

Technical Data Ex9A40

Air Circuit Breakers up to 4000 A

General parameters

Air circuit breakers up to 4000 A
Breaking capacity I_{cu} 65, 85 and 100 kA
Arbitrary choice of tripping unit SU

Electrical parameters

	Ex9A40Q	Ex9A40R	Ex9A40H
Tested according to	IEC / EN 60947-2		
Rated operational voltage U_e	380 / 400 / 415 / 660 / 690 V AC		
Rated insulation voltage U_i	1000 V		
Rated impulse withstand voltage U_{imp}	12 kV		
Rated current I_n at 40°C	2000 / 2500 / 2900 / 3200 / 4000 A		
Rated frequency f	50 / 60 Hz		
Rated ultimate short-circuit breaking capacity I_{cu}	65 kA / 415 V 50 kA / 690 V	85 kA / 415 V 65 kA / 690 V	100 kA / 415 V 75 kA / 690 V
Rated service short-circuit breaking capacity I_{cs}	65 kA / 415 V 50 kA / 690 V	85 kA / 415 V 65 kA / 690 V	100 kA / 415 V 75 kA / 690 V
Rated short-circuit making capacity I_{cm}	143 kA / 415 V 105 kA / 690 V	187 kA / 415 V 143 kA / 690 V	220 kA / 415 V 165 kA / 690 V
Rated short-circuit withstand current I_{cw} for 1 s	50 kA / 415 V 32 kA / 690 V	65 kA / 415 V 40 kA / 690 V	85 kA / 415 V 50 kA / 690 V
Internal resistance per pole	0.020 mΩ (fixed) 0.033 mΩ (withdrawable)		
Poles	3P / 4P		
Breaking operation time	20 — 30 ms		
Closing operation time	< 70 ms		
Electrical service life	3000 operation cycles / 415 V 1000 operation cycles / 690 V		
Mechanical service life	8000 operation cycles without maintenance 10000 operation cycles with maintenance		
Utilization category	B		
Line voltage connection	arbitrary above or below (with external power supply for SU)		

Mechanical parameters

	fixed	withdrawable
Device width (3P / 4P)	424 mm / 539 mm	437 mm / 552 mm
Device height	353 mm	430 mm
Device depth	304 mm	401 mm
Degree of protection	IP40	
Ambient temperature	-25°C — +60°C	
Storage temperature	-40°C — +85°C (without Smart Unit) -25°C — +85°C (with Smart Unit)	
Altitude	< 2000 m	
Relative humidity	< 90 %	
Installation category	IV (main circuit) / III (secondary circuit)	
Pollution degree	3	
Main terminals surface coating	silver	
Weight (3P / 4P)	72.5 kg / 86.5 kg	118 kg / 141 kg (including cassette)

Technical Data Ex9ASD

Air Switch Disconnectors frame size A40 up to 4000 A

General parameters

Rated current up to 4000 A
Fixed and withdrawable versions
Wide range of accessories common with Air circuit breakers

Electrical parameters

	Ex9ASD40
Tested according to	IEC / EN 60947-3
Rated operational voltage U_e	380 / 400 / 415 / 660 / 690 V AC
Rated insulation voltage U_i	1000 V
Rated impulse withstand voltage U_{imp}	12 kV
Rated current I_e at 40°C	1600 / 2000 / 2500 / 2900 / 3200 / 4000 A
Rated frequency f	50 / 60 Hz
Short-time (1s) withstand current I_{cw} at 415 V	85 kA
Rated making (peak) current I_{cm} at 415 V	187 kA
Poles	3P / 4P
Breaking operation time	20 — 30 ms
Closing operation time	< 70 ms
Arcing distance	0
Isolation function	yes
Electrical service life at 415 V	3000 operation cycles
Mechanical service life	12500 operation cycles without maintenance 25000 operation cycles with maintenance
Operating frequency	20 operating cycles per hour
Overvoltage category	IV (main circuit) / III (secondary circuit)
Utilization category	AC22A / AC23A
Line voltage connection	arbitrary above or below

Mechanical parameters

	fixed	withdrawable
Device width (3P / 4P)	424 mm / 539 mm	437 mm / 552 mm
Device height	353 mm	430 mm
Device depth	304 mm	401 mm
Degree of protection	IP40	
Ambient temperature	-25°C — +60°C	
Storage temperature	-40°C — +85°C	
Altitude	< 2000 m	
Relative humidity	< 90 %	
Installation category	IV	
Pollution degree	3	
Weight (3P / 4P)	70 kg / 84 kg	116 kg / 138 kg (including cassette)

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Air Circuit Breakers and Switch Disconnectors up to 4000 A

Power dissipation at 3P connection

Rated current [A]	Fixed version	Withdrawable version
1600 A (ASD only)	140 W	300 W
2000 A	170 W	390 W
2500 A	250 W	470 W
2900 A	260 W	600 W
3200 A	260 W	600 W
4000 A	420 W	670 W

Temperature derating

T [°C]	$I_u(T)$ [A]					
	$I_n = 1600$ A	$I_n = 2000$ A	$I_n = 2500$ A	$I_n = 2900$ A	$I_n = 3200$ A	$I_n = 4000$ A
-5 — +45	1600	2000	2500	2900	3200	4000
50	1600	2000	2500	2900	3200	3900
55	1600	2000	2500	2850	3100	3800
60	1600	2000	2400	2750	3000	3700

Altitude derating

Altitude	2000 m	3000 m	4000 m	5000 m
Impulse withstand voltage U_{imp}	3500 V	3000 V	2500 V	2000 V
Insulation voltage U_i	1000 V AC	800 V AC	700 V AC	600 V AC
Rated voltage U_e	690 V AC	580 V AC	500 V AC	400 V AC
Rated uninterrupted current I_u	$1 \times I_u(T)$	$0.96 \times I_u(T)$	$0.91 \times I_u(T)$	$0.87 \times I_u(T)$

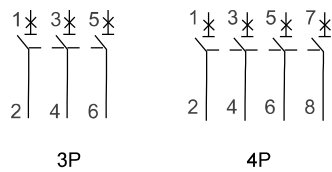
Secondary terminals

Secondary terminals	screwless
Terminals capacity	0.5 — 1.2 mm ²

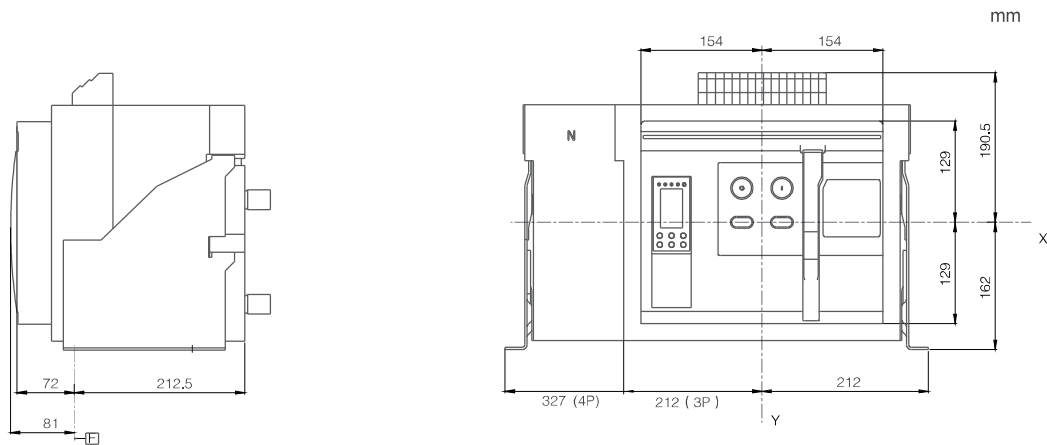
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Air Circuit Breakers and Switch Disconnectors up to 4000 A

Main terminals wiring diagrams

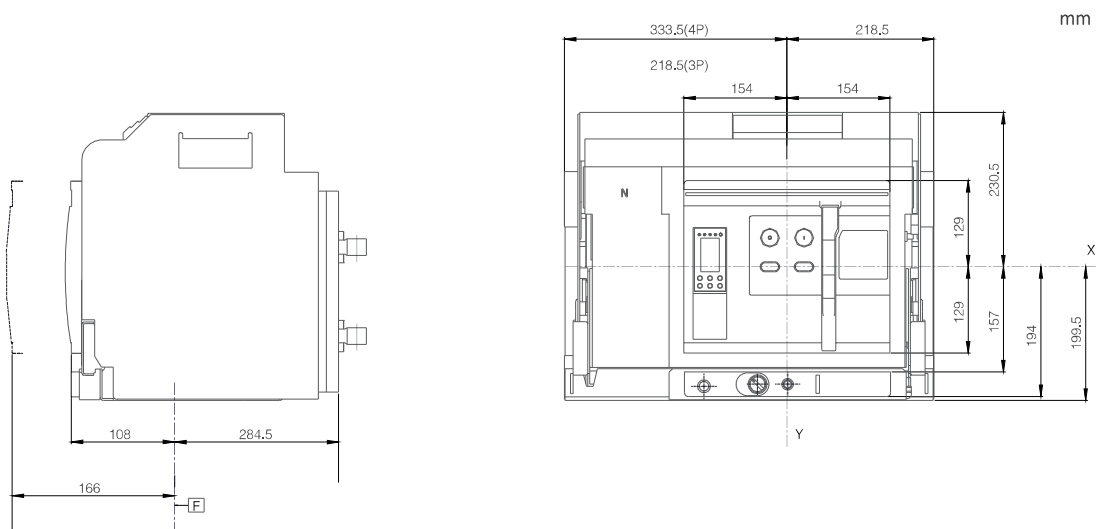


Dimensions - fixed version



X, Y - door cut-out centering
F - minimum depth of mounting support panel

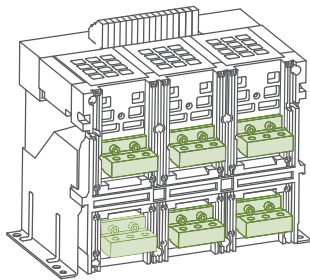
Dimensions - withdrawable version



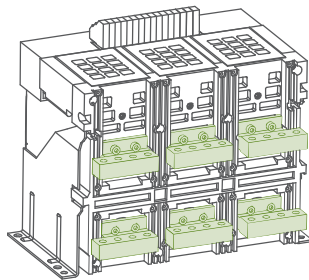
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Air Circuit Breakers and Switch Disconnectors up to 4000 A

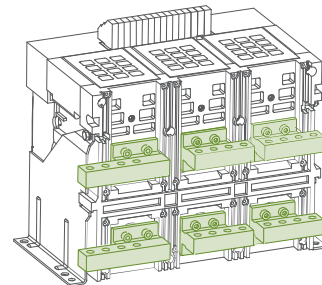
Horizontal connection - fixed version



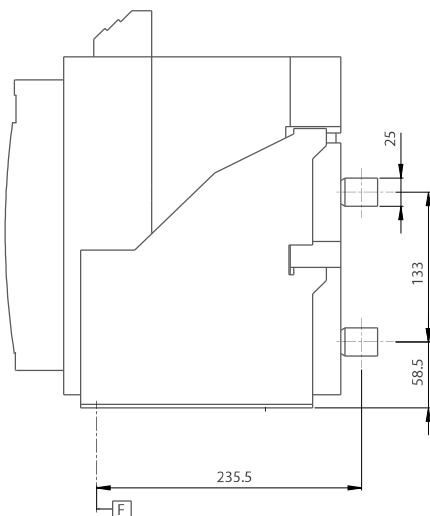
2000-2500A



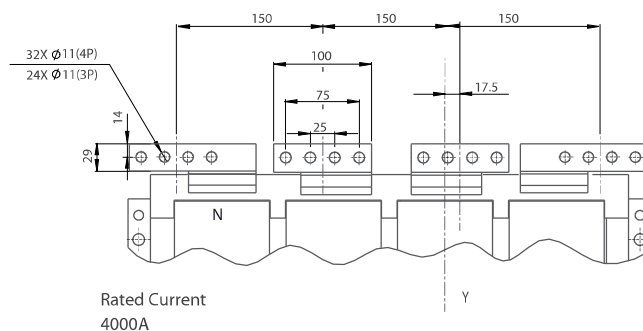
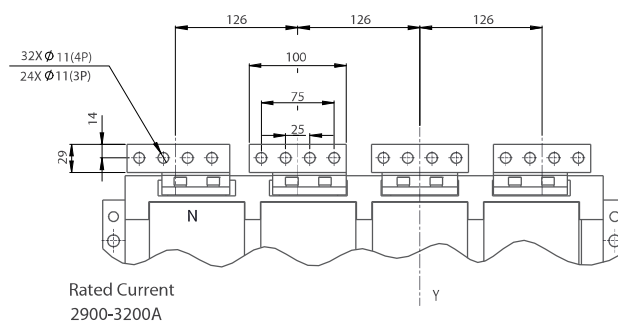
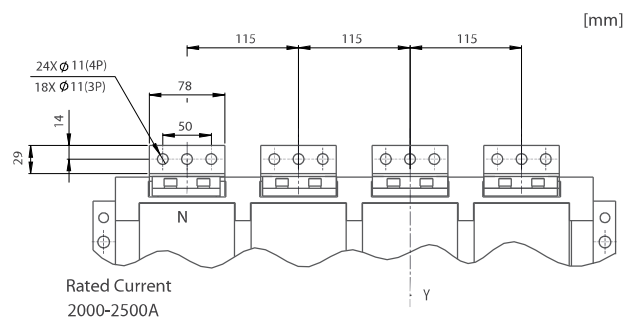
2900-3200A



4000A



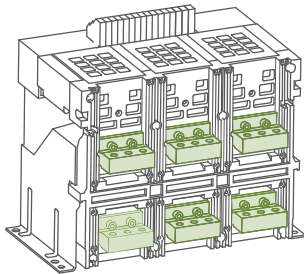
X, Y - door cut-out centering
F - minimum depth of mounting support panel



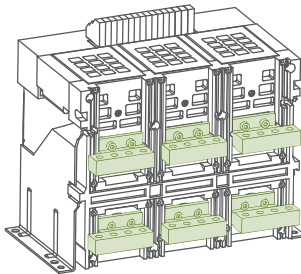
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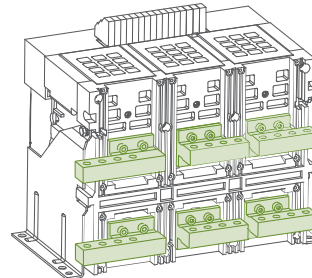
Vertical connection VCP - fixed version



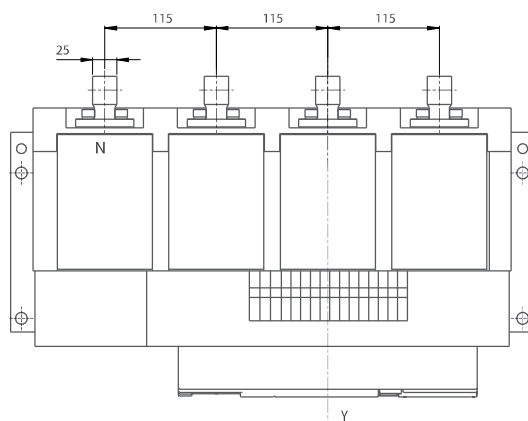
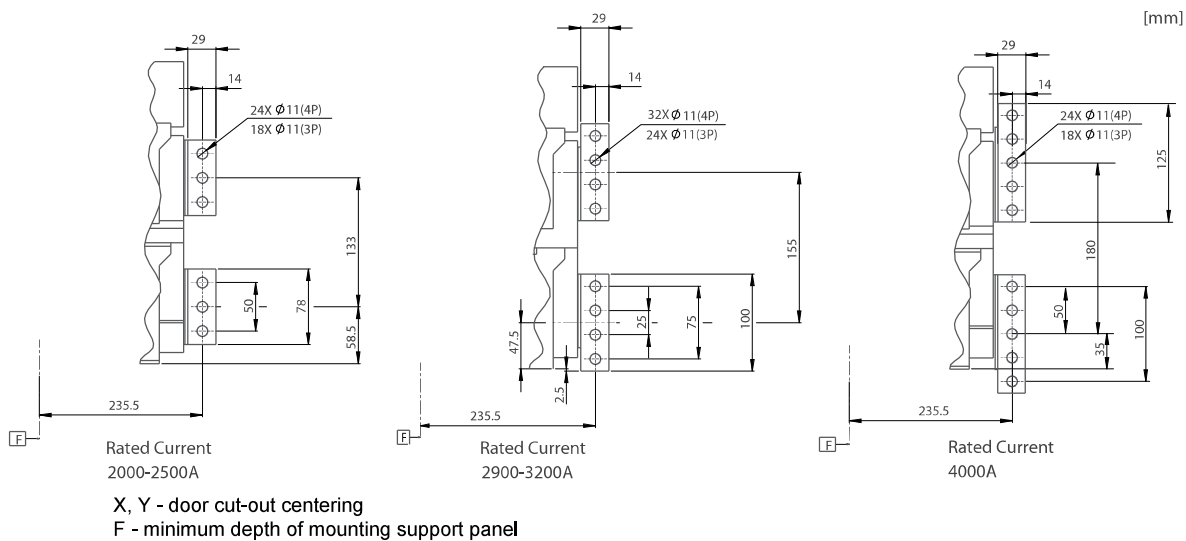
2000-2500A



2900-3200A



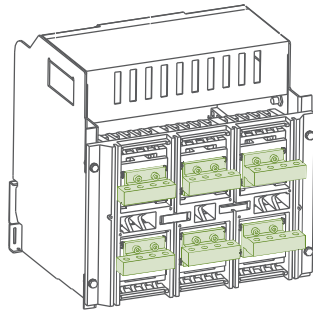
4000A



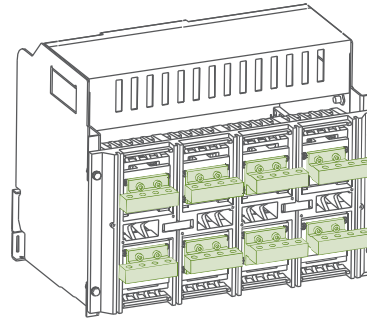
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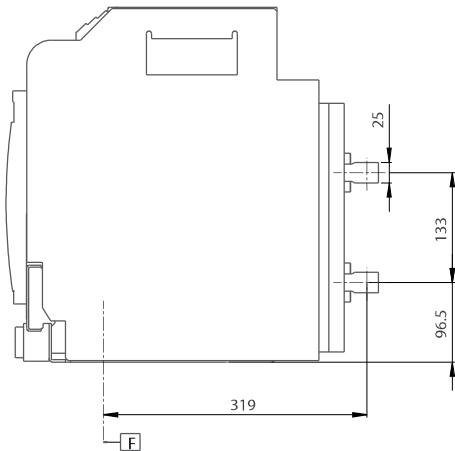
Horizontal connection - withdrawable version



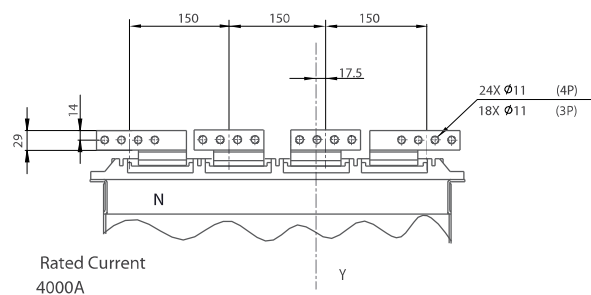
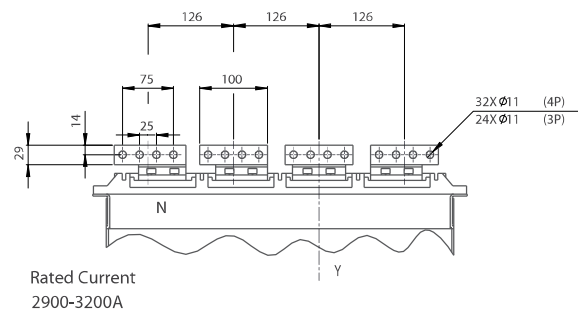
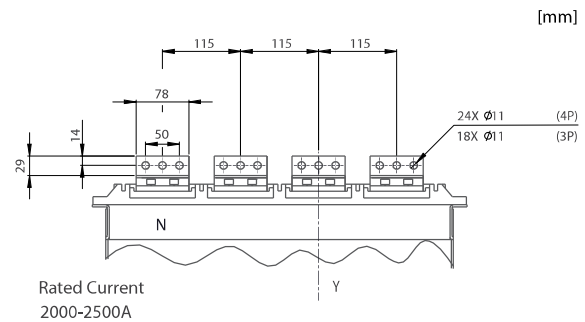
3P



4P



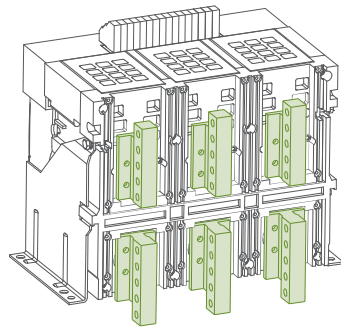
X, Y - door cut-out centering
F - minimum depth of mounting support panel



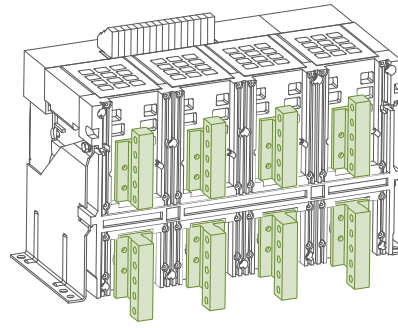
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Vertical connection VCP - withdrawable version

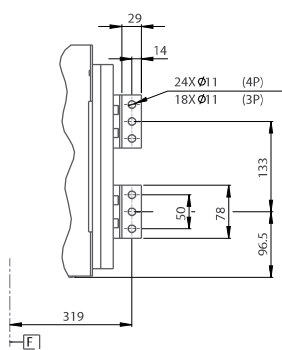


3P

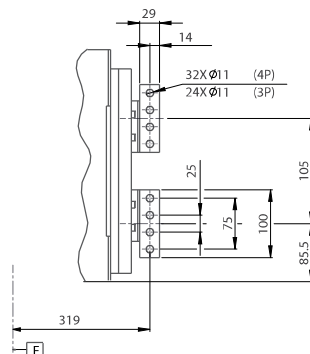


4P

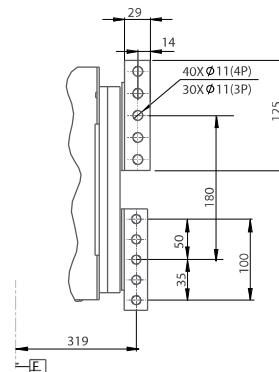
[mm]



Rated Current
2000-2500A



Rated Current
2900-3200A



Rated Current
4000A

X, Y - door cut-out centering

F - minimum depth of mounting support panel

