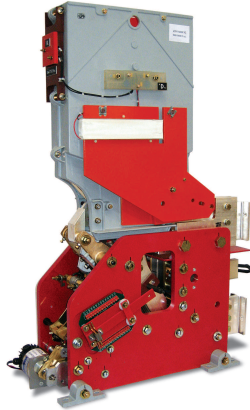


HSCBs

Standard Family Code IR 6060 and IR 6080 SERIES F



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	
		6000 A	8000 A
900 V	Holding Coil	IR 6060 FC 09M	IR 6080 FC 09M
	Permanent Magnet	IR 6060 FP 09M	IR 6080 FP 09M
1800 V	Holding Coil	IR 6060 FC 18M	IR 6080 FC 18M
	Permanent Magnet	IR 6060 FP 18M	IR 6080 FP 18M

Type	IR6060 / IR6080 F
Number of Poles	1 NO
Mounting Position	Vertical
Control Voltage Rating U_c [Vdc]	24 - 36 - 48 - 72 - 110 - 220 ¹
Auxiliary Contact Blocks	6 N.O. + 6 N.C.
Block Type	Reed or Sliding Contact
Arc chute Material	Ceramic
Main Contacts tips Material	AgSnO ₂
Arcing Contacts tips Material	AgW
Electric Diagram HC	42870233B
Electric Diagram PM	42870289B
Layout Drawing HC	42870504C

¹ To be specified in order phase.

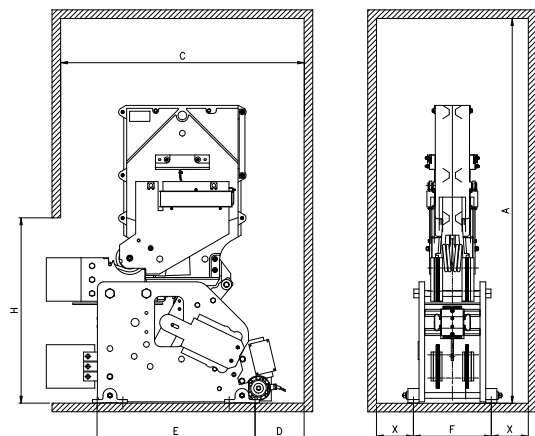
Electrical Characteristics	09M	18M
Rated Operational Voltage U_{Ne} [V _{dc}] ¹	900	1800
Max Operational Voltage [V _{dc}]	1000	2000
Rated Insulation Voltage [V _{dc}]	2300	2300
Conventional Free Air Thermal Current [A] at 40°C ²	6000 / 8000 ¹	
Breaking Capacity [kA/ms]		
Rated Short Circuit	125 / 100	80 / 63
Duty F: Maximum Fault	125 / 0	80 / 0
Duty E: Maximum Energy	62.5 / 50	40 / 31.5
Duty D: Distant Fault	8 / 100	8 / 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	6 ÷ 12	
Setting Range 2	12 ÷ 24	
Blow Out Circuit Type	Coil	

² Device cabled according IEC 60947

Minimum clearances [mm] from ³ :								
Rated Operational Voltage [V _{dc}]	A ⁴	C	D	E	F	H	X	
900	Metal Parts	1330	840	170	545	269	673	184
	Plastic Parts	1230	790	120				134
1800	Metal Parts	1330	840	170				184
	Plastic Parts	1230	790	120				134

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)	4x20000
Electrical durability [In @ Un]	4x200
Shock and Vibrations (IEC61373)	Cat.1 - Class B
Weight [kg]	160

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]	250 x 1.5
Holding Coil version	
Nominal holding power @ 20°C [W]	50
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]	500 x 0.02
Controlled opening time [ms]	< 20

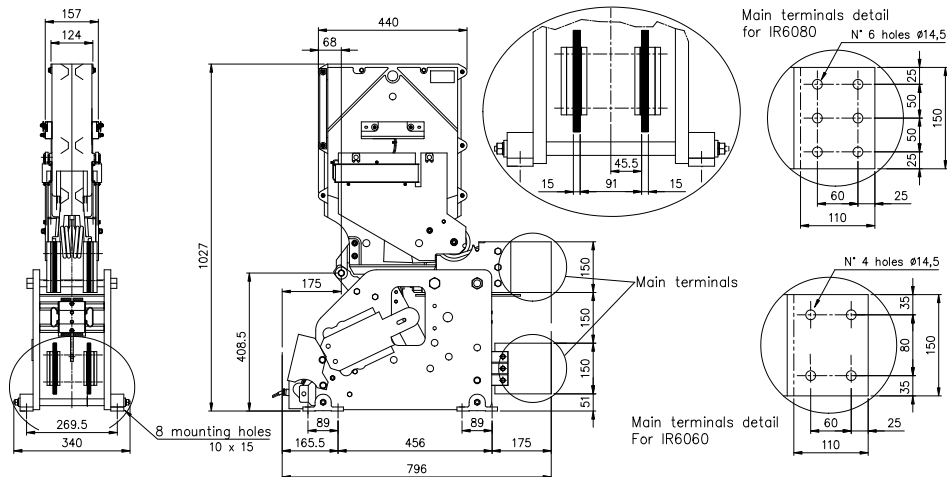
Auxiliary Contacts

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 - OV3
Clearance in air [mm]	32
Creepage distance [mm]	50.4
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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