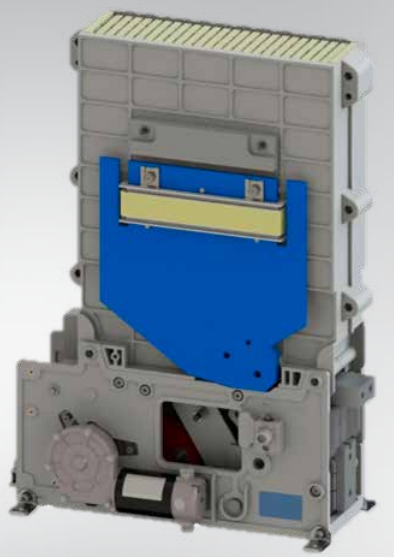


BREAKERS

STANDARD FAMILY CODE
IR 3000 F SERIES H IEC STANDARD

Product configuration	
Mounting Position	Vertical
Control Voltage Rating Uc [Vdc]	24 - 36 - 48 - 72 - 110[1]
Auxiliary Contact Blocks	5 a1 + 6 b0
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
Layout Drawing PM	42870701C

Type			
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**

MICROELETTRICA

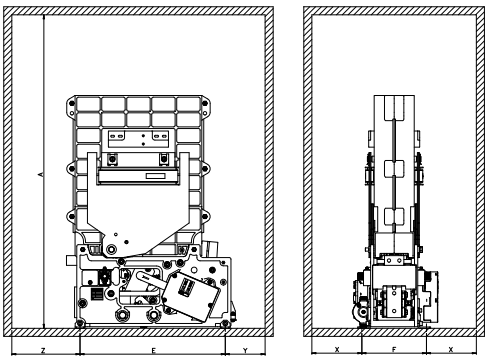
Description

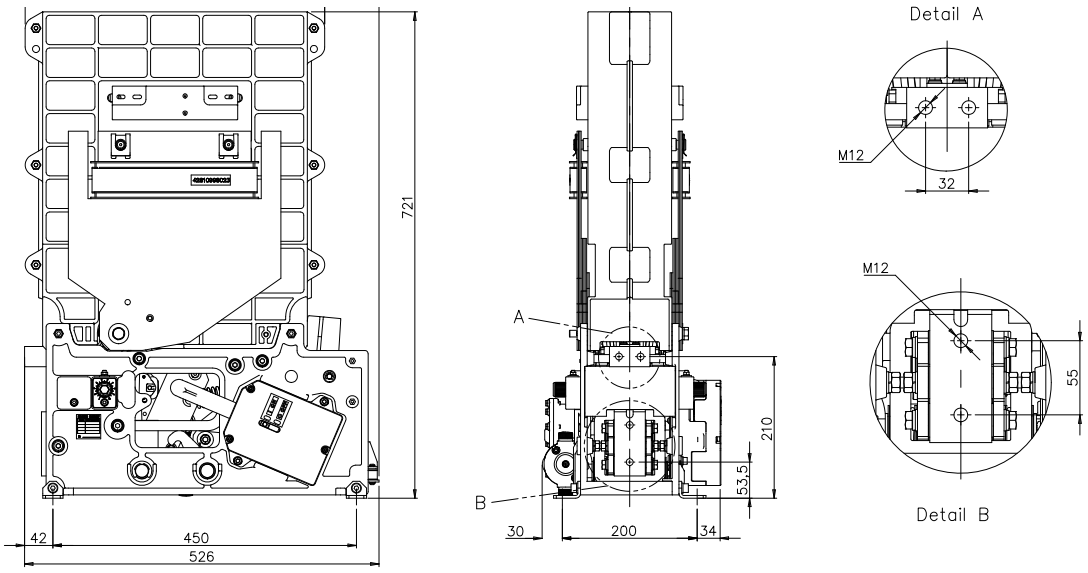
DC single pole, magnetic blowout, trip free, air circuit breaker. The closing mechanism is motor-operated independent type while the holding mechanism is magnetic type, provided with holding coil or permanent magnet. The breaker is equipped with a direct acting over-current trip device, which may be either unidirectional or bi-directional. Reference standard IEC 61992, and IEC 60947.

Insulation Characteristics	**09M**	**18M**
Rated Operational Voltage U_{Ne} [V_{dc}][1]	900	1800
Max Operational Voltage [V_{dc}]	1000	2000
Rated Insulation Voltage [Vdc] @ OV4/PD3	2300	2300
Electrical Characteristics	**09M**	**18M**
Conventional Free Air Thermal Current [A] at 40°C [2]	1500 / 3000[1]	1500 / 3000[1]
Occasional Overloads [A] for 30'	2000 / 3600	2000 / 3600
Occasional Overloads [A] for 60"	4000 / 7200	4000 / 7200
Breaking Capacity [kA/ms]		
Rated Short Circuit	70 / 63	50 / 63
Duty F: Maximum Fault	70 / 0 (peak 100KA)	50 / 0 (peak 71KA)
Duty E: Maximum Energy	35 / 31.5	25 / 31.5
Duty D: Distant Fault	6 / 63	6 / 63
Rated Duty Cycle	0-15s-CO-15s-CO-60s-CO	0-15s-CO-15s-CO-60s-CO
Peak arc voltage [$\hat{U}_{arc}$]	up to 4 x U_{Nm}	up to 4 x U_{Nm}
Standard Bidirectional direct acting trip device [kA][3]		
Setting Range A1	1 ÷ 1.8	1 ÷ 1.8
Setting Range A2	1.5 ÷ 2.7	1.5 ÷ 2.7
Setting Range B3	2.2 ÷ 4	2.2 ÷ 4
Setting Range B4	3.3 ÷ 6	3.3 ÷ 6
Blow Out Circuit Type	Coil	Coil
Mechanical Characteristics		
Mechanical Endurance (cycles)	20000	
Electrical durability [I_{Ne} @ U_{Ne}]	200	
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]	250 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 Circuit	
Type	Reed Contacts (Vacuum Technology)
Voltage [V_{dc}]	24 / 36 / 48 / 72 / 110[1]
Rated Current [A]	5
Maximum Breaking Power with Inductive Load τ=2ms [W]	120
Maximum Breaking Current with Inductive Load τ=2ms [A]	3
Maximum Breaking Voltage with Inductive Load τ=2ms [V]	250
Minimum let-through Current at 24Vdc [mA]	5
Electrical Connections	Fast-on 2.5 x 0.8mm or customized LV Connection[1]
Environmental Conditions	
Stock Temperature Range	-50°C ÷ +85°C
Operational Temperature Range	-30°C ÷ +70°C
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

Minimum clearances [mm] from[6]:							
Rated Operational Voltage [V_{dc}]		A[7]	E	F	X	Y	Z
900	Metal Parts	1021	450	200	100	202	248
	Plastic Parts	921			50	150	198
Minimum clearances [mm] from[6]:							
Rated Operational Voltage [V_{dc}]		A[7]	E	F	X	Y	Z
1800	Metal Parts	1021	450	200	155	125	211
	Plastic Parts	921			105	75	161





[1] To be specified in order phase
[2] Device cabled according IEC 60947
[3] Tripping point reached up with di/dt=200A/s. Other setting range are available on request

[5] According to IEC 62498-1
[6] Reduced distances should be approved by Microelettrica
[7] These quotes are referred to a 50% surface opening grid

The technical specifications reported are not binding and they should be agreed in the contract.

For further technical information on our products visit www.microelettrica.com

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