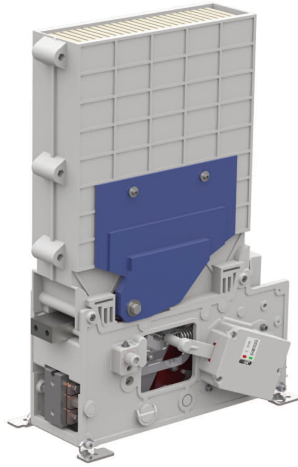


HSCBs

Standard Family Code IR 3000 F SERIES H



Description

DC single pole, magnetic blowout, trip free, air circuit breaker. The closing mechanism is motor-operated independent type while the holding mechanism is magnetic type, provided with holding coil or permanent magnet. The breaker is equipped with a direct acting over-current trip device, which may be either unidirectional or bi-directional. Reference standard IEC 61992.

Family Code			
Voltage	Holding System	Thermal Current	
		1500 A	3000 A
900 V	Holding Coil	IR 3015 FC 09H	IR 3030 FC 09H
	Permanent Magnet	IR 3015 FP 09H	IR 3030 FP 09H
1800 V	Holding Coil	IR 3015 FC 18H	IR 3030 FC 18H
	Permanent Magnet	IR 3015 FP 18H	IR 3030 FP 18H

Type	IR3000 F
Number of Poles	1 NO
Mounting Position	Vertical
Control Voltage Rating U_c [Vdc]	24 - 36 - 48 - 72 - 110 ¹
Auxiliary Contact Blocks	5 N.O. + 6 N.C.
Block Type	Reed
Arc chute Material	Ceramic
Main Contacts tips Material	AgSnO ₂
Arcing Contacts tips Material	AgW
Electric Diagram HC	42870370B
Electric Diagram PM	42870579B
Layout Drawing HC	42870647C

¹ To be specified in order phase.

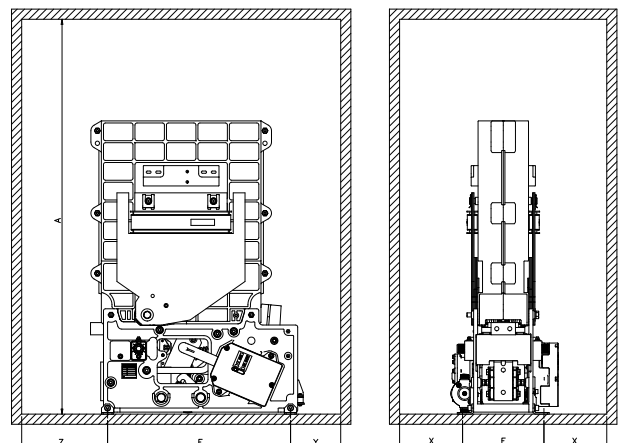
Electrical Characteristics	09H	18H
Rated Operational Voltage U_{Ne} [Vdc] ¹	900	1800
Max Operational Voltage [Vdc]	1000	2000
Rated Insulation Voltage [Vdc]	2300	2300
Conventional Free Air Thermal Current [A] at 40°C ²	1500 / 3000 ¹	
Breaking Capacity [kA/ms]		
Rated Short Circuit	70 / 63	50 / 63
Duty F: Maximum Fault	70 / 0	50 / 0
Duty E: Maximum Energy	35 / 31.5	32.5 / 31.5
Duty D: Distant Fault	6 / 63	6 / 63
Peak arc voltage x U_{Ne} [\dot{U}_{arc}]	up to 4 x U_{Ne}	
Standard direct acting trip device [kA] ¹		
Setting Range 1	1 ÷ 1.8	
Setting Range 2	1.5 ÷ 2.7	
Setting Range 3	2.2 ÷ 4	
Setting Range 4	3.3 ÷ 6	
Blow Out Circuit Type	Coil	

² Device cabled according IEC 60947

Minimum clearances [mm] from ³ :							
Rated Operational Voltage [Vdc]	A ⁴	E	F	X	Y	Z	
1800	Metal Parts	1021	450	200	155	125	211
	Plastic Parts	921			105	75	161

³ Reduced distances should be approved by M.S.

⁴ These quotes are referred to a 50 % surface opening grid.



For further technical information, please contact M.S. or refer to the product technical specification
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Mechanical Characteristics

Mechanical Endurance (cycles)	6x50000
Electrical durability [In @ Un]	4x200
Shock and Vibrations (IEC61373)	Cat.1 - Class B
Weight [kg]	75

Control Circuit

Control Voltage Range	0.7Uc ÷ 1.25Uc
Operated by	D.C. Motor
Holding closed by	Holding Coil or Permanent Magnet
Peak closing power and time [W x s]	400 x 0.01
Nominal closing power and time [W x s]	200 x 1.5

Holding Coil version

Nominal holding power @ 20°C [W]	15
Nominal opening power @ 20°C [W]	0
Controlled opening time [ms]	< 50

Permanent Magnet version

Nominal holding power @ 20°C [W]	0
Nominal opening power and time @ 20°C [W x s]	400 x 0.02
Controlled opening time [ms]	< 20

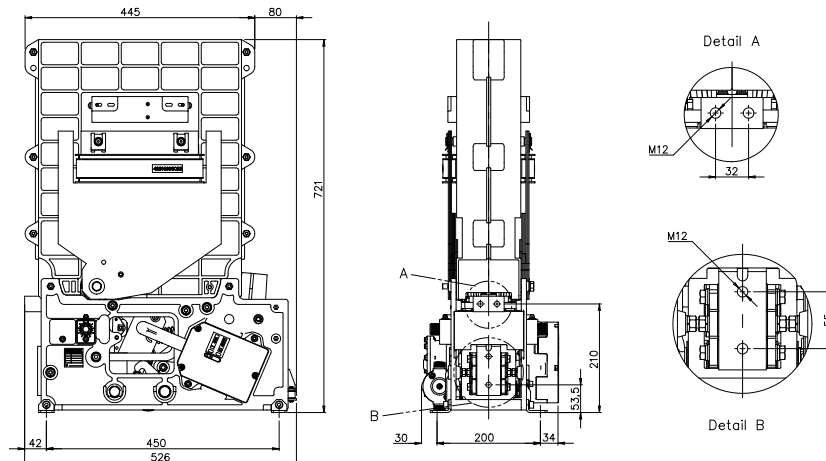
Auxiliary Contacts

Type	Reed Contacts (Vacuum Technology)
Voltage [V _{dc}]	24 / 36 / 48 / 72 / 110
Rated Current [A]	5
Maximum Breaking Power with Inductive Load $\tau=2ms$ [W]	120
Maximum Breaking Current with Inductive Load $\tau=2ms$ [A]	3
Maximum Breaking Voltage with Inductive Load $\tau=2ms$ [V]	250
Minimum let-through Current at 24Vdc [mA]	5

Environmental Conditions

Stock Temperature Range	-50°C ÷ +85°C
Operational Temperature Range	-30°C ÷ +70°C
Pollution Degree - Overvoltage Category (EN 50124-1)	PD3 - OV4
Clearance in air [mm]	14
Creepage distance [mm]	32.2
Comparative Tracking Index (CTI)	>600
Max Altitude without Performance Derating [m]	2000
Humidity ⁵	10 ÷ 95% RH

⁵ According to EN 50125-1



KNORR-BREMSE



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