

Hivoduct «pressurized air cables» are medium voltage and high-voltage cables for electrical energy transmission. Pressurized air cables are environmentally friendly, powerful, have reduced losses, are maintenance free, and non-flammable.

Pressurized air cable: F420 series

Parameter	Value	Information
Rated voltage	300 kV - 420 kV	
Rated current	2000-5000 A	
Insulation media	Pressurized air	N2: 80%, O2: 20 %, dry
Inside pressure	<= 10 bar	Filling pressure at 20°C.
Conductor	Aluminum	High conductivity, > 28 m/Ω*mm ²
Cond. Cross section	<= 5300 mm²	
Enclosure	Aluminum	Anticorodal. Nonflammable.
Encl. Cross section	15000 mm²	Return current / ground connection included
Bending radius	0 mm	Angle pieces 90° available. Any radius ok.
Short circuit current	63 kA, 1 s	
AC Test voltage	Up to 650 kV	Partial discharge level: < 5 pC
BIL Test voltage	+/- 1425 kV	
Capacitance	41 - 51 pF/m	Per phase
Inductance	217 nH/m	1 phase. 3 Phases depend on arrangement
AC Resistance	8 μOhm/m	R _{AC} conductor + enclosure @ 50 Hz
Magnetic field	< 1 μT	@ 4000 A in > 2 m distance if fully grounded.
Enclosure temperature	< 40°C	@ 3500 A for > 8 h without forced cooling.
	< 65°C	@ 5000 A for > 8 h without forced cooling.
Losses	~26 W/m/Phase	@ 2000 A continuous current, 50 Hz
Components	Straight tube	Length available: 0.1 - 5m
	Bushing	Creepage & Flash-over distance as required
	Angle 90°	Including rotating flanges.
Temperature range	-30 °C to + 30 °C	Environmental temperature during operation
Contact system	Spiral contacts	Contacts silver plated
Transport weight	< 600 kg	Per transport unit
Transport length	< 6 m	Per transport unit
Phase distance	>= 600 mm	
Width 3ph	>= 1800 mm	Trough width for 3 phases side-by-side
Height	>= 700 mm	Trough height for 3 phases side-by-side
Diameter 3ph	>= 1800 mm	For 3ph in triangular arrangement in tube
Grounding	All options	100 % return current in enclosure is ok
Life expectancy	> 40 years	Expected lifetime. Maintenance free.
Reusable	Yes	Disassembly on each flange possible.

Pressurized air cables are most suitable for critical installations where high power, best fire protection, quick assembly and disassembly and reduced outside magnetic fields are required.

Other ratings on request.