REPLACEMENT FOR ARISTONCAVI SUBMERSIBLE S1RN8-F | 0.6/1 kV | S1RN8-F | water-resistant rubber | 7 sizes

FC-SUB 5G 0.6/1 kV

Submersible Pump Cable – water-resistant rubber compound for permanent immersion, black. FeiChun replacement for Aristoncavi SUBMERSIBLE S1RN8-F: construction, dimensions, weight, current rating, standards and installation guidance.

Document no. FC-TDS-AR0634-2026-0A7C-EN · Revision 0 · Issued 4 November 2026 · Language: English (AU)

01 Application and Product Overview

FC-SUB is a submersible Pump Cable rated 0.6/1 kV and the FeiChun replacement for Aristoncavi SUBMERSIBLE S1RN8-F (S1RN8-F). This datasheet covers 7 sizes, 1.5 – 25 mm², with fine-wire class 5 copper conductors, EPR rubber compound 3GI3 to DIN VDE 0207-20 insulation and a sheath of water-resistant rubber compound for permanent immersion, black.

Typical applications

- Submersible pumps in wells, tanks and sumps
- Fresh and salt water, permanent or temporary immersion
- Dewatering on construction sites and in mines
- Flexible connections of portable equipment in wet conditions

Design

5 cores laid up with a short lay length, the green-yellow protective core included. Fine-wire class 5 copper conductors and rubber insulation give the flexibility needed for repeated movement.

7 sizes	0.6/1 kV	54 A	Ø 20.6 mm
1.5 – 25 mm²	Rated voltage U_0/U	Current at 30 °C	Outer dimension, max

Key features

- Fine-wire class 5 tinned or bare copper conductors to IEC 60228
- EPR rubber compound 3GI3 to DIN VDE 0207-20 insulation
- Water-resistant design for immersion to 100 m
- Flame-retardant to IEC 60332-1-2; oil, ozone and UV resistant

Replacement reference

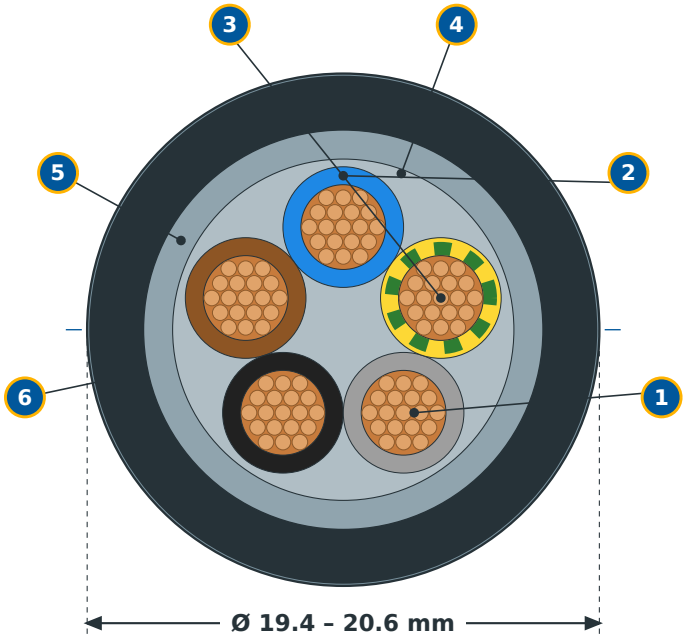
REFERENCE PRODUCT		FEICHUN REPLACEMENT
Aristoncavi SUBMERSIBLE S1RN8-F S1RN8-F	⇄	**FC-SUB 5G 0.6/1 kV** Submersible Pump Cable

The FeiChun cable has the same core configuration, voltage rating and field of application as the reference product. Dimensions and weights are FeiChun design values; compare them with reels, guides and glands before direct replacement.

02 Construction

FEICHUN · CROSS-SECTION A-A · 0.6/1 kV

FC-SUB
Sample size 5G6 · Rev 0 · Illustrative, not to scale



No.	Component	Material
1	Conductor	Fine-wire copper, class 5 to IEC 60228
2	Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
3	Protective conductor	Green-yellow insulated copper
4	Filler and anti-twist braid	Rubber compound, polyester braid
5	Inner sheath	Rubber or elastomer compound
6	Outer sheath	Water-resistant rubber compound for permanent immersion, black

The drawing shows 5G6. Other sizes have the same construction with scaled dimensions.

Construction details

Conductor	Fine-wire tinned or bare copper, class 5 to IEC 60228 / DIN VDE 0295
Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
Core identification	Colour coded to HD 308 / DIN VDE 0293
Inner sheath	Rubber or elastomer compound
Outer sheath	Water-resistant rubber compound for permanent immersion, black

Sheath material

The water-resistant rubber sheath has low water absorption for permanent immersion in fresh and salt water.

03 Electrical, Thermal and Mechanical Data

Electrical data

Rated voltage U_0/U	0.6/1 kV AC
Test voltage	3.5 kV AC, 5 min
Current-carrying capacity	DIN VDE 0298-4, 30 °C ambient; see table
Conductor resistance	Maximum at 20 °C, class 5 to IEC 60228

Thermal and mechanical data

Maximum conductor temperature	+90 °C
Short-circuit temperature	+250 °C
Ambient temperature, fixed	-40 … +80 °C
Ambient temperature, moving	-25 … +80 °C
Minimum bending radius, moving	See table (8 × D)
Maximum tensile load	15 N/mm² of copper cross-section of the power cores
Maximum immersion depth	100 m
Maximum water temperature	+40 °C
Flame propagation	IEC 60332-1-2
Halogen-free sheath	No
Oil, ozone and UV resistance	Resistant

04 Dimensions, Weights and Ratings

Type designation	Article no.	Conductor Ø max mm	Outer Ø min mm	Outer Ø max mm	Min. bend radius mm	Weight approx. kg/km	Max. pull N	R_{20} max Ω/km	Rated current A	I_k (1 s) kA
5G1.5	FC-AR0634-5G15	1.7	14.4	15.3	122	272	112	13.3	23	0.214
5G2.5	FC-AR0634-5G25	2.2	15.9	16.9	136	352	188	7.98	31	0.357
5G4	FC-AR0634-5G4	2.7	17.6	18.6	148	460	300	4.95	42	0.572
5G6	FC-AR0634-5G6	3.3	19.4	20.6	206	600	450	3.30	54	0.858
5G10	FC-AR0634-5G10	4.1	21.7	23.0	230	840	750	1.91	74	1.43
5G16	FC-AR0634-5G16	5.2	25.0	26.5	264	1,210	1,200	1.21	99	2.29
5G25	FC-AR0634-5G25	6.5	30.0	32.0	320	1,810	1,880	0.780	131	3.58

Current-carrying capacity: design values to DIN VDE 0298-4, free air, 30 °C ambient. Pull force = 15 N/mm² × copper cross-section of the power cores. Dimensions and weights are nominal design values within manufacturing tolerances.

Ambient temperature factors

°C	20	25	30	35	40	45	50
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Short-circuit rating

I_k = 0.143 kA/mm² × conductor cross-section for 1 s; for duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$.

05 Selection Guide

Typical use: At 5G6 this size typically feeds trolley drives, small pumps, cable-reel motors and conveyor auxiliaries up to about 29 kW.

At 400 V and cos φ 0.85, 5G6 supplies a three-phase load of about 29 kW at 30 °C in free air.

At 690 V and cos φ 0.85, 5G6 supplies a three-phase load of about 50 kW at 30 °C in free air.

For comparison: 5G1.5 has 15.3 mm, 272 kg/km and 23 A; 5G25 has 32.0 mm, 1,810 kg/km and 131 A. Choose the smallest size whose current, after the temperature factors, covers the load.

Example. A circuit carries 43 A at 40 °C ambient. Required table current = 43 / 0.91 = 48 A, so 5G6 (54 A) is suitable.

06 Standards and Testing

Standard	Scope
IEC 60228 / DIN VDE 0295	Conductors, class 5
DIN VDE 0298-3	Bending radii and tensile loads
DIN VDE 0298-4	Current-carrying capacity
IEC 60332-1-2	Flame propagation, single cable
EN 50525-2-21	Rubber-insulated flexible cables (design reference)
IEC 60811-404	Mineral oil resistance

Routine and type tests

- AC voltage test on every delivery length: 3.5 kV, 5 min
- Conductor resistance, dimensions and insulation thickness
- Continuity of all conductors
- Water-tightness and insulation resistance after water immersion (type test)
- Flame propagation, IEC 60332-1-2 (type test)

Test documentation: every delivery comes with a test certificate from FeiChun's own laboratory; third-party witnessed tests can be arranged at the buyer's cost.

07 Installation, Marking and Delivery

Installation guidance

- Fix the cable to the riser pipe with clamps every 3 m; do not let the cable carry the pump weight.
- Seal cable ends before immersion and use joints approved for submersible service.
- Do not exceed the permitted immersion depth and water temperature.
- Check insulation resistance before commissioning and at each pump service.

Sheath marking

FEICHUN FC-SUB 5G6 0.6/1 kV [year] [metre mark]

Packing and delivery

Packing	Steel or fumigated wooden drums; cable ends sealed
Delivery length	As ordered, in one continuous length
Lead time	2–3 weeks after technical approval
Warranty	1 year, covering failures not caused by human factors
Terms	FCA buyer's nominated forwarder's warehouse in China (Incoterms 2020); prices subject to LME copper

Order example: FC-SUB 5G6 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F 5G6, 500 m on one drum. State type, cross-section, voltage, length per piece and installation conditions when requesting a quotation.

08 Certification and Quality

FeiChun holds CE (Low Voltage Directive), EAC and UKCA certificates and an ATEX documentation verification for defined product groups. Whether a certificate scope covers this construction is confirmed per project. All cable is routine-tested over 100 % of the delivered length.

09 Related Datasheets

This datasheet in Russian: FC-SUB 5G 0.6/1 kV

- FC-SUB 1× 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 2× 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 3G1.5 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 4G1.5 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 7G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 12G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 18G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 1× 450/750 V – replacement for Aristoncavi SUBMERSIBLE H07RN8-F

Library overview: FeiChun replacements for Aristoncavi

Frequently asked questions

Can FC-SUB replace Aristoncavi SUBMERSIBLE S1RN8-F 5G6?

Yes. It is designed with the same core configuration, voltage rating and field of application. Compare the outer diameter, bending radius and weight with your reel, guides or glands before ordering; FeiChun confirms suitability on request.

What are the outer diameter and minimum bending radius of 5G6?
Outer diameter 19.4 – 20.6 mm; minimum bending radius in moving operation 206 mm (10 × D).

What current can 5G6 carry?
54 A in free air at 30 °C ambient. Apply the temperature factors in section 04.

How deep can the cable be immersed?
Up to 100 m in fresh or salt water.

Is the cable halogen-free?
No. The water-resistant rubber sheath contains halogen; a halogen-free PUR version can be offered.

10 Trademark Notice and Intellectual Property

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Document control

Document no. FC-TDS-AR0634-2026-0A7C-EN
Revision 0
Date 4 November 2026
Product FC-SUB 5G 0.6/1 kV