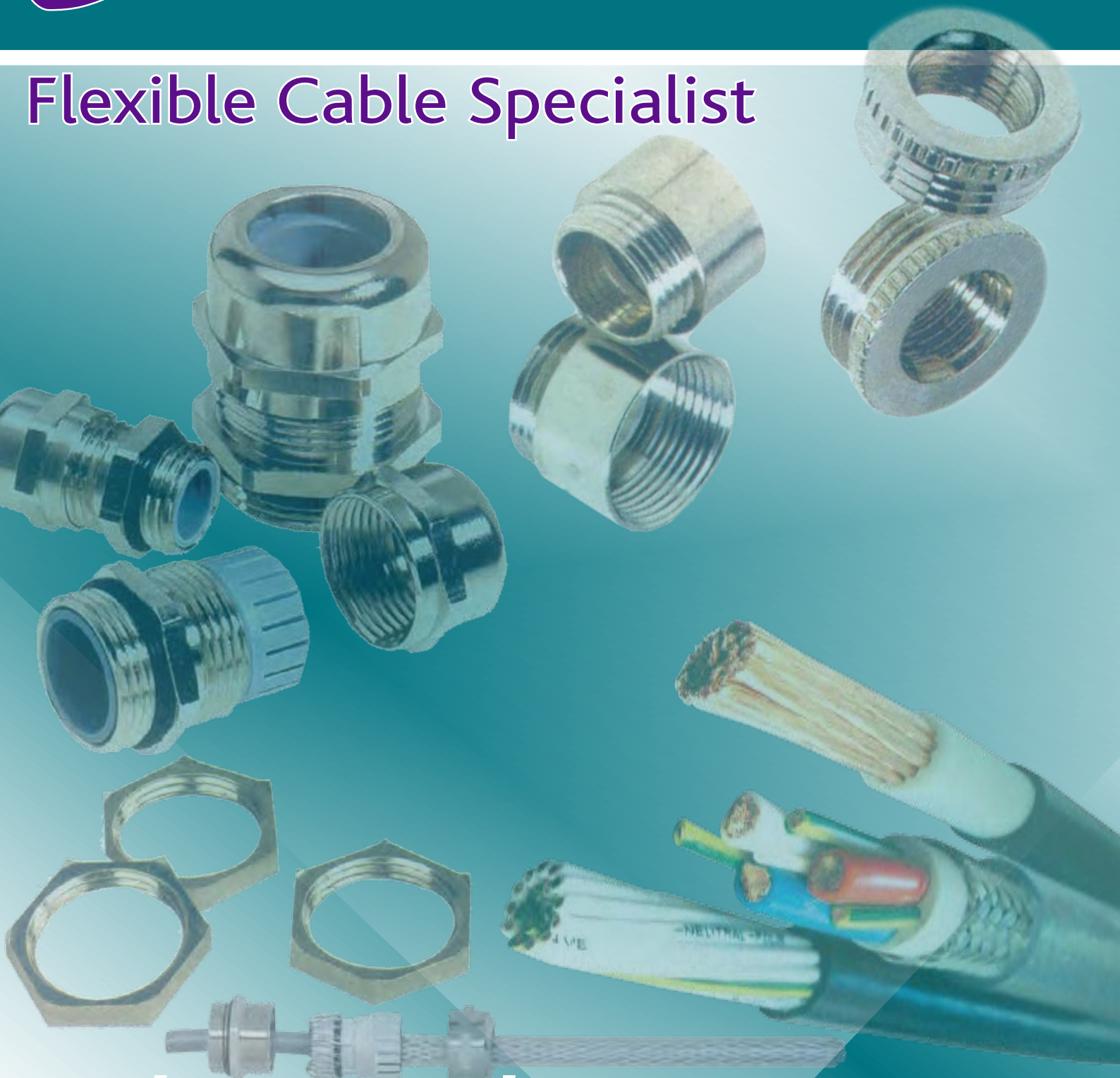




EVOLUTION cables and connectors

Flexible Cable Specialist



Product & Catalogue

INTRODUCTION



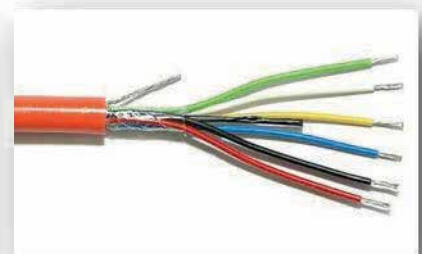
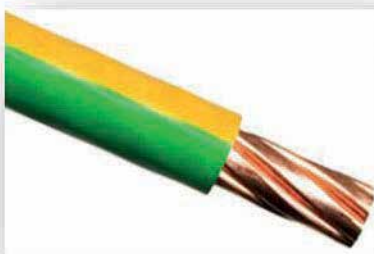
Evolution Cables and Connectors Pty Ltd is an Australian owned and operated company with over 50 years experience in the electrical, cable and connector industry enhanced by experience in data and power protection, switchbox design and manufacture and Project Management.

In 2010, to manage all product development and manufacture, EC&C Products, a division of Evolution Cables and Connectors Pty Ltd, was established.

That same year EC&C Products formed an alliance with Amtex Electronics Pty Ltd to supply Power Supplies to the rail industry.

Evolution Cables and Connectors offer a range of cables, connectors and power supplies. We supply to customer specifications and, even with low Minimum Order Quantities, offer quick turnaround and economical solutions.

This catalogue is a short form of our product range and should be used as a guide only. If you require additional details or products please contact us.



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PRODUCT LIST

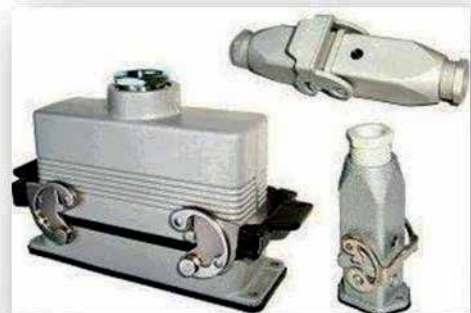
Industrial Flexible Cables

- PVC Flexible Control Cables
- PUR Control Cables
- Robotic and Power Chain Cables
- EMC Cables
- Screened Control Cables
- Submersible Cables
- Earth Cables
- Rubber Cables
- Pendant Cables
- SDI Flexible Cables
- 3.3Kv Flexible Cables
- Flat Cables
- Halogen Free Cables
- Orange Circulares
- Steel Wire Armoured Cables



Industrial Connectors

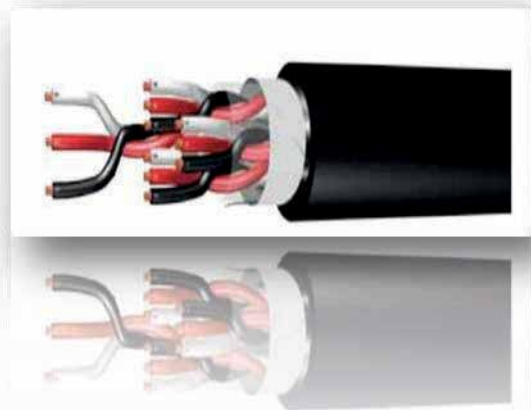
- Rectangular
- Cannon Military Spec
- Australian AMP
- Deutch
- Shaltbau
- Hubbell



PRODUCT LIST

Communication Cables

- Foil Screened Data Cables
- Highly Flexible Data and Communications Cables
- Braid Screened Data Cables
- Steel Wire Armoured Instrumentation Cables
- Coaxial Cables



Special Manufacture

- Specially Manufactured Cables with relatively small quantities, usually 500m. Please call us with your specified requirements.

Accessories

- EMC Cables Glands
- Enlargers / Reducers
- Adaptors



SINGLE INSULATED CABLES

POWER CABLE SINGLE CORE V90HT

Applications: Power Cable 0.6/1 KV
Conductor: Plain Copper Wire
Insulation: V90HT PVC to AS3808
Colour: Black, Blue, Brown, Orange, Violet, Red, White, Grey, Green/Yellow - Stripes available by request
Pack: 100, 500 metres.

Typical Properties							Electrical Data		
Standard: AS 5000.1							Current Rating* AMPS 2 Single Cores	Voltage Drop mV/A.m at Max operating Temperature	
CODE	CONDUCTOR NO/DIA (mm)	NOMINAL AREA (mm ²)	INSULATION THICKNESS (mm)	ELECTRICAL RESISTANCE @20°C (ohm/km)	NOMINAL O.D. (mm)	MASS (kg/100m)		Single Phase	Three Phase
BVD11113	1/1.13	1	0.8	18.1	2.75	1.6	16	51.63	44.70
BVD1705	7/0.5	1.5	0.8	13.600	3.15	2.1	21	33.03	28.60
BVD17067	7/0.67	2.5	0.8	7.400	3.65	3.3	30	18.02	15.60
BVD17085	7/0.85	4	1.0	4.600	4.6	5.3	40	11.22	9.71
BVD17104	7/1.04	6	1.0	3.1	5.15	7.3	51	7.50	6.49
BVD17135	7/1.35	10	1.0	1.83	6.1	11.4	69	4.45	3.86
BVD17170	7/1.7	16	1.0	1.15	7.15	17.1	92	2.80	2.43

* AMP Ratings are to AS3008. Unenclosed-Spaced at 40°C. Refer AS3008 for derating factors.

SINGLE CORE V90HT 0.6/1KV PVC INSULATED TO AS3191

Applications: For electrical interconnections
Conductor: Tinned Copper Wire (TCW) or Plain Copper Wire (PCW) to AS1125
Insulation: V90HT PVC AS3808
Colour: Red, Blue, Green, Yellow, White, Black, Brown, Violet, Orange, Grey
Pack: 100, 500, 1000 metres

TCW (Tinned Copper Wire)	PCW (Plain Copper Wire)	CONDUCTOR NO/DIA (mm)	NOMINAL AREA (mm ²)	AMP RATING	INSULATION THICKNESS (mm)	TCW ELECTRICAL RESISTANCE @20°C (ohm/km)	PCW ELECTRICAL RESISTANCE @20°C (ohm/km)	NOMINAL O.D. (mm)	MASS (kg/100m)
FVK 11602	FVH11602	16/0.2	0.5	3.0	0.8	40.1	39.0	2.60	1.10
FVK 12402	FVH12402	24/0.2	0.75	7.5	0.8	26.7	26.0	2.80	1.40
FVK 13202	FVH13202	32/0.2	1.0	10.0	0.8	20.0	19.5	3.00	1.70
FVK 130025	FVH130025	30/0.25	1.5	15.0	0.8	13.7	13.3	3.30	2.20
FVK 150025	FVH150025	50/0.25	2.5	20.0	0.9	8.2	8.0	3.95	3.50
FVK 15603		56/0.3	4.0	25.0	1.0	5.1	5.0	4.75	5.30



SINGLE INSULATED FLEXIBLE LOW SMOKE HALOGEN FREE CABLES

Fine Stranded
X-HF-110

0.6/1KV - 125°C OXYGEN INDEX >32, HCL EMISSION <0.5%










TYPICAL APPLICATIONS

Wiring of Switchboards, Instrumentation and Control Systems and electronic equipment. Flexible earth for Mains and Sub-Mains in a fixed application.

CONSTRUCTION

Conductor: Fine stranded annealed copper to IEC 60228 Class 5&6 and AS/NZS 1125.

Insulation: LSFLEX® R-125 (X-HF-110), Flame Retardant, Cross-linked, Thermoset, Elastomeric, Low Smoke, Zero Halogen. Splash resistant to oil, skydrol, petrol, acid and sea water. Resists ozone and UV. 125°C max operating temperature conforms to UL1581.

Core Insulation Colours

WH	RE	BK	BL	OR	GY	BR	PU	PI	EA
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COLOURS ARE A GUIDE ONLY

OPERATING TEMP
-40°C to +125°C

VOLTAGE RATING
600/1000 Volts

CORE IDENTIFICATION
To customer specification

STANDARDS

AS/NZS 1125	IEC 60228
AS/NZS 1660.5.1	IEC 60332-1
AS/NZS 1660.5.2	IEC 60332-3-22
AS/NZS 1660.5.4	IEC 60754-2
AS/NZS 1660.5.6	IEC 61034-1&2
AS/NZS 5000.1	



Cross section view of
LS-XXXN/1C25BL
ILLUSTRATIONS GUIDE ONLY

FLEXIBLE RUBBER PANEL WIRE SPECIFICATIONS

NUMBER OF CONDUCTORS (c) X CROSS SECTION AREA (mm²)	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	MINIMUM BENDING RADIUS (mm)	APPROX WEIGHT (kg/km)	CURRENT RATING* (Amps)
1c 0.5	0.95	2.5	10	10	13
1c 0.75	1.2	2.8	11	13	16
1c 1	1.3	2.9	11	15	21
1c 1.5	1.5	3.1	12	20	26
1c 2.5	2.1	3.7	14	31	34
1c 4	2.5	4.1	16	45	45
1c 6	3.1	4.8	19	64	57
1c 10	4.1	5.8	23	104	80
1c 16	5.2	7.0	27	157	105
1c 25	6.4	8.7	34	250	139
1c 35	7.8	10.1	39	344	172
1c 50	9.2	11.8	46	481	217
1c 70	10.8	13.7	53	651	273
1c 95	12.8	15.8	61	883	329
1c 120	14.5	17.8	69	1098	390
1c 150	16.3	20.1	78	1399	450
1c 185	18.0	22.3	87	1701	516
1c 240	20.3	25.0	97	2191	620
1c 300	23.0	28.0	109	2781	714
1c 400	26.0	31.6	123	3580	855
1c 500	29.2	35.4	137	4529	990
1c 630	32.8	39.6	154	5698	1154

SINGLE DOUBLE INSULATED FLEXIBLE CABLES

Fine Stranded
X-HF-110

0.6/1KV - 110°C

YOUR COMPANY NAME HERE

TYPICAL APPLICATIONS

Switchboards, Generators, Mains, Sub-Mains, Extension Leads and Electric Motors. All Applications.

CONSTRUCTION

Conductor: Fine stranded annealed copper to IEC 60228 Class 5&6 and AS/NZS 1125.

Insulation: LSFLEX® R-70 (X-HF-110), Cross-linked, Thermoset, Elastomeric.

Ripcord: High strength ripcord under sheath.

Sheath: LSFLEX® S-20, Flame Retardant, Cross-linked, Thermoset, Elastomeric. Splash resistant to oil, skydrol, petrol, acid and sea water. Resists ozone and UV. Excellent abrasion resistance.

OPERATING TEMP

-40°C to +110°C

VOLTAGE RATING

600/1000 Volts

CORE IDENTIFICATION

To customer specification

SHEATH COLOUR

To customer specification

STANDARDS

AS/NZS 1125
AS/NZS 1660.5.6
AS/NZS 5000.1
IEC 60332-1

Cross section view of
EZ-PAXN/1C250R
ILLUSTRATIONS GUIDE ONLY

FLEXIBLE RUBBER POWER CABLE SPECIFICATIONS (SDI)

NUMBER OF CONDUCTORS (c) X CROSS SECTION AREA (mm²)	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	MINIMUM BENDING RADIUS (mm)	APPROX. WEIGHT (kg/km)	CURRENT RATING* (Amps)
1c 6	3.1	4.6	7.8	30	86	57
1c 10	4.1	5.6	8.8	34	129	80
1c 16	5.1	6.7	9.9	38	185	105
1c 25	6.4	8.4	11.7	45	278	139
1c 35	7.8	9.8	13.1	51	374	172
1c 50	9.2	11.5	14.8	58	527	217
1c 70	10.8	13.3	16.9	66	712	273
1c 95	12.8	15.3	19.0	74	953	329
1c 120	14.5	17.3	21.2	82	1182	390
1c 150	16.3	19.5	23.8	92	1499	450
1c 185	18.0	21.7	26.0	101	1812	516
1c 240	20.3	24.2	28.8	112	2212	620
1c 300	22.5	26.7	31.5	123	2860	714
1c 400	26.0	30.7	36.1	140	3772	855
1c 500	29.2	34.4	40.1	156	4754	990
1c 630	32.8	38.4	44.5	173	5959	1154

*AS/NZS 3008.1.1 2009, Table 9 (Unenclosed touching - Flexible) 110°C operating temperature, ambient temperature 40°C in air 25°C in ground. For Current Ratings based on other installation methods, refer to the cable or other SDI of this specification. Refer to Technical Information for important further information about current ratings and other conditions.

FLEXIBLE P.V.C CONTROL CABLES

JZ-500 flexible, number coded



Technical data

- Control cables, special PVC
- Requirements adapted to DIN VDE 0245, 0281, 0293, 0295
- **Temperature range**
flexing -15°C¹⁾ to +80°C
fixed installation -40°C to +80°C
- **Nominal voltage** U₀/U 300/500 V
- **Test voltage** 4000 V
- **Breakdown voltage** min. 8000 V
- **Insulation resistance**
min. 20 MΩm x km
- **Minimum bending radius**
flexing 7,5x cable Ø
fixed installation 4x cable Ø
- **Radiation resistance**
up to 80x10⁵ cJ/kg (up to 80 Mrad)
¹⁾ cold bending test, impact resistance test at low temperatures, elongation test at low temperatures. Tested according VDE 0473 Teil 811-1-4, EN 60811-1-4

Cable structure

- Bare copper, fine wire conductors, according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Core insulation of special PVC Z 7225
- Black cores with continuous white numbering according to DIN VDE 0293 (also available with other core colours)
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- Outer sheath of special PVC, TM2 to DIN VDE 0281 part 1 and HD 21.1
- colour grey (RAL 7001)
- with meter marking, change-over in 2009

Properties

- Extensively oil resistant
- Chemical Resistance - see table Technical Informations
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- G = with green-yellow earth core;
- X = without green-yellow earth core (OZ).

Application

These cables are used for flexible use for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air, as measuring and control cables in tool machines, conveyor belts, production lines in machinery production, in air-conditioning and in steel production.

The earth core is laid in the outer layer. Selected PVC-compounds guarantee a good flexibility as well as an economic and fast installation.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
2 x 0.5	4.8	9.6	40	20
3 G 0.5	5.1	14.4	46	20
3 x 0.5	5.1	14.4	46	20
4 G 0.5	5.7	19	56	20
4 x 0.5	5.7	19	56	20
5 G 0.5	6.2	24	65	20
5 x 0.5	6.2	24	65	20
6 G 0.5	6.7	29	75	20
7 G 0.5	7.4	33.6	80	20
7 x 0.5	7.4	33.6	80	20
8 G 0.5	8	38	97	20
8 x 0.5	8	38	97	20
10 G 0.5	8.8	48	116	20
12 G 0.5	9.1	58	135	20
12 x 0.5	9.2	58	135	20
14 G 0.5	9.7	67	150	20
16 G 0.5	10.4	76	175	20
18 G 0.5	10.7	86	196	20
21 G 0.5	12.2	101	240	20
25 G 0.5	13	120	270	20
34 G 0.5	14.5	163	362	20
40 G 0.5	15.8	192	434	20
50 G 0.5	17.3	240	513	20
65 G 0.5	20.2	312	682	20

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
2 x 0.75	5.3	14.4	46.0	18
3 G 0.75	5.6	21.6	54.0	18
3 x 0.75	5.6	21.6	54.0	18
4 G 0.75	6.3	28.8	66.0	18
4 x 0.75	6.3	29.0	66.0	18
5 G 0.75	6.9	36.0	80.0	18
5 x 0.75	6.9	36.0	80.0	18
6 G 0.75	7.7	43.0	99.0	18
6 x 0.75	7.7	43.0	99.0	18
7 G 0.75	7.7	50.0	110.0	18
7 x 0.75	7.7	50.0	110.0	18
8 G 0.75	9.0	58.0	130.0	18
8 x 0.75	9.0	58.0	130.0	18
9 G 0.75	9.8	65.0	153.0	18
10 G 0.75	9.8	72.0	162.0	18
12 G 0.75	10.0	86.0	179.0	18
12 x 0.75	10.0	86.0	179.0	18
14 G 0.75	10.8	101.0	214.0	18
15 G 0.75	11.2	108.0	218.0	18
18 G 0.75	12.2	130	257	18
19 G 0.75	12.7	137	264	18

FLEXIBLE P.V.C CONTROL CABLES



JZ-500 flexible, number coded



No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
20 G 0.75	12.7	144	286	18
21 G 0.75	13.5	151	320	18
25 G 0.75	14.5	180	365	18
27 G 0.75	15.2	195	382	18
32 G 0.75	16.1	230	455	18
34 G 0.75	16.7	245	510	18
37 G 0.75	17.2	266	537	18
40 G 0.75	18	288	595	18
41 G 0.75	18	296	607	18
42 G 0.75	18	302	612	18
50 G 0.75	19.8	360	735	18
61 G 0.75	21.2	439	845	18
65 G 0.75	22.5	468	895	18
80 G 0.75	24.3	576	1070	18
100 G 0.75	27	720	1322	18
2 x 1	5.6	19.2	60	17
3 G 1	6.1	29	72	17
3 x 1	6.1	29	72	17
4 G 1	6.6	38.4	86	17
4 x 1	6.6	38.4	86	17
5 G 1	7.5	48	104	17
5 x 1	7.5	48	104	17
6 G 1	8.1	58	125	17
7 G 1	8.1	67	141	17
7 x 1	8.1	67	141	17
8 G 1	9.6	77	175	17
9 G 1	10.6	86	200	17
10 G 1	10.6	96	217	17
10 x 1	10.6	96	217	17
12 G 1	10.8	115	230	17
12 x 1	10.8	115	230	17
14 G 1	11.4	134	271	17
16 G 1	12.3	154	300	17
18 G 1	12.9	173	343	17
18 x 1	12.9	173	343	17
19 G 1	13	182	355	17
20 G 1	13.7	192	375	17
20 x 1	13.7	192	375	17
21 G 1	14.4	205	420	17
24 G 1	14.7	230	440	17
25 G 1	15.6	240	485	17
25 x 1	15.6	240	485	17
26 G 1	15.6	252	500	17
27 G 1	15.8	259	534	17
30 x 1	16.4	308	550	17
34 G 1	17.9	326	650	17
36 G 1	17.9	346	668	17
37 G 1	18.4	355	701	17
40 G 1	19.4	384	755	17
40 x 1	19.4	384	755	17
41 G 1	19.4	394	770	17
42 G 1	19.4	403	810	17
50 G 1	21.2	480	936	17
56 G 1	22.1	538	920	17
61 G 1	22.7	586	1100	17
65 G 1	24.2	628	1180	17
80 G 1	26.2	768	1294	17
100 G 1	29.2	960	1644	17
2 x 1.5	6.4	29	70	16
3 G 1.5	6.8	43	90	16
3 x 1.5	6.8	43	90	16
4 G 1.5	7.6	58	109	16
4 x 1.5	7.6	58	109	16
5 G 1.5	8.3	72	131	16
5 x 1.5	8.3	72	131	16
6 G 1.5	9.2	86	157	16
7 G 1.5	9.2	101	184	16
7 x 1.5	9.2	101	184	16
8 G 1.5	10.6	115	216	16
9 G 1.5	12	129	259	16
10 G 1.5	12	144	275	16
11 G 1.5	12.2	158	300	16
12 G 1.5	12.2	173	309	16
12 x 1.5	12.2	173	309	16
14 G 1.5	13	202	345	16
16 G 1.5	13.9	230	386	16
18 G 1.5	14.8	259	440	16
20 G 1.5	15.5	288	490	16
21 G 1.5	16.4	302	555	16
25 G 1.5	17.8	360	620	16

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
34 G 1.5	20.2	490	830	16
37 G 1.5	20.2	533	892	16
41 G 1.5	22	576	996	16
42 G 1.5	22	605	1007	16
50 G 1.5	24.2	720	1250	16
56 G 1.5	25.1	806	1332	16
61 G 1.5	25.8	878	1440	16
65 G 1.5	27.4	936	1602	16
80 G 1.5	29.8	1152	1871	16
100 G 1.5	33	1440	2353	16
2 x 2.5	7.8	48	112	14
3 G 2.5	8.3	72	148	14
3 x 2.5	8.3	72	148	14
4 G 2.5	9.2	96	178	14
4 x 2.5	9.2	96	178	14
5 G 2.5	10.1	120	221	14
5 x 2.5	10.1	120	221	14
7 G 2.5	11.2	168	306	14
7 x 2.5	11.2	168	306	14
8 G 2.5	13.4	192	363	14
12 G 2.5	15.1	288	498	14
14 G 2.5	16.2	336	569	14
18 G 2.5	18.2	432	764	14
21 G 2.5	20.2	504	914	14
25 G 2.5	22.1	600	1044	14
34 G 2.5	25.2	816	1470	14
42 G 2.5	27.2	1008	1790	14
50 G 2.5	30	1200	2095	14
61 G 2.5	32.2	1464	2750	14
100 G 2.5	41.2	2400	4450	14
2 x 4	9.2	77	195	12
3 G 4	9.7	115	230	12
4 G 4	10.8	154	295	12
5 G 4	12.1	192	361	12
7 G 4	13.4	269	458	12
8 G 4	13.4	307	590	12
12 G 4	18.3	461	790	12
3 G 6	11.9	173	355	10
4 G 6	13	230	424	10
5 G 6	14.7	288	525	10
7 G 6	16.2	403	625	10
3 G 10	15.1	288	540	8
4 G 10	16.7	384	701	8
5 G 10	18.6	480	858	8
7 G 10	20.7	672	1106	8
3 G 16	18	461	827	6
4 G 16	20	614	1035	6
5 G 16	22.4	768	1259	6
7 G 16	24.8	1075	1780	6
3 G 25	22.2	720	1186	4
4 G 25	24.7	960	1582	4
5 G 25	27.6	1200	1999	4
7 G 25	30.5	1680	2825	4
3 x 35	25.4	1008	1585	2
4 G 35	28	1344	2105	2
5 G 35	31.3	1680	2633	2
3 G 50	31.4	1440	2550	1
4 G 50	34.7	1920	2940	1
5 G 50	38.7	2400	2936	1
3 G 70	38.5	2016	3180	2/0
4 G 70	42.7	2688	4090	2/0
5 G 70	47.6	3360	5443	2/0
3 G 95	43.2	2736	4680	3/0
4 G 95	47.9	3648	5540	3/0
5 G 95	52.7	4560	6931	3/0
4 G 120	52.6	4608	7000	4/0
4 G 150	62.3	5760	8340	300 kcmil
4 G 185	67	7104	9904	350 kcmil

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FLEXIBLE EMC/VSD CABLES

Y-CY-JZ flexible, CU-screened, transparent, EMC-preferred type



Technical data

- Special PVC control cables, adapted to E DIN VDE 0245, 0281 part 13
- Conductor resistance** to DIN VDE 0295
- Temperature range** flexing -5°C to +80°C fixed installation -40°C to +80°C
- Nominal voltage** U₀/U 300/500 V
- Test voltage** 4000 V
- Breakdown voltage** min. 8000 V
- Insulation resistance** min. 20 MΩm x km
- Coupling resistance** max. 250 Ωm/km
- Minimum bending radius** flexing 10x cable Ø fixed installation 5x cable Ø
- Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire conductors, bunch stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Core insulation of special PVC Z 7225
- Black cores with continuous white numbering to DIN VDE 0295
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- Special PVC inner sheath
- Tinned copper, braided screen, approx. 85% coverage
- Transparent special PVC outer sheath

Properties

- Extensively oil resistant
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- G = with green-yellow earth core; X = without green-yellow earth core (0Z).

Application

For use as a data and control cable in machinery, computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The screening density assures disturbance-free transmission of all signals and impulses. The PVC-inner sheaths of those cables raise the mechanical stress. The applied clear transparent PVC outer sheath accentuates the optical view of the tinned copper braid.

EMC = Electromagnetic compatibility

To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

No. of cores x cross-sec. mm²	Outer Ø ca. mm	Cop. weight kg/km	Weight kg/km	AWG-No.	No. of cores x cross-sec. mm²	Outer Ø ca. mm	Cop. weight kg/km	Weight kg/km	AWG-No.
2 x 0.5	6.9	41.0	67.0	20	2 x 1.5	8.4	64.0	130.0	16
3 G 0.5	7.2	45.0	83.0	20	3 G 1.5	9.0	82.0	152.0	16
4 G 0.5	7.8	54.0	94.0	20	4 G 1.5	9.6	99.0	188.0	16
5 G 0.5	8.3	66.0	108.0	20	5 G 1.5	10.5	123.0	202.0	16
7 G 0.5	9.5	79.0	136.0	20	7 G 1.5	12.1	148.0	304.0	16
12 G 0.5	11.3	137.0	195.0	20	12 G 1.5	14.9	274.0	434.0	16
18 G 0.5	13.1	156.0	277.0	20	18 G 1.5	17.1	386.0	640.0	16
25 G 0.5	15.7	250.0	407.0	20	25 G 1.5	20.7	531.0	805.0	16
40 G 0.5	18.9	345.0	654.0	20	40 G 1.5	24.4	759.0	1350.0	16
50 G 0.5	20.9	407.0	740.0	20	50 G 1.5	26.8	997.0	1675.0	16
2 x 0.75	7.6	46.0	87.0	18	2 x 2.5	10.0	110.0	180.0	14
3 G 0.75	7.8	57.0	98.0	18	3 G 2.5	10.7	148.0	216.0	14
4 G 0.75	8.3	63.0	113.0	18	4 G 2.5	11.4	169.0	267.0	14
5 G 0.75	9.1	76.0	130.0	18	5 G 2.5	12.5	220.0	347.0	14
7 G 0.75	10.4	100.0	184.0	18	7 G 2.5	15.0	284.0	407.0	14
12 G 0.75	12.5	175.0	292.0	18	12 G 2.5	18.0	470.0	722.0	14
18 G 0.75	14.3	240.0	358.0	18	3 G 4	12.3	178.0	340.0	12
25 G 0.75	17.4	306.0	508.0	18	4 G 4	13.4	234.0	410.0	12
32 G 0.75	18.7	349.0	688.0	18	5 G 4	14.8	284.0	502.0	12
41 G 0.75	21.2	403.0	971.0	18	7 G 4	16.2	321.0	638.0	12
50 G 0.75	23.2	470.0	1100.0	18	3 G 6	14.2	245.0	450.0	10
2 x 1	7.9	54.0	97.0	17	4 G 6	15.6	316.0	559.0	10
3 G 1	8.2	64.0	103.0	17	5 G 6	17.0	442.0	702.0	10
4 G 1	8.9	76.0	146.0	17	7 G 6	18.7	530.0	907.0	10
5 G 1	9.5	89.0	169.0	17	3 G 10	17.8	367.0	750.0	8
7 G 1	11.0	114.0	219.0	17	4 G 10	19.7	549.0	1020.0	8
12 G 1	13.1	186.0	350.0	17	5 G 10	21.6	604.0	1115.0	8
18 G 1	15.4	284.0	514.0	17	7 G 10	24.0	820.0	1500.0	8
25 G 1	18.3	387.0	689.0	17	4 G 16	22.6	807.0	1380.0	6
34 G 1	20.3	500.0	910.0	17	4 G 25	28.9	1169.0	1890.0	4
50 G 1	24.0	681.0	1315.0	17	4 G 35	32.2	1680.0	2390.0	2

FLEXIBLE EMC/VSD CABLES

Y-CY-JB flexible, CU-screened, transparent, EMC-preferred type, meter marking



Technical data

- Special PVC control cables, adapted to E DIN VDE 0245, 0281 part 13
- Conductor resistance** to DIN VDE 0295
- Temperature range**
flexing -5°C to +80°C
fixed installation -40°C to +80°C
- Nominal voltage**
U₀/U 300/500 V to 1,5 mm²
U₀/U 450/750 V at 2,5 mm²
- Test voltage** 4000 V
- Breakdown voltage** min. 8000 V
- Insulation resistance** min. 20 MΩm x km
- Coupling resistance** max. 250 Ωm/km
- Minimum bending radius**
flexing 10x cable Ø
fixed installation 5x cable Ø
- Radiation resistance**
up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire conductors, bunch stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Core insulation of special PVC Z 7225
- Core colour coded to JB/OB colour code
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- Special PVC inner sheath
- Tinned copper, braided screen, approx. 85% coverage
- Transparent special PVC outer sheath

Properties

- Extensively oil resistant.
Chemical Resistance - see table Technical Informations
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- G = with green-yellow earth core;
x = without green-yellow earth core (OB).
- by 5 cores with VDE-Reg. No.

Application

For use as a data and control cable in machinery, computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The screening density assures disturbance-free transmission of all signals and impulses. The PVC-inner sheaths of those cables raise the mechanical stress. The applied clear transparent PVC outer sheath accentuates the optical view of the tinned copper braid. These cables are suitable for flexible use for medium mechanical stresses with free movements. The dense screening assures disturbance-free transmission of all signals and impulses. An ideal disturbance-free control cable for the above application.

EMC = Electromagnetic compatibility

To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
2 x 1.5	8.4	64.0	130.0	16
3 G 1.5	9.0	82.0	152.0	16
4 G 1.5	9.6	99.0	168.0	16
5 G 1.5	10.5	123.0	202.0	16
2 x 2.5	11	110.0	180.0	14
3 G 2.5	11.6	148.0	216.0	14
4 G 2.5	12.6	169.0	267.0	14
5 G 2.5	13.8	220.0	347.0	14
2 x 4	12.6	124.0	302.0	12
3 G 4	13.3	178.0	340.0	12
4 G 4	14.5	234.0	410.0	12
5 G 4	15.9	284.0	502.0	12
2 x 6	14.3	176.0	350.0	10
3 G 6	15.1	245.0	450.0	10
4 G 6	16.4	316.0	559.0	10
5 G 6	18.1	442.0	702.0	10
3 G 10	18.6	367.0	750.0	8
4 G 10	20.6	549.0	1020.0	8
5 G 10	22.7	604.0	1115.0	8

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
4 G 16	24.5	807.0	1380.0	6
5 G 16	27.2	940.0	1553.0	6
4 G 25	30.6	1169.0	1890.0	4
5 G 25	33.7	1420.0	2270.0	4
4 G 35	33.8	1690.0	2390.0	2
5 G 35	37.8	2020.0	2885.0	2
4 G 50	39.8	2370.0	3315.0	1
5 G 50	44.8	2890.0	4150.0	1
4 G 70	48.1	3257.0	4600.0	2/0
4 G 95	52.7	4060.0	6060.0	3/0
4 G 120	58.6	5231.0	7315.0	4/0
4 G 150	65.7	7760.0	9340.0	300 kcmil
4 G 185	73.0	7760.0	11120.0	350 kcmil

HIGH TEMPERATURE SINGLE CORE SILICONE

SIAF 180°C
Single Insulated
Halogen Free Silicone
single core
Tinned flexible cable
0.6/1kV



Cable Construction

- Conductors** of extra fine tinned copper to Class 5 international standards to ensure maximum flexibility.
- Specially formulated insulation of silicone rubber allows operating conductor temperature of 180°C, while maintaining flexibility.
- Insulation** is flame retardant, halogen free and UV stabilized.

Temperature Range

-60 to +180°C static

Rated Voltage

0.6 - 1kV (450V - 750V VDE)

Maximum Conductor Temperature

180°C

Bending Radius

5 times diameter of cable

Relevant Standards

AS 5000.1

Normally Stocked Colours

0.75mm²

Red, White, Blue, Black, Green/Yellow

1.0mm²

Red, White, Blue, Black, Green/Yellow

Brown, Grey

1.5mm²

Red, White, Blue, Black, Green/Yellow

Brown, Grey

2.5mm² & 4mm²

Red, Blue, Black, Green/Yellow

6.0mm²

Red, Black, Green/Yellow

10mm² to 25mm²

Red, Black

Typical Uses

Switchboards, Appliance wiring, stoves, ovens, public transport - railways etc, automotive and marine wiring.

The materials used in the manufacture of these cables are RoHS Compliant.

Technical Data

	Size mm ²	Nominal Stranding	Current @ 40°C	Insulation Thickness mm	Nominal O.D. mm	Approx. Cable Weight Kg/Km
	0.75	24/0.20	24	0.6	2.4	13.3
	1.0	32/0.20	28	0.6	2.5	15.9
	1.5	30/0.25	37	0.6	2.8	21.9
	2.5	50/0.25	50	0.7	3.4	34.7
	4.0	56/0.30	67	0.8	4.2	54.4
	6.0	84/0.30	87	0.8	5.2	82.3
	10	80/0.40	120	1.0	6.4	131.9
	16	126/0.40	165	1.2	8.0	209.1
	25	196/0.40	215	1.4	10.0	326.7

HIGH TEMPERATURE MULTI CORE SILICONE

SiHF silicon multicore cable, flexible, halogen-free, meter marking



Technical data

- Special silicone multicore cable with higher heat-resistance range adapted to DIN VDE 0250 part 1 and part 816
- **Temperature range**
-60°C to +180°C
(up to +220°C for short time)
- **Temperature limit at the conductor**
in operation +180°C
- **Nominal voltage** U₀/U 300/500 V
- **Test voltage** 2000 V
- **Breakdown voltage** min. 5000 V
- **Insulation resistance**
min. 200 MOhm x km
- **Power rating**
at ambient temperature up to +145°C
to DIN VDE 0100 for higher temperatures valid:
150°C - load value 100% 155°C - load value 91%
160°C - load value 82% 165°C - load value 71%
170°C - load value 58% 175°C - load value 41%
- **Minimum bending radius**
flexing 7,5x cable Ø
fixed installation 4x cable Ø

Cable structure

- Tinned fine wire copper conductors to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Silicone core insulation
- Core identification to DIN VDE 0293-308 colour coded or black cores with continuous white numbers
- For 2-cores brown, blue
- Cores stranded in layers with optimal lay-length
- Green-yellow earth-core (3 cores and above)
- Outer jacket of silicone
- Jacket colour preferably red/brown

Properties

- **Advantages**
Hardly changes of dielectric strength and the insulation resistance also at high temperatures, high ignition or flash point, in case of fire, forms an insulating layer of SiO₂
- **Resistant to**
High molecular oils, fats from vegetables and animals, alcohols, plasticizers and dophenes, diluted acids, lyes and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen and UV
- **Halogen-free**
according to VDE 0482 part 267/
DIN EN 50267-2-2/ IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- **Behaviour in fire**
no flame propagation
test according to DIN VDE 0482 part 265-2-1/ EN 50265-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Application

Silicone cables were evolved for use wherever insulation is subjected to extreme temperature changes. They are heat-resistant for permanent temperature up to +180°C, for short time operation up to +220°C. The good performance of the environmental resistant properties means that silicone cables can be used at temperatures down to -60°C. Silicone cables are halogen-free cables and are especially suited for installation in power stations. They have also found their uses in the steel producing industries, aviation industry, ship building as well as in ceramic, glass and cement factories.

CE The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop. weight kg/km	Weight kg/km	AWG-No.	No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop. weight kg/km	Weight kg/km	AWG-No.
2 x 0.5	5.4	9.6	42	20	12 G 1.5	14.7	173	314	16
3 G 0.5	5.9	14.5	44	20	18 G 1.5	17.4	260	506	16
4 G 0.5	6.6	19.3	58	20	24 G 1.5	20.7	346	722	16
5 G 0.5	7.3	24	62	20					
7 G 0.5	8.1	33.7	85	20	2 x 2.5	9.2	48	134	14
12 G 0.5	10.8	57.6	141	20	3 G 2.5	9.7	72	152	14
16 G 0.5	12.3	76.7	186	20	4 G 2.5	10.6	96	188	14
18 G 0.5	12.9	86.5	211	20	5 G 2.5	11.6	120	228	14
25 G 0.5	15.4	120	271	20	7 G 2.5	12.6	168	320	14
					12 G 2.5	17.1	288	502	14
2 x 0.75	6.4	14.4	53	18	16 G 2.5	19.6	384	659	14
3 G 0.75	6.7	21.6	63	18	18 G 2.5	20.8	432.2	761	14
4 G 0.75	7.5	29	83	18	25 G 2.5	24.7	600	1007	14
4 x 0.75	7.5	29	83	18					
5 G 0.75	8.4	36	101	18	2 x 4	10.6	77	180	12
6 G 0.75	9.5	43	115	18	3 G 4	11.4	115	224	12
7 G 0.75	9.5	50	124	18	4 G 4	13	154	295	12
12 G 0.75	12.2	86.5	186	18	5 G 4	14.3	192	359	12
18 G 0.75	14.5	129.7	260	18	7 G 4	15.5	269	479	12
25 G 0.75	17.6	180	370	18					
					2 x 6	12.6	115	210	10
2 x 1	6.7	19	59	17	3 G 6	13.3	173	270	10
3 G 1	7.5	29	77	17	4 G 6	14.7	230	341	10
4 G 1	8.1	38	94	17	5 G 6	16.4	288	432	10
5 G 1	8.8	48	115	17	7 G 6	18	403	552	10
7 G 1	9.6	67	144	17					
10 G 1	12.4	96.1	216	17	4 G 10	18.5	384	644	8
12 G 1	12.6	115.2	231	17	5 G 10	20.5	480	788	8
18 G 1	15.1	172.9	340	17					
25 G 1	18.3	240	431	17	4 G 16	22.2	616	950	6
					5 G 16	24.7	770	1204	6
2 x 1.5	7.8	29	81	16					
3 G 1.5	8.2	43	98	16	4 G 25	27.4	960	1500	4
4 G 1.5	8.9	58	122	16					
5 G 1.5	9.8	72	147	16	4 G 35	29.2	1344	2100	2
7 G 1.5	10.8	101	187	16					

INSTRUMENTATION CABLES

Overall Screened. Pairs

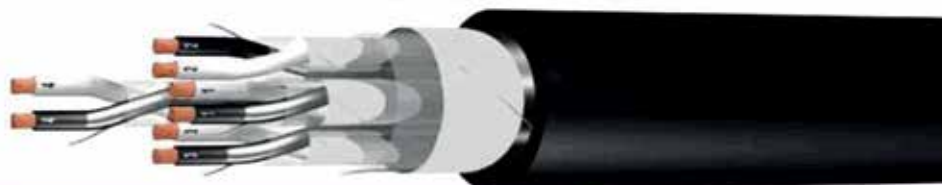


Nominal Area mm ² (AWG)	No of Pairs	Outer Ø ca. mm	Weight kg/km	Nominal Area mm ² (AWG)	No of Pairs	Outer Ø ca. mm	Weight kg/km
0.5 (20)	1	5.71	41	1.5 (16)	1	7.33	70
(7/0.30mm)	2	7.25	60	(7/0.50mm)	2	9.57	113
	3	7.67	75		3	10.14	149
	4	8.35	91		4	11.27	190
	6	10.07	128		6	13.55	271
	8	11.45	165		8	15.36	351
	10	13.30	211		10	17.34	427
	12	13.72	239		12	17.91	493
	16	15.93	329		16	20.04	641
	18	16.72	361		18	21.12	711
	20	17.99	410		20	22.70	803
	24	19.74	478		24	25.10	947
	36	22.77	677		36	29.09	1378
	50	25.79	887		50	33.21	1852
0.88 (18)	1	5.5	42				
(7/0.40mm)	2	8.2	79				
	3	8.7	104				

Also available in; - Overall Screened, Armoured, Pairs.



Individual and Overall Screened. Pairs



Nominal Area mm ² (AWG)	No of Pairs	Outer Ø ca. mm	Weight kg/km	Nominal Area mm ² (AWG)	No of Pairs	Outer Ø ca. mm	Weight kg/km
0.5 (20)	2	8.3	79	1.5 (16)	2	10.2	127
(7/0.30mm)	3	8.8	96	(7/0.50mm)	3	10.9	165
	4	9.5	119		4	12.1	211
	6	11.2	161		6	14.3	294
	8	12.5	200		8	16.2	382
	10	14.5	255		10	18.7	482
	12	15.3	304		12	19.3	556
	16	17.1	381		16	21.6	719
	18	17.9	428		18	22.7	796
	20	18.9	468		20	24.4	899
	24	21.2	567		24	26.9	1060
	36	24.4	809		36	31.2	1537
	50	27.7	1068		50	36	2096

Also available in; - Individual & Overall Screened, Armoured, Pairs



INSTRUMENTATION CABLES

Overall Screened. Triads



Nominal Area mm ² (AWG)	No of Triads	Outer Ø ca. mm	Weight kg/km
0.5 (20)	1	5.3	43
(7/0.30mm)	2	7.9	78
	3	8.3	100
	4	9.3	128
	6	11	176
	8	12.9	240
	10	14.5	291
	12	15	334
	16	16.6	424
	18	18.2	502
	20	19.2	550
	24	22	686
	36	24.9	955

Nominal Area mm ² (AWG)	No of Triads	Outer Ø ca. mm	Weight kg/km
1.5 (16)	1	7	82
(7/0.50mm)	2	10.3	152
	3	11	203
	4	12.2	262
	6	14.7	378
	8	16.5	485
	10	19.5	630
	12	20.1	730
	16	23	980
	18	24.2	1088
	20	25.5	1196
	24	28.2	1414
	36	32.1	2027

Also available in; - Overall Screened, Armoured, Triads.



Individual & Overall Screened. Triads



Nominal Area mm ² (AWG)	No of Triads	Outer Ø ca. mm	Weight kg/km
0.5 (20)	2	10	117
(7/0.30mm)	4	11.4	177
	6	13.5	243
	8	15	306
	10	16.9	372
	12	17.5	425
	16	19.4	539
	18	20.4	598
	20	21.6	658
	24	23.9	781
	36	27.4	1106

Nominal Area mm ² (AWG)	No of Triads	Outer Ø ca. mm	Weight kg/km
1.5 (16)	2	12.2	193
(7/0.50mm)	4	14.1	314
	6	16.8	444
	8	18.8	569
	10	21.4	701
	12	22.1	812
	16	24.6	1048
	18	25.9	1168
	20	27.5	1291
	24	30.5	1539
	36	35.1	2222

Also available in; - Individual & Overall Screened, Armoured, Triads



INSTRUMENTATION CABLES

MACHLINK INSTRUMENTATION CABLE

Applications

The MACHLINK instrumentation cables described in this catalogue are manufactured strictly based on the requirement of Underwriters Laboratories (UL) as well as relevant Australian Standards. MACHLINK instrumentation cables are mainly used in data processing and process control i.e. electrical measuring device to instrument panel, instrument to instrument connection, and electrical sensing device to control cabinets; it can be used also for general transmission of electrical signals in any systems of remote control, indication, telemonitoring, monitoring and analysis which it needs to be protected from interference to the transmission signal by other electrical circuits. Instrumentation cable with the identification colour blue is specified for intrinsically safe circuits use.

Cable configuration

Conductor:	Plain annealed copper (class 2 strands) of the type specified in AS/NZS 1125.
Insulation:	Numbered and colour coded high grade polyvinyl chloride (PVC 90oC) compounds insulation to UL Style 1569.
Laying-up core:	Twisted to pair or triple with optimum pitch to minimise the cross talk.
Overall screened:	A stranded tinned annealed copper drain wire (7/0.2mm) is helically applied between the lapping polyester tape and the aluminium foil (100% coverage) for extra protection against external noise and interference (i.e. electrostatic from external high voltages, electromagnetic from external high currents)
Bedding and sheath:	High grade (PVC 90oC) Flame retardant to UL Style 2464.
Sheath identification:	Black sheath (Ultraviolet - UV stabilised) - standard type instrumentation cable to UL Style 2464 Blue sheath - instrumentation cable for intrinsically safe circuit to AS 2381.7
Core identification to UL Style 2464:	Pair element: Black, White, and all cores numbered Triple element: Black, White, Red, and all cores numbered
Laying-up core:	Twisted to pair or triple with optimum pitch to minimise the cross talk.
Operating temperature	Minimum conductor continuous operating temperature: -25oC Permanent continuous conductor operating Temperature: 75oC Maximum conductor operating temperature: 90oC Short circuit temperature for 5 sec: 160C

--Flame retardant PVC is tested to standard IEC 332-3A.

Physical & Electrical Properties

Test Voltage:	In-process spark test - 4500V and A.C withstand voltage test - 1500V
Rated Voltage:	Max. 300V a.c
Nominal Voltage:	≤ 110V a.c / 150V d.c

Nominal CSA	Nominal Conductor Diameter	Maximum Conductor Resistance @ 20° C	Approximate current carrying capacity	Fault Current for 1 sec	Insulation Resistance @20°C	Max capacitance Cond. to Cond. (screened)	Max. capacitance Cond. to Scr. (screened)	Max capacitance Cond. to Cond. (unscreened)
0.50 mm ²	0.87 mm	38.4/km	2 ~ 3.5 A	70 A	140MΩ.km	145pF/m	240pF/m	82pF/m
0.75 mm ²	1.08 mm	24.5/km	3 ~ 7.5 A	105 A	140MΩ.km	-	-	89pF/m
1.00 mm ²	1.14 mm	18.1/km	4 ~ 10 A	140 A	140MΩ.km	-	-	98pF/m
1.50 mm ²	1.47 mm	13.6/km	5 ~ 13.1 A	210 A	140MΩ.km	200pF/m	300pF/m	110pF/m

Nominal CSA	Cross talk attenuation between pairs @ 1kHz (screened)	Cross talk attenuation between pairs @ 1kHz (unscreened)	Attenuation of pairs @ 1kHz between @ 600 Ω terminations (unscreened)	Attenuation of pairs @ 1kHz between @ 600 Ω terminations (screened)	Characteristic impedance @ 1kHz (screened)	Characteristic impedance @ 1kHz (unscreened)	Inductance @ 1kHz	L/R ratio @1kHz
0.50 mm ²	>125dB/100m	>90dB/100m	0.09dB/100m	0.11dB/100m	300 Ω	380 Ω	1.00mH/km	13.7μH/Ω
0.75 mm ²	>125dB/100m	>90dB/100m	0.09dB/100m	-	-	313 Ω	0.98mH/km	20.0μH/Ω
1.00 mm ²	>125dB/100m	>90dB/100m	0.08dB/100m	-	-	255 Ω	0.97mH/km	27.7μH/Ω
1.50 mm ²	>125dB/100m	>90dB/100m	0.08dB/100m	0.09dB/100m	150 Ω	200 Ω	0.95mH/km	36.5μH/Ω

Mechanical Properties

The recommended bending radius is as follows:

Unarmoured Cable:	9 x Cable Outer Diameter (during installation) 6 x Cable Outer Diameter (after installation)
Armoured Cable:	18 x Cable Outer Diameter (during installation) 12 x Cable Outer Diameter (after installation)

Operating Temperature

Minimum conductor continuous operating temperature: -25°C
Permanent continuous conductor operating temperature: 75°C
Maximum conductor operating temperature: 90°C
Short circuit temperature for 5 seconds: 160°C

SUBMERSIBLE RUBBER CABLES

H07 RN-F Rubber Flexible Cables EPR/CPE 0.6/1kV



Cable Construction

1. PETP-tape (only for sections above 16 sq. mm);
2. EPR rubber insulation type E14 acc. to HD22;
3. CPE Rubber outer sheath.

Operating Temperature

- Minimum permissible ambient temperature -40°C
- Maximum permissible short circuit temperature 250°C
- Minimum ambient temperature for optimum fully flexible operation -30°C

Minimum Bending Radius

The following minimum bending radius should be observed to ensure operating reliability.

- For fixed installation - 4 x cable diameter
- When freely flexing - 5 x cable diameter
- For drag chains and reels - 10 x cable diameter

Properties

- Good tensile strength, tearing strength and abrasion resistance;
- Good dielectric properties;
- Acid resistant;
- Submersible to 100MT;
- Oil resistant;
- Resistant to environmental factors like oxidation, ozone, sunlight;
- Flame retardant;
- Very good behaviour to variations of outdoor temperature.

Voltage Rating

- Rated Voltage; Uo/U = 0.6/1kV
- Maximum operating voltages in:
3 phase AC operation Uo/U = 0.7/1.15kV
DC Operation Uo/U = 0.9/1.73kV
- The cable is designated 450/750V with E14 insulation compound in accordance with VDE/IEC and meets or exceeds the Australian Standard AS5000.1 for the voltage rating of 0.6/1kV, R-EP-90.
- HO5R-NF 0.3/0.5kV
- HO7R-NF 0.6/1.0kV

Typical Uses

- For medium level mechanical loads, for use in dry and damp locations, for outdoor use or in locations subject to explosion hazards;
- For industrial and workshop equipment;
- For connections of mobile machines and engines on construction sites; HD22;
- As fixed installation, for example as installation on plaster in temporary buildings;
- As a submersible Cable.

Core Colours

- 2 core** – Blue, Brown
- 3 core** – Blue, Brown, Green/Yellow
- 4 core** – Brown, Black, Grey, Green/Yellow
- 5 core** – Brown, Black, Grey, Blue, Green/Yellow
- 7 core plus** – Black cores White numbered with earth core in total

Relevant Standards

AS/NZS 5000.1, AS/NZS 1125, IEC 92-3, IEC 92-350, IEC 92-353, IEC 60332-1, AS/NZS 3808

The materials used in the manufacture of these cables are RoHS Compliant.

Technical Data

No. of cores and size mm ²	Maximum diameter of strands mm	Nominal O.D. mm	Approx. Cable Weight Kg/Km	Maximum core resistance ohms/km @ 20°C	Maximum Amps @ 40°C	3 Phase Volt Drop Mv/Am
2 x 0.75	24/0.21	6.4	78	26.0	12	57.4
2 x 1.0	32/0.21	7.1	94	19.5	18	43.1
3 x 0.75	24/0.21	7.0	94	26.0	12	57.4
3 x 1.0	32/0.21	8.5	114	19.5	18	43.1
4 x 0.75	24/0.21	8.8	90	26.0	12	57.4

SUBMERSIBLE RUBBER CABLES

HO7RN-F 0.6/1kV							
Technical Data							
	No. of cores and size	Maximum diameter of strands	Nominal O.D.	Approx. Cable Weight	Maximum core resistance	Maximum Amps @ 40°C	3 Phase Volt Drop
	mm ²	mm	mm	Kg/Km	ohms/km		Mv/Am
	2 x 1.0	32/0.21	9.4	100	19.5	18	43.1
	2 x 1.5	30/0.26	9.4	130	13.3	24	29.4
	2 x 2.5	50/0.26	11.5	190	7.98	34	17.6
	2 x 4.0	56/0.31	13.0	260	4.95	45	10.9
	2 x 6.0	84/0.31	14.5	350	3.3	57	7.29
	2 x 10	80/0.41	19.5	620	1.91	78	4.38
	2 x 16	126/0.41	22.0	850	1.21	105	2.68
	3 x 1.0	32/0.21	9.1	125	19.5	18	43.1
	3 x 1.5	30/0.26	10.1	160	13.3	24	29.4
	3 x 2.5	50/0.26	12.0	230	7.98	34	17.6
	3 x 4.0	56/0.31	14.0	320	4.95	45	10.9
	3 x 6.0	84/0.31	15.5	425	3.3	57	7.29
	3 x 10	77/0.41	21.0	765	1.91	78	4.38
	3 x 16	126/0.41	24.0	1060	1.21	105	2.68
	3 x 25	196/0.41	29.0	1560	0.78	140	1.62
	4 x 1.0	32/0.21	10.0	155	19.5	16	43.1
	4 x 1.5	30/0.26	11.5	200	13.3	20	29.4
	4 x 2.5	50/0.26	13.5	290	7.98	28	17.6
	4 x 4.0	56/0.31	15.5	400	4.95	38	10.9
	4 x 6.0	84/0.31	17.5	540	3.3	48	7.29
	4 x 10	80/0.41	23.0	930	1.91	66	4.38
	4 x 16	126/0.41	26.0	1300	1.21	88	2.68
	4 x 25	196/0.41	32.0	1950	0.78	120	1.62
	4 x 35	276/0.41	35.0	2330	0.554	145	1.19
	4 x 50	396/0.41	40.0	3200	0.386	180	0.902
	4 x 70	540/0.51	45.0	4200	0.272	230	0.608
	4 x 95	715/0.51	51.0	5490	0.206	285	0.485
	4 x 120	920/0.51	56.0	7098	0.16	330	0.387
	5 x 1.0	32/0.21	11.5	190	19.5	16	43.1
	5 x 1.5	30/0.26	12.5	240	13.3	20	29.4
	5 x 2.5	50/0.26	15.0	350	7.98	28	17.6
	5 x 4.0	56/0.31	17.0	500	4.95	38	10.9
	5 x 6.0	84/0.31	19.0	670	3.3	48	7.29
	5 x 10	80/0.41	25.0	1140	1.91	66	4.38
	5 x 16	126/0.41	29.0	1610	1.21	88	2.68
	5 x 25	196/0.41	35.0	2440	0.78	120	1.62
	5 x 35	276/0.41	39.0	2900	0.544	145	1.19
	5 x 50	396/0.41	45.0	4000	0.386	180	0.902
	5 x 70	540/0.51	50.0	5250	0.272	230	0.608
	5 x 95	715/0.51	56.6	6780	0.206	285	0.485
	7 x 1.5	30/0.26	16.0	330	13.3	13	29.4
	7 x 2.5	50/0.26	18.5	470	7.98	18	17.6
	7 x 4.0	56/0.31	21.5	660	4.95	22	10.9
	7 x 6.0	84/0.31	24.8	956	3.3	31	7.29
	12 x 1.5	30/0.26	19.0	480	13.3	13	29.4
	12 x 2.5	50/0.26	22.5	690	7.98	18	17.6
	18 x 1.5	30/0.26	22.0	690	13.3	13	29.4
	18 x 2.5	50/0.26	26.5	1010	7.98	18	17.6
	27 x 1.5	30/0.26	28.1	1102	13.3	13	29.4
	27 x 2.5	50/0.26	33.5	1521	7.98	18	17.6

P.V.C FLAT CABLES

PVC-flat (H05 VVH6-F/H07 VVH6-F)

300/500V and 450/750V



Technical data

- Special PVC-flat cable, H05 VVH6-F to EN 50214, H07 VVH6-F to HD 359 S2 (25 mm² and above in adapted)
- **Temperature range**
flexing -5°C to +70°C
fixed installation -40°C to +80°C
- **Nominal voltage**
H05 VVH6-F = up to 1 mm²
U₀/U 300/500V
H07 VVH6-F = ≥1,5 mm² U₀/U 450/750 V
- **Test voltage**
H05 VVH6-F = up to 1 mm² 2000 V
H07 VVH6-F = ≥1,5 mm² 2500 V
- **Minimum bending radius**
10x cable thickness
- **Radiation resistance**
up to 80x106 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Special PVC core insulation T12 to DIN VDE 0281 part 1
- Cores laying parallel
- Core identification up to 5 cores to colour code DIN VDE 0293
- 7 cores and above with number printing
- Green-yellow earth core
- Special PVC outer jacket TM2 to DIN VDE 0281 part 1
- Colour black (RAL 9005)

Properties

- Extensively oil resistant
- Chemical Resistance - see table Technical Informations
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packaging possibility
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- Art. No. 27012 (6x4).
- G = with green-yellow earth core

Application

PVC type of flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units.

Installation notes: See NEO flat at page J5.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

No. of cores x cross-sec. mm ²	Outer dimension	Cop. weight kg/km	Weight kg/km	AWG-No.	No. of cores x cross-sec. mm ²	Outer dimension	Cop. weight kg/km	Weight kg/km	AWG-No.
4 G 0.75	4.3 x 12.6	28.8	90	18	4 G 2.5	5.5 x 17.0	96	205	14
5 G 0.75	4.3 x 16.1	36	115	18	5 G 2.5	5.5 x 21.5	120	256	14
6 G 0.75	4.3 x 19.4	43.2	141	18	7 G 2.5	5.5 x 30.3	168	344	14
9 G 0.75	4.3 x 26.4	64.8	198	18	8 G 2.5	5.5 x 31.9	192	389	14
10 G 0.75	4.3 x 30.1	72	224	18	12 G 2.5	5.8 x 47.1	288	580	14
12 G 0.75	4.3 x 33.8	84.4	258	18	16 G 2.5	5.8 x 55.1	384	674	14
16 G 0.75	4.3 x 44.4	115.2	340	18	24 G 2.5 (6x4)	15.0 x 63.0	604	950	14
18 G 0.75	4.3 x 49.2	129.6	380	18	24 G 2.5	5.8 x 120.0	604	950	14
20 G 0.75	4.3 x 55.0	144	424	18					
24 G 0.75	4.3 x 65.6	172.8	509	18					
					4 G 4	7.0 x 21.8	154	344	12
					5 G 4	7.0 x 27.4	192	428	12
					7 G 4	7.9 x 36.6	269	590	12
3 G 1	4.5 x 10.8	28.8	80	17					
4 G 1	4.5 x 13.4	38.4	104	17					
5 G 1	4.5 x 16.0	48	134	17	4 G 6	8.2 x 24.8	230	424	10
6 G 1	4.5 x 20.6	57.6	161	17	5 G 6	8.2 x 31.8	288	530	10
9 G 1	4.5 x 28.4	86.4	230	17	7 G 6	8.2 x 42.6	403	760	10
10 G 1	4.5 x 30.0	96	256	17					
12 G 1	4.5 x 36.2	115.2	298	17	4 G 10	10.0 x 29.6	384	710	8
16 G 1	4.5 x 47.6	153.6	395	17					
18 G 1	4.5 x 52.8	172.8	441	17	4 G 16	11.2 x 34.4	614	1014	6
20 G 1	4.5 x 59.0	192	495	17	5 G 16	13.0 x 46.6	768	1370	6
24 G 1	4.5 x 70.4	230.4	590	17					
4 G 1.5	4.5 x 13.7	58	133	16	4 G 25	13.7 x 42.6	960	1365	4
5 G 1.5	4.5 x 17.9	72	169	16	5 G 25	15.5 x 55.5	1200	2000	4
7 G 1.5	4.5 x 23.5	101	235	16					
8 G 1.5	4.5 x 26.8	115	265	16	4 G 35	15.4 x 47.6	1344	2100	2
10 G 1.5	4.5 x 33.5	144	332	16					
12 G 1.5	4.5 x 38.9	173	421	16	4 G 50	18.2 x 57.0	1920	2940	1
16 G 1.5	4.5 x 51.5	230.4	555	16					
24 G 1.5	4.5 x 83.0	346	820	16	4 G 70	20.0 x 64.2	2688	4090	2/0

PUR CABLES

PURö-JZ tear and coolant resistant, increased oil resistant



Technical data

- Special PUR cables adapted to DIN VDE 0245, 0281
- Temperature range**
flexing -5°C to +80°C
fixed installation -40°C to +80°C
- Nominal voltage** U₀/U 300/500 V
- Test voltage** 4000 V
- Breakdown voltage** min. 8000 V
- Insulation resistance**
min. 20 MΩm x km
- Minimum bending radius**
flexing 7.5x cable Ø
fixed installation 4x cable Ø
- Radiation resistance**
up to 100x10⁶ cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper, fine wire conductors, bunch stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Oil resistant** PVC core insulation TI2, in adapted to DIN VDE 0281 part 1, for better sliding abilities
- Black cores with continuous white figure imprint to DIN VDE 0293
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal lay-length
- Special **full-polyurethane** outer jacket TPU, to DIN VDE 0282 part 10, appendix A
- Sheath colour grey (RAL 7001)
- Jacket also available in other colours

Properties

- Resistant to**
UV-Radiation, Oxygene
Ozone and hydrolysis
Microbes
- self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- C = with green-yellow earth core;
x = without green-yellow earth core (OZ).

Application

PURö-JZ is an extremely robust control cable with high abrasion and tear resistant properties. With high-grade oil resistant PVC core insulation. Due to its high resistance to mineral oils and especially to coolant emulsions, it is especially suited for use in the machine, tool making and plant industries as well as in the steel industry for difficult and problem areas. The high flexibility of this cable type makes it quick and easy to install. Suitable for outdoor lying.

CEC= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
2 x 0.5	4.8	9.6	45.0	20
3 G 0.5	5.1	14.4	55.0	20
4 G 0.5	5.7	19.0	65.0	20
5 G 0.5	6.2	24.0	75.0	20
7 G 0.5	7.2	33.6	90.0	20
12 G 0.5	9.1	58.0	135.0	20
18 G 0.5	10.7	86.0	205.0	20
25 G 0.5	13.2	120.0	270.0	20
34 G 0.5	14.7	163.0	380.0	20
42 G 0.5	15.8	202.0	415.0	20
50 G 0.5	17.5	240.0	550.0	20
2 x 0.75	5.4	14.4	44.0	18
3 G 0.75	5.7	21.6	53.0	18
4 G 0.75	6.2	29.0	64.0	18
5 G 0.75	6.8	36.0	76.0	18
7 G 0.75	8.1	50.0	96.0	18
12 G 0.75	9.9	86.0	170.0	18
18 G 0.75	11.9	130.0	260.0	18
25 G 0.75	14.5	180.0	282.0	18
34 G 0.75	16.3	245.0	475.0	18
42 G 0.75	17.7	302.0	600.0	18
50 G 0.75	19.4	360.0	720.0	18
2 x 1	5.7	19.0	53.0	17
3 G 1	6.0	29.0	63.0	17
4 G 1	6.6	38.0	75.0	17
5 G 1	7.1	48.0	89.0	17
7 G 1	8.6	67.0	115.0	17
12 G 1	10.7	115.0	201.0	17
18 G 1	12.9	173.0	289.0	17
25 G 1	14.9	240.0	380.0	17
34 G 1	17.4	326.0	645.0	17
42 G 1	18.8	403.0	730.0	17
50 G 1	20.9	480.0	890.0	17
2 x 1.5	6.2	29.0	68.0	16
3 G 1.5	6.6	43.0	87.0	16
4 G 1.5	7.2	58.0	106.0	16
5 G 1.5	8.0	72.0	131.0	16

No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
7 G 1.5	9.6	101.0	173.0	16
12 G 1.5	12.0	173.0	293.0	16
18 G 1.5	14.1	259.0	454.0	16
25 G 1.5	16.8	360.0	641.0	16
34 G 1.5	19.5	490.0	945.0	16
42 G 1.5	21.1	605.0	1100.0	16
50 G 1.5	25.4	720.0	1250.0	16
2 x 2.5	7.8	48.0	110.0	14
3 G 2.5	8.3	72.0	146.0	14
4 G 2.5	9.2	96.0	183.0	14
5 G 2.5	10.1	120.0	222.0	14
7 G 2.5	12.3	168.0	293.0	14
12 G 2.5	15.3	288.0	512.0	14
18 G 2.5	18.2	432.0	740.0	14
25 G 2.5	22.3	600.0	940.0	14
3 G 4	10.4	115.0	228.0	12
4 G 4	11.4	154.0	291.0	12
5 G 4	12.7	192.0	355.0	12
7 G 4	14.0	269.0	503.0	12
3 G 6	12.1	173.0	362.0	10
4 G 6	13.4	230.0	468.0	10
5 G 6	14.9	288.0	570.0	10
7 G 6	16.5	403.0	808.0	10
4 G 10	16.9	384.0	720.0	8
5 G 10	18.7	480.0	894.0	8
7 G 10	20.9	672.0	1295.0	8
4 G 16	19.8	614.0	1063.0	6
5 G 16	22.2	768.0	1400.0	6
4 G 25	29.4	960.0	1590.0	4
4 G 35	32.8	1344.0	2200.0	2
4 G 50	38.9	1920.0	2400.0	1
4 G 70	44.7	2688.0	4400.0	2/0
4 G 95	50.0	3648.0	6000.0	3/0

PUR CABLES

H05 BQ-F / H07 BQ-F* (NGMH11YO)

EPR-Insulated power cables with PUR Jacket



Technical data

- EPR/PUR-Insulated power cable according to DIN VDE 0282 part 10 and HD 22.10 S1
- **Temperature range**
flexing -40°C to +80°C
fixed installation -50°C to +90°C
- Permissible **operating temperature** at conductor 90°C
- **Nominal voltage** a.c., 50 Hz
H05BQ-F: U_0/U 300/500 V up to 1 mm²
H07BQ-F: U_0/U 450/750 V as of 1,5 mm²
- **Test voltage**
H05BQ-F: 2000 V up to 1 mm²
H07BQ-F: 2500 V as of 1,5 mm²
- **Minimum bending radius**
flexing 5x cable Ø
fixed installation 3x cable Ø
- **Radiation resistance**
up to 100x10⁶ cJ/kg (up to 100 Mrad)

Cable structure

- Plain copper conductor, stranded according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and HD 383 cl. 5
- Insulating jacket of rubber, compound El6 according to DIN VDE 0282 part 1
- Core identification according to DIN VDE 0293-308 and HD308 S2
- Green-yellow earth core in the outer layer
- Cores stranded in layers with optimal lay-length (inner protection sheath permissible)
- PUR-insulated outer jacket TPU, to DIN VDE 0282 part 10, appendix A
- Colour orange (RAL 2003)
- Minimum imprinted designation BQ

Properties

- Abrasion resistant
- Notch resistant
- Resistant to tearing and cutting
- Good flexibility at low temperatures down to -40°C
- **Resistant to**
Oils and fats
Petrol
Water and weathering effects
Oxygen and ozone
UV-radiation
Hydrolysis
Microbial attack
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Note

- G = with green-yellow earth core;
x = without green-yellow earth core.
- These harmonized types H05BQ-F and H07BQ-F replace the VDE-standardised types.
- 7 G 1,5 mm² and 12 G 1,5 mm² are not contained in VDE, adapted to VDE, (H07BQ).

Application

These cables can be used for medium mechanical loads in dry, damp or wet environments, e.g. for connecting agricultural and commercial equipment and heaters provided there is no danger of contact with the hot parts or by radiation of heat. These robust and flexible cables are used for electrical tools such as drills and hand-held circular saws, as well as for portable motors and machinery in agriculture, at building sites, docks and refrigeration plants.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

	No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
	2 x 0.75	5.7 - 7.4	14.4	52	18
	3 G 0.75	6.2 - 8.1	21.6	63	18
	4 G 0.75	6.8 - 8.8	29	80	18
	5 G 0.75	7.6 - 9.9	36	96	18
	2 x 1	6.1 - 8.0	19.2	58	17
	3 G 1	6.5 - 8.5	29	71	17
	4 G 1	7.1 - 9.3	38.4	89	17
	5 G 1	8.0 - 10.3	48	112	17
	2 x 1.5	7.6 - 9.8	29	92	16
	3 G 1.5	8.0 - 10.4	43	109	16
	4 G 1.5	9.0 - 11.6	58	145	16
	5 G 1.5	9.8 - 12.7	72	169	16
	7 G 1.5	13.0 - 15.0	101	230	16
	12 G 1.5	17.0 - 20.0	173	398	16
	2 x 2.5	9.0 - 11.6	48	121	14
	3 G 2.5	9.6 - 12.4	72	164	14
	4 G 2.5	10.7 - 13.8	96	207	14
	5 G 2.5	11.9 - 15.3	120	262	14

	No. of cores x cross-sec. mm ²	Outer Ø ca. mm	Cop.weight kg/km	Weight kg/km	AWG-No.
	2 x 4	10.6 - 13.7	77	194	12
	3 G 4	11.3 - 14.5	115	224	12
	4 G 4	12.7 - 16.2	154	327	12
	5 G 4	14.1 - 17.9	192	415	12
	2 x 6	11.8 - 15.1	115	311	10
	3 G 6	12.8 - 16.3	173	310	10
	4 G 6	14.2 - 18.1	230	496	10
	5 G 6	15.7 - 20.0	288	586	10
	2 x 10	15.6 - 19.9	192	428	8
	3 G 10	16.8 - 21.4	288	640	8
	4 G 10	18.6 - 23.6	384	738	8
	5 G 10	20.4 - 25.9	480	968	8
	2 x 16	17.9 - 22.8	307	600	6
	3 G 16	19.5 - 24.7	461	758	6
	4 G 16	21.3 - 27.0	614	1187	6
	5 G 16	23.7 - 30.0	768	1475	6

DRAG CHAIN CABLES CF5

PVC Control Cable



Chainflex® CF5

- for high load requirements
- PVC outer jacket
- oil-resistant
- flame-retardant

	Bend Radius, moving	-5 °C to +70 °C, minimum bending radius 6.8 x d with < 10 m travel; minimum bending radius 7.5 x d with ≥ 10 m travel
	Bend Radius, fixed	-20 °C to +70 °C, minimum bending radius 4 x d
	V max.	unsupported/gliding 10 m/s, 5 m/s
	a max.	80 m/s²
	UV-resistant	Medium
	Nominal voltage	300/500 V (following DIN VDE 0245).
	Testing voltage	2000 V (following DIN VDE 0281-2).
	Oil	Oil-proof (following DIN EN 60811-2-1, DIN EN 50363-4-1).
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (in compliance with PV 3.10.7 – status 1992).
	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality PVC mixture (following DIN VDE 0207 Part 4).
	Core stranding	Number of cores < 12: cores stranded in a layer with short pitch length. Number of cores ≥ 12: cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.5 mm²: color code in accordance with DIN 47100 Cores ≥ 0.5 mm²: cores black with white numerals, one core green/yellow. Inner jacket PVC mixture adapted to suit the requirements in Energy Chains®.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: green (similar to RAL 6005)
	UL/CSA	≤ 1.5 mm²: Style 1007 and 2464, 300 V, 80 °C ≥ 2.5 mm²: Style 1011 and 2570, 600 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG

DRAG CHAIN CABLES CF5

Chainflex

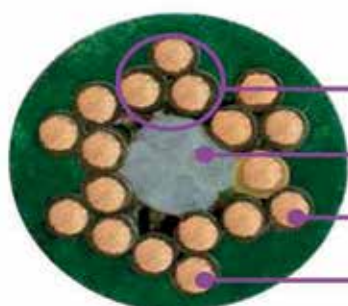
Chainflex Cables

Typical application area

- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 100 m
- storage and retrieval units for high-bay warehouses, machining units/packages machines, quick handling, indoor cranes

	Number of cores and conductor nominal cross section [mm ²]	External diameter in mm approx.	Copper index [kg/km]	Weight [kg/km]
	5 G 0.5	7.0	24	72
	7 G 0.5	8.0	34	77
	12 G 0.5	11.5	58	158
	18 G 0.5	13.5	86	230
	25 G 0.5	17.0	121	310
	4 G 0.75	7.0	29	72
	5 G 0.75	8.0	36	85
	7 G 0.75	9.0	50	108
	12 G 0.75	12.0	86	240
	18 G 0.75	15.5	130	322
	25 G 0.75	19.0	181	432
	36 G 0.75	22.0	259	564
	3 G 1.0	7.0	29	62
	4 G 1.0	8.0	39	85
	5 G 1.0	8.5	48	100
	7 G 1.0	10.0	68	145
	12 G 1.0	13.5	116	260
	18 G 1.0	17.5	173	450
	25 G 1.0	19.5	241	590
	3 G 1.5	8.0	44	95
	4 G 1.5	8.0	58	120
	5 G 1.5	10.0	72	170
	7 G 1.5	11.0	101	220
	12 G 1.5	16.0	173	320
	18 G 1.5	22.0	260	550
	25 G 1.5	24.0	361	810
	4 G 2.5	11.0	96	200
	5 G 2.5	12.0	120	250
	7 G 2.5	15.0	168	340
	12 G 2.5	21.0	288	667
	18 G 2.5	27.5	432	970

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.



Chainflex® control cable

Individual bundles with optimized pitch length and pitch direction

Center element for high tensile stresses

Single-wire diameter optimized for Energy Chains®

Highly abrasion-resistant, gusset-filled extruded jacket

Unit 1/16 Johnstone Road,
Brendale QLD 4500
PH:07 3205 2660 FAX:07 3205 2670
Email: sales@evolutioncables.com.au

DRAG CHAIN CABLES CF6

PVC Control Cable. Shielded



Especially bending-resistant fine-wire stranded conductor



Center element for high tensile stresses



Braiding in bundles around high-tensile center cord



Gusset-filled extruded



Highly flexible braided copper shield



Pressure extruded, oil-resistant PVC blend

Chainflex® CF6

- for high load requirements
- PVC outer jacket
- shielded
- oil-resistant
- flame-retardant

	Bend Radius, moving	-5 °C to +70 °C, minimum bending radius 6.8 x d with < 10 m travel; minimum bending radius 7.5 x d with ≥ 10 m travel
	Bend Radius, fixed	-20 °C to +70 °C, minimum bending radius 4 x d
	V max.	unsupported/gliding 10 m/s, 5 m/s
	a max.	80 m/s²
	UV-resistant	Medium
	Nominal voltage	300/500 V (following DIN VDE 0245).
	Testing voltage	2000 V (following DIN VDE 0281-2).
	Oil	Oil-proof (following DIN EN 60811-2-1, DIN EN 50363-4-1).
	Flame-retardant	According to IEC 332-1, CEI 20-35, FT1.
	Silicon-free	Free from silicon which can affect paint adhesion (in compliance with PV 3.10.7 – status 1992).
	Conductor	Fine-wire stranded conductor consisting of bare copper wires (following EN 60228).
	Core insulation	Mechanically high-quality PVC mixture (following DIN VDE 0207 Part 4).
	Core stranding	Number of cores < 12: cores stranded in a layer with short pitch length. Number of cores ≥ 12: cores combined in bundles and stranded together around a centre for high tensile stresses with adapted, short pitch lengths and pitch directions, especially low-torsion structure.
	Core identification	Cores < 0.5 mm²: color code in accordance with DIN 47100 Cores ≥ 0.5 mm²: cores black with white numerals, one core green/yellow.
	Inner jacket	PVC mixture adapted to suit the requirements in Energy Chains®.
	Overall shield	Extremely bending-resistant, tinned braided copper shield. Coverage approx. 70% linear, approx. 90% optical.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in Energy Chains® (following DIN VDE 0282 Part 10). Colour: green (similar to RAL 6005)

DRAG CHAIN CABLES CF6

Chainflex

Chainflex Cables

	UL/CSA	≤ 1.5 mm ² : Style 1007 and 2464, 300 V, 80 °C ≥ 2.5 mm ² : Style 1011 and 2570, 600 V, 80 °C
	CEI	Following CEI 20-35
	CE	Following 2006/95/EG
	Lead free	Following EU guideline (RoHS) 2002/95/EC
	Clean room	According to ISO Class 2. Outer sheath material complies with CF5.10.07, tested by IPA according to standard 14644-1

Typical application area

- for high load requirements
- light oil influence
- preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- especially for freely suspended and gliding travel distances up to 100 m
- storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes

	Number of cores and conductor nominal cross section [mm ²]	External diameter in mm approx.	Copper index [kg/km]	Weight [kg/km]
	(5 G 0.5)C	9.0	48	114
	(7 G 0.5)C	10.5	63	142
	(9 G 0.5)C	11.5	77	180
	(12 G 0.5)C	13.0	93	206
	(18 G 0.5)C	15.0	120	276
	(24 G 0.5)C	17.0	190	406
	(3 G 0.75)C	8.5	52	110
	(4 G 0.75)C	9.0	54	120
	(5 G 0.75)C	10.0	73	150
	(7 G 0.75)C	12.0	93	190
	(12 G 0.75)C	14.0	138	264
	(18 G 0.75)C	17.5	204	410
	(24 G 0.75)C	19.5	250	466
	(3 G 1.0)C	8.5	61	103
	(4 G 1.0)C	9.0	75	115
	(5 G 1.0)C	11.0	87	170
	(7 G 1.0)C	13.0	113	217
	(12 G 1.0)C	15.0	171	313
	(18 G 1.0)C	19.0	261	470
	(24 G 1.0)C	21.0	307	488
	(3 G 1.5)C	10.0	81	155
	(4 G 1.5)C	10.0	85	170
	(5 G 1.5)C	11.0	106	190
	(7 G 1.5)C	14.0	153	270
	(12 G 1.5)C	18.0	232	411
	(18 G 1.5)C	22.0	367	637
	(25 G 1.5)C	23.0	492	819
	(4 G 2.5)C	12.5	135	275

Note: The mentioned external diameters are maximum values and may tend toward lower tolerance limits.

AUTOMOTIVE CABLES

FTM Series Flat Tinned Marine



Cable Construction

1. **Conductors:** Tinned fine stranded copper wire.
2. **Insulation:** Special PVC.
3. **Core colours:** red and black.
4. **Sheath:** Special PVC.
5. **Sheath Colour:** black.

Properties

- Special PVC sheath
- Resistant to oil and chemicals
- UV stabilized and flame retardant

Voltage Rating

300-500V

Relevant Standards

AS/NZS 1125,
IEC 60228, IEC 60332-1,
AS/NZS 3808

Temperature Range

-30°C to +75°C static
-20°C to +75°C flexing

Typical Uses

Marine/Boating Installations
Garden Lighting
Outdoor Speaker Installations

The materials used in the manufacture of these cables are RoHS Compliant.

Technical Data

Part Number	No. of cores x section mm ²	Nominal Stranding	Nominal O.D. mm	Current rating @ 40°
FTM 2/1.5	2 x 1.5	48/0.21	4.6 x 7.2	18 amp
FTM 2/2.5	2 x 2.5	80/0.21	5.4 x 8.8	25 amp
FTM 2/4.0	2 x 4.0	127/0.21	6.2 x 10.5	32 amp

AUTOMOTIVE CABLES

Parallel Twin Flexible Cables



Cable Construction

1. **Conductors** of fine strands of electrolytic copper wire for extra flexibility.
2. **Insulation** of cores in Red/Black or Red/Blue Aflex NBR Elastomer compound specially formulated for improved cold resistance.
3. **Sheathing** of transparent PVC compound resistant to cold, abrasion, industrial oil and chemicals.
4. UV stabilised and flame retardant.

Temperature Range

-30 to +75°C static
-20 to +75°C flexible

Rated Voltage

0.6/1kV fixed wiring
450/750V for flexible

Relevant Standards

AS/NZS 5000, AS/NZS 1125,
IEC 60332-1, AS/NZS 3808,
VDE 0250, VDE 472

Typical Uses

Designed for use by Telecoms companies for phone equipment, battery cables for use indoors and outdoors, in dry as well as wet locations on motorised vehicles, or battery powered equipment such as fork lifts, field conveyors etc. Also in high quality booster cables.

The materials used in the manufacture of these cables are RoHS Compliant.

Technical Data

Part Number	No. of cores x mm ²	Nominal Stranding	Nominal O.D. mm	Approx. Cable Weight Kg/Km	Nominal current capacity amps	Single phase voltage drop Mv/Am
TW01.5	2 x 1.5	48/0.21	4.8 x 7.4	84	19	33.0
TW02.5	2 x 2.5	80/0.21	5.5 x 12	95	25	19.4
TW04	2 x 4.0	127/0.21	6.0 x 13	120	42	12.0
TW06	2 x 6.0	172/0.21	6.5 x 14	160	62	8.0
TW10	2 x 10	304/0.21	8.0 x 17	270	105	4.8
TW16	2 x 16	462/0.21	9.0 x 19	400	135	2.9
TW25	2 x 25	742/0.21	11.0 x 23	605	180	1.8
TW35	2 x 35	1050/0.21	12.5 x 26	780	225	1.3
TW50	2 x 50	1482/0.21	14.5 x 30	1150	285	0.99
TW70	2 x 70	2090/0.21	16.0 x 33	1580	355	0.67

Duty Cycle Current Rating (A)

Size	100%	85%	60%	30%	20%	10%
2 x 4	42	46	54	77	94	188
2 x 6	62	67	80	113	138	196
2 x 10	105	115	135	190	235	332
2 x 16	135	145	175	245	302	426
2 x 25	180	195	230	330	402	569
2 x 35	225	245	290	410	503	711
2 x 50	285	310	370	520	637	901
2 x 70	355	385	460	650	794	1122

THERMOCOUPLE CABLES

MAIN PRODUCTS

Diagrams	Couple symbol	COUPLEX® insulation reference	Conductor	Insulation	Sheath	Continuous working temperatures of insulation
Colour shown = IEC, couple K						
	T, J, E, K, N	MY-Y M6-6 M5-5	PVC 105 °C FEP PFA		PVC 105 °C FEP PFA	- 30 to +105 °C - 190 to + 205 °C - 190 to + 260 °C
Colour shown = IEC, couple J						
	T, J, E, K, N	MV-VS MV-VS-R	Fibreglass High temperature fibreglass		Fibreglass High temperature fibreglass	- 60 to + 400 °C - 60 to + 600 °C
Colour shown = IEC, couple E						
	T, J, E, K, N	MA-VAS	Mineral fibre		Mineral fibre	- 60 to + 600 °C
Invariable colour = natural white						
	E, K, N	MSI-SI MNX-NX	Silica fibre Ceramic fibre Nextel®		Silica fibre Ceramic fibre Nextel®	0 to + 1100 °C 0 to + 1400 °C
Invariable colour = amber						
	T, J, E, K, N	MK-K	Kapton®Polyimid		Kapton®Polyimid	- 190 to + 400 °C
Colour shown = IEC, couple N						
	T, J, E, K, N	BIM-Y BGM-Y BEM-Y BIM-FEP BGM-FEP BEM-FEP BIM-PFA	PVC 105 °C PVC 105 °C PVC 105 °C FEP FEP FEP PFA		Stainless steel braid Galvanised steel braid Tinned copper braid Stainless steel braid Galvanised steel braid Tinned copper braid Stainless steel braid	- 30 to + 105 °C - 190 to + 205 °C - 190 to + 260 °C
Colour shown = ANSI, couple K						
	T, J, E, K, N	BIMY-Y BGMV-Y BEMV-Y BIM6-6 BGM6-6 BEM6-6 BIM5-5	PVC-105 °C PVC-105 °C PVC-105 °C FEP FEP FEP PFA		PVC 105 °C/Stainless steel braid PVC 105 °C/Galvanised steel braid PVC 105 °C/Tinned copper braid FEP/Stainless steel braid FEP/Galvanised steel braid FEP/Tinned copper braid PFA/Stainless steel braid	- 30 to + 105 °C - 190 to + 205 °C - 190 to + 260 °C
Colour shown = JIS C, couple K						
	T, J, E, K, N	BIM-VS BEM-VS	Fibreglass Fibreglass		Stainless steel braid Tinned copper braid	- 60 to + 400 °C - 60 to + 200 °C
Colour shown = DIN, couple J						
	T, J, E, K, N	BIMV-VS BGMV-VS BEMV-VS BIMV-VS-R BIMA-VAS	Fibreglass Fibreglass Fibreglass High temperature fibreglass Mineral fibre		Fibreglass/Stainless steel braid Fibreglass/Galvanised steel braid Fibreglass/Tinned copper braid High temperature fibreglass Stainless steel braid Mineral fibre/ Stainless steel braid	- 60 to + 400 °C - 60 to + 600 °C - 60 to + 600 °C

Kapton®: registered trademark of Du Pont de Nemours. Nextel®: registered trademark of 3M.

THERMOCOUPLE CABLES

CORES				
Cross-section mm ²	AWG cross-section	Stranding		Commentaries
		No. of strands x diameter (mm)	No. of strands x AWG	
0.0127	36	1 x 0.127	1 x 36 AWG	Consult us
0.03	32	1 x 0.20 / 0.202	1 x 32 AWG	See table below
0.05	30	1 x 0.25 / 0.254	1 x 30 AWG	Consult us
0.07	28	1 x 0.30 / 0.32	1 x 28 AWG	See table below
0.20	24	1 x 0.50 / 0.51	1 x 24 AWG	See table below
0.22	24	7 x 0.20	7 x 32 AWG	See table below
0.22	24	3 x 0.30	3 x 28 AWG	Consult us
0.34	22	1 x 0.64 / 0.65	1 x 22 AWG	Consult us
0.34	22	5 x 0.30	5 x 28 AWG	Consult us
0.50	20	1 x 0.80 / 0.81	1 x 20 AWG	See table below
0.50	20	7 x 0.30	7 x 28 AWG	Consult us
0.50	20	16 x 0.20	16 x 32 AWG	Consult us

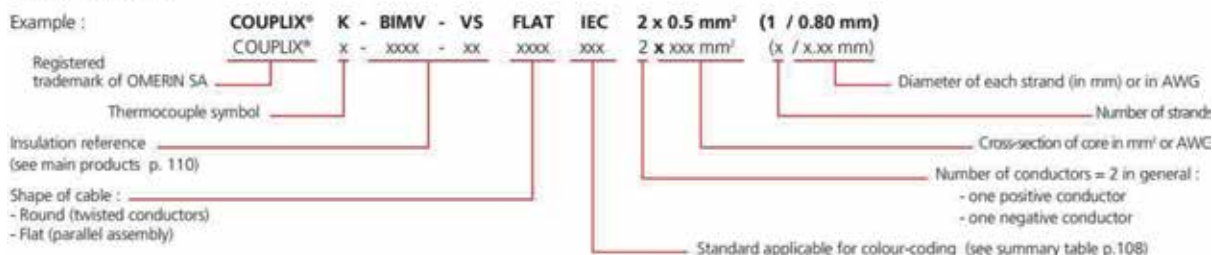
OUTER DIMENSIONS OF MAIN PRODUCTS (mm ± 0.20)						
Insulation reference	Shape of cable	Cross-sections (stranding)				
		2 x 0.03 mm ² (1/0.20 mm)	2 x 0.07 mm ² (1/0.30 mm)	2 x 0.20 mm ² (1/0.50 mm)	2 x 0.22 mm ² (7/0.20 mm)	2 x 0.5 mm ² (1/0.80 mm)
MY-Y	Flat	2.5 x 1.6	2.7 x 1.7	3.1 x 1.9	3.3 x 2.0	3.7 x 2.3
M6-6	Flat	1.6 x 1.0	1.8 x 1.1	2.2 x 1.3	2.4 x 1.4	2.8 x 1.6
M5-5	Flat	1.6 x 1.0	1.8 x 1.1	2.2 x 1.3	2.4 x 1.4	2.8 x 1.6
MV-VS	Flat	1.6 x 1.0	1.8 x 1.1	2.2 x 1.3	2.4 x 1.4	2.8 x 1.6
MV-VS-R	Flat	1.6 x 1.0	1.8 x 1.1	2.2 x 1.3	2.4 x 1.4	2.8 x 1.6
MSI-SI	Flat	2.1 x 1.6	2.3 x 1.7	2.7 x 1.9	2.9 x 2.0	3.3 x 2.2
MNX-NX	Flat	2.6 x 1.9	2.7 x 2.0	3.1 x 2.2	3.3 x 2.3	3.7 x 2.5
MK-K	Flat	1.0 x 0.7	1.2 x 0.8	1.8 x 1.2	2.0 x 1.3	2.4 x 1.5
* BIM-VS	Flat	1.7 x 1.1	1.8 x 1.2	2.2 x 1.4	2.4 x 1.5	2.8 x 1.7
* BIMV-VS	Flat	2.1 x 1.5	2.3 x 1.6	2.7 x 1.8	2.9 x 1.9	3.3 x 2.1
* BIMV-VS-R	Flat	2.1 x 1.5	2.3 x 1.6	2.7 x 1.8	2.9 x 1.9	3.3 x 2.1
* BEMV-VS	Flat	2.4 x 1.8	2.6 x 1.9	3.0 x 2.1	3.2 x 2.2	3.6 x 2.4
* BGMV-VS	Flat	2.4 x 1.8	2.6 x 1.9	3.0 x 2.1	3.2 x 2.2	3.6 x 2.4
* BIMV-VS	Round	2.1	2.3	2.7	2.9	3.3
* BIMV-VS-R	Round	2.1	2.3	2.7	2.9	3.3
* BEMV-VS	Round	2.4	2.6	3.0	3.2	3.6
* BGMV-VS	Round	2.4	2.6	3.0	3.2	3.6

* Shielded cables ● in stainless steel AISI 304 (BI): outer dimensions given with strands of 0.127 mm in diameter.
● in galvanized steel (BG) or tinned copper (BE): outer dimensions given with strands of 0.20 mm in diameter.

OPTIONS

- Other cross-sections and stranding: consult us.
- Other insulations: consult us.
- Other thermocouples (L, W₁, W₃, W₅...): consult us.
- Special tolerances: 1/2, 1/3, 1/4, special aluminium, ... : consult us.

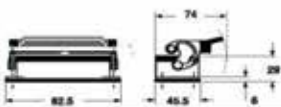
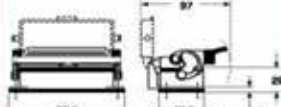
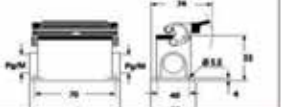
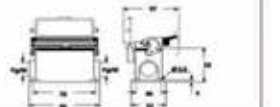
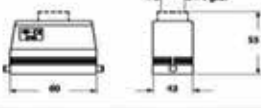
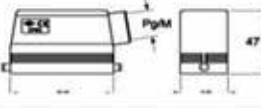
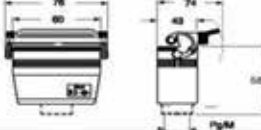
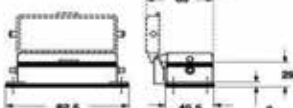
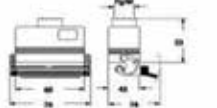
DESIGNATION



MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH Enclosures

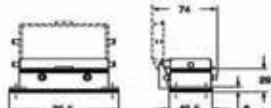
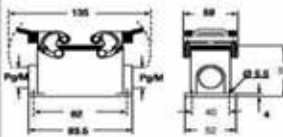
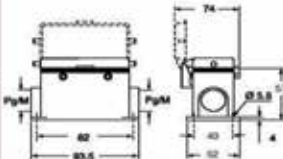
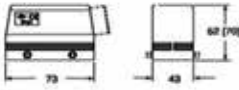
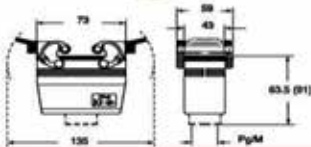
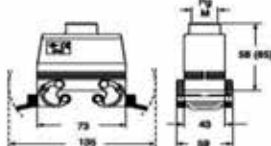
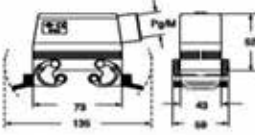
Size 44.27

CHI 06 L	CHI 06 LS	MHP 06 L220	MHP 06 LS220
 	 	 	 
MHV 06 L20 MHV 06 L25	MHO 06 L20 MHO 06 L25	MHV 06 LG25	
 	 	 	
CHI 06 LCS	MHV 06 LX20	MHO 06 LX20	
 	 	 	
CHC 06 L	CHC 06 LG	Male Inserts	Female Inserts
 	 	CNEM 06 T 6 Pin 16 amp 400 volt 	CNEF 06 T 6 Pin 16 amp 400 volt 
		CDDM 24 (crimp pins) 24 Pin 10 amp 250 volt 	CDDF 24 (crimp pins) 24 Pin 10 amp 250 volt 

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH-MA Enclosures

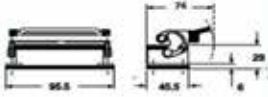
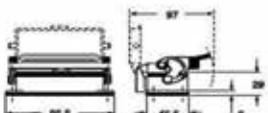
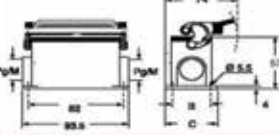
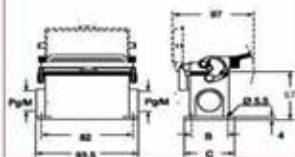
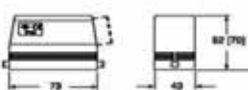
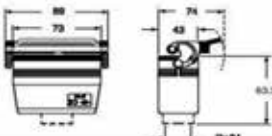
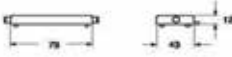
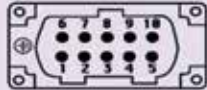
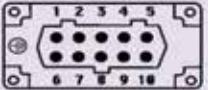
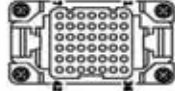
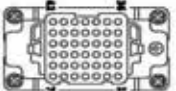
Size 57.27

CHI 10	CHI 10 CS	MHP 10.220	MHP 10 CS220
 	 	 	 
MHV 10.20 MHV 10.25 MAV 10.32 (high construction)	MHO 10.20 MHO 10.25 MAO 10.32 (high construction)	MHV 10 G25 MAV 10 G32 (high construction)	
 	 	 	
MHV 10 X20 MAV 10 X32 (high construction)	MHO 10 X20	CHC 10	CHC 10 G
 	 	 	 

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH-MA Enclosures

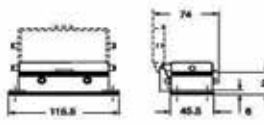
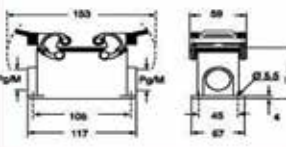
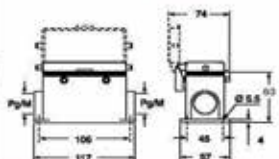
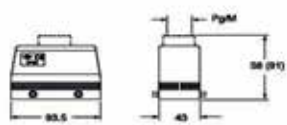
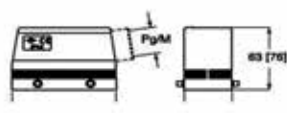
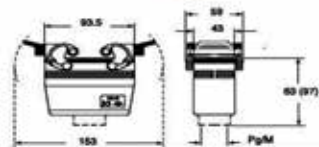
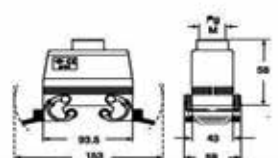
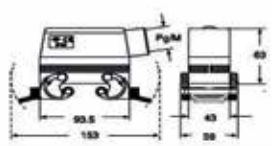
Size 57.27

CHI 10 L	CHI 10 LS	MHP 10 L220	MHP 10 LS220
 	 	 	 
MHV 10 L20 MHV 10 L25 MAV 10 L32 (high construction)	MHO 10 L20 MHO 10 L25 MAO 10 L32 (high construction)	MHV 10 LG25	
 	 	 	
CHC 10 L	CHC 10 LG	Male Inserts	Female Inserts
 	 	CNEM 10 T 10 Pin 16 amp 400 volt 	CNEF 10 T 10 Pin 16 amp 400 volt 
		CDDM 42 (crimp pins) 42 Pin 10 amp 250 volt 	CDDF 42 (crimp pins) 42 Pin 10 amp 250 volt 

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH-MA Enclosures

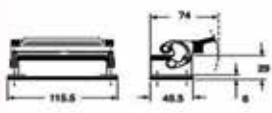
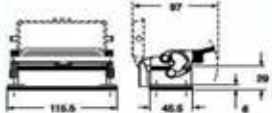
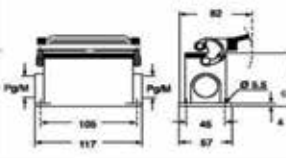
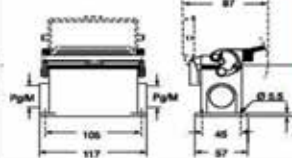
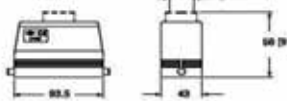
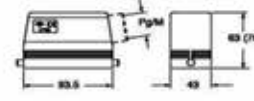
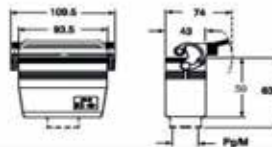
Size 77.27

CHI 16	CHI 16 CS	MHP 16.225 MAP 16.240	MHP 16 CS225
 	 	 	 
MHV 16.25 MHV 16.32 MAV 16.32 (high construction)	MHO 16.25 MHO 16.32 MAO 16.32 (high construction)	MHV 16 G32 MAV 16 G32 (high construction)	
 	 	 	
MHV 16 X25	MHO 16 X25	CHC 16	CHC 16 G
 	 	 	 

All Dimensions in mm. Dimensions in brackets are for high construction housings. Inserts on page 163 also suit these housings on page 162.

MULTIPOLE & INDUSTRIAL CONNECTORS

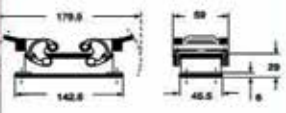
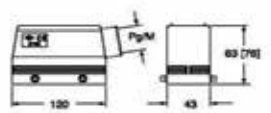
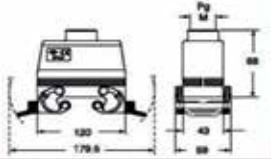
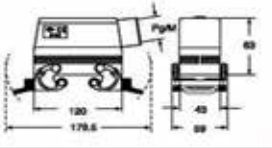
CH-MH-MA Enclosures Size 77.27

CHI 16 L		CHI 16 LS		MHP 16 L225		MHP 16 LS225	
							
							
MHV 16 L25 MHV 16 L32 MAV 16 L32 (high construction)		MHO 16 L25 MHO 16 L32 MAO 16 L32 (high construction)		MHV 16 LG32			
							
							
CHC 16 L		CHC 16 LG		Male Inserts		Female Inserts	
							
				CNEM 16 T 16 pin 16amp 400 volt		CNEF 16 T 16 pin 16 amp 400 volt	
				CDM 40 40 pin 10amp 250 volt (crimp)		CDF 40 40 pin 10amp 250 volt (crimp)	
				CDDM 72 72 pin 10amp 250 volt (crimp)		CDDF 72 72 pin 10 amp 250 volt (crimp)	
				CPM 06 6 pin 35amp 400 volt		CPF 06 6 pin 35amp 400 volt	
				CXM 4/0 4 pin 80amp 690 volt		CXF 4/0 4 pin 80amp 690 volt	
				CXM 4/2 4 pin 80 a 690 v + 2 pin 16 a 400 v		CXF 4/2 4 pin 80 a 690 v + 2 pin 16 a 400 v	

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH-MA Enclosures

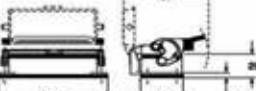
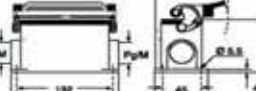
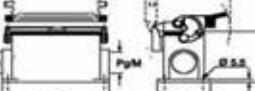
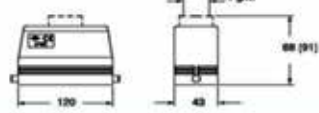
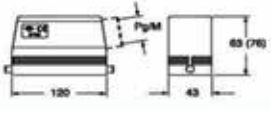
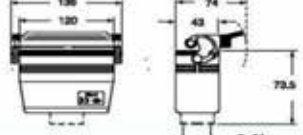
Size 104.27

CHI 24	CHI 24 CS	MHP 24.225 MAP 24.240	MHP 24 CS225
 	 	 	 
MHV 24.25 MHV 24.32 MAV 24.32 (high construction)	MHO 24.25 MHO 24.32 MAO 24.32 (high construction)	MHV 24 G32	
 	 	 	
MHV 24 X25	MHO 24 X25	CHC 24	CHC 24 G
 	 	 	 

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH-MA Enclosures

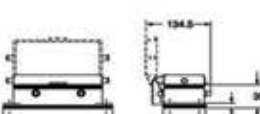
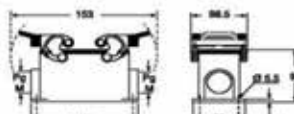
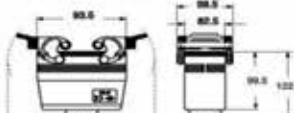
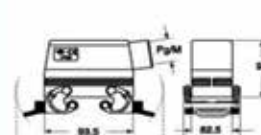
Size 104.27

CHI 24 L	CHI 24 LS	MHP 24 L225	MHP 24 LS225
 	 	 	 
MHV 24 L25 MHV 24 L32 MAV 24 L32 (high construction)	MHO 24 L25 MHO 24 L32 MAO 24 L32 (high construction)	MHV 24 LG32	
 	 	 	
CHC 24 L	CHC 24 LG	Male Inserts	Female Inserts
 	 	CNEM 24 T 24 pin 16amp 400 volt  CDM 64 64 pin 10amp 250 volt (crimp) CDDM 108 108 pin 10amp 250 volt (crimp) CXM 4 / 8 4 pin 80amp 690 v + 8 pin 16a 400 v	CNEF 24 T 24 pin 16amp 400 volt  CDF 64 64 pin 10amp 250 volt (crimp) CDDF 108 108 pin 10amp 250 volt (crimp) CXF 4 / 8 4 pin 80amp 690 v + 8 pin 16a 400 v

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH Enclosures

Size 77.62

CHI 32	CHI 32 CS	MHP 32.240	
 	 	 	
MHV 32.40	MHO 32.40	MHV 32 G40	
 	 	 	
MHV 32X40	MHO 32X40	CHC 32	CHC 32G
 	 	 	 

MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH Enclosures

Size 77.62



MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH Enclosures

Size 104.62

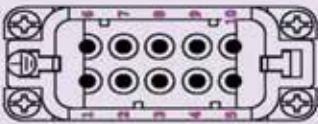
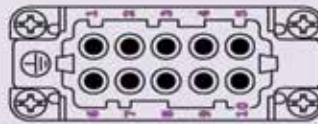
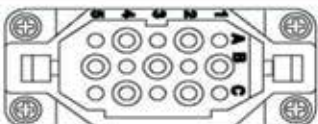
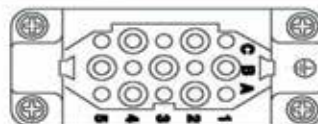
CHI 48 LS		MHP 48 LS40	
MHV 48 L40		MHO 48 L40	
Male Inserts		Female Inserts	
CNEM 24 T 24 Pin (1-24) 16amp 400 volt CNEM 24 TN 24 Pin (25-48) 16 amp 400 volt		CNEF 24 T 24 Pin (1-24) 16amp 400 volt CNEF 24 TN 24 Pin (25-48) 16 amp 400 volt	
CDM 64 x 2 128 Pin 10amp 250 volt (crimp)		CDF 64 x 2 128 Pin 10amp 250 volt (crimp)	
CDDM 108 108 Pin (1-108) 10amp 250 volt (crimp) CDDM 108 N 108 Pin (109-216) 10amp 250 volt (crimp)		CDDF 108 108 Pin (1-108) 10amp 250 volt (crimp) CDDF 108 N 108 Pin (109-216) 10amp 250 volt (crimp)	

MULTIPOLE & INDUSTRIAL CONNECTORS

CZ-MZ Enclosures

Size 49.16

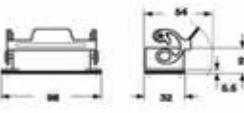
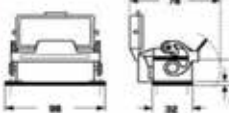
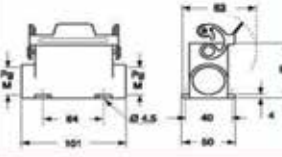
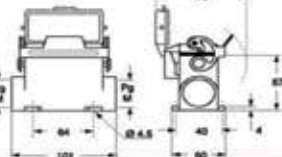
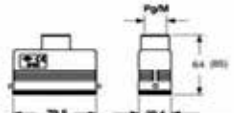
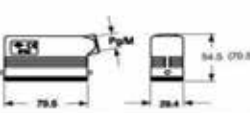


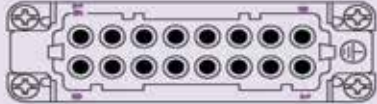
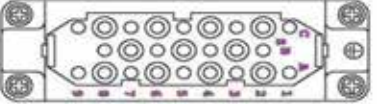
Male Inserts	Female Inserts
CDAM 10 10 Pin 16amp 400 volt 	CDAF 10 10 Pin 16 amp 400 volt 
CDM 15 15 Pin 10amp 250 volt (crimp) 	CDF 15 15 Pin 10amp 250 volt (crimp) 

MULTIPOLE & INDUSTRIAL CONNECTORS

CZ-MZ Enclosures

Size 66.16

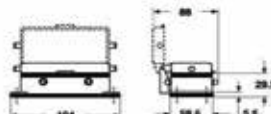
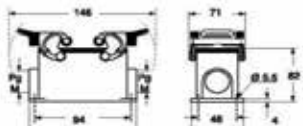
CZI 25 L	CZI 25 LS	MZAP 25 L225	MZAP 25 LS225
 	 	 	 
MZV 25 L20 MZA 25 L25 (high construction)	MZO 25 L20 MZA 25 L25 (high construction)	CZC 25 L	CZC 25 LG
 	 	 	 

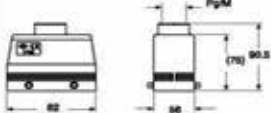
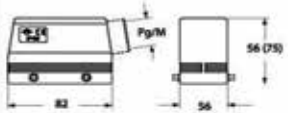
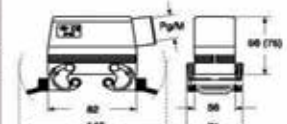
Male Inserts	Female Inserts
CDAM 16 16 Pin 16amp 400 volt 	CDAF 16 16 Pin 16amp 400 volt 
CDM 25 25 Pin 10amp 250 volt (crimp) 	CDF 25 25 Pin 10amp 250 volt (crimp) 

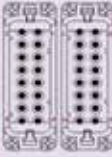
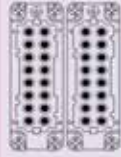
MULTIPOLE & INDUSTRIAL CONNECTORS

CH-MH-MA Enclosures

Size 66.40

CHI 50	CHI 50 CS	MHP 50.232
 	 	 

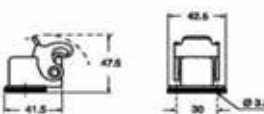
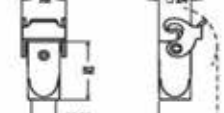
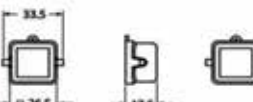
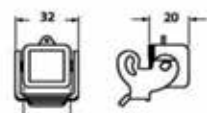
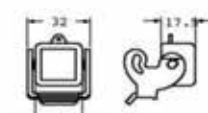
MAV 50.32 (high construction)	MHO 50.25	MAV 50 X25 (high construction)	MHO 50 X25
 	 	 	 

CHC 32 L	CHC 32 LG	Male Inserts		Female Inserts	
 	 	CDAM 16 16 Pin (1-16) 16 amp 400 volt CDAM 16 N 16 Pin (17-32) 16 amp 400 volt		CDAF 16 16 Pin (1-16) 16 amp 400 volt CDAF 16 N 16 Pin (17-32) 16 amp 400 volt	
		CDM 25 x 2 50 Pin 10amp 250 volt (crimp)		CDF 25 x 2 50 Pin 10 amp 250 volt (crimp)	
		CDDM 38 x 2 72 Pin 10amp 250 volt (crimp)		CDDF 38 x 2 72 Pin 10amp 250 volt (crimp)	

MULTIPOLE & INDUSTRIAL CONNECTORS

CK-MK Plastic Enclosures

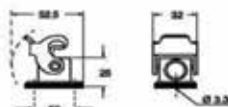
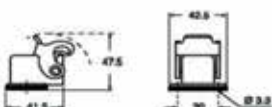
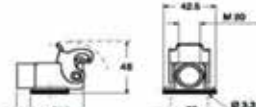
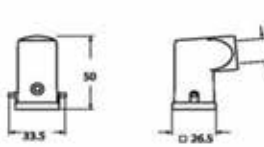
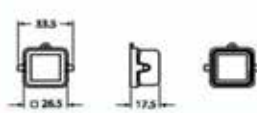
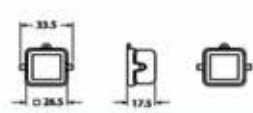
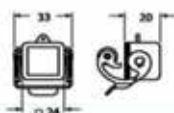
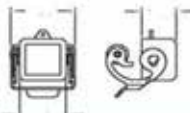
Size 21.21

CK 03 I		CK 03 IA		MK IAP20			
							
							
MK V20		MK VA20		MK VG20			
							
							
CK 03 C for female inserts		CK 03 CA for male inserts		CK 03 CX for female inserts		CK 03 CXA for male inserts	
							
							
Male Inserts				Female Inserts			
CDM 07* 7pin & Earth 10amp 250 volt (crimp)				CDF 07* 7pin & Earth 10amp 250 volt (crimp)			

MULTIPOLE & INDUSTRIAL CONNECTORS

CKA -MKA Metal Enclosures

Size 21.21

CKAX 03 I	CKAX 03 IA	MKAX IAP20	
 	 	 	
MKA V20	MKA VA20	MKAX VG20	
 	 	 	
CKA 03 C for female inserts	CKA 03 CA for male inserts	CKAX 03 CX for female inserts	CKAX 03 CXA for female inserts
 	 	 	 
Male Inserts		Female Inserts	
CKM 03 3pin & Earth 10amp 250 volt		CKF 03 3pin & Earth 10amp 250 volt	
CKM 04 4pin & Earth 10amp 250 volt		CKF 04 4pin & Earth 10amp 250 volt	
CDM 08 8pin 10amp 50 volt (crimp)		CDF 08 8pin 10amp 50 volt (crimp)	
COM 05 5pin & Earth 16amp 400 volt (crimp)		COF 05 5pin & Earth 16amp 400 volt (crimp)	

CABLE GLANDS

1.3 METAL CABLE GLANDS FOR UNARMoured CABLE (IP66/68)

1.3.1 GENERAL PURPOSE WEATHERPROOF GLANDS FOR UNARMoured CABLE

Applications

For indoor or outdoor use

Function

Provides seal on cable sheath

Approvals

Degree of protection against ingress of water IP66/68

ALCUW12 – ALCUW75 (30m)

ALCUW105 – ALCUW120B (10m)

Compliance with AS 1939-1990

Material

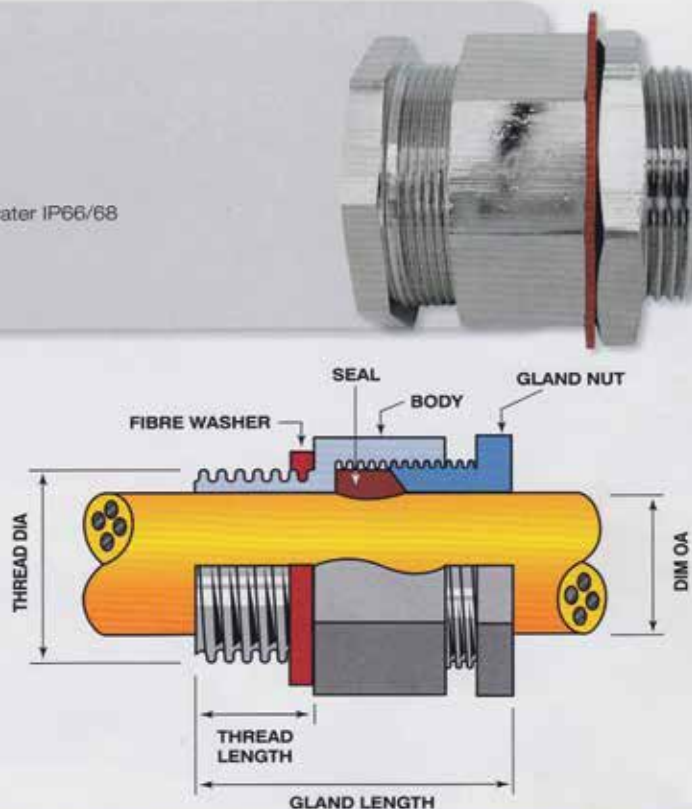
Brass, Nickel Plated

Seal

TPE

Temperature Range

-20°C to +80°C



Specifications												
Part No	Mounting thread diameter x length (mm)	Tightening Torque (Nm)	Diameter across points (mm)	Diameter across flats (mm)	Gland length		Cable details (mm)				Suitable Shroud Orange*	Box Qty
					Uncompressed (mm)	Compressed (mm)	Seal B (thick)		Seal A (thin)			
							OA min	OA max	OA min	OA max		
ALCUW12	M12 x 10	5	18.9	17.5	32.0	25	1.5	3.5	3.5	6.0	ALCSG05	30
ALCUW16S	M16 x 10	9	21.6	20.0	32.0	25	1.5	3.5	3.5	6.0	ALCSG05	30
ALCUW16	M16 x 10	9	21.6	20.0	32.0	25	5.0	7.5	7.5	10.0	ALCSG05	30
ALCUW20A	M20 x 10	13	26.0	24.0	32.0	25	5.0	7.5	7.5	10.0	ALCSG15	20
ALCUW20	M20 x 10	13	27.1	25.0	32.0	25	10.0	11.0	11.0	15.0	ALCSG15	20
ALCUW25	M25 x 12	21	35.2	32.5	37.5	29	14.5	17.0	17.0	20.0	ALCSG2L	15
ALCUW32	M32 x 12	34	40.6	37.5	39.5	30	20.0	23.0	23.0	26.5	ALCSG3S	10
ALCUW40	M40 x 15	53	51.4	47.5	44.5	35	26.0	30.0	30.0	33.5	ALCSG4S	8
ALCUW50	M50 x 15	83	62.2	57.5	49.5	35	33.0	36.0	36.0	42.0	ALCSG5S	5
ALCUW63	M63 x 19	132	75.8	70.0	56.5	45	41.5	46.0	46.0	52.0	ALCSG6S	2
ALCUW75	M75 x 19	188	97.4	90.0	66.0	50	51.0	56.0	56.0	65.0	ALCSG7S	2
ALCUW90*	M90 x 30	270	119.0	110.0	138.0	105	64.0	68.0	70.0	75.0	ALCSG9S	1
ALCUW105*	M105 x 30	288	129.0	120.0	148.0	110	75.0	80.0	82.0	89.0	ALCSG10S	1
ALCUW120A*	M120 x 30	288	150.0	140.0	148.0	110	89.0	92.0	92.0	98.0	ALCSG11S	1
ALCUW120B*	M120 x 30	288	150.0	140.0	148.0	110	-	-	96.0	105.0	ALCSG11S	1

* ALCUW90 – ALCUW120B, use ALCHUW range due to volume rationalisation. * For Black Shroud add 'B' to part number: eg. ALCSG3SB.

Note: To comply with IP66/68 approvals, the washer supplied must be installed on mounting thread. Note: Mounting thread pitch is 1.5mm, unless otherwise specified. Supplied complete with locknuts and sealing washers. Spare fibre washers also available eg ALCFW20 for 20mm washers.

Available in stainless steel upon request, lead times apply

* see product and/or website for fitting instructions.

CABLE GLANDS

1.4 METAL CABLE GLANDS FOR ARMoured CABLE (IP66/68)

1.4.1 GENERAL PURPOSE WEATHERPROOF GLANDS FOR ARMoured CABLE

Applications

For indoor or outdoor use

Function

Provides seal on cable sheath, clamps SWA

Approvals

Degree of protection against ingress of water IP66/68

ALCAW16 – ALCAW90B (30m)

Compliance with AS 1939–1990

Material

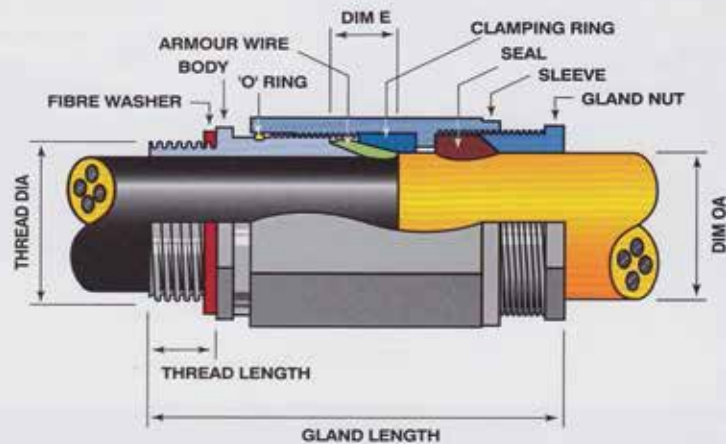
Brass, Nickel Plated

Seal

TPE

Temperature Range

-20°C to +80°C



Part No	Mounting thread diameter x length (mm)	Tightening Torque (Nm)	Diameter across points (mm)	Diameter across flats (mm)	Specifications										Exposed length SWA 'E'	SWA diameter (mm)	Suitable Shroud Orange*	Box Qty	
					Gland length		Cable details (mm)				OB max	SWA 'E'	SWA diameter (mm)	Suitable Shroud Orange*					Box Qty
					Uncompressed (mm)	Compressed (mm)	Seal B (thick) OA min	Seal B (thick) OA max	Seal A (thin) OA min	Seal A (thin) OA max									
ALCAW16	M16 x 12	9	29.6	27.5	65	53	10.5	13.0	13.0	15.5	10.0	11.5	0.8 – 1.25	ALCSG25	20				
ALCAW20SB	M20 x 12	13	26.0	24.0	65	53	10.5	13.0	13.0	15.5	10.0	11.5	0.8 – 1.25	ALCSG15	14				
ALCAW20BR	M20 x 12	13	26.9	25.0	65	53	—	—	14.5	17.5	11.5	11.5	0.8 – 1.25	ALCSG25	20				
ALCAW20	M20 x 12	13	35.0	32.5	65	53	14.5	17.0	17.0	20.0	14.0	11.5	0.8 – 1.25	ALCSG21	20				
ALCAW20UR	M20 x 12	13	35.0	32.5	65	53	—	—	19.5	22.5	16.0	11.5	0.8 – 1.25	ALCSG21	20				
ALCAW25	M25 x 14	21	40.3	37.5	77	63	20.0	23.0	23.0	26.0	19.0	14.0	1.25 – 1.60	ALCSG35	15				
ALCAW32	M32 x 14	34	51.0	47.5	88	72	26.0	30.0	30.0	33.5	26.0	17.0	1.25 – 1.60	ALCSG45	5				
ALCAW40	M40 x 15	53	61.9	57.5	95	78	33.0	36.0	36.0	42.0	33.0	17.0	1.60 – 2.0	ALCSG55	5				
ALCAW50	M50 x 15	83	75.3	70.0	105	85	41.5	46.0	46.0	51.0	42.0	20.0	2.0 – 2.50	ALCSG65	2				
ALCAW50L	M50 x 15	83	75.3	70.0	100	81	—	—	49.0	56.0	44.5	18.0	2.50	ALCSG65	2				
ALCAW63	M63 x 19	132	91.0	85.0	125	100	51.0	56.0	56.0	64.0	55.0	20.0	2.50 – 3.15	ALCSG75	1				
ALCAW63L	M63 x 19	132	91.0	85.0	120	95	—	—	62.0	69.0	56.5	19.0	2.50 – 3.15	ALCSG75	1				
ALCAW75	M75 x 19	188	108.0	100.0	135	108	63.0	71.0	71.0	75.0	63.0	26.0	2.50 – 3.15	ALCSG85	1				
ALCAW90	M90 x 19	290	119.0	110.0	156	122	75.0	82.0	82.0	90.0	75.0	31.0	2.50 – 3.15	ALCSG95	1				
ALCAW90B	M90 x 19	—	124.0	115.0	170	138	—	—	88.0	98.0	83.0	30.0	3.15	—	1				

* For Black Shroud add 'B' to part number: eg. ALCSG35B. Note: To comply with IP66/68 approval, the washer supplied must be installed on mounting thread. Note: Mounting thread pitch is 1.5mm, unless otherwise specified. Available in stainless steel upon request. Supplied complete with locknuts and sealing washers. Spare fibre washers also available eg ALCFW20 for 20mm washer.

* see product and/or website for fitting instructions.

CABLE GLANDS

1.4 METAL CABLE GLANDS FOR ARMoured CABLE (IP66/68)

1.4.3 HAZARDOUS AREA WEATHERPROOF GLANDS FOR PVC/SWA/PVC CABLE

Applications

For indoor or outdoor use

Function

Provides seal on cable sheath, clamps SWA

Approvals

CERTIFICATE NO:

ALCHAW20LRB – ALCHAW90B-B

AUS Ex 03.3904

Ex d, I/IC

Ex e, I/II

DIP A21

AS/NZS 60079, AS/NZS 61241.1

IP66/68 (30m) AS 1939-1990

Material

Brass, Nickel Plated

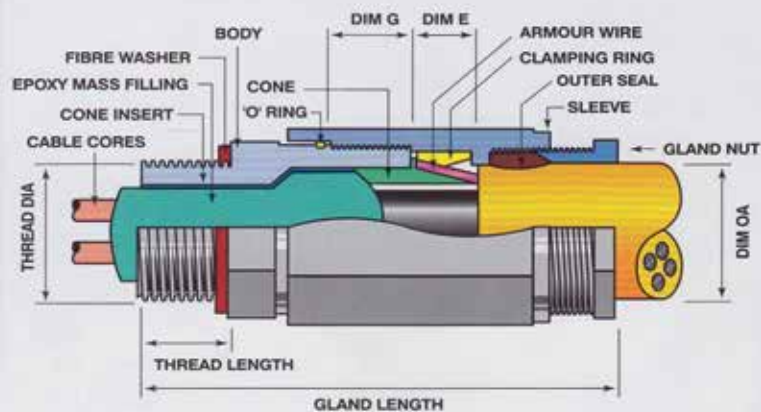
Seal

TPE, Epoxy Resin

Temperature Range

-20°C to +80°C

-20°C to +100°C at the
branching point



Part No	Mounting thread diameter x length (mm)	Tightening Torque (Nm)	Diameter across points (mm)	Diameter across flats (mm)	Specifications										Box Qty	Suitable Resin Pack
					Gland length		Cable details (mm)			Exposed length SWA 'E'	Exposed length bedding 'G'	SWA diameter (mm)	Suitable Shroud Orange*			
					Uncompressed (mm)	Compressed (mm)	Max dia under bedding	Seal A (outer)								
								Over cable diam								
								Multi core	min	max						
ALCHAW20LR	M20 x 15	26	27.1	25.0	64	53	—	7.8	12.7	7.0	8.0	0.8 – 1.25	ALCSG15	20	ALCP38 x 1	
ALCHAW20-B	M20 x 20	26	29.8	27.5	89	71	8.0	11.5	16.0	10.5	11.0	0.8 – 1.25	ALCSG25	20	ALCP38 x 1	
ALCHAW25A-B	M20 x 16	26	29.8	27.5	89	71	10.1	14.0	18.0	10.5	11.0	0.8 – 1.25	ALCSG25	20	ALCP38 x 1	
ALCHAW25A-B	M25 x 20	41	32.5	30.0	89	71	12.0	16.0	20.0	10.5	11.0	0.8 – 1.25	ALCSG21	12	ALCP38 x 1	
ALCHAW25B-B	M25 x 20	41	40.6	37.5	89	71	16.0	20.0	24.0	10.5	14.0	1.25 – 1.60	ALCSG35	10	ALCP38 x 1	
ALCHAW32A-B	M32 x 20	68	46.0	42.5	107	86	19.5	24.0	28.0	16.0	16.0	1.25 – 1.60	ALCSG31	6	ALCP38 x 1	
ALCHAW32B-B	M32 x 20	68	51.4	47.5	107	86	23.0	28.0	32.0	16.0	16.0	1.60 – 2.00	ALCSG45	6	ALCP38 x 1	
ALCHAW40A-B	M40 x 20	106	54.1	50.0	114	90	27.0	32.0	37.0	16.0	16.0	1.60 – 2.00	ALCSG55	4	ALCP125 x 1	
ALCHAW40B-B	M40 x 20	106	62.6	57.5	114	90	31.0	37.0	42.0	16.0	16.0	1.60 – 2.00	ALCSG55	4	ALCP125 x 1	
ALCHAW50A-B	M50 x 20	166	67.6	62.5	119	96	35.0	41.0	46.0	19.0	16.0	2.00 – 2.50	ALCSG65	2	ALCP125 x 1	
ALCHAW50B-B	M50 x 20	166	75.8	70.0	119	96	39.0	45.0	51.0	19.0	16.0	2.00 – 2.50	ALCSG65	2	ALCP125 x 1	
ALCHAW63A-B	M63 x 25	260	81.2	75.0	146	115	44.5	51.0	57.0	19.0	20.0	2.50 – 3.15	ALCSG61	1	ALCP180 x 1	
ALCHAW63B-B	M63 x 25	260	92.0	85.0	146	115	50.0	57.0	63.0	19.0	20.0	2.50 – 3.15	ALCSG75	1	ALCP180 x 1	
ALCHAW75A-B	M75 x 25	375	108.2	100.0	154	123	55.5	62.0	69.0	24.0	20.0	2.50 – 3.15	ALCSG85	1	ALCP125 x 2	
ALCHAW75B-B	M75 x 25	375	108.2	100.0	154	123	61.0	66.0	75.0	24.0	20.0	2.50 – 3.15	ALCSG85	1	ALCP125 x 2	
ALCHAW90A-B	M90 x 25	540	119.0	110.0	168	132	66.0	73.0	82.0	29.0	20.0	2.50 – 3.15	ALCSG95	1	ALCP180 x 2	
ALCHAW90B-B	M90 x 25	540	119.0	110.0	168	132	71.5	81.0	90.0	29.0	20.0	2.50 – 3.15	ALCSG95	1	ALCP180 x 2	

* For Black Shroud add 'B' to part number; eg. ALCSG35B. Note: To comply with IP66/68 Ex approvals, the washer supplied must be installed on mounting thread. Note: Mounting thread pitch is 1.5mm, unless otherwise specified.

Supplied complete with locknuts and sealing washers. Spare fibre washers also available eg ALCFW20 for 20mm washer.

* see product and/or website for fitting instructions.

CABLE GLANDS

1.6 METAL CABLE GLANDS FOR EMC SHIELDED CABLE (IP68)

1.6.1 EMC BRASS CABLE GLANDS FOR BRAIDED EMC SHIELDED CABLES

Applications

For indoor or outdoor use

Function

Provides water tight seal on cable sheath and secures and connects outer braid. Also equipped with special EMC insert to avoid electromagnetic interference

Approvals

IP68

Material

Body & Cap: Brass, Nickel Plated

Clamping Ring

Clamping: Polyamide 6

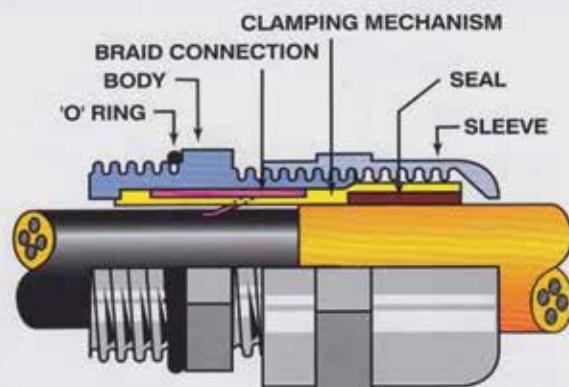
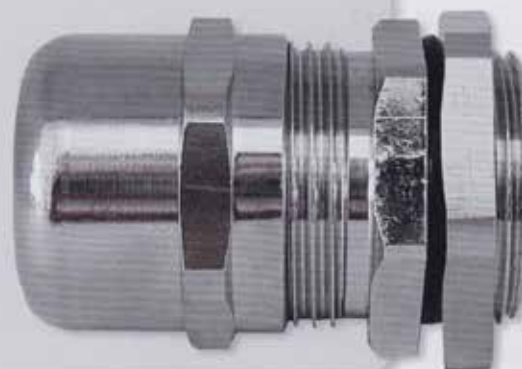
Sealing: Neoprene

O Ring

NBR

Temperature Range

-40°C to +100°C



Part No	Mounting thread Dia x length (mm)	Min Shielded Dia (mm)	Specifications OD Cable Range (mm)		Diameter Across Flats (mm)	Suitable Shroud Orange*	Box Qty
			Min	Max			
EMC12	M12 x 12	2.0	3.0	4.5	14	xx	10
EMC16	M16 x 12	3.5	5.0	10.0	20	ALCS605	10
EMC20S	M20 x 6	4.5	6.0	12.0	24	ALCS605	10
EMC20	M20 x 12	5.5	7.5	14.0	24	ALCS615	10
EMC25	M25 x 12	7.0	10.0	18.0	30	ALCS625	10
EMC32	M32 x 15	12.0	16.0	25.0	40	ALCS621	5
EMC40	M40 x 15	18.0	22.0	32.0	50	ALCS645	5
EMC50	M50 x 15	26.0	30.0	38.0	58	ALCS655	1
EMC63	M63 x 15	30.0	34.0	44.0	64	ALCS665	1
EMC80	M80 x 10	33.0	37.0	53.0	75	ALCS665	1

* For Black Shroud add 'B' to part number; eg. ALCSG3SB. Note: Mounting thread pitch is 1.5mm, unless otherwise specified.

Supplied complete with lock nut. Available in stainless steel upon request.

* See product and or website for fitting instructions.

xx No suitable shroud available, use HSTNW18/9 size heatshrink instead.

NPT and PG fittings available upon request, lead times apply

CABLE ACCESSORIES – ADAPTERS



Adapters

Material
nickel plated brass

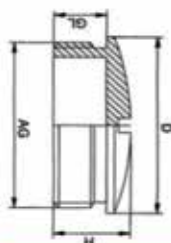
Adapters PG/METRIC		
Part No	PG outer thread	METRIC inner thread
94084	7	M 12 x 1,5
94085	7	M 16 x 1,5
94086	9	M 12 x 1,5
94087	9	M 16 x 1,5
94088	9	M 20 x 1,5
94089	11	M 12 x 1,5
94090	11	M 16 x 1,5
94091	11	M 20 x 1,5
94092	13	M 12 x 1,5
94093	13	M 16 x 1,5
94094	13	M 20 x 1,5
94095	13	M 25 x 1,5
94096	16	M 12 x 1,5
94097	16	M 16 x 1,5
94098	16	M 20 x 1,5
94099	16	M 25 x 1,5
94100	21	M 16 x 1,5
94101	21	M 20 x 1,5
94102	21	M 25 x 1,5
94103	21	M 32 x 1,5
94104	29	M 20 x 1,5
94105	29	M 25 x 1,5
94106	29	M 32 x 1,5
94107	29	M 40 x 1,5
94108	36	M 25 x 1,5
94109	36	M 32 x 1,5
94110	36	M 40 x 1,5
94111	36	M 50 x 1,5
94112	42	M 32 x 1,5
94113	42	M 40 x 1,5
94114	42	M 50 x 1,5
94115	42	M 63 x 1,5
94116	48	M 40 x 1,5
94117	48	M 50 x 1,5
94118	48	M 63 x 1,5

Adapters METRIC/PG		
Part No	METRIC outer thread	PG inner thread
94025	M 12 x 1,5	7
94026	M 12 x 1,5	9
94027	M 16 x 1,5	7
94028	M 16 x 1,5	9
94029	M 16 x 1,5	11
94030	M 16 x 1,5	13,5
94031	M 20 x 1,5	7
94032	M 20 x 1,5	9
94033	M 20 x 1,5	11
94034	M 20 x 1,5	13,5
94035	M 20 x 1,5	16
94036	M 25 x 1,5	7
94037	M 25 x 1,5	9
94038	M 25 x 1,5	11
94039	M 25 x 1,5	13,5
94040	M 25 x 1,5	16
94041	M 25 x 1,5	21
94042	M 32 x 1,5	9
94043	M 32 x 1,5	11
94044	M 32 x 1,5	13,5
94045	M 32 x 1,5	16
94046	M 32 x 1,5	21
94047	M 32 x 1,5	29
94048	M 40 x 1,5	11
94049	M 40 x 1,5	13,5
94050	M 40 x 1,5	16
94051	M 40 x 1,5	21
94052	M 40 x 1,5	29
94053	M 40 x 1,5	36
94054	M 50 x 1,5	16
94055	M 50 x 1,5	21
94056	M 50 x 1,5	29
94057	M 50 x 1,5	36
94058	M 50 x 1,5	42
94059	M 63 x 1,5	21
94060	M 63 x 1,5	29
94061	M 63 x 1,5	36
94062	M 63 x 1,5	42
94063	M 63 x 1,5	48

Adapters METRIC/METRIC		
Part No	METRIC outer thread	METRIC inner thread
94064	M 12 x 1,5	M 16 x 1,5
94065	M 16 x 1,5	M 12 x 1,5
94066	M 16 x 1,5	M 20 x 1,5
94067	M 20 x 1,5	M 12 x 1,5
94068	M 20 x 1,5	M 16 x 1,5
94069	M 20 x 1,5	M 25 x 1,5
94070	M 25 x 1,5	M 16 x 1,5
94071	M 25 x 1,5	M 20 x 1,5
94072	M 25 x 1,5	M 32 x 1,5
94073	M 32 x 1,5	M 20 x 1,5
94074	M 32 x 1,5	M 25 x 1,5
94075	M 32 x 1,5	M 40 x 1,5
94076	M 40 x 1,5	M 25 x 1,5
94077	M 40 x 1,5	M 32 x 1,5
94078	M 40 x 1,5	M 50 x 1,5
94079	M 50 x 1,5	M 32 x 1,5
94080	M 50 x 1,5	M 40 x 1,5
94081	M 50 x 1,5	M 63 x 1,5
94082	M 63 x 1,5	M 40 x 1,5
94083	M 63 x 1,5	M 50 x 1,5

Unit 1/16 Johnstone Road,
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CABLE ACCESSORIES - BUNGS/BLANKS



Material Nickel plated brass
Protection IP 54 (NEMA 2)
IP 65 (SD/MS) (NEMA 4x)
O-Ring NBR (SD/MS)
Operating Temperature -40°C to 80° C (-40V F to 176° F)

* Type SD/MS with O-ring

AG	GL mm	H mm	D mm	Number
M 12 x 1,5	5	7,5	14	1.052.1200.50
M 16 x 1,5	5	8,0	18	1.052.1600.50
M 20 x 1,5	6	9,5	22	1.052.2000.50
M 25 x 1,5	7	11,0	28	1.052.2500.50
M 32 x 1,5	8	12,0	35	1.052.3200.50
M 40 x 1,5	10	13,0	44	1.052.4000.50
M 50 x 1,5	9	15,0	54	1.052.5000.50
M 63 x 1,5	10	16,0	70	1.052.6300.50
M 12 x 1,5 *	5	8	14	1.052.1201.50
M 16 x 1,5 *	6	9	20	1.052.1601.50
M 20 x 1,5 *	6	9,5	20	1.052.2001.50
M 25 x 1,5 *	7	11	28	1.052.2501.50
M 32 x 1,5 *	8	12,5	35	1.052.3201.50
M 40 x 1,5 *	8	13	44	1.052.4001.50
M 50 x 1,5 *	9	15	57	1.052.5001.50
M 63 x 1,5 *	10	16,5	70	1.052.6301.50

AG	GL mm	H mm	D mm	Number
PG 7	5	8	14	1.052.0700.01
PG 9	6	9	17	1.052.0900.01
PG 11	6	9	20	1.052.1100.01
PG 13,5	6,5	9,5	22	1.052.1300.01
PG 16	6,5	9,5	24	1.052.1600.01
PG 21	7	11	30	1.052.2100.01
PG 29	8	12	39	1.052.2900.01
PG 36	9	15	50	1.052.3600.01
PG 42	10	16	57	1.052.4200.01
PG 48	10	16	64	1.052.4800.01
PG 7	*	5	8	1.052.0701.01
PG 9	*	5,5	9	1.052.0901.01
PG 11	*	5,5	9	1.052.1101.01
PG 13,5	*	6	9,5	1.052.1301.01
PG 16	*	6	9,5	1.052.1601.01
PG 21	*	6,5	11	1.052.2101.01
PG 29	*	7,5	12	1.052.2901.01
PG 36	*	9	15	1.052.3601.01
PG 42	*	10	16	1.052.4201.01
PG 48	*	10	16	1.052.4801.01

V-N-FS



Material PA (Nylon)
Protection IP 54 (NEMA 2)
Operating Temperature -40°C to 100°C (-40° F to 212° F) (PA)
Colours Black RAL 9005

Metric/PG

Other colours available on request

AG	GL mm	H mm	D mm	Number PA black
M 12 x 1,5	6	10	15	1.251.1201.50
M 16 x 1,5	7	11,5	20	1.251.1601.50
M 20 x 1,5	7	13	24	1.251.2001.50
M 25 x 1,5	11	15,5	30	1.251.2501.50
M 32 x 1,5	11	16	38	1.251.3201.50
M 40 x 1,5	13	18	46	1.251.4001.50
M 50 x 1,5	13	18,5	56	1.251.5001.50
M 63 x 1,5	15	19	69	1.251.6301.50
PG 7	6	8	15	1.251.0701.11
PG 9	6	9	19	1.251.0901.11
PG 11	6	9	22	1.251.1101.11
PG 13,5	6	9,5	25	1.251.1301.11
PG 16	6	9,5	27	1.251.1601.11
PG 21	8	11	33	1.251.2101.11
PG 29	8	12	44	1.251.2901.11
PG 36	10	15	55	1.251.3601.11
PG 42	10	16	62	1.251.4201.11
PG 48	12	16	69	1.251.4801.11



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