

Cavi per saldatura

Welding cables

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Cavi stellari raffreddati ad acqua

Water cooled welding cables

Il cavo stellare Brar è realizzato con sei corde in rame elettrolitico saldobrasate su terminali in rame forgiato.

Le fasi sono alternate per massimizzare il cos φ e quindi la resa elettrica. Infatti il cavo stellare Brar appartiene alla Classe A della normativa ISO 8205-1 (cos φ› 0,95).

L'insieme è unito da un trafilato stellare in gomma EPDM, ricoperto con tubo calibrato in gomma dielettrico antisfregamento, impermeabile all'olio.

Ciò che differenzia il cavo Brar dai cavi similari è il trafilato interno antipiega, di tipo stellare, che separa le trecce a fasi alternate, con la possibilità di un elevato raffreddamento.

L'adattamento del conduttore al trafilato, conferisce ad ogni elemento il miglior supporto flessibile contro gli strappi elettrici, garantendo altresì il libero flusso dell'acqua indipendentemente dal raggio di curvatura del cavo. In questo modo i cavi stellari, pur conservando una struttura estremamente solida, rivelano una flessibilità ineguagliata.

Grazie a queste caratteristiche, il cavo stellare Brar garantisce:

- maggiore flessibilità
- maggiore raffreddamento
- minore impedenza
- minore perdita di potenza
- maggiore durata.

Brar star cable is manufactured with six electrolytic copper wires brazed to forged electrolytic copper terminals.

The alternated phases allows higher cos φ and than higher electric yield. The star cable is classified as type "A" in the standard ISO 8205-1 (cos φ › 0,95).

The whole is joined by a star-shaped drawplate in rubber EPDM covered with calibrated tube in antirubbing, oil proof, dielectric rubber.

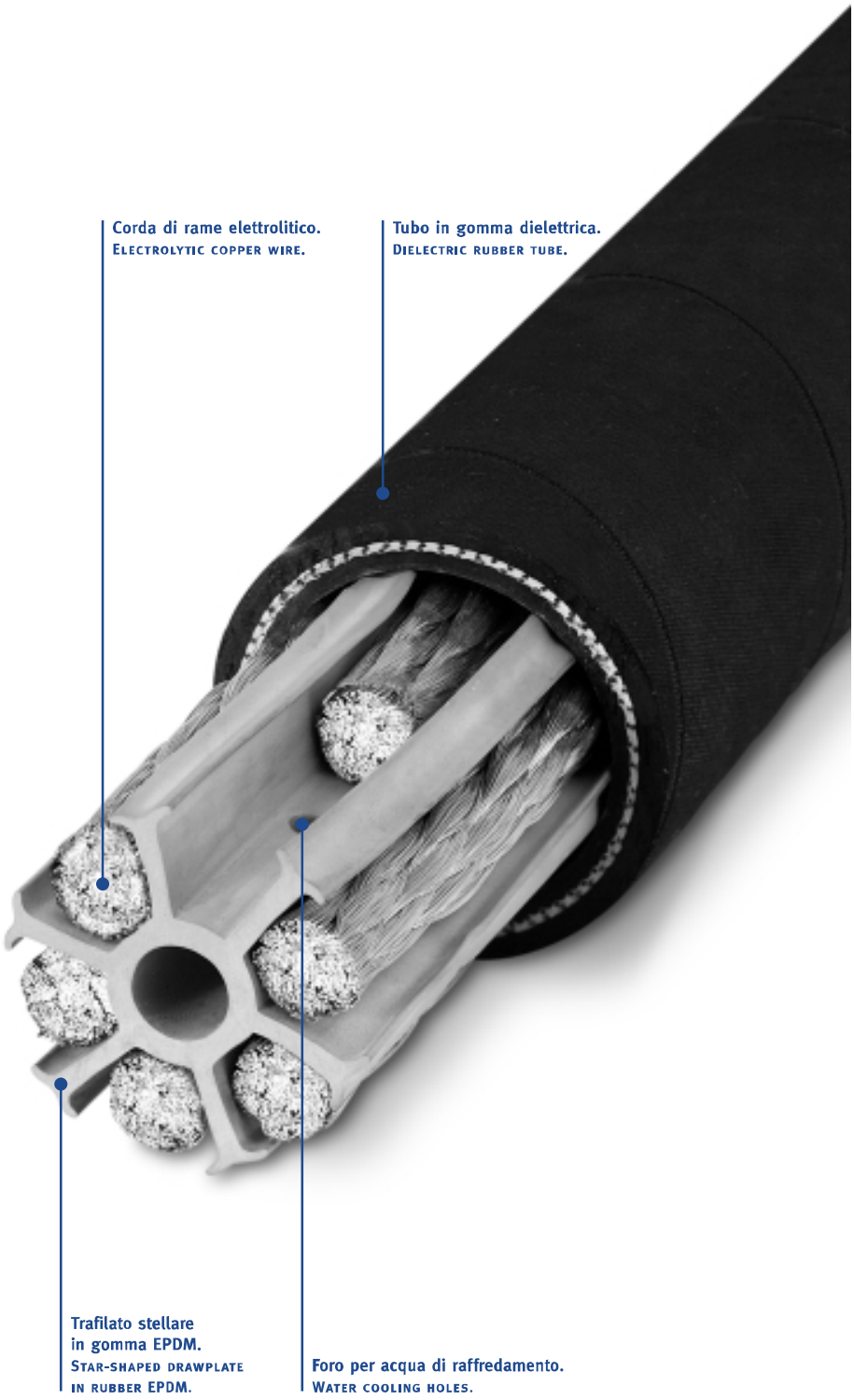
What makes the difference between Brar cable and similar ones is the inner star-shaped drawplate which divides the converse phase wires, with the possibility of a high cooling degree.

The adaptability of the conductors in an extruded profile, gives to each element the best flexible support against electric tearings, allowing free waterflow aside from the bending radius of the cable.

In this way star cable displays an unequalized flexibility.

Finally the star cable, thanks to its high performance characteristics, grants:

- better flexibility
- better cooling
- lower power losses
- lower impedance
- longer life.



Come scegliere il cavo bipolare

Selecting the correct two-pole kickless cable

Dati necessari
Numero cicli di saldatura (N)
Corrente saldante (Is)
Numero di saldature al minuto (S)
Lunghezza del cavo, se conosciuta (L)

Corrente per la saldatura
La corrente intermittente di saldatura è trasformata in corrente Irms applicando la seguente formula:

$$\text{(AC 50 Hz)}\ I_{RMS} = I_S \times \sqrt{\frac{N \times S}{3000}}$$

Dimensione del cavo
Per scegliere la dimensione del cavo, utilizzare il diagramma di selezione di Fig.1 quando il flusso d'acqua è di 10 l/min.
Nel caso in cui il valore del flusso d'acqua è differente, la corrente Irms del diagramma deve essere moltiplicata per un fattore di flusso come rappresentato in Fig.2.

Tensione drop
Per ottenere l'esatta dimensione dei circuiti secondari è necesario conoscere il voltaggio drop parziale del circuito. Il voltaggio drop (U) si calcola con la seguente formula:

U = Is x Z (Z = impedenza in ohm)
L'impedenza dei cavi Brar è espressa in fig. 4 per lunghezze diverse e per sezioni trasversali.

Esempio
Dati: **N = 12; Is = 16.000 Amp; S = 42; Flusso = 10 l/min**
Applicando questi dati alla formula, si ricava un valore Irms di 6700 Amp.
A questo punto occorre tracciare una linea orizzontale nel diagramma di Fig.1 in corrispondenza del valore 6700 dell'Irms
Questa si interseca con la linea a sezione costante 2x160=320 mm² in corrispondenza di una lunghezza L = 3000.
Con questi dati è quindi possibile utilizzare un cavo da 320 mm² se la sua lunghezza è minore di 3000 mm.
Se il flusso è di 6 l/min, utilizzando il fattore di flusso di Fig.2 si ottiene una valore Irms corrispondente a 8640 Amp.
Procedendo come sopra, si verifica che è possibile utilizzare un cavo di sezione 320 mm² se la sua lunghezza è minore di 2000 mm, per lunghezze maggiori si deve utilizzare un cavo di sezione 400 mm².

Specifications
Welding time in cycles (N)
Welding current (Is)
Number of welds per minute (S)
Required length of the cable, if known (L)

Welding current
The intermittent welding current is transformed into continuous current by the formula below:

$$\text{(AC 50 Hz)}\ I_{RMS} = I_S \times \sqrt{\frac{N \times S}{3000}}$$

Cable size
To select the correct size of the cable, please check the diagram of fig. 1, based upon a water flow rate of 10 l/min.
For different flow rates, the Irms current has to be multiplied by a flow factor as per fig. 2.

Voltage drop
To get the exact size of a secondary circuit, it is necessary to know the partial voltage drop of the circuit, as follows:
U = Is x Z (Z = impedance in ohm)

THE MICRO-OHM IMPEDANCE OF THE BRAR CABLES IS STATED ON FIG. 3 FOR DIFFERENT LENGTHS AND CROSS SECTIONS.

EXAMPLE

DATA: **N = 12; Is = 16.000 AMP; S = 42; FLOW RATE = 10 L/MIN**

USING THE FORMULA, THE IRMS CURRENT IS 6700 AMP.

FROM THE DIAGRAM OF FIG. 1 AND CONSIDERING AN HORIZONTAL LINE AT THIS IRMS VALUE, IS POSSIBLE TO USE A CABLE 2 X 160 MM^2 SECTION ONLY IF SHORTER THAN 3000 MM.

IF THE WATER FLOW IS 6 L/MIN, THE NEW IRMS IS 8640 AMP.

AS ABOVE INDICATED IS EASY TO CALCULATE THAT A CABLE 2 X 160 MM^2 IS SUITABLE, BUT SHORTER THAN 2000 MM.

FOR LONGER REQUIREMENTS, A BIGGER SECTION IS NEEDED.

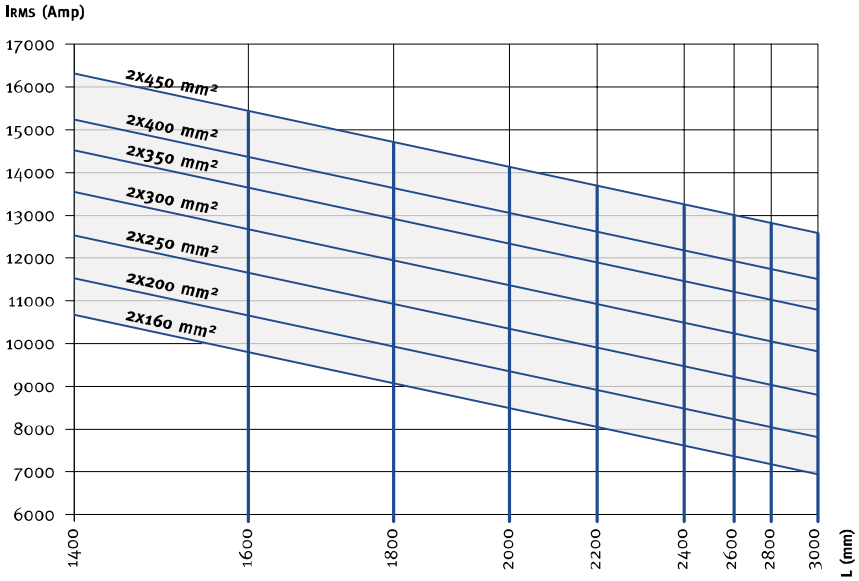


Fig.1

Flusso / FLOW (l/min)	4	6	8	10	12	15	20
Fattore di flusso / FLOW FACTOR	1,58	1,29	1,12	1,00	0,91	0,81	0,71
Caduta di pressione / PRESSURE DROP (bar)	0,05	0,10	0,15	0,21	0,30	0,45	0,80

Fig.2

L (mm)	320 mm² (2x160)	400 mm² (2x200)	500 mm² (2x250)	600 mm² (2x300)	700 mm² (2x350)	800 mm² (2x400)	900 mm² (2x450)
1400	337	273	222	185	159	139	123
1600	385	311	254	212	182	158	141
1800	433	349	286	238	205	178	159
2000	481	388	317	265	227	198	176
2200	530	427	349	291	250	218	194
2400	578	466	381	318	273	238	211
2600	626	505	413	344	295	257	229
2800	675	543	444	371	318	277	247
3000	723	582	476	397	341	297	264

Fig.3

Fig.1 Diagramma di selezione calcolato con un flusso d'acqua di 10 l/min.
DIAGRAM BASED UPON A WATER FLOW RATE OF 10 L/MIN.

Fig.2 Fattore di flusso e caduta di pressione a diversi valori di flusso.
FLOW FACTOR AND PRESSURE DROP AT DIFFERENT FLOW VALUES.

Fig.3 Impedenza Z in μΩ (50 Hz e 20° C).
IMPEDANCE μΩ (50 HZ AND 20° C).

Come scegliere il cavo unipolare

Selecting the correct one-pole water-cooled cable

Per una corretta scelta della dimensione del cavo, utilizzare il diagramma di selezione (fig. 4) e applicare la seguente formula:

$$\text{(AC 50 Hz)}\ I_{RMS} = I_S \times \sqrt{\frac{N \times S}{3000}}$$

To select the correct size of the cable, check the diagram (fig. 4) and the formula below:

$$\text{(AC 50 Hz)}\ I_{RMS} = I_S \times \sqrt{\frac{N \times S}{3000}}$$

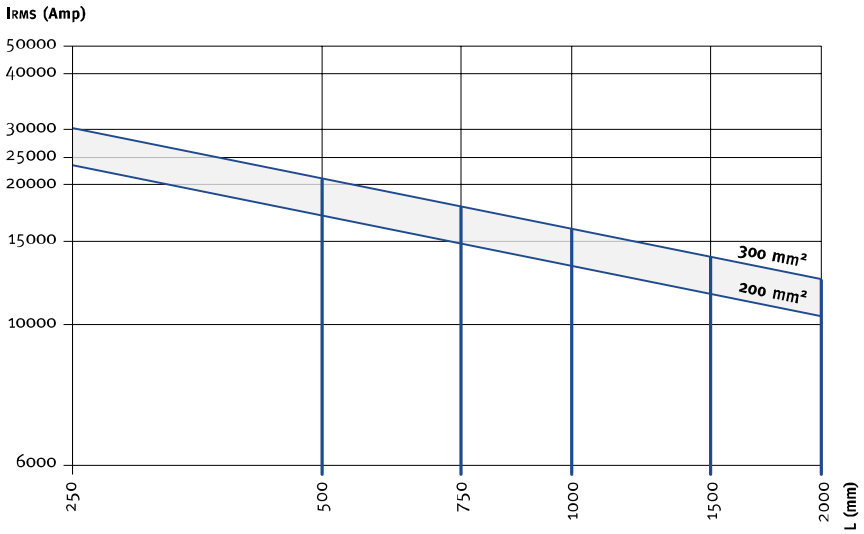


Fig.4

Fig.4 Diagramma di selezione calcolato con un flusso d'acqua di 10 l/min.
Diagram based upon a water flow rate of 10 l/min.

Come scegliere la treccia ad aria

SELECTING THE CORRECT AIR-COOLED JUMPER

Per una corretta scelta della dimensione della treccia, utilizzare il diagramma di selezione (fig. 5) e applicare la seguente formula:

$$\text{(AC 50 Hz)}\ I_{RMS} = I_S \times \sqrt{\frac{N \times S}{3000}}$$

TO SELECT THE CORRECT SIZE OF THE JUMPER, CHECK THE DIAGRAM (FIG. 5) AND THE FORMULA BELOW:

$$\text{(AC 50 Hz)}\ I_{RMS} = I_S \times \sqrt{\frac{N \times S}{3000}}$$

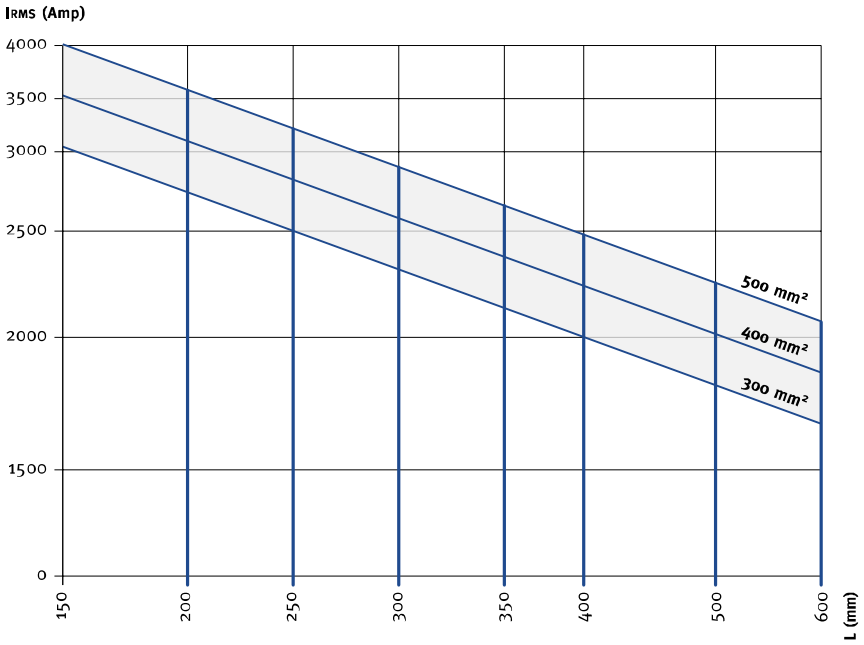


Fig.5

Fig.5 Diagramma di selezione per trecce ad aria.
DIAGRAM OR AIR COOLED JUMPER.

Cavo bipolare stellare raffreddato ad acqua

WATER-COOLED BIPOLAR STARCABLE

Caratteristiche generali

Questi tipi di cavi, brevettati, sono realizzati con 6 corde a fasi alternate (quindi minor impedenza e maggiore resa elettrica) assemblate su di un trafilato in gomma isolante che permette libero flusso d'acqua refrigerante anche con piccoli raggi di curvatura.
Indicati per l'utilizzo su pinze manuali o applicazioni standard.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,25 mm
- Fasi alternate

A richiesta

Tubo in poliuretano
Tubo senza silicone
Altre misure

GENERAL FEATURES

THIS TYPE OF KICKLESS CABLE, ISSUED BY PATENT, IS MADE OF 6 ALTERNATED ROPES (FOR LESS IMPEDANCE AND A HIGHER ELECTRICAL YIELD), ASSEMBLED ON AN INSULATED RUBBER STAR DRAWING THAT ALLOWS THE FREE FLOW OF WATER ALSO AT A LOW RAY CURVE.
INDICATED ON MANUAL WELDING UNITS AND STANDARD APPLICATIONS.

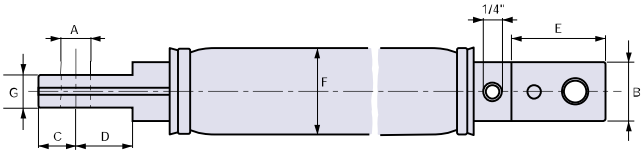
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- SINGLE WIRE ø 0,25 MM
- ALTERNATED PHASES

ON REQUEST

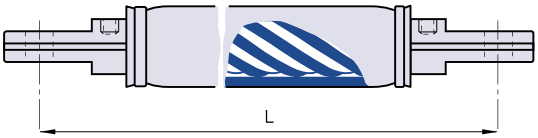
POLYURETHANE HOSE
SILICON FREE HOSE
OTHER TERMINAL DRAWINGS

Dimensioni / DIMENSIONS



mm	A	B	C	D	E	F	G
320 mm² (2x160)	16,5	37	19	33	52	50	20
400 mm² (2x200)	16,5	40,5	19	33	52	55	20
500 mm² (2x250)	16,5	44,5	19	33	52	60	20
600 mm² (2x300)	16,5	49	28	39	67	66	22

Codifica / CODIFICATION



L (mm)	320 mm² (2x160)	400 mm² (2x200)	500 mm² (2x250)	600 mm² (2x300)
800	ST1	ST28	ST55	ST83
900	ST2	ST29	ST56	ST84
1000	ST3	ST30	ST57	ST85
1100	ST4	ST31	ST58	ST86
1200	ST5	ST32	ST59	ST87
1300	ST6	ST33	ST60	ST88
1400	ST7	ST34	ST61	ST89
1500	ST8	ST35	ST62	ST90
1600	ST9	ST36	ST63	ST91
1700	ST10	ST37	ST64	ST92
1800	ST11	ST38	ST65	ST93
1900	ST12	ST39	ST66	ST94
2000	ST13	ST40	ST67	ST95
2100	ST14	ST41	ST68	ST96
2200	ST15	ST42	ST69	ST97
2300	ST16	ST43	ST70	ST98
2400	ST17	ST44	ST71	ST99
2500	ST18	ST45	ST72	ST100
2600	ST19	ST46	ST73	ST101
2700	ST20	ST47	ST74	ST102
2800	ST21	ST48	ST75	ST103
2900	ST22	ST49	ST76	ST104
3000	ST23	ST50	ST77	ST105

Cavo bipolare stellare Biflex raffreddato ad acqua

WATER-COOLED BIPOLAR STARCABLE BIFLEX

Caratteristiche generali

Evoluzione del cavo stellare, questo cavo permette una maggiore flessibilità grazie al tubo esterno Biflex e maggior vita del cavo grazie alla stagnatura del filo elementare che evita l'ossidazione. Indicati per tutte le applicazioni soggette a forti torsioni.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,20 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)
- Fasi alternate

A richiesta

Tubo senza silicone
Altre misure

GENERAL FEATURES

IT IS AN EVOLUTION OF THE STAR CABLE THAT GIVES THE CABLE HIGHER FLEXIBILITY AND LONGER LIFE THANKS TO BOTH THE OUTSIDE BIFLEX PIPE AND THE TINPLATED ELEMENTARY WIRES THAT STOP THE OXIDATION PROCESS.
SUITABLE FOR SEVERE BENDING AND TWISTING APPLICATIONS.

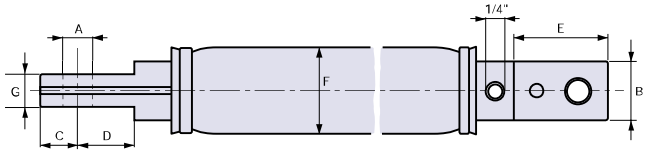
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,20 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)
- ALTERNATED PHASES

ON REQUEST

SILICON FREE HOSE
OTHER TERMINAL DRAWINGS

Dimensioni / DIMENSIONS

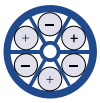


mm	A	B	C	D	E	F	G
320 mm² (2x160)	16,5	37	19	33	52	52	20
400 mm² (2x200)	16,5	40,5	19	33	52	56	20
500 mm² (2x250)	16,5	44,5	19	33	52	60	20
600 mm² (2x300)	16,5	49	28	39	67	66	22

Codifica / CODIFICATION



L (mm)	320 mm² (2x160)	400 mm² (2x200)	500 mm² (2x250)	600 mm² (2x300)
800	STB2001	STB2028	STB2055	STB2083
900	STB2002	STB2029	STB2056	STB2084
1000	STB2003	STB2030	STB2057	STB2085
1100	STB2004	STB2031	STB2058	STB2086
1200	STB2005	STB2032	STB2059	STB2087
1300	STB2006	STB2033	STB2060	STB2088
1400	STB2007	STB2034	STB2061	STB2089
1500	STB2008	STB2035	STB2062	STB2090
1600	STB2009	STB2036	STB2063	STB2091
1700	STB2010	STB2037	STB2064	STB2092
1800	STB2011	STB2038	STB2065	STB2093
1900	STB2012	STB2039	STB2066	STB2094
2000	STB2013	STB2040	STB2067	STB2095
2100	STB2014	STB2041	STB2068	STB2096
2200	STB2015	STB2042	STB2069	STB2097
2300	STB2016	STB2043	STB2070	STB2098
2400	STB2017	STB2044	STB2071	STB2099
2500	STB2018	STB2045	STB2072	STB2100
2600	STB2019	STB2046	STB2073	STB2101
2700	STB2020	STB2047	STB2074	STB2102
2800	STB2021	STB2048	STB2075	STB2103
2900	STB2022	STB2049	STB2076	STB2104
3000	STB2023	STB2050	STB2077	STB2105



6 corde a fasi alternate
6 CONDUCTORS KICKLESS CABLE

Cavo bipolare stellare Biflex raffreddato ad acqua

WATER-COOLED BIPOLAR STARCABLE BIFLEX

Caratteristiche generali

Evoluzione del cavo stellare, questo cavo permette una maggiore flessibilità grazie al tubo esterno Biflex e maggior vita del cavo grazie alla stagnatura del filo elementare che evita l'ossidazione. Indicati per tutte le applicazioni soggette a forti torsioni.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,20 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)
- Fasi alternate

A richiesta

Tubo senza silicone
Altre misure

GENERAL FEATURES

IT IS AN EVOLUTION OF THE STAR CABLE THAT GIVES THE CABLE HIGHER FLEXIBILITY AND LONGER LIFE THANKS TO BOTH THE OUTSIDE BIFLEX PIPE AND THE TINPLATED ELEMENTARY WIRES THAT STOP THE OXIDATION PROCESS.
SUITABLE FOR SEVERE BENDING AND TWISTING APPLICATIONS.

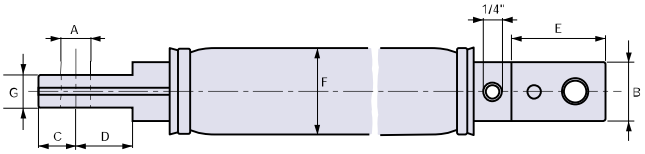
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,20 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)
- ALTERNATED PHASES

ON REQUEST

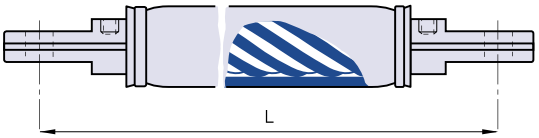
SILICON FREE HOSE
OTHER TERMINAL DRAWINGS

Dimensioni / DIMENSIONS



mm	A	B	C	D	E	F	G
700 mm² (2x350)	16,5	49	28	39	67	66	22
800 mm² (2x400)	16,5	58	28	39	67	72	22
850 mm² (2x425)	16,5	58	28	39	67	72	22
900 mm² (2x450)	16,5	58	28	39	67	72	22

Codifica / CODIFICATION



L (mm)	700 mm² (2x350)	800 mm² (2x400)	850 mm² (2x425)	900 mm² (2x450)
800	STB2110	STB2137	STB2164	STB2191
900	STB2111	STB2138	STB2165	STB2192
1000	STB2112	STB2139	STB2166	STB2193
1100	STB2113	STB2140	STB2167	STB2194
1200	STB2114	STB2141	STB2168	STB2195
1300	STB2115	STB2142	STB2169	STB2196
1400	STB2116	STB2143	STB2170	STB2197
1500	STB2117	STB2144	STB2171	STB2198
1600	STB2118	STB2145	STB2172	STB2199
1700	STB2119	STB2146	STB2173	STB2200
1800	STB2120	STB2147	STB2174	STB2201
1900	STB2121	STB2148	STB2175	STB2202
2000	STB2122	STB2149	STB2176	STB2203
2100	STB2123	STB2150	STB2177	STB2204
2200	STB2124	STB2151	STB2178	STB2205
2300	STB2125	STB2152	STB2179	STB2206
2400	STB2126	STB2153	STB2180	STB2207
2500	STB2127	STB2154	STB2181	STB2208
2600	STB2128	STB2155	STB2182	STB2209
2700	STB2129	STB2156	STB2183	STB2210
2800	STB2130	STB2157	STB2184	STB2211
2900	STB2131	STB2158	STB2185	STB2212
3000	STB2132	STB2159	STB2186	STB2213

Cavo bipolare stellare Biflex raffreddato ad acqua B2

WATER-COOLED BIPOLAR STARCABLE BIFLEX TYPE B2

Caratteristiche generali

Evoluzione del cavo stellare, questo cavo viene abbinato a due cavi unipolari tipo D-D, in modo da garantire l'elevata resa elettrica del cavo bipolare e la grande flessibilità dei cavi unipolari.

Caratteristiche tecniche

- Terminale con alloggiamento per cavi unipolari tipo D-D Biflex
- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,10 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)
- Fasi alternate

A richiesta

Altre misure

GENERAL FEATURES

THIS CABLE HAS TO BE ASSEMBLED TO TWO UNIPOLAR CABLES TYPE D-D, IN ORDER TO GRANT THE GREAT FLEXIBILITY OF THE UNIPOLAR CABLES AND THE HIGH ELECTRIC YIELD OF THE BIPOLAR CABLE.

SUITABLE FOR SPECIAL APPLICATIONS.

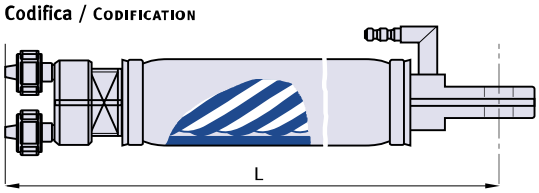
TECHNICAL FEATURES

- TERMINAL FOR THE CONNECTION TO ONE-POLE CABLES TYPE D-D BIFLEX
- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,10 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)
- ALTERNATED PHASES

ON REQUEST

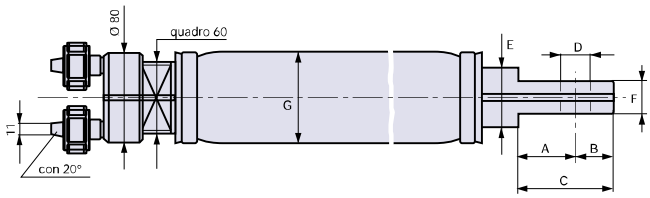
OTHER TERMINAL DRAWINGS

Codifica / CODIFICATION



L (mm)	700 mm² (2x350)	800 mm² (2x400)	850 mm² (2x445)	900 mm² (2x450)
800	STB2218	STB2235	STB2252	STB2269
900	STB2219	STB2236	STB2253	STB2270
1000	STB2220	STB2237	STB2254	STB2271
1100	STB2221	STB2238	STB2255	STB2272
1200	STB2222	STB2239	STB2256	STB2273
1300	STB2223	STB2240	STB2257	STB2274
1400	STB2224	STB2241	STB2258	STB2275
1500	STB2225	STB2242	STB2259	STB2276
1600	STB2226	STB2243	STB2260	STB2277
1700	STB2227	STB2244	STB2261	STB2278
1800	STB2228	STB2245	STB2262	STB2279
1900	STB2229	STB2246	STB2263	STB2280
2000	STB2230	STB2247	STB2264	STB2281

Dimensioni / DIMENSIONS



mm	A	B	C	D	E	F	G
700 mm² (2x350)	39	28	67	16,5	50	22	66
800 mm² (2x400)	39	28	67	16,5	58	22	72
850 mm² (2x425)	39	28	67	16,5	58	22	72
900 mm² (2x450)	39	28	67	16,5	58	22	72

Cavo unipolare stellare Biflex raffreddato ad acqua D-D

WATER-COOLED UNIPOLAR STARCABLE BIFLEX TYPE D-D

Caratteristiche generali

Sono cavi monofase ad alte prestazioni realizzati a 6 corde con filo stagnato (bassa impedenza e niente ossidazione) con tubo esterno Biflex (alta flessibilità) particolarmente adatto ai movimenti del robot di saldatura.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,20 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)

A richiesta

Altre misure

GENERAL FEATURES

THESE ARE MONOPHASE CABLES FOR HIGH PERFORMANCES MADE OF 6 ROPES WITH TINPLATED WIRE (FOR LOW IMPEDANCE AND NO OXIDATION) WITH A BIFLEX OUTSIDE PIPE (FOR HIGH FLEXIBILITY) ESPECIALLY SUITABLE FOR WELDING ROBOTS.

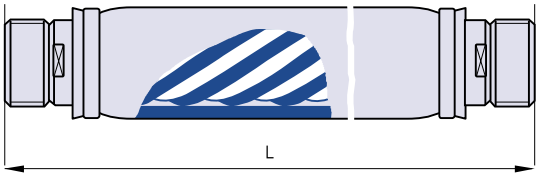
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,20 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)

ON REQUEST

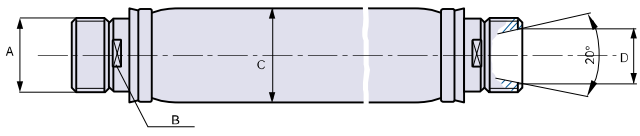
OTHER TERMINAL DRAWINGS

Codifica / CODIFICATION



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	STB2286	STB2307	STB2328	STB2349
500	STB2287	STB2308	STB2329	STB2350
600	STB2288	STB2309	STB2330	STB2351
700	STB2289	STB2310	STB2331	STB2352
800	STB2290	STB2311	STB2332	STB2353
900	STB2291	STB2312	STB2333	STB2354
1000	STB2292	STB2313	STB2334	STB2355
1100	STB2293	STB2314	STB2335	STB2356
1200	STB2294	STB2315	STB2336	STB2357
1300	STB2295	STB2316	STB2337	STB2358
1400	STB2296	STB2317	STB2338	STB2359
1500	STB2297	STB2318	STB2339	STB2360
1600	STB2298	STB2319	STB2340	STB2361
1700	STB2299	STB2320	STB2341	STB2362
1800	STB2300	STB2321	STB2342	STB2363
1900	STB2301	STB2322	STB2343	STB2364
2000	STB2302	STB2323	STB2344	STB2365

Dimensioni / DIMENSIONS



mm	A	B	C	D
160 mm²	M30x1,5	27	40	19,5
200 mm²	M30x1,5	27	40	19,5
250 mm²	M30x1,5	32	45	19,5
300 mm²	M30x1,5	35	52	19,5

Cavo unipolare stellare Biflex raffreddato ad acqua D-P

WATER-COOLED UNIPOLAR STARCABLE BIFLEX TYPE D-P

Caratteristiche generali

Sono cavi monofase ad alte prestazioni realizzati a 6 corde con filo stagnato (bassa impedenza e niente ossidazione) con tubo esterno Biflex (alta flessibilità) particolarmente adatto ai movimenti del robot di saldatura.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,20 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)

A richiesta

Altre misure

GENERAL FEATURES

THESE ARE MONOPHASE CABLES FOR HIGH PERFORMANCES MADE OF 6 ROPES WITH TINPLATED WIRE (FOR LOW IMPEDANCE AND NO OXIDATION) WITH A BIFLEX OUTSIDE PIPE (FOR HIGH FLEXIBILITY) ESPECIALLY SUITABLE FOR WELDING ROBOTS.

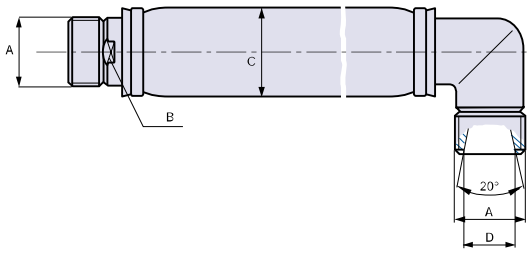
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,20 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)

ON REQUEST

OTHER TERMINAL DRAWINGS

Dimensioni / DIMENSIONS



mm	A	B	C	D
160 mm²	M30x1,5	27	40	19,5
200 mm²	M30x1,5	27	40	19,5
250 mm²	M30x1,5	32	45	19,5
300 mm²	M30x1,5	35	52	19,5

Codifica / CODIFICATION



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	STB2455	STB2476	STB2497	STB2518
500	STB2456	STB2477	STB2498	STB2519
600	STB2457	STB2478	STB2499	STB2520
700	STB2458	STB2479	STB2500	STB2521
800	STB2459	STB2480	STB2501	STB2522
900	STB2460	STB2481	STB2502	STB2523
1000	STB2461	STB2482	STB2503	STB2524
1100	STB2462	STB2483	STB2504	STB2525
1200	STB2463	STB2484	STB2505	STB2526
1300	STB2464	STB2485	STB2506	STB2527
1400	STB2465	STB2486	STB2507	STB2528
1500	STB2466	STB2487	STB2508	STB2529
1600	STB2467	STB2488	STB2509	STB2530
1700	STB2468	STB2489	STB2510	STB2531
1800	STB2469	STB2490	STB2511	STB2532
1900	STB2470	STB2491	STB2512	STB2533
2000	STB2471	STB2492	STB2513	STB2534

Cavo unipolare stellare Biflex raffreddato ad acqua F-F

WATER-COOLED UNIPOLAR STARCABLE BIFLEX TYPE F-F

Caratteristiche generali

Sono cavi monofase ad alte prestazioni realizzati a 6 corde con filo stagnato (bassa impedenza e niente ossidazione) con tubo esterno Biflex (alta flessibilità) particolarmente adatto ai movimenti del robot di saldatura.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,20 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)

A richiesta

Altre misure

GENERAL FEATURES

THESE ARE MONOPHASE CABLES FOR HIGH PERFORMANCES MADE OF 6 ROPES WITH TINPLATED WIRE (FOR LOW IMPEDANCE AND NO OXIDATION) WITH A BIFLEX OUTSIDE PIPE (FOR HIGH FLEXIBILITY) ESPECIALLY SUITABLE FOR WELDING ROBOTS.

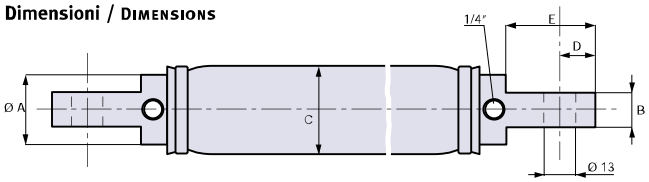
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,20 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)

ON REQUEST

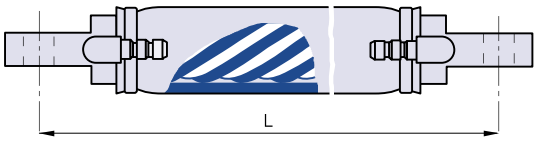
OTHER TERMINAL DRAWINGS

Dimensioni / DIMENSIONS



mm	A	B	C	D	E
160 mm²	30	13	40	16	40
200 mm²	30	13	40	16	40
250 mm²	35	18	45	16	45
300 mm²	38	18	52	16	45

Codifica / CODIFICATION



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	STB2539	STB2560	STB2581	STB2602
500	STB2540	STB2561	STB2582	STB2603
600	STB2541	STB2562	STB2583	STB2604
700	STB2542	STB2563	STB2584	STB2605
800	STB2543	STB2564	STB2585	STB2606
900	STB2544	STB2565	STB2586	STB2607
1000	STB2545	STB2566	STB2587	STB2608
1100	STB2546	STB2567	STB2588	STB2609
1200	STB2547	STB2568	STB2589	STB2610
1300	STB2548	STB 2569	STB2590	STB2611
1400	STB2549	STB2570	STB2591	STB2612
1500	STB2550	STB2571	STB2592	STB2613
1600	STB2551	STB2572	STB2593	STB2614
1700	STB2552	STB2573	STB2594	STB2615
1800	STB2553	STB2574	STB2595	STB2616
1900	STB2554	STB2575	STB2596	STB2617
2000	STB2555	STB2576	STB2597	STB2618

Cavo unipolare stellare Biflex raffreddato ad acqua D-S

WATER-COOLED UNIPOLAR STARCABLE BIFLEX TYPE D-S

Caratteristiche generali

Sono cavi monofase ad alte prestazioni realizzati a 6 corde con filo stagnato (bassa impedenza e niente ossidazione) con tubo esterno Biflex (alta flessibilità) particolarmente adatto ai movimenti del robot di saldatura.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,20 mm stagnato (senza ossidazione)
- Tubo Biflex (elevata flessibilità)

A richiesta

Altre misure

GENERAL FEATURES

THESE ARE MONOPHASE CABLES FOR HIGH PERFORMANCES MADE OF 6 ROPES WITH TINPLATED WIRE (FOR LOW IMPEDANCE AND NO OXIDATION) WITH A BIFLEX OUTSIDE PIPE (FOR HIGH FLEXIBILITY) ESPECIALLY SUITABLE FOR WELDING ROBOTS.

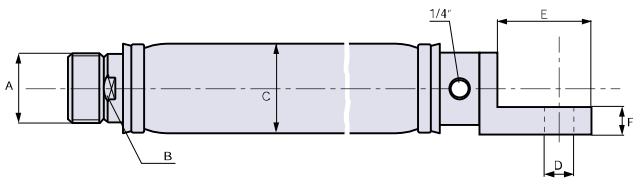
TECHNICAL FEATURES

- ELECTROLYTIC COPPER WIRES ETP UNI 5649
- TINPLATED SINGLE WIRE ø 0,20 MM (NO OXIDATION)
- BIFLEX RUBBER HOSE (HIGH FLEXIBILITY)

ON REQUEST

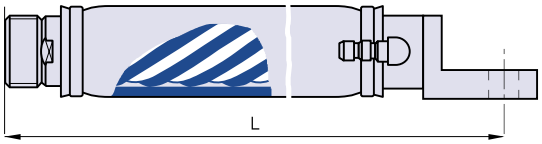
OTHER TERMINAL DRAWINGS

Dimensioni / DIMENSIONS



mm	A	B	C	D	E	F
160 mm²	M30x1,5	27	40	16,5	35	13
200 mm²	M30x1,5	27	40	16,5	52	13
250 mm²	M30x1,5	32	45	16,5	52	14
300 mm²	M30x1,5	35	52	16,5	52	14

Codifica / CODIFICATION



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	STB2370	STB2391	STB2412	STB2433
500	STB2371	STB2392	STB2413	STB2434
600	STB2372	STB2393	STB2414	STB2435
700	STB2373	STB2394	STB2415	STB2436
800	STB2374	STB2395	STB2416	STB2437
900	STB2375	STB2396	STB2417	STB2438
1000	STB2376	STB2397	STB2418	STB2439
1100	STB2377	STB2398	STB2419	STB2440
1200	STB2378	STB2399	STB2420	STB2441
1300	STB2379	STB2400	STB2421	STB2442
1400	STB2380	STB2401	STB2422	STB2443
1500	STB2381	STB2402	STB2423	STB2444
1600	STB2382	STB2403	STB2424	STB2445
1700	STB2383	STB2404	STB2425	STB2446
1800	STB2384	STB2405	STB2426	STB2447
1900	STB2385	STB2406	STB2427	STB2448
2000	STB2386	STB2407	STB2428	STB2449

Cavo unipolare standard raffreddato ad acqua D-D

Water-cooled unipolar standard type D-D

Caratteristiche generali
Questi cavi realizzano ottime prestazioni con un unico conduttore in rame e tubo esterno in gomma, indicati per l'utilizzo su pinze manuali o applicazioni standard.

Caratteristiche tecniche
- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,25 mm

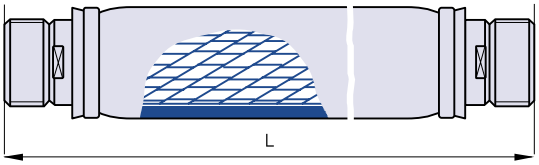
A richiesta
Tubo in poliuretano
Altre misure

General features
These cables gives good results with a single copper conductor and a rubber outside pipe, indicated on manual welding units and standard applications.

Technical features
- Electrolytic copper wires ETP UNI 5649
- Single wire ø 0,25 mm

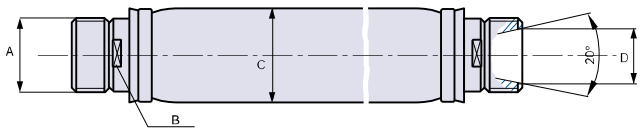
On request
Polyurethane hose
Other terminal drawings

Codifica / Codification



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	DD110	DD131	DD152	DD173
500	DD111	DD132	DD153	DD174
600	DD112	DD133	DD154	DD175
700	DD113	DD134	DD155	DD176
800	DD114	DD135	DD156	DD177
900	DD115	DD136	DD157	DD178
1000	DD116	DD137	DD158	DD179
1100	DD117	DD138	DD159	DD180
1200	DD118	DD139	DD160	DD181
1300	DD119	DD140	DD161	DD182
1400	DD120	DD141	DD162	DD183
1500	DD121	DD142	DD163	DD184
1600	DD122	DD143	DD164	DD185
1700	DD123	DD144	DD165	DD186
1800	DD124	DD145	DD166	DD187
1900	DD125	DD146	DD167	DD188
2000	DD126	DD147	DD168	DD189

Dimensioni / Dimensions



mm	A	B	C	D
160 mm²	M30x1,5	27	38	19,5
200 mm²	M30x1,5	27	38	19,5
250 mm²	M30x1,5	32	45	19,5
300 mm²	M30x1,5	35	50	19,5

Cavo unipolare standard raffreddato ad acqua D-P

Water-cooled unipolar standard type D-P

Caratteristiche generali
Questi cavi realizzano ottime prestazioni con un unico conduttore in rame e tubo esterno in gomma, indicati per l'utilizzo su pinze manuali o applicazioni standard.

Caratteristiche tecniche
- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,25 mm

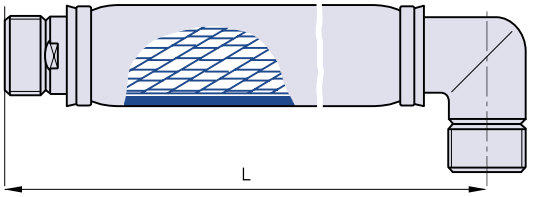
A richiesta
Tubo in poliuretano
Altre misure

General features
These cables gives good results with a single copper conductor and a rubber outside pipe, indicated on manual welding units and standard applications.

Technical features
- Electrolytic copper wires ETP UNI 5649
- Single wire ø 0,25 mm

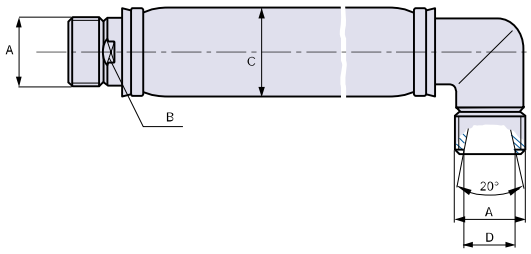
On request
Polyurethane hose
Other terminal drawings

Codifica / Codification



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	DP282	DP303	DP324	DP345
500	DP283	DP304	DP325	DP346
600	DP284	DP305	DP326	DP347
700	DP285	DP306	DP327	DP348
800	DP286	DP307	DP328	DP349
900	DP287	DP308	DP329	DP350
1000	DP288	DP 309	DP330	DP351
1100	DP289	DP310	DP331	DP352
1200	DP290	DP311	DP332	DP353
1300	DP291	DP312	DP333	DP354
1400	DP292	DP313	DP334	DP355
1500	DP 293	DP314	DP335	DP356
1600	DP294	DP315	DP336	DP357
1700	DP295	DP316	DP337	DP358
1800	DP296	DP317	DP338	DP359
1900	DP297	DP318	DP339	DP360
2000	DP298	DP319	DP340	DP361

Dimensioni / Dimensions



mm	A	B	C	D
160 mm²	M30x1,5	27	38	19,5
200 mm²	M30x1,5	27	38	19,5
250 mm²	M30x1,5	32	45	19,5
300 mm²	M30x1,5	35	50	19,5

Cavo unipolare standard raffreddato ad acqua F-F

Water-cooled unipolar standard type F-F

Caratteristiche generali
Questi cavi realizzano ottime prestazioni con un unico conduttore in rame e tubo esterno in gomma, indicati per l'utilizzo su pinze manuali o applicazioni standard.

Caratteristiche tecniche
- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,25 mm

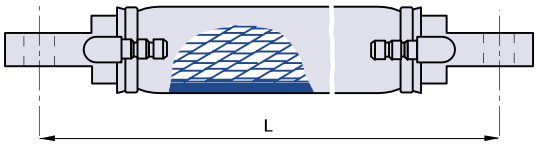
A richiesta
Tubo in poliuretano
Altre misure

General features
These cables gives good results with a single copper conductor and a rubber outside pipe, indicated on manual welding units and standard applications.

Technical features
- Electrolytic copper wires ETP UNI 5649
- Single wire ø 0,25 mm

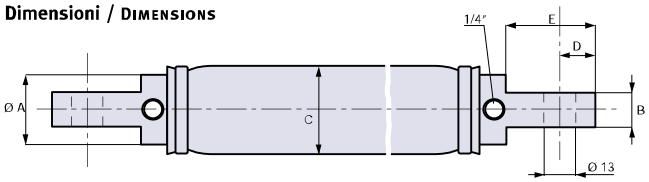
On request
Polyurethane hose
Other terminal drawings

Codifica / Codification



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	FF366	FF387	FF408	FF429
500	FF367	FF388	FF409	FF430
600	FF368	FF389	FF410	FF431
700	FF369	FF390	FF411	FF432
800	FF370	FF391	FF412	FF433
900	FF371	FF392	FF413	FF434
1000	FF372	FF393	FF414	FF435
1100	FF373	FF394	FF415	FF436
1200	FF374	FF395	FF416	FF437
1300	FF375	FF396	FF417	FF438
1400	FF376	FF397	FF418	FF439
1500	FF377	FF398	FF419	FF440
1600	FF378	FF399	FF420	FF441
1700	FF379	FF400	FF421	FF442
1800	FF380	FF401	FF422	FF443
1900	FF381	FF402	FF423	FF444
2000	FF382	FF403	FF424	FF445

Dimensioni / Dimensions



mm	A	B	C	D	E
160 mm²	30	13	40	16	40
200 mm²	30	13	40	16	40
250 mm²	35	18	45	16	45
300 mm²	38	18	50	16	45

Cavo unipolare standard raffreddato ad acqua D-S

Water-cooled unipolar standard type D-S

Caratteristiche generali
Questi cavi realizzano ottime prestazioni con un unico conduttore in rame e tubo esterno in gomma, indicati per l'utilizzo su pinze manuali o applicazioni standard.

General features
These cables gives good results with a single copper conductor and a rubber outside pipe, indicated on manual welding units and standard applications.

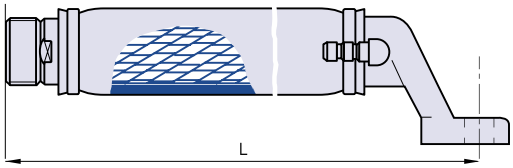
Caratteristiche tecniche
- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,25 mm

Technical features
- Electrolytic copper wires ETP UNI 5649
- Single wire ø 0,25 mm

A richiesta
Tubo in poliuretano
Altre misure

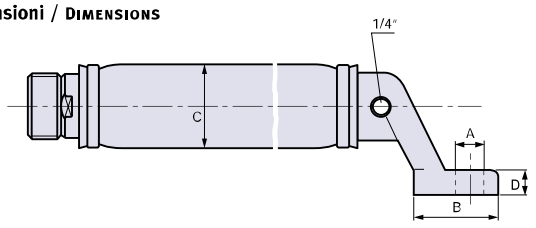
On request
Polyurethane hose
Other terminal drawings

Codifica / Codification



L (mm)	160 mm²	200 mm²	250 mm²	300 mm²
400	DS194	DS215	DS236	DS257
500	DS195	DS216	DS237	DS258
600	DS196	DS217	DS238	DS259
700	DS197	DS218	DS239	DS260
800	DS198	DS219	DS240	DS261
900	DS199	DS220	DS241	DS262
1000	DS200	DS221	DS242	DS263
1100	DS201	DS222	DS243	DS264
1200	DS202	DS223	DS244	DS265
1300	DS203	DS224	DS245	DS266
1400	DS204	DS225	DS246	DS267
1500	DS205	DS226	DS247	DS268
1600	DS206	DS227	DS248	DS269
1700	DS207	DS228	DS249	DS270
1800	DS208	DS229	DS250	DS271
1900	DS209	DS230	DS251	DS272
2000	DS210	DS231	DS252	DS273

Dimensioni / Dimensions



mm	A	B	C	D
160 mm²	16,5	48	38	13
200 mm²	16,5	48	38	13
250 mm²	16,5	50	45	15
300 mm²	16,5	50	50	15

Treccia Cnomo raffreddata ad acqua

Water-cooled Cnomo plait

Caratteristiche generali

Queste trecce in rame altamente flessibili sono indicate per l'utilizzo sui mascheraggi di saldatura, dove sono richiesti spazi e raggi di curvatura ridotti ed elevate correnti di saldatura.

General features

This air-cooled plaits are very flexibles, and specially suitable for semi-automatic welding units, where small bending radius and high welding currents are required.

Caratteristiche tecniche

- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,10 mm
- Tubo di gomma
- Terminali a 1 foro serie Cnomo
- Normativa 151079

Technical features

- Electrolytic copper wires ETP UNI 5649
- Single wire ø 0,10 mm
- Rubber tube
- One hole terminals Cnomo series
- Standard 151079

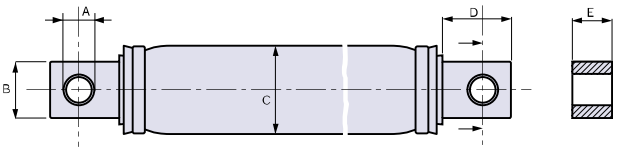
A richiesta

Altre misure

On request

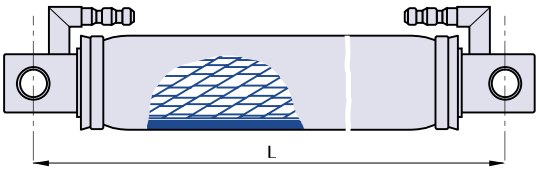
Other terminal drawings

Dimensioni / Dimensions



mm	A	B	C	D	E
400 mm²	13	32	47	45	20
500 mm²	13	32	50	45	24
600 mm²	13	32	60	55	28

Codifica / Codification



L (mm)	400 mm²	500 mm²	600 mm²
300	CTQ450	CTQ473	CTQ496
325	CTQ451	CTQ474	CTQ497
350	CTQ452	CTQ475	CTQ498
375	CTQ453	CTQ476	CTQ429
400	CTQ454	CTQ477	CTQ500
425	CTQ455	CTQ478	CTQ501
450	CTQ456	CTQ479	CTQ502
475	CTQ457	CTQ480	CTQ503
500	CTQ458	CTQ481	CTQ504
550	CTQ459	CTQ482	CTQ505
600	CTQ460	CTQ483	CTQ506
650	CTQ461	CTQ484	CTQ507
700	CTQ462	CTQ485	CTQ508
750	CTQ463	CTQ486	CTQ509
800	CTQ464	CTQ487	CTQ510
850	CTQ465	CTQ488	CTQ511
900	CTQ466	CTQ489	CTQ512
950	CTQ467	CTQ490	CTQ513
1000	CTQ468	CTQ491	CTQ514

Treccia Cnomo ad aria

Air-cooled Cnomo plait

Caratteristiche generali
Queste trecce in rame altamente flessibili sono indicate per l'utilizzo sui mascheraggi di saldatura, dove sono richiesti spazi e raggi di curvatura ridotti.

Caratteristiche tecniche
- Corde in rame elettrolitico ETP UNI 5649
- Filo elementare ø 0,10 mm
- Tubo di gomma con rinforzo tessile
- Terminali a 1 foro serie Cnomo
- Normativa 151079

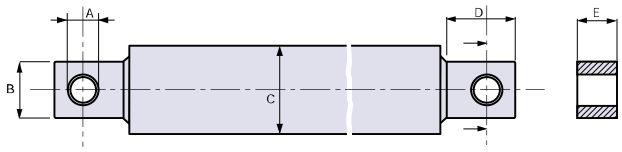
A richiesta
Filo elementare ø 0,15 mm
Altre misure

General features
This air-cooled plaits are very flexible, and specially suitable for semi-automatic welding units, where small bending radius are required.

Technical features
- Electrolytic copper wires ETP UNI 5649
- Single wire ø 0,10 mm
- Textile reinforced rubber tube
- One hole terminals Cnomo series
- Standard 151079

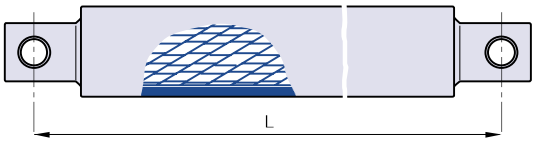
On request
Single wire ø 0,15 mm
Other terminal drawings

Dimensioni / Dimensions



mm	A	B	C	D	E
300 mm²	13	32	38	40	16
400 mm²	13	32	41	40	20
500 mm²	13	32	45	40	24

Codifica / Codification

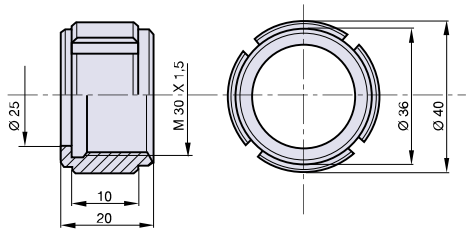


L (mm)	300 mm²	400 mm²	500 mm²
300	CT519	CT542	CT565
325	CT520	CT543	CT566
350	CT521	CT544	CT567
375	CT522	CT545	CT568
400	CT523	CT546	CT569
425	CT524	CT547	CT570
450	CT525	CT548	CT571
475	CT526	CT549	CT572
500	CT527	CT550	CT573
550	CT528	CT551	CT574
600	CT529	CT552	CT 75
650	CT530	CT553	CT576
700	CT531	CT554	CT577
750	CT532	CT555	CT578
800	CT533	CT556	CT579
850	CT534	CT557	CT580
900	CT535	CT558	CT581
950	CT536	CT559	CT582
1000	CT537	CT560	CT583

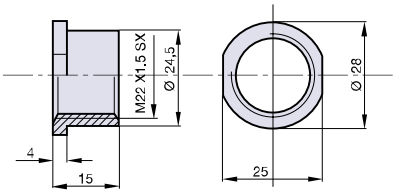
Raccordi e componenti

Connectors and components

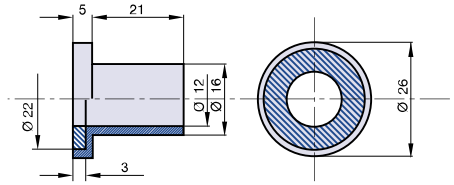
Art. 1006
Ghiera tipo A in AISI 303 — AISI 303 ring nut type A



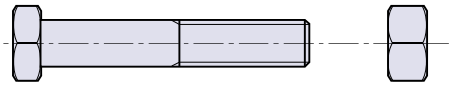
Art. 1007
Contro ghiera tipo A in ottone — Brass lock ring nut type A



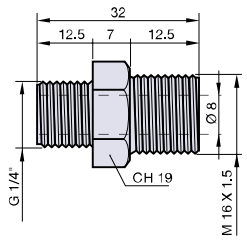
Art. 1008
Bussola di isolamento tipo A in PVC e anello di rame — Insulating bush type A made of PVC and copper washer



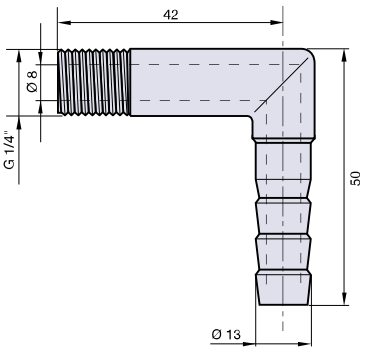
Art. 1009
Vite M12x80 UNI 5737-65 e dado M12 UNI 5588-65 in acciaio AISI 304 — Screw M12x80 UNI 5737-65 and nut M12 UNI 5588-65 made of AISI 304



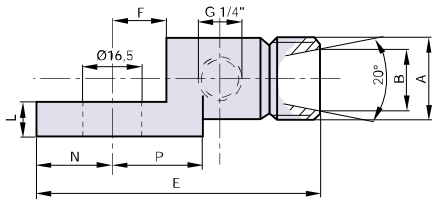
Art. ZA10
Adattatore in ottone — Brass adaptor



Art. BF33
Gomito in ottone — Brass elbow



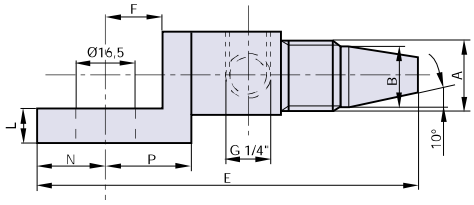
Art. 1001-1002 / Type S-D



Dimensioni / Dimensions

mm	A	B	E	F	L	N	P
Art. 1001 160 mm²	M30X1,5	19,5	98	26	15	28	39
Art. 1002 300 mm²	M30X1,5	19,5	105	31	14	20	47

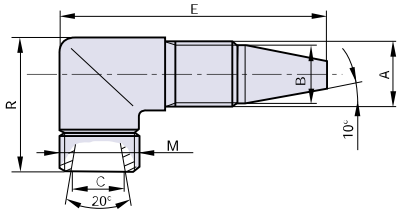
Art. 1003 / Type S-C



Dimensioni / Dimensions

mm	A	B	E	F	L	N	P
160 mm²	M22x1,5 sx	19,5	139	24	13	19	41

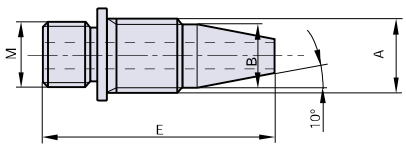
Art. 1004 / Type P-C



Dimensioni / Dimensions

mm	A	B	C	E	M	R
160 mm²	M22x1,5 sx	19,5	19,5	82	M30x1,5	62

Art. 1005 / Type C-D

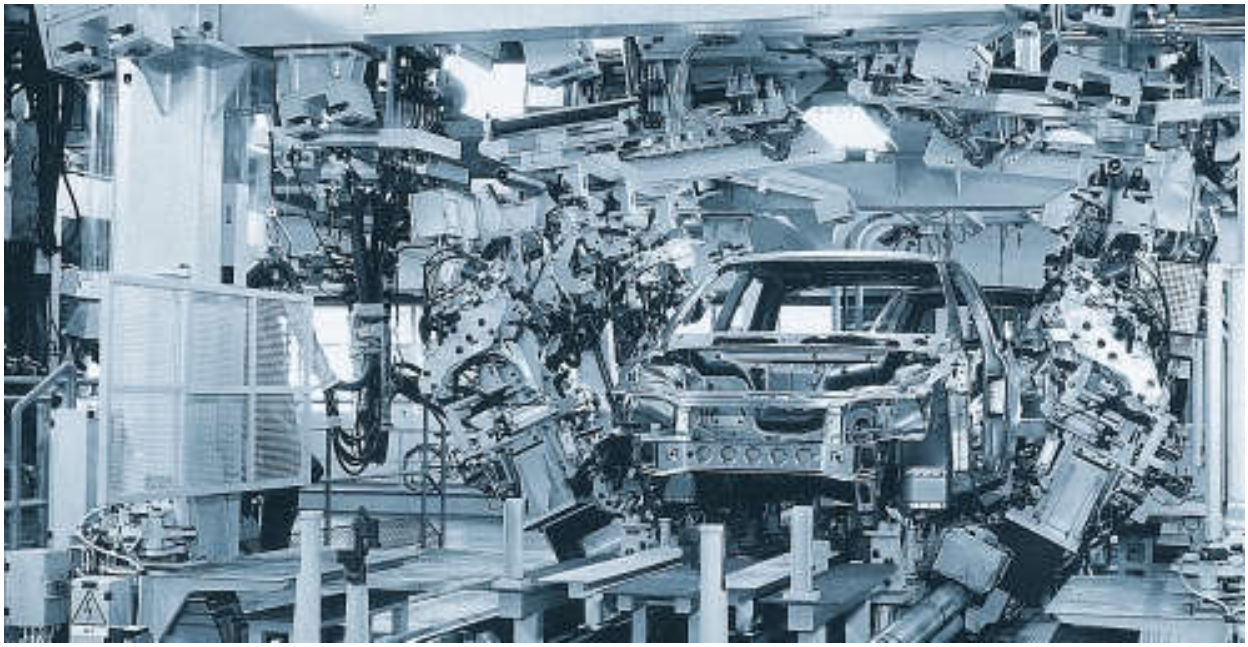


Dimensioni / Dimensions

mm	A	B	E	M
160 mm²	M22x1,5 sx	19,5	63	M18x1,5

Esempi di applicazione

Applications



Cavi bipolari per pinze manuali e trecce aria per celle semi-automatiche.
Kickless cables on manual welding unit and air cooled plaits on semi-automatic cell.



Cavo bipolare Biflex B2
abbinato a 2 cavi unipolari.
B2 kickless cable assembled
to two unipolar cables.



Cavo bipolare per pinza manuale
con giunto rotativo "Roteo".
Kickless cable and a rotary joint
"Roteo" on manual welding unit.