REPLACEMENT FOR ARISTONCAVI SUBMERSIBLE S S07RC4N8-F | 450/750 V | S07RC4N8-F | water-resistant rubber | 6 sizes

FC-SUB-S 3G 450/750 V

Screened Submersible Cable for VFD Pumps – water-resistant rubber compound for permanent immersion, black. FeiChun replacement for Aristoncavi SUBMERSIBLE S S07RC4N8-F: construction, dimensions, weight, current rating, standards and installation guidance.

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01 Application and Product Overview

FC-SUB-S is a screened Submersible Cable for VFD Pumps rated 450/750 V and the FeiChun replacement for Aristoncavi SUBMERSIBLE S S07RC4N8-F (S07RC4N8-F). This datasheet covers 6 sizes, 1.5 – 16 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 fed by frequency converters (VFD)
- Installations that require electromagnetic compatibility (EMC)
- Fresh and salt water, permanent immersion
- Wastewater and dewatering pumps

Design

3 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.

6 sizes	450/750 V	42 A	Ø 18.5 mm
1.5 – 16 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
- Copper braid screen for EMC and touch-voltage protection
- Flame-retardant to IEC 60332-1-2; oil, ozone and UV resistant

Replacement reference

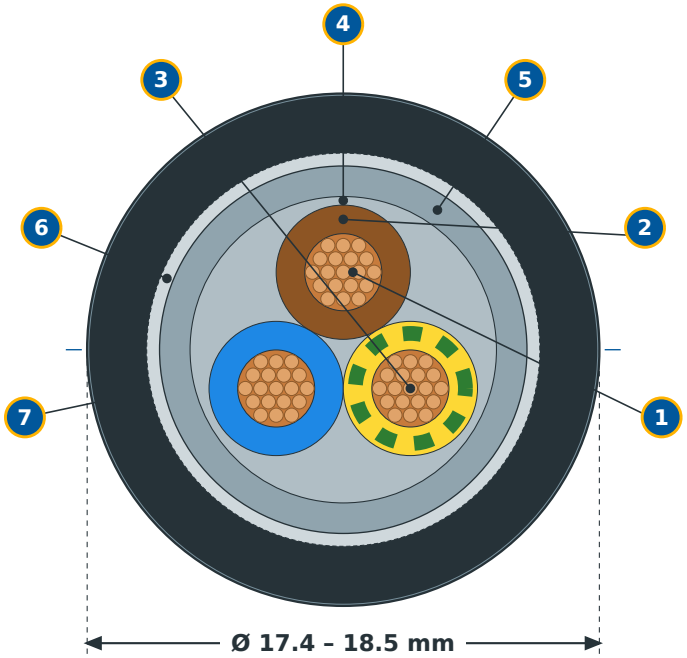
REFERENCE PRODUCT	⇄	FEICHUN REPLACEMENT
Aristoncavi SUBMERSIBLE S S07RC4N8-F S07RC4N8-F		**FC-SUB-S 3G 450/750 V** Screened Submersible Cable for VFD Pumps

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 · 450/750 V

FC-SUB-S
Sample size 3G4 · 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	Overall screen	Tinned-copper braid, ≥ 80 % coverage
7	Outer sheath	Water-resistant rubber compound for permanent immersion, black

The drawing shows 3G4. 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
Overall screen	Tinned-copper braid, coverage ≥ 80 %
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	450/750 V AC
Test voltage	2.5 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
3G1.5	FC-AR0600-3G15	1.7	13.9	14.8	118	264	68	13.3	23	0.214
3G2.5	FC-AR0600-3G25	2.2	15.6	16.5	132	338	112	7.98	31	0.357
3G4	FC-AR0600-3G4	2.7	17.4	18.5	148	430	180	4.95	42	0.572
3G6	FC-AR0600-3G6	3.3	18.8	20.0	160	530	270	3.30	54	0.858
3G10	FC-AR0600-3G10	4.1	21.6	23.0	230	740	450	1.91	74	1.43
3G16	FC-AR0600-3G16	5.2	24.0	25.5	256	1,000	720	1.21	99	2.29

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 3G4 this size typically feeds trolley drives, small pumps, cable-reel motors and conveyor auxiliaries up to about 23 kW.

For comparison: 3G1.5 has 14.8 mm, 264 kg/km and 23 A; 3G16 has 25.5 mm, 1,000 kg/km and 99 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 3G6 (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: 2.5 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

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FEICHUN FC-SUB-S 3G4 450/750 V [year] [metre mark]
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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-S 3G4 450/750 V – replacement for Aristoncavi SUBMERSIBLE S S07RC4N8-F 3G4, 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-S 3G 450/750 V

- FC-SUB-S 450/750 V – replacement for Aristoncavi SUBMERSIBLE S S07RC4N8-F
- FC-SUB-S 3G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S S1RC4N8-F

Library overview: FeiChun replacements for Aristoncavi

Frequently asked questions

Can FC-SUB-S replace Aristoncavi SUBMERSIBLE S S07RC4N8-F 3G4?
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 3G4?
Outer diameter 17.4 – 18.5 mm; minimum bending radius in moving operation 148 mm (8 × D).

What current can 3G4 carry?
42 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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