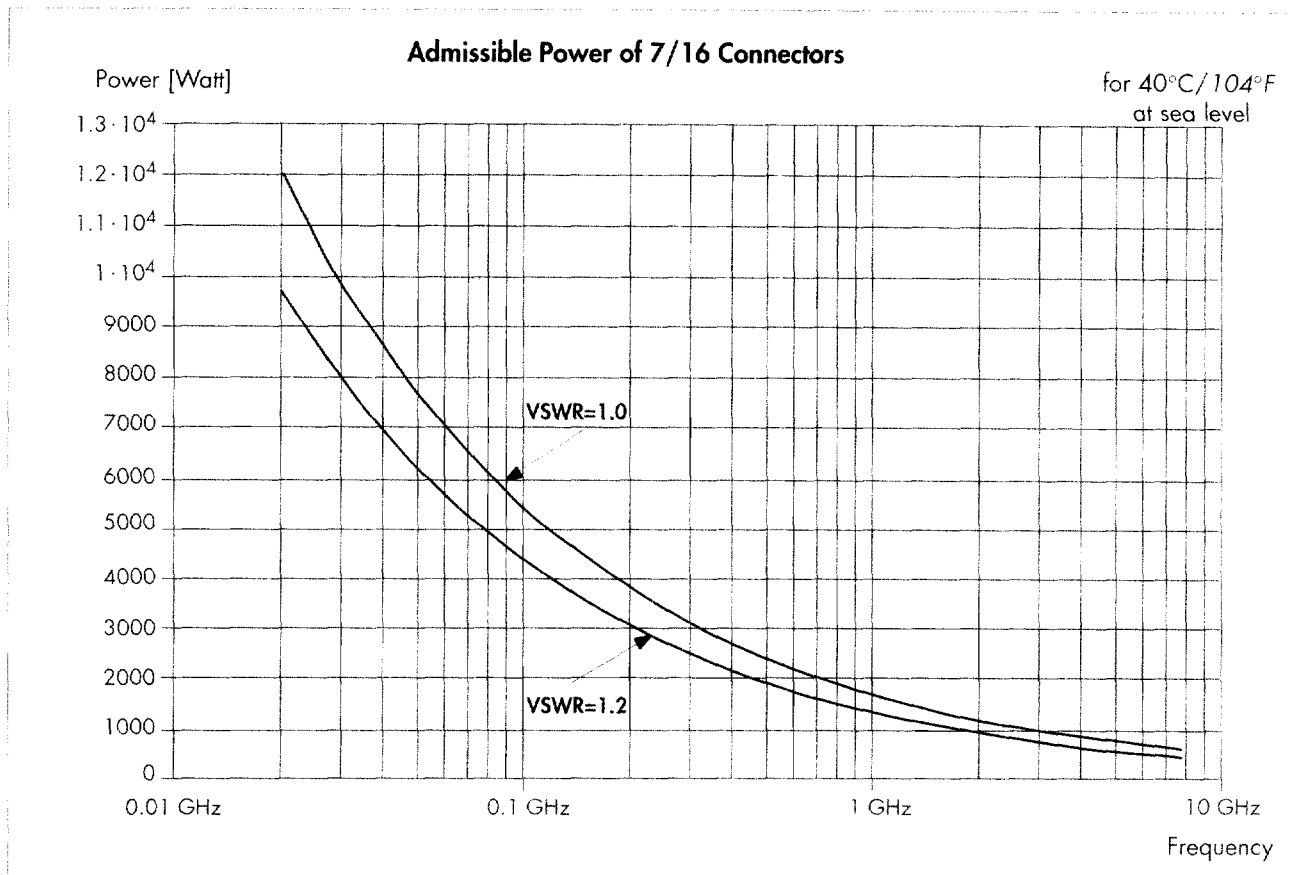
ELECTRICAL DATA	REQUIREMENTS
Impedance	50 Ω
Frequency range	DC ... 7.5 GHz combination types: DC – 1 GHz
VSWR	see table below
PIM ¹⁾	≥ 155 dBc for SUHNER QUICK-FIT [®]
Insertion loss	see Appendix page 437
RF-leakage (at 1 GHz)	≥ 128 dB
Dielectric withstanding voltage (at sea level)	4.0 kV rms, 50 Hz
– combination system	2.0 kV rms, 50 Hz
Working voltage (at sea level)	≤ 2.7 kV rms, 50 Hz
– combination system	≤ 1.0 kV rms, 50 Hz
Insulation resistance	≥ 10 ⁴ MΩ
Contact resistance	
– centre contact	≤ 0.4 mΩ
– outer contact	≤ 1.5 mΩ

1) Carrier to 3rd order intermodulation product ratio with 2 × 25 W carrier power, f ≤ 1.88 GHz

TYPICAL VSWR	FREQUENCY RANGE			CABLE GROUP
	1 GHz	2.5 GHz	5 GHz	
straight connectors	1.04	1.07		M9 – M42
	1.05	1.07	1.10	U29, U32
	1.05	1.10		U44
right angle connectors	1.05	1.08	1.15	U29, U32
	1.08	1.10		U38

Other connectors and cables on request

Combination system on request



For detailed information regarding power measurement, please refer to page 437.

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 ¹⁾	see pages 36 – 41
Durability (matings)	≥ 500

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

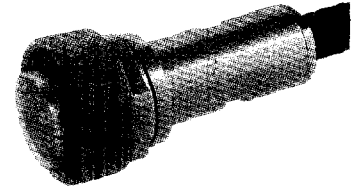
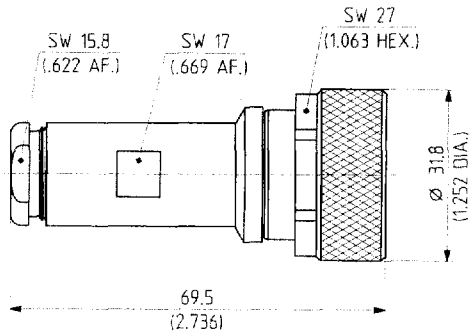
ENVIRONMENTAL DATA	CECC 22220 TEST CONDITIONS	EQUIVALENT MIL TEST CONDITIONS
Temperature range SUHNER QUICK-FIT®		-65°C ... +165°C / 85°F ... +320°F -40°C ... +85°C / 40°F ... +185°F
Climatic category acc. to IEC	4.6.5 → 55/155/56	
Corrosion (mated connectors)	4.6.10 → IEC-68-2-11 Ka	Saltspray test acc. to MIL-STD-202, Method 101, Condition B
Vibration	4.6.3 → IEC 68-2-6 Fc	
Sealing (panel and barrier sealed connectors)	4.6.8 → IEC 68-2-17, Qa/Qc	≤ 1 cm ³ /h at 300 - 330 kPa pressure difference
SUHNER QUICK-FIT®, degree of protection (humidity)	IP 67 → IEC 529	

MATERIAL DATA

CONNECTOR PART	STANDARDS	MATERIAL	PLATING
Bodies Pin contact	QQ-B-626	brass	SUCOPLATE® silver plated
Outer contacts, jacks Socket contact	DIN 17660	spring bronze	silver plated
Crimp ferrules	SUHNER® specification	copper	SUCOPLATE®
Insulators, standard version	ASTM-D-1457	PTFE	
Gaskets	ASTME-1418 PS 1	silicone rubber	

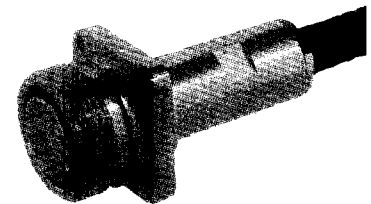
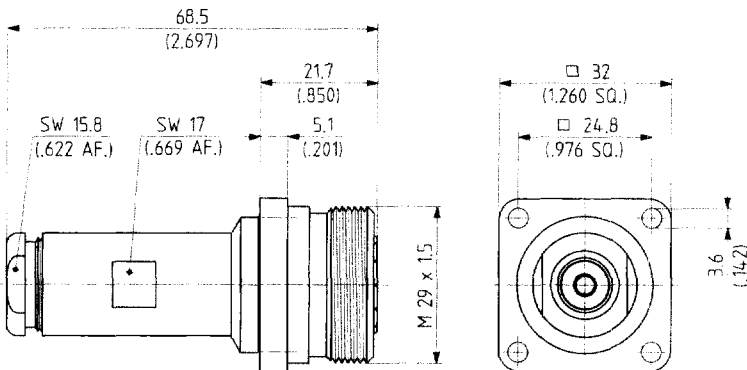
Connectors for Foam Dielectric Corrugated Copper Tube Cables

straight plugs



SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Weight	Notes
11 716-50-8-21	• 544335	M8(CF 3/8"Cu2Y)	9049	125 g/4.38 oz.	annular corrugated cable

panel jack

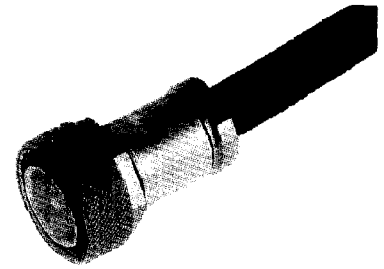


SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Mounting hole	Weight	Notes
25 716-50-8-21	• 544341	M8(CF 3/8"Cu2Y)	9049	Ml. 27	140 g/4.90 oz.	annular corrugated cable

- centre contact captivated

SUHNER QUICK-FIT® Coaxial Connectors

- low passive intermodulation types
- quick and easy assembly
- degree of protection IP 67
- suitable for outdoor applications



straight plugs

> assembly tools see page 417

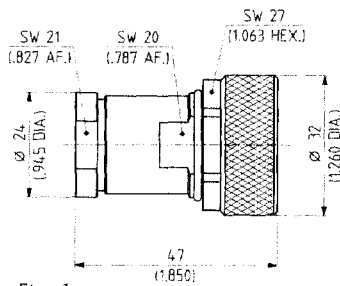


Fig. 1

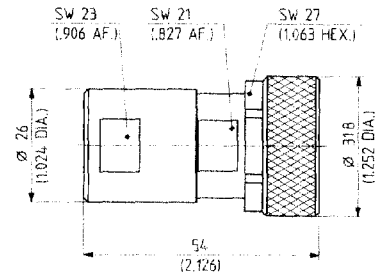


Fig. 2

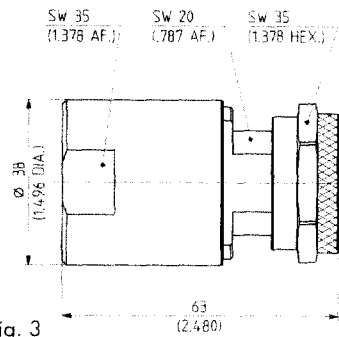
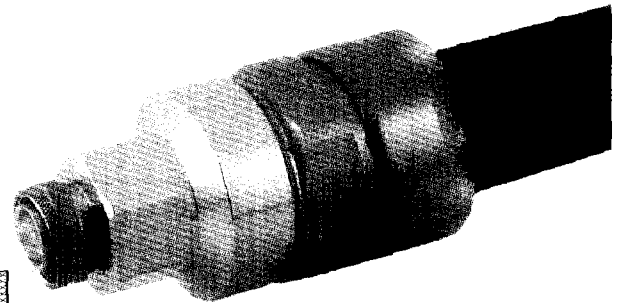
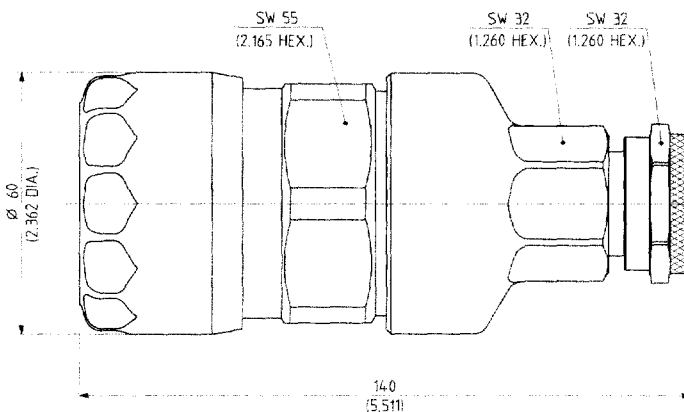


Fig. 3

SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight	Fig.
11 716-50-9-5	• 650041	1/2" Highflex: SUCOFEEED®, Andrew, Nokia, Kabelmetal	9152	110 g/3.85 oz.	1
11 716-50-12-102	• 651478	1/2": SUCOFEEED®, Andrew, Nokia, Kabelmetal	9153	130 g/4.55 oz.	2
11 716-50-23-101	• 651102	7/8": SUCOFEEED®, Andrew, Nokia, Kabelmetal	9154	210g/7.35 oz.	3

> degree of protection IP 68

> assembly tools see page 417



SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight
11 716-50-32-2	• 658187	1 1/4": Andrew, Nokia, Kabelmetal, Eupen	27245	1000 g/35 oz.

• centre contact captivated

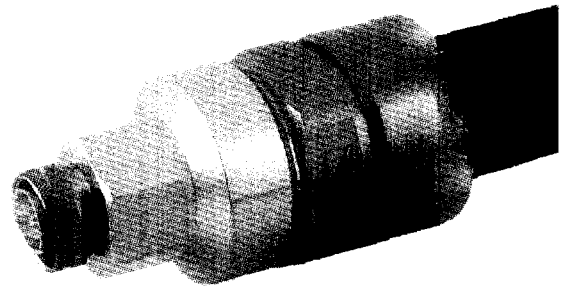
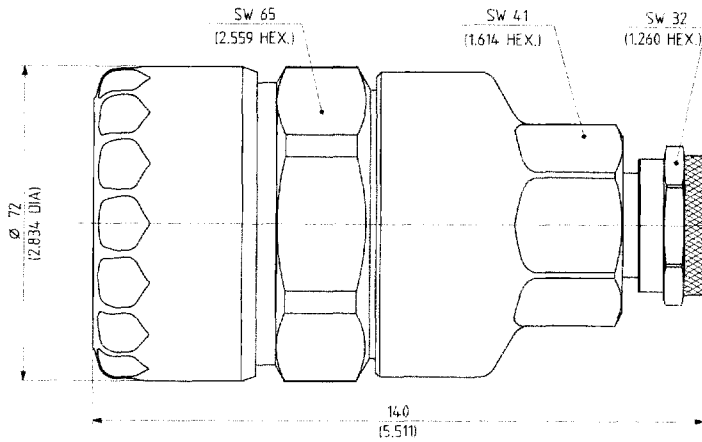
cable groups see page 36

assembly tools see page 403

mounting holes see page 441

straight plugs

- > degree of protection IP 68
- > assembly tools see page 417



SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight
11 716-50-42-2	● 658185	1 ⁵ / ₈ " : Andrew, Nokia, Kabelmetal, Eupen	27245	1300 g/45.50 oz.

right angle plug

- > assembly tools see page 417

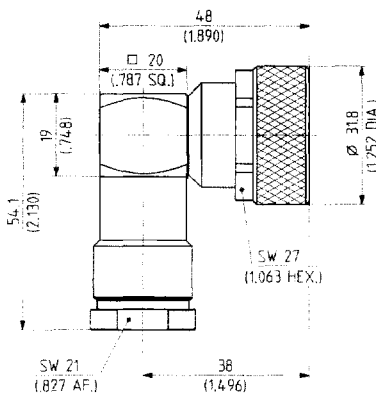


Fig. 1

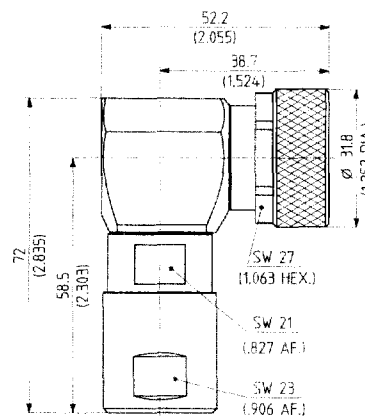
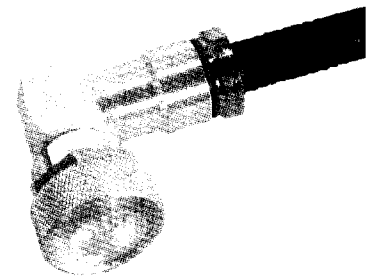


Fig. 2



SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight	Fig.
16 716-50-9-4	● 652306	1/2 Highflex: SUCOFEED®, Andrew, Nokia, Kabelmetal	9152	190 g/6.65 oz.	1
16 716-50-12-5	● 658764	1/2" : SUCOFEED®, Andrew, Nokia, Kabelmetal	9153	282 g/9.87 oz.	2

- centre contact captivated

cable groups see page 36

assembly tools see page 403

mounting holes see page 441

straight jacks

> assembly tools see page 417

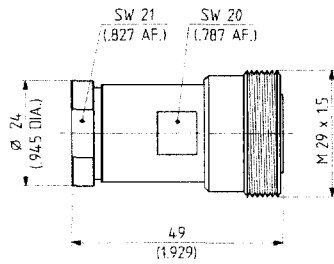
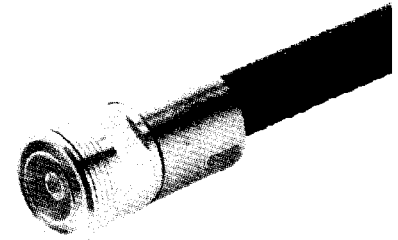


Fig. 1

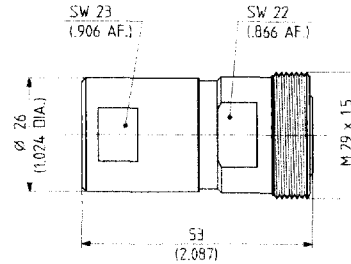


Fig. 2

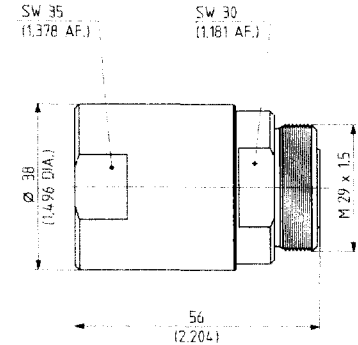
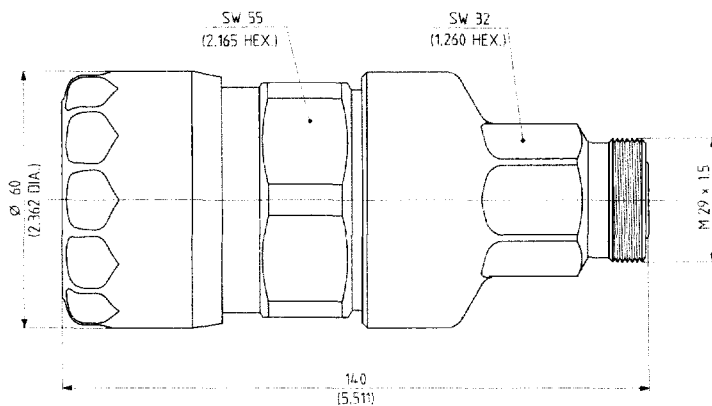
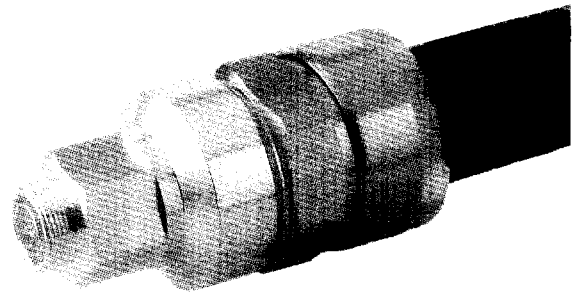


Fig. 3

SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight	Fig.
21 716-50-9-4	● 650042	1/2" Highflex: SUCOFEED [®] , Andrew, Nokia, Kabelmetal	9152	105 g/3.68 oz.	1
21 716-50-12-104	● 651477	1/2": SUCOFEED [®] , Andrew, Nokia, Kabelmetal	9153	125 g/4.38 oz.	2
21 716-50-23-101	● 651435	7/8": SUCOFEED [®] , Andrew, Nokia, Kabelmetal	9154	210 g/7.35 oz.	3

> degree of protection IP 68

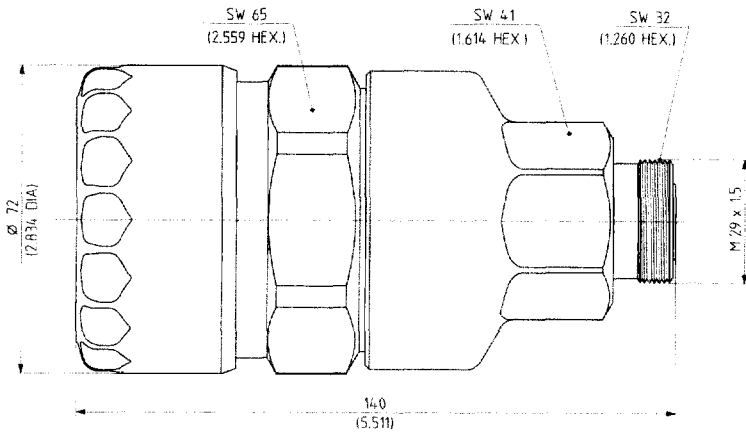
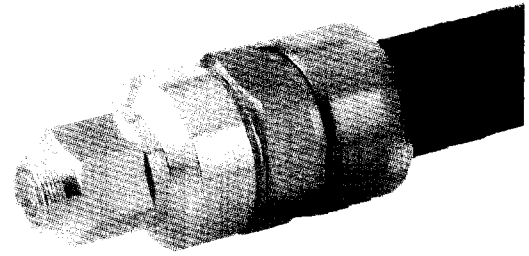
> assembly tools see page 417



SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight
21 716-50-32-2	● 658188	1 1/4": Andrew, Nokia, Kabelmetal, Eupen	27245	1000 g/35 oz.

● centre contact captivated

- > degree of protection IP 68
- > assembly tools see page 417



SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight
21 716-50-42-2	● 658186	1 ⁵ / ₈ " : Andrew, Nokia, Kabelmetal, Eupen	27245	1300 g/ 45.5 oz.

straight bulkhead jacks

- > assembly tools see page 417

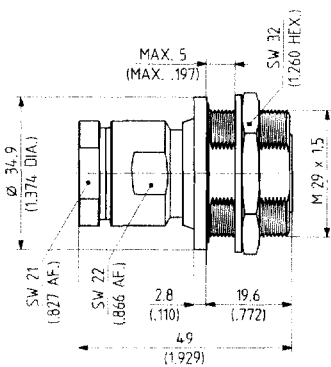


Fig. 1

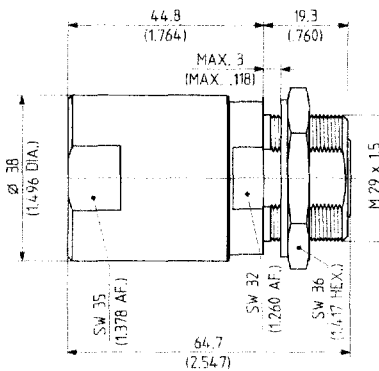
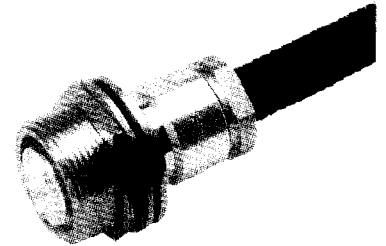


Fig. 2



SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight	Fig.
24 716-50-9-1	● 651811	1/2" Highflex: SUCOFEED [®] , Andrew, Naki, Kabelmetal	9152	135 g/4.73 oz.	1
24 716-50-23-1	● 652983	7/8" : SUCOFEED [®] , Andrew, Nokia, Kabelmetal	9154	237 g/8.30 oz.	2

- centre contact captivated

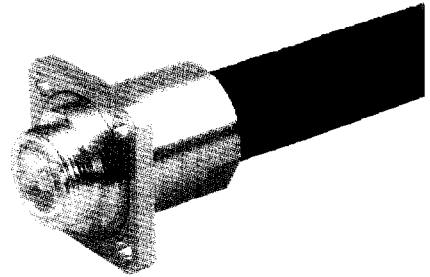
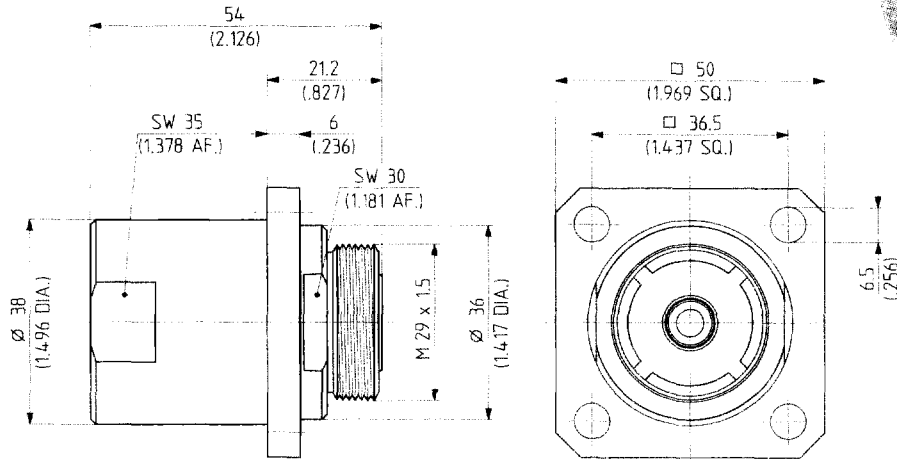
cable groups see page 36

assembly tools see page 403

mounting holes see page 441

panel jack

> assembly tools see page 417



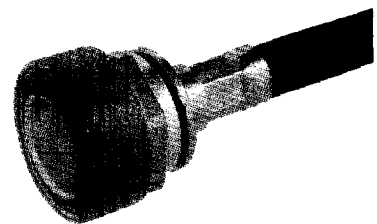
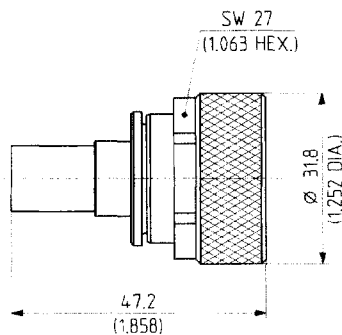
SUHNER TYPE	Ident. no.	Suitable cables	Assembly instruction	Weight
25 716-50-23-1	• 651068	7/8": SUCOFEED®, Andrew, Nokia, Kabelmetal	9154	280 g/9.80 oz.

mounting hole ML 107

Connectors for Flexible Cables

straight plugs

- > SUHNER® full crimp
- > taper sleeves see page 423



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
11 716-50-7-1	• 544073	U29 (RG 213/U)	3D	9017	85 g/2.98 oz.	
11 716-50-7-2	• 544074	U32 (RG 214/U)	3D	9017	85 g/2.98 oz.	

- centre contact captivated

cable groups see page 36

assembly tools see page 403

mounting holes see page 441

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

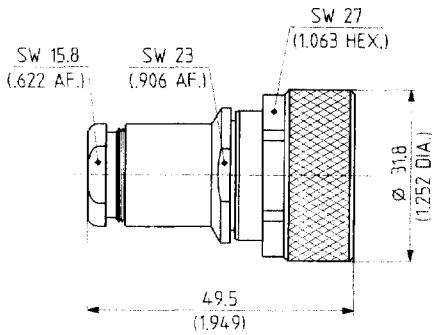
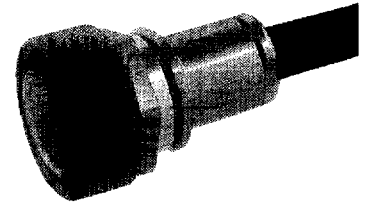


Fig. 1

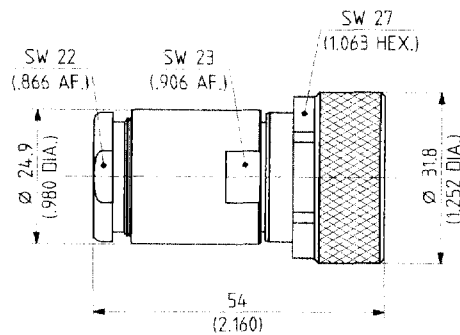
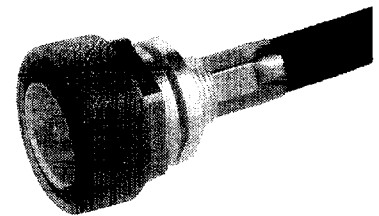
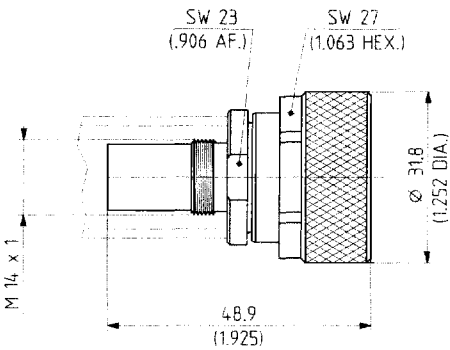


Fig. 2

SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Weight	Fig.	Notes
11 716-50-7-3	• 544075	U28 (RG 213/U)	9018	105 g/3.68 oz.	1	
11 716-50-7-4	• 544076	U33 (RG 214/U)	9018	100 g/3.50 oz.	1	
11 716-50-9-3	• 544077	U38 (RG 217/U)	9018	135 g/4.73 oz.	2	

- > cable entry crimp
- > centre contact soldered

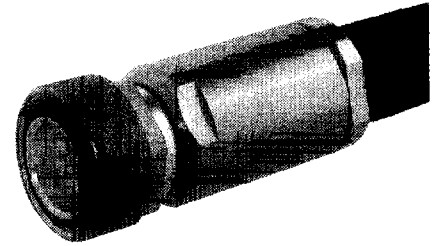
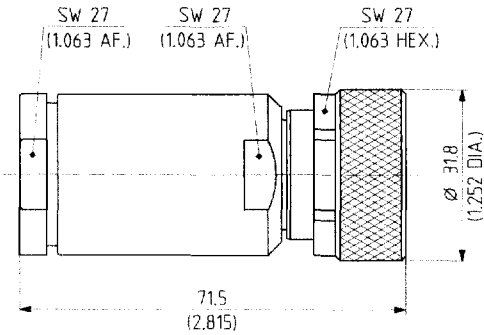


SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
11 716-50-7-14	• 646908	S32 (S 07262 BD)	D	27003	91 g/3.19 oz.	*

* types available with additional sealing ferrule (IP66)

- centre contact captivated

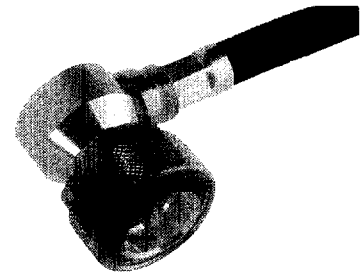
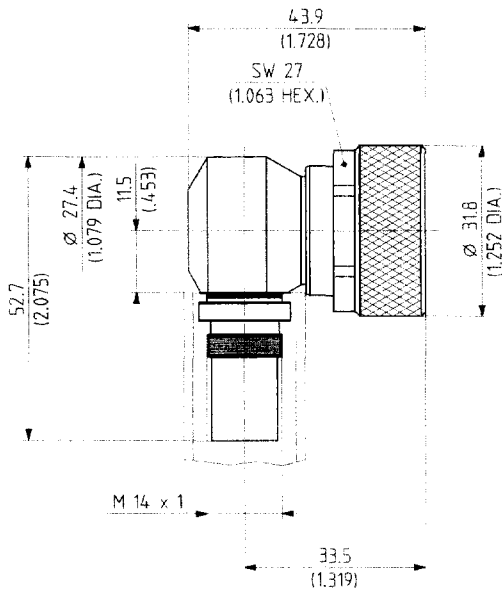
- > cable entry clamp
- > centre contact screw-on



SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Weight	Notes
11 716-50-17-3	• 544081	U44 (RG 218/U)	9021	200 g/7.00 oz.	

right angle plugs

- > cable entry crimp
- > centre contact soldered

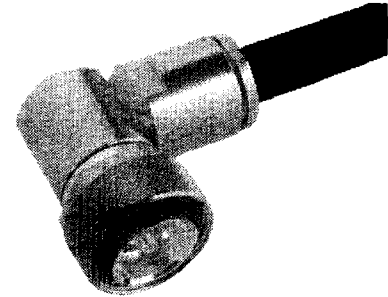
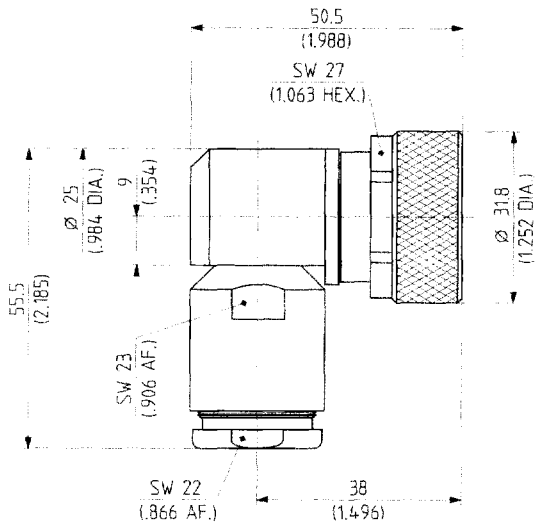


SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
16 716-50-7-11	• 649421	S32 (S 07262 BD)	D	9094	154 g/5.39 oz.	PE insulator *

* types available with additional sealing ferrule (IP66)

- centre contact captivated

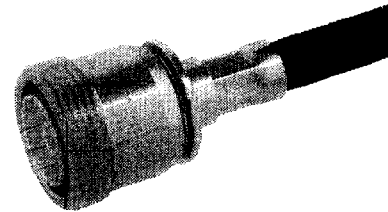
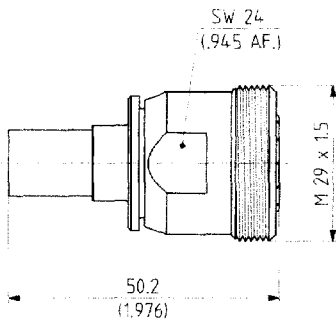
- > cable entry SUHNER[®] pressure-sleeve
- > centre contact soldered



SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Weight	Notes
16 716-50-9-3	• 544086	U38 (RG 217/U)	9020	210 g/7.35 oz.	

straight jacks

- > SUHNER[®] full crimp
- > taper sleeves see page 423



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
21 716-50-7-1	• 544092	U29 (RG 213/U)	3D	9017	90 g/3.15 oz.	
21 716-50-7-2	• 544093	U32 (RG 214/U)	3D	9017	90 g/3.15 oz.	

- centre contact captivated

- > cable entry SUHNER[®] pressure-sleeve
- > centre contact soldered

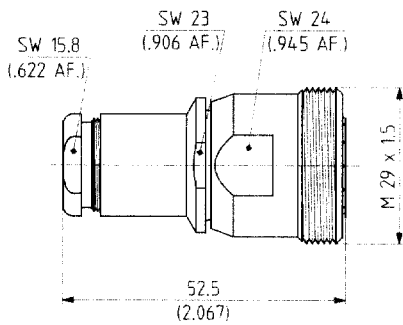
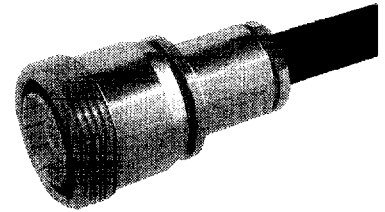


Fig. 1

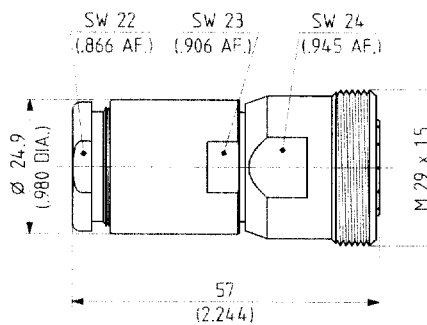
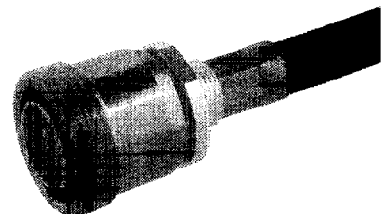
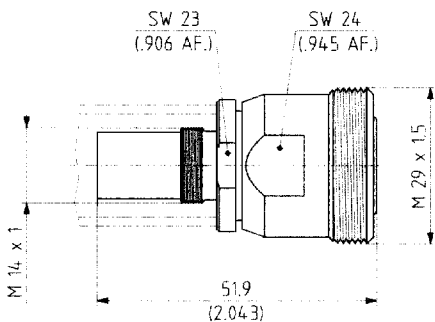


Fig. 2

SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Weight	Fig.	Notes
21 716-50-7-3	• 544094	U28 (RG 213/U)	9018	105 g/3.68 oz.	1	
21 716-50-7-4	• 544095	U33 (RG 214/U)	9018	100 g/3.50 oz.	1	
21 716-50-9-3	• 544096	U38 (RG 217/U)	9018	135 g/4.73 oz.	2	

- > cable entry crimp
- > centre contact soldered



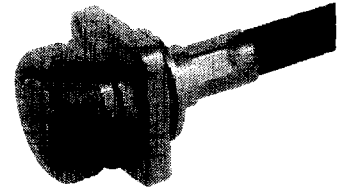
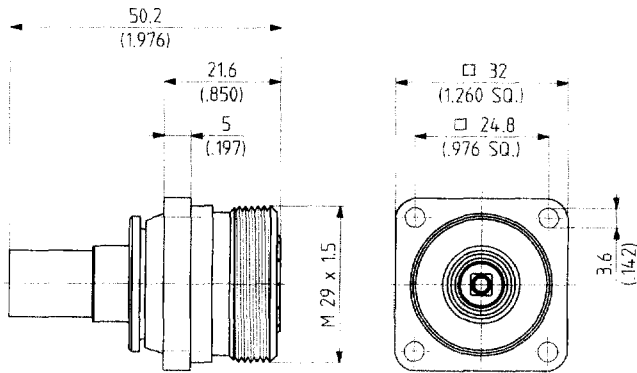
SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
21 716-50-7-11	• 648494	S32 (S 07262 BD)	D	27003	97 g/3.40 oz.	

* types available with additional sealing ferrule (IP66)

- centre contact captivated

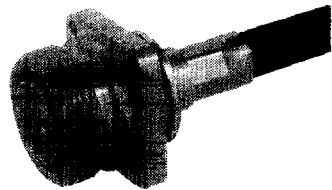
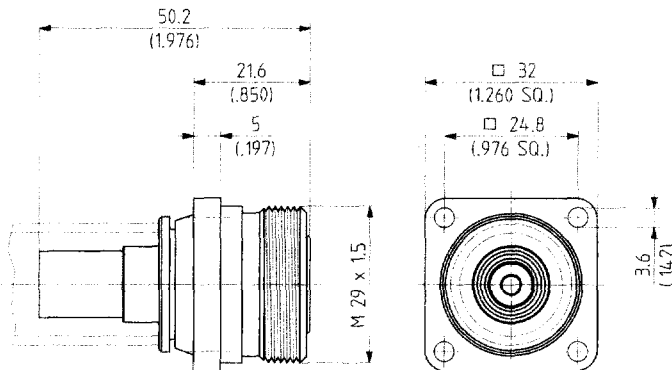
panel jacks

- > SUHNER® full crimp
- > taper sleeves see page 423



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Mounting hole	Weight	Notes
25 716-50-7-1	• 544106	U29 (RG 213/U)	3D	9017	ML 27	110 g/3.85 oz.	
25 716-50-7-2	• 544107	U32 (RG 214/U)	3D	9017	ML 27	110 g/3.85 oz.	

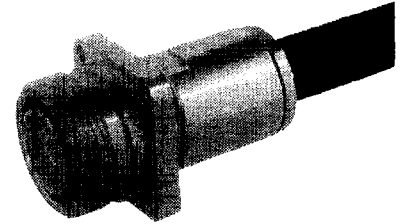
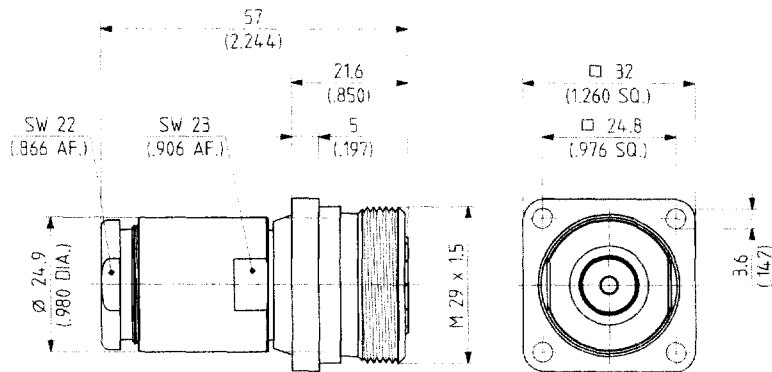
- > cable entry crimp
- > centre contact soldered



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Mounting hole	Weight	Notes
25 716-50-7-11	• 649423	S32 (S 07262 BD)	D	27003	ML 27	112 g/3.92 oz.	

- centre contact captivated

- > cable entry SUHNER[®] pressure-sleeve
- > centre contact soldered



SUHNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Mounting hole	Weight	Notes
25 716-50-9-3	• 544110	U38 (RG 217/U)	9018	ML 27	160 g/5.60 oz.	

- centre contact captivated

7/16 Combination System

The 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.

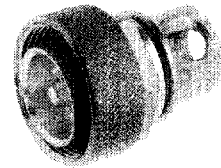
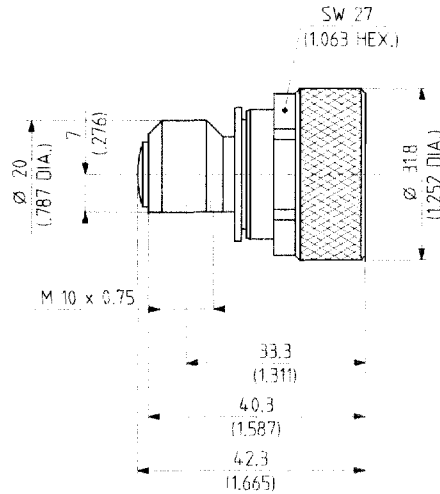
The cable entries are available with both crimp type or pressure-sleeve (no special tools) cable attachment.

Center 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.

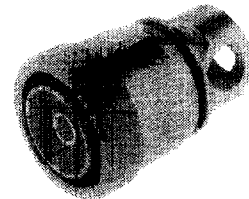
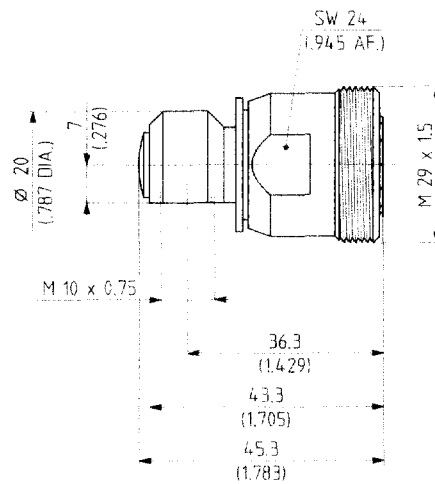
combi-heads

> plug



SUHNER TYPE	Ident. no.	Assembly Instruction	Weight	Notes
11 716-50-0-2	• 641432	27080	100 g/3.50 oz.	cable entries see pages 374 and 375

> jack



SUHNER TYPE	Ident. no.	Weight	Notes
21 716-50-0-2	• 641433	103 g/3.61 oz.	cable entries see pages 374 and 375

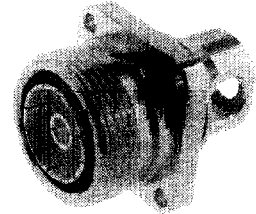
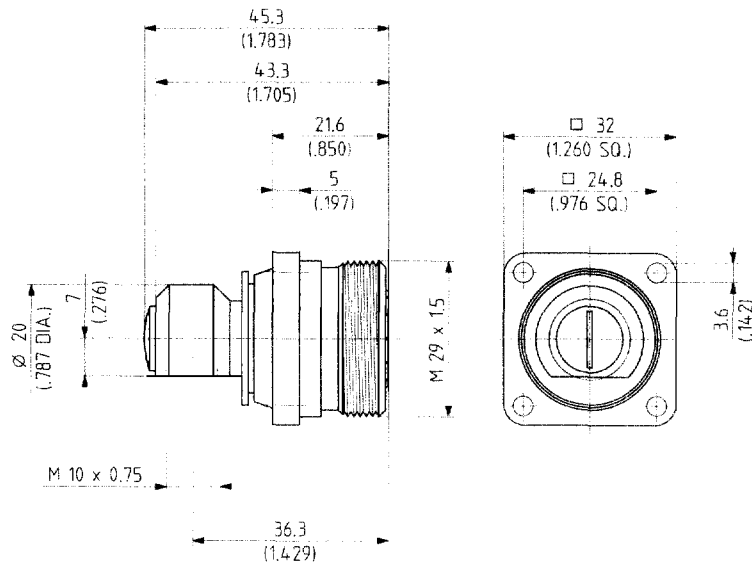
• centre contact captivated

cable groups see pages 36

assembly tools see page 403

mounting holes see page 441

> panel jack



SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
25 716-50-0-2	• 641434	ML 27	124 g/4.34 oz.	cable entries see pages 374 and 375

cable entries (for use with all combi-heads)

> cable entry crimp

> taper sleeves see page 423

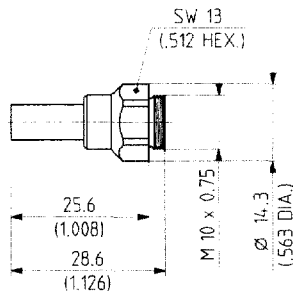


Fig. 1

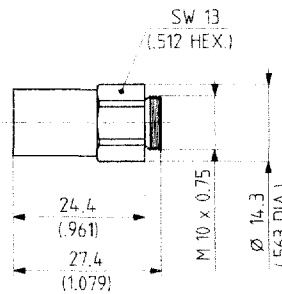
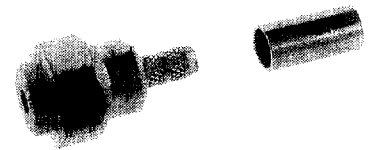


Fig. 2



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Fig.	Notes
71 Z-0-3-21	641435	U7 (RG 58 C/U)	B	9084	14 g/.049 oz.	1	
71 Z-0-3-22	641436	U9 (RG 223/U)	B	9084	14 g/.049 oz.	1	
71 Z-0-7-21	641440	U29 (RG 213/U)	D	9087	13 g/.046 oz.	2	
71 Z-0-7-22	641441	U32 (RG 214/U)	D	9087	13 g/.046 oz.	2	

• centre contact captivated

cable groups see page 36

assembly tools see page 403

mounting holes see page 441

> pressure sleeve

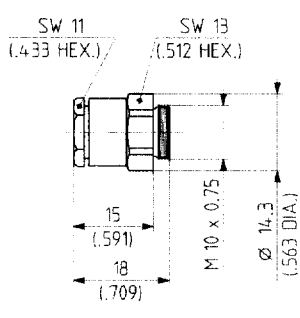


Fig. 1

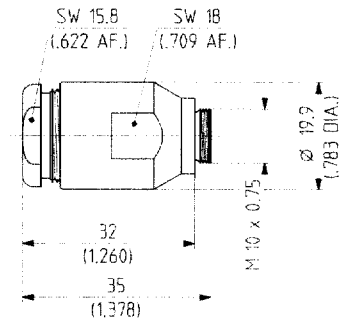
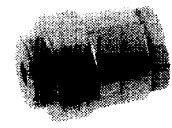


Fig. 2

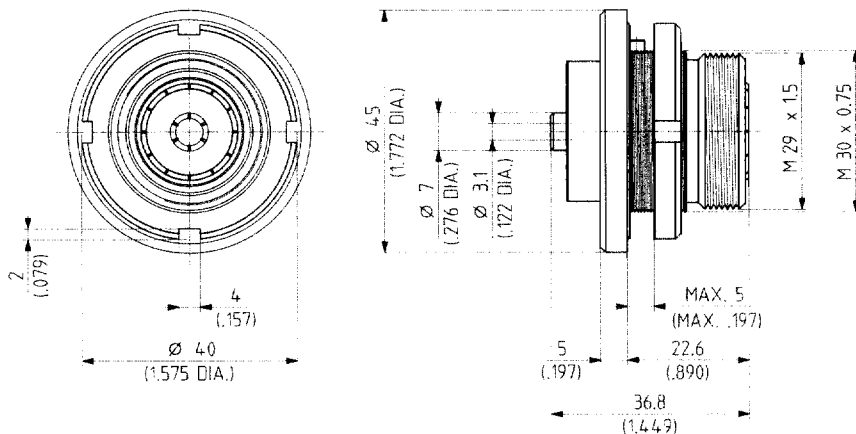


SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Fig.	Notes
71 Z-0-3-24	641438	U7,10 (RG58C/U)		9085	13 g/.046 oz.	1	
71 Z-0-7-23	641442	U28 (RG 213/U)		9088	40 g/1.40 oz.	2	
71 Z-0-7-24	641443	U33 (RG 214/U)		9088	40 g/1.40 oz.	2	

Receptacles

receptacles, female

- > bulkhead mounted
- > with pressure seal
- > centre contact with solder bucket



SUHNER TYPE	Ident. no.	IEC type	Mounting hole	Weight	Notes
22 716-50-0-1	• 544101	169-4-IEC-4	ML 29	170 g/6.00 oz.	

- centre contact captivated

> panel mounted

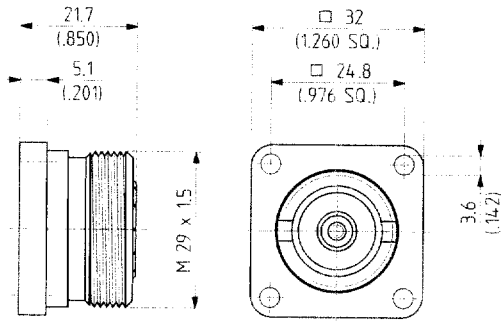
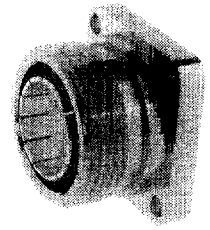


Fig. 1

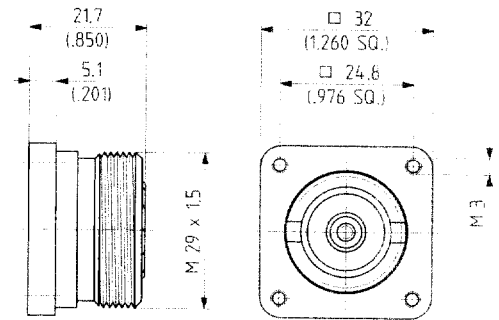


Fig. 2

SUHNER TYPE	Ident. no.	Mounting hole	Weight	Fig.	Notes
23 716-50-0-1	544102	ML 27	75 g/2.65 oz.	1	center conductor with threaded stud M3
23 716-50-0-2	544103	ML 27	75 g/2.65 oz.	2	center conductor with threaded stud M3

> panel mounted

> centre contact with solder bucket

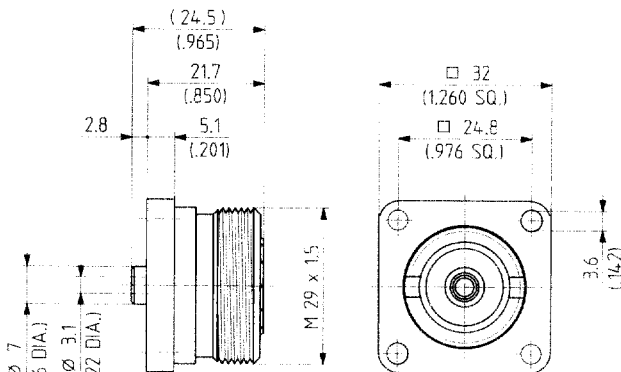
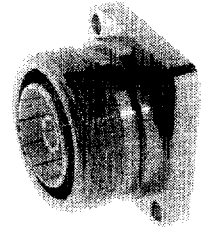


Fig. 1

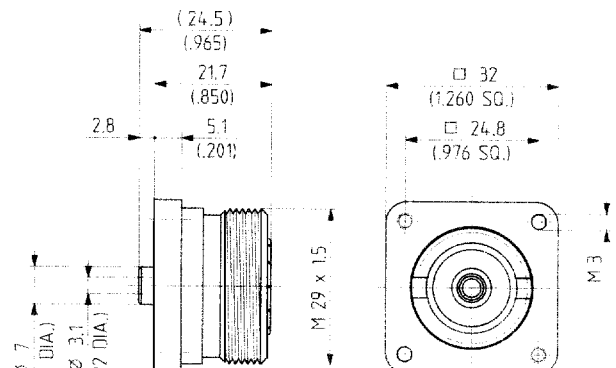


Fig. 2

SUHNER TYPE	Ident. no.	IEC type	Mounting hole	Weight	Fig.	Notes
23 716-50-0-3	• 544104	169-4-IEC-3	ML 27	80 g/2.82 oz.	1	
23 716-50-0-4	• 544105		ML 27	80 g/2.82 oz.	2	

• centre contact captivated

cable groups see page 36

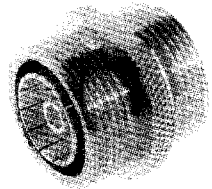
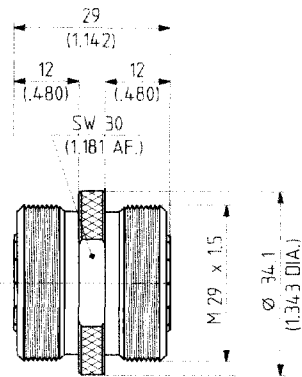
assembly tools see page 403

mounting holes see page 441

Adaptors Within-Series

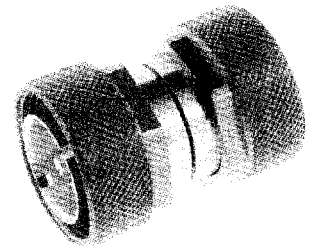
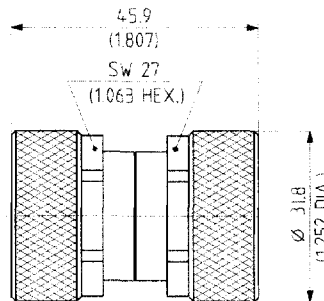
straight adaptors

> jack to jack



SUHNER TYPE	Ident. no.	IEC type	VSWR				Weight
			2 GHz	4 GHz	6 GHz	7.5 GHz	
31 716-50-0-1	● 544117	169-4-IEC-6	≤ 1.02	≤ 1.03	≤ 1.04	1.10 typ.	90 g/3.17 oz.

> plug to plug

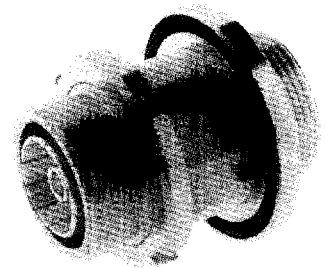
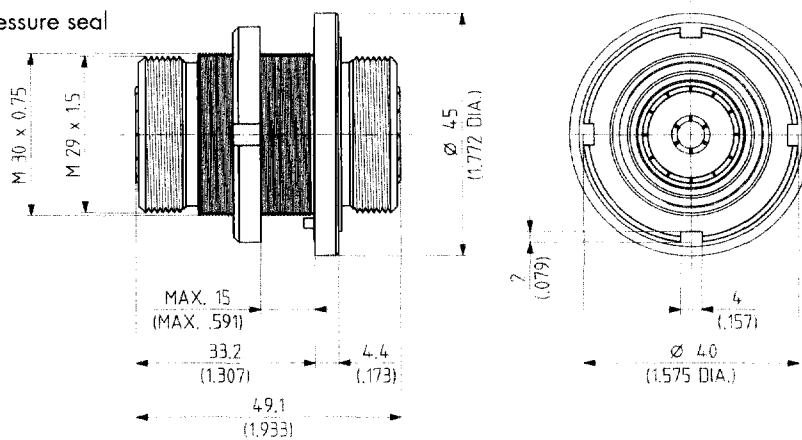


SUHNER TYPE	Ident. no.	IEC type	VSWR				Weight
			2 GHz	4 GHz	6 GHz	7.5 GHz	
32 716-50-0-1	● 544118		≤ 1.02	≤ 1.03	≤ 1.04	1.15 typ.	130 g/4.59 oz.

bulkhead adaptor

> jack to jack

> with pressure seal



SUHNER TYPE	Ident. no.	IEC type	Mounting hole	VSWR				Weight
				2 GHz	4 GHz	6 GHz	7.5 GHz	
34 716-50-0-2	● 652004	169-4-IEC-8	ML 29	> 1.10	> 1.15	> 1.25	> 1.30	218 g/7.63 oz.

● centre contact captivated

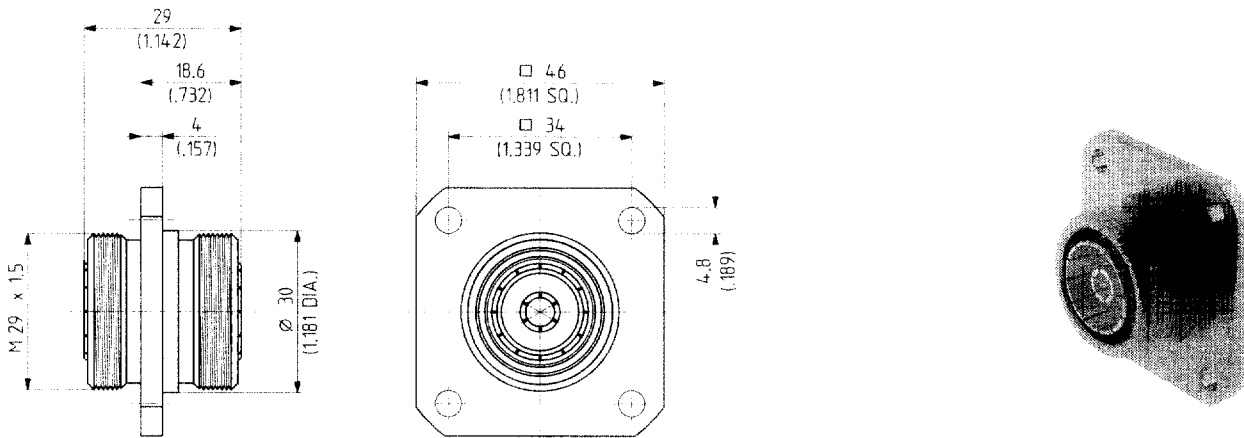
cable groups see page 36

assembly tools see page 403

mounting holes see page 441

straight panel adaptor

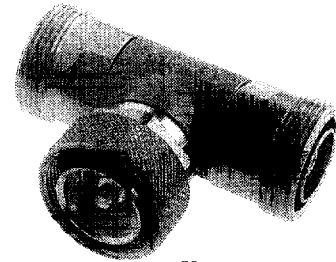
> jack to jack



SUHNER TYPE	Ident. no.	IEC type	Mounting hole	VSWR				Weight
				2 GHz	4 GHz	6 GHz	7.5 GHz	
37 716-50-0-1	• 544122	169-4-IEC-7	ML 28	≤ 1.02	≤ 1.03	≤ 1.04	1.15 typ.	125 g/4.41 oz.

T-adaptors

50 Ω nominal impedance. These connectors are non-matched 3 dB dividers for LF applications. VSWR ≥ 2.0 when terminated with 50 Ω.



> 2 jacks, 1 plug

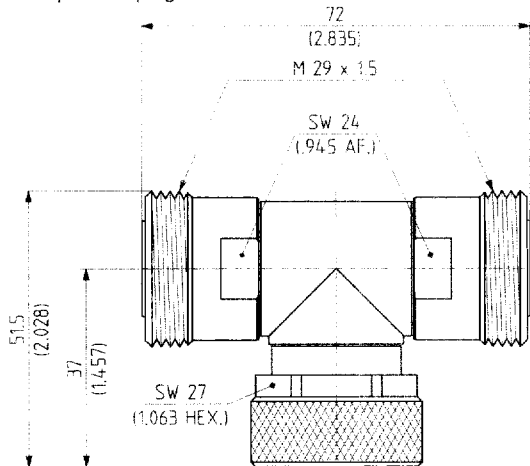


Fig. 1

> 3 jacks

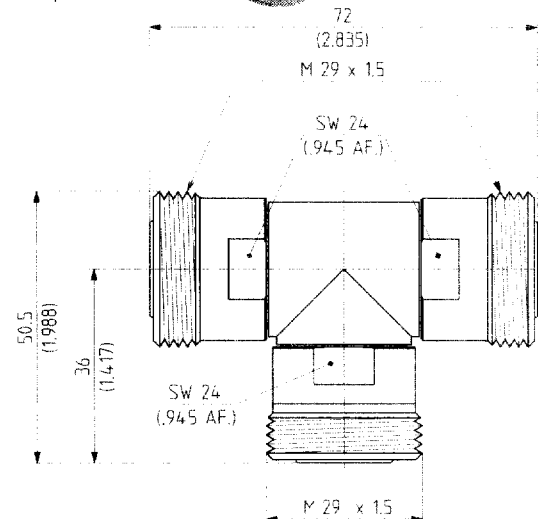


Fig. 2

SUHNER TYPE	Ident. no.	Fig.	Weight
43 716-50-0-1	• 544572	1	270 g/9.52 oz.
46 716-50-0-1	• 643266	2	260 g/9.17 oz.

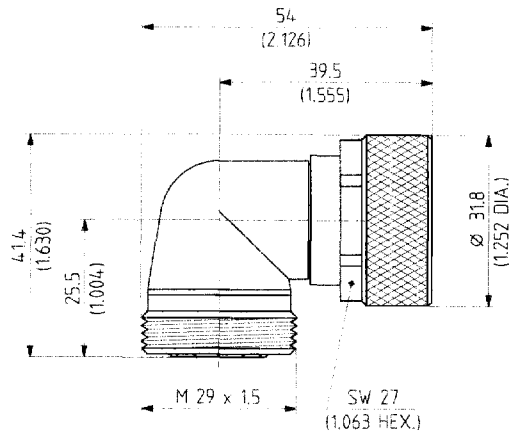
• centre contact captivated

cable groups see page 36

assembly tools see page 403

mounting holes see page 441

L-adaptor



SUHNER TYPE	Ident. no.	IEC type	VSWR			Weight
			2 GHz	4 GHz	5.5 GHz	
53 716-50-0-1	• 641259	169-4-IEC-10	≤ 1.01	≤ 1.03	≤ 1.04	155 g/5.47 oz.

- centre contact captivated