SFG
Gas-insulated indoor switch disconnector

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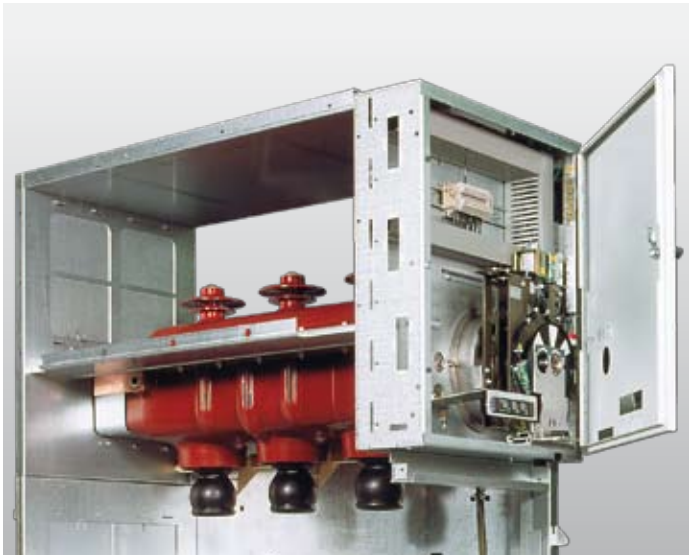
SFG — Gas-insulated indoor switch disconnector



The SFG switch disconnector has three positions as standard: Close, Open and Earth.

There are two types of operating mechanisms: the single spring device and the double spring device. The double spring device is aimed at tripping with fuse, coil or push button. Motor operation can be added to both types of operating mechanisms.
The switch has two thermo-plastic windows for visual inspection of the switch position. The enclosure also incorporates capacitive dividers for voltage indication.
Insulation is achieved with SF_6 gas at 1.45 bar pressure. The SFG is sealed for life (i.e. 30 years) and it is virtually maintenance free. As an option, gas pressure monitoring is available.
Mechanical endurance is guaranteed to 1000 closed/open and 1000 open/earth operations.
Optionally, the Top Unit metallic frame (AluZink) and the Bushing Unit for direct busbar connection can be added to the SFG.

Technical data

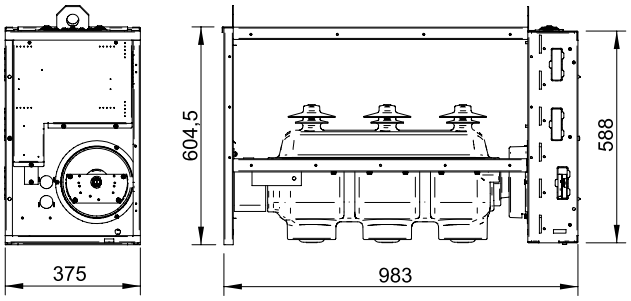
Compliance with IEC standards: IEC 60694; IEC 60265-1; IEC 60129; IEC 60420; IEC 60282-1; IEC 62271-102; IEC 62271-105

Ratings	Unit	Value	Value	Value
Rated voltage	kV	12	17.5	24
Rated lighting impulse withstand voltage Common value	kV	75	95	125
Across the isolating distance	kV	85	110	145
Rated short duration power frequency withstand voltage Common value	kV	28 [1]	38 [1]	50
Across the isolating distance	kV	32 [1]	45 [1]	60
Rated frequency	Hz	50/60	50/60	50/60
Rated current Ir	A	800	800	630
Rated short time withstand current	kA	25	20	20
Rated duration of short circuit	s	2	3	3
Rated peak withstand current	kA	62.5	50	50
Making and breaking tests (IEC 60265-1, lass E3) for the SFG switch				
Mainly active load current	A	800	800	630
Closed-loop distribution circuit current	A	800	800	630
Cable charging current	A	50 and 10	50 and 10	50 and 10
Line charging current	A	20	20	20
Cable and line charging current under earth faults	A	87	87	87
Short circuit making current	kA	62.5	50	50
Making and breaking tests (IEC 60420) for the SFG switch – fuse combination				
Withstanding and making the cut-off current of the fuse	kA	25	20	20
Breaking test with long prearcing time of fuse		ok	ok	ok
Breaking capacity at rated transfer current	A	1530	1260	920
Mechanical performance				
Mechanical endurance of switch close/open	Operations	1000	1000	1000
Mechanical endurance of switch open/earth	Operations	1000	1000	1000
Ambient temperature				
Maximum value	°C	+40	+40	+40
Maximum value of 24 h mean	°C	+35	+35	+35
Minimum value	°C	-5 [3]	-5 [3]	-5 [3]
Altitude above sea level	m	≤ 1000 [2]	≤ 1000 [2]	≤ 1000

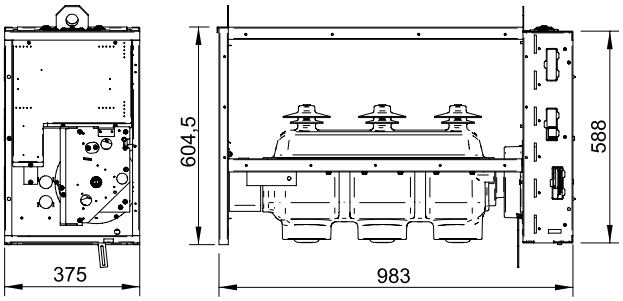
1) Higher values in accordance with national standards on request 2) Higher altitudes on request 3) Lower ambient temperature on request

Options

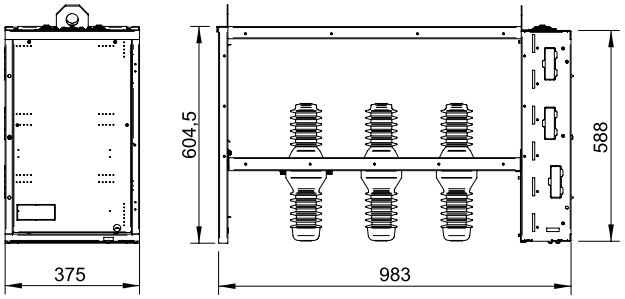
Top Unit 375



SFG Top Unit 375 with single spring device 1VFM111056R2

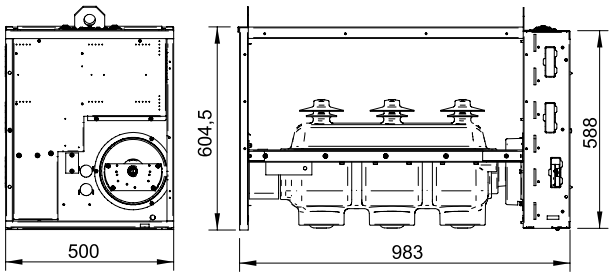


SFG Top Unit 375 with double spring device 1VFM111063R2

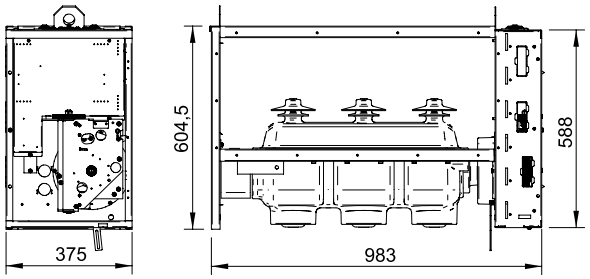


Bushing Unit 375 1VFM111072R2

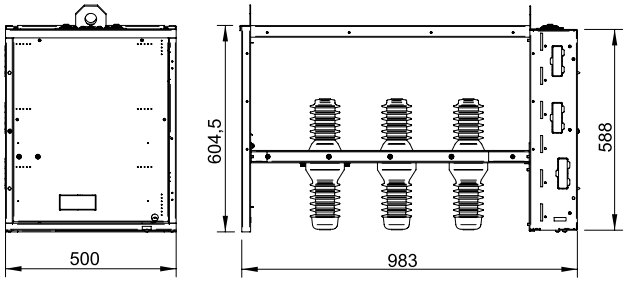
Top Unit 500



SFG Top Unit 500 with single spring device 1VFM111057R2



SFG Top Unit 500 with double spring device 1VFM111064R2



Bushing Unit 500 1VFM111073R2

Accessories

Operating handle	1VFJ220002R2
Pressure indication	1VFS120003R3
Pressure gauge	1VFS120008R2
Central locking system	1VFJ220030R2
Position indicator	1VFJ120037R2
Tripping coil*	1VFJ120007R2
Auxiliary contacts, switch disconnector switch	1VFJ120008R2
Auxiliary contacts, earthing switch	1VFJ120010R2
Locking lug on cable compartment door	1VFM182120P1CN
Top unit 375 door	1VFM111010R2
Top unit 500 door	1VFM111011R2
Top unit 375 door for fuse indication	1VFM111017R2
Top unit 500 door for fuse indication	1VFM111018R2
Single line diagram SDC 375	1YVU331223P1
Single line diagram SDC 500	1YVU330103P1
Single line diagram SDF 375	1YVU331224P1
Single line diagram SDF 500	1YVU330222P1

* = specify voltage VDC/VAC

Connection material for SFG/cable side	
Connection bars (3 phase)	1VFM114023R2
Field control ball, only for 24kV	1VFM184006P1

Connection material for SFG/busbar side	
Mid panel 12...17.5kV 630A	1VFM114013R2
Right or left panel 12...17.5kV 630A	1VFM114027R2

Fuse tripping and indication system	
Fuse tripping incl. indicator	1VFM113039R2

Fuse bases	
Fuse base/insulator with C1(capacitor)/inst.bracket with integrated EF 12kV	1VFM 113049R2CN
Fuse base/ insulator with C1(capacitor)/inst.bracket with integrated EF 24kV	1VFM 113055R2

Motor operation device for single spring mechanism	
Motor operation device	1VFU110001R2-24DC
Motor operation device	1VFU110001R2-48DC
Motor operation device	1VFU110001R2-110DC
Motor operation device	1VFU110001R2-220DC

Motor operation device for double spring mechanism	
Motor operation device	1VFU110002R2-24DC
Motor operation device	1VFU110002R2-48DC
Motor operation device	1VFU110002R2-110DC
Motor operation device	1VFU110002R2-220DC

Control unit for single spring mechanism		Mark
Control unit	2183-2632CNTHBR1	24VDC
Control unit	2183-2632CNTHBR2	48VDC
Control unit	2183-2632CNTHBR3	110VDC
Control unit	2183-2632CNTHBR4	220VDC
Control unit	2183-2634CNTHBR1	110VAC
Control unit	2183-2634CNTHBR2	220VAC

Control unit for double spring mechanism		Mark
Control unit	2183-2636CNTHBR1	24VDC
Control unit	2183-2636CNTHBR2	48VDC
Control unit	2183-2636CNTHBR3	110VDC
Control unit	2183-2636CNTHBR4	220VDC
Control unit	2183-2638CNTHBR1	110VAC
Control unit	2183-2638CNTHBR2	220VAC

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3405PL130-W1-en. Edition 04.2009

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