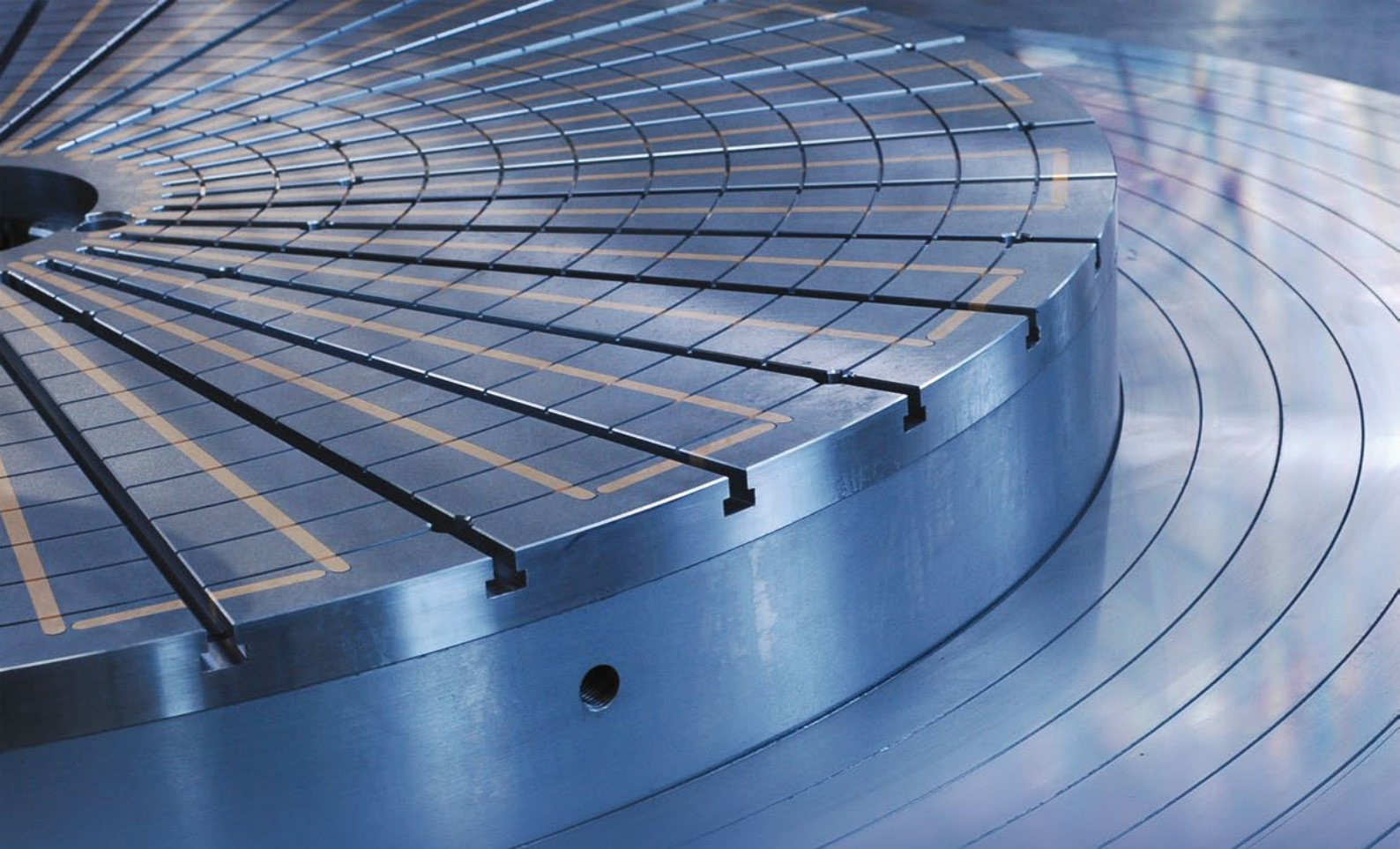


CIRCULAR MAGNETIC CHUCKS

TURNING

GRINDING

BRAILLON MAGNETICS

MAGNETIC ROTARY CHUCKS

BRAILLON MAGNETICS invented and built the first Electro-Permanent magnetic chuck in 1963. Since then the E-P technology has evolved constantly, resulting in a range of very powerful, reliable and sturdy magnetic chucks for chip removal and cylindrical grinding operations.

THE LARGEST TOOL CLEARANCE

Using raising pole shoes, **BRAILLON MAGNETICS** circular chucks allow a 3 side access to the workpiece.

HIGH RELIABILITY

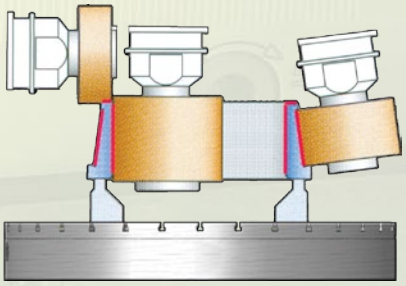
Thanks to a static design without any movable components, **BRAILLON MAGNETICS** Circular Chucks are built to last.

HIGH ACCURACY

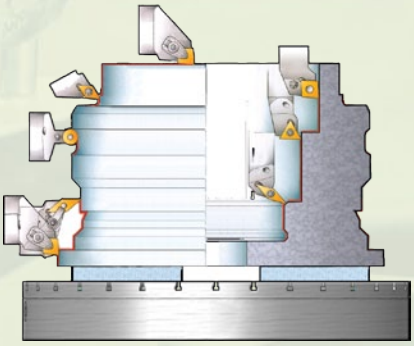
Electro-Permanent releases increase both accuracy and safety. Once magnetised, Circular EP Chucks do not need electrical power to maintain the magnetic force. This prevents any thermal expensions due to electrical heating and ensures safety against any voltage drop.

HOMOGENEOUS CLAMPING

Magnetic force is spread all over the top plate. This prevent the workpiece from distortions due to standard mechanical jaws.

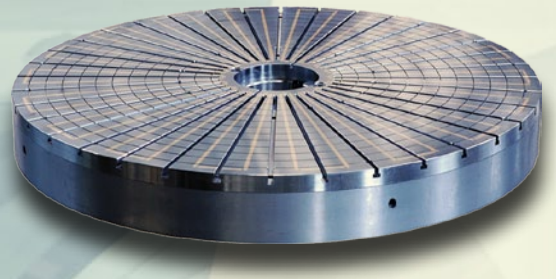


Bearing rings grinding



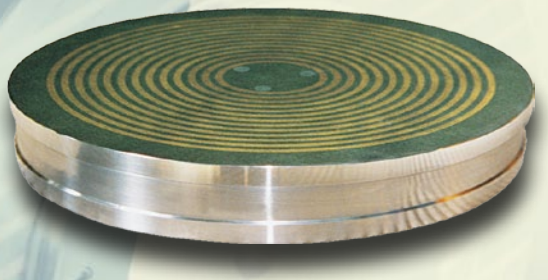
General turning operations

THREE DEDICATED DESIGNS



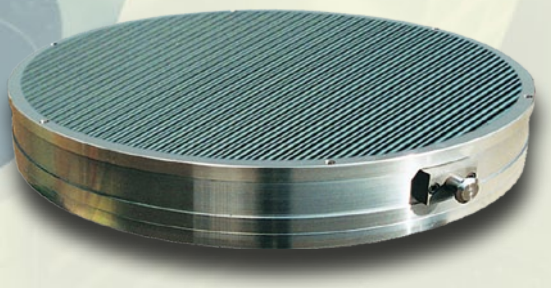
RADIAL

This magnetic pole arrangement is specially dedicated to ring-shaped workpieces. It also allows to reach the maximal magnetic flux concentration. These chucks can be fitted out with pole shoes in order to make the tool clearance bigger.



CONCENTRIC

This design is suitable for multiple workpiece arrangement, Particularly efficient with thick and medium sized workpiece.



PARALLEL

It presents the most efficient design to clamp thin and small sized workpieces. For extra-thin workpieces, a small pitch paralell Top plate design is also available. Similar to concentric design, a multiple workpiece arrrangement is possible.



MAGNETIC CIRCUITS

BRAILLON MAGNETICS has become a world leader in the 3 following magnetic technologies :

COMPENSATED ELECTRO-PERMANENT (EP)

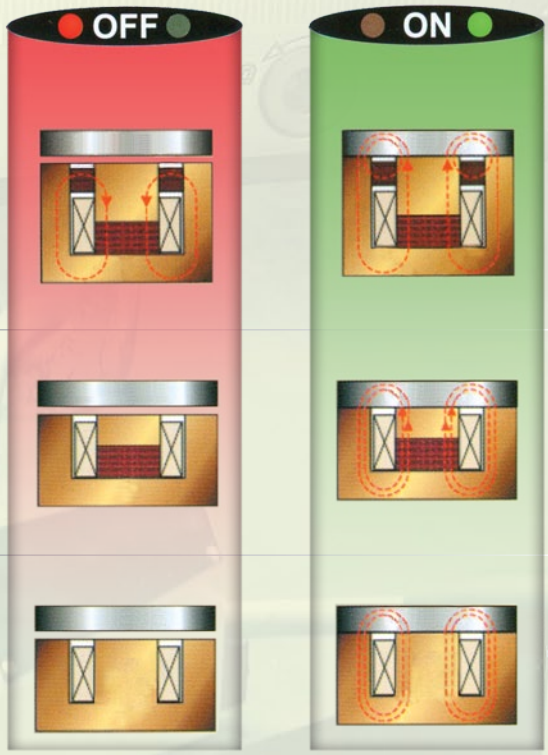
EP technology consists in magnetizing the chuck with a single electrical pulse. The chuck is then magnetized even if a voltage drop occur. The Compensated EP technology is a combination of Neodynium and Alnico magnets to reach the highest possible magnetic clamping force.

FULL DEMAGETIZATION ELECTRO-PERMANENT (EP)

EP system based technology as well, the Full Demagnetization consists in using only Alnico Magnets. The great benefit is to reach the lowest possible residual magnetism level after demagnetization.

ELECTRO-MAGNETIC (EM)

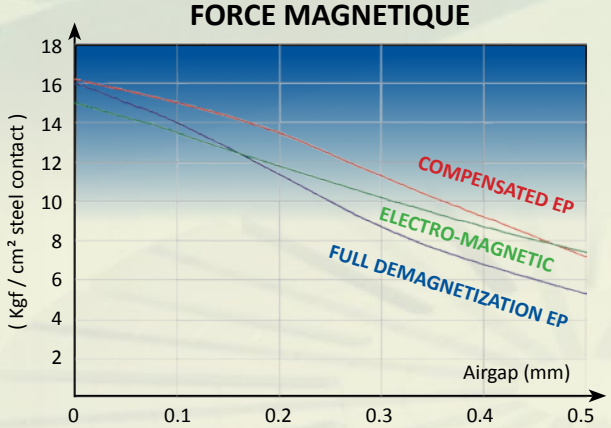
The EM Technology makes the chuck magnetized until the electrical power voltage is switched off. It allows to reach both high magnetic force and economic fare.



FEATURES

- Variable magnetization
- Solid block body design
- IP65 sealed
- EP operating voltage : 340VDC
- EM operating voltage : 110VDC
- Other voltage on request
- Top Plate pole separator material : Brass
- Top Plate wear distance : 8mm
- Top Plate roughness : Ra1.6
- Chuck Flatness and paralellism : 2/100/m
- Cylindrical slip ring assy
- Built in lifting holes

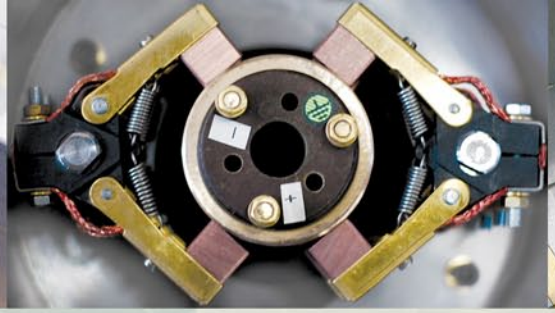
FORCE MAGNETIQUE



PRODUCTS

Type	Application	Design	Technology	Top plate	Ø (mm)	Thickness (mm)	Pole pitch	Workpiece minimal thickness (mm)
EPESTAR-MAX	TURNING	RADIAL	COMPENSATED EP	YES	300 - 3500 *	90 - 150	-	-
EPESTAR	GRINDING	RADIAL	FULL DEMAG EP	YES	250 - 3500 *	90 - 150	-	-
EM-STAR	GRINDING	RADIAL	ELECTRO-MAGNETIC	YES	250 - 3500 *	90 - 120	-	-
EPERING	GRINDING	CONCENTRIC	FULL DEMAG EP	YES	300 - 1250 *	100 - 120	11 + 5	5
EM-RING	GRINDING	CONCENTRIC	ELECTRO-MAGNETIC	YES	300 - 1500 *	100 - 120	11 + 5	5
EPEFINE	GRINDING	PARALELL	FULL DEMAG EP	YES	300 - 1250 *	100 - 120	4 + 1	2
POWERFINE	GRINDING	PARALELL	FULL DEMAG EP	NO	300 - 1250 *	90 - 100	7 + 4	7
EM-FINE	GRINDING	PARALELL	ELECTRO-MAGNETIC	YES	300 - 1250 *	100 - 120	4 + 1	2

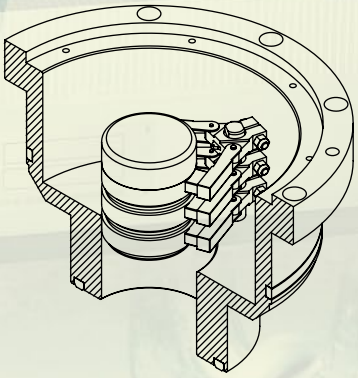
** Bigger diameters on request*

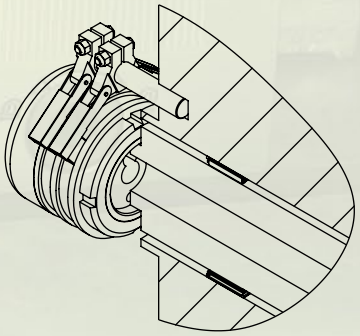

OPTIONNAL ITEMS

BRAILLON MAGNETICS propose optionnal items to match customers requierements for every rotary applications :

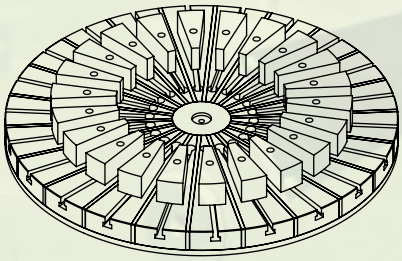
- **Quick IP65 connector and cap**
- **Tailor made pole shoes**
- **Embedded slip ring assy**
- **On request Voltage**
- **Brass, Aluminium or Epoxy pole gaps**
- **T-slots machined into top plate**
- **T-slots into pole shoes**
- **Through all clamping holes**
- **Segmented magnetic zones**
- **Diameter marking onto top plate**
- **EP Downward force adjustement**
- **Centering hole in the top plate**



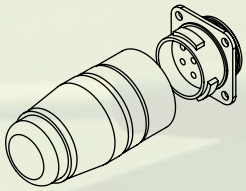
Embedded Slip Ring Assy



Slip ring installed onto machine



Special Pole Shoes with T-slots onto top plate



IP65 Quick Connector

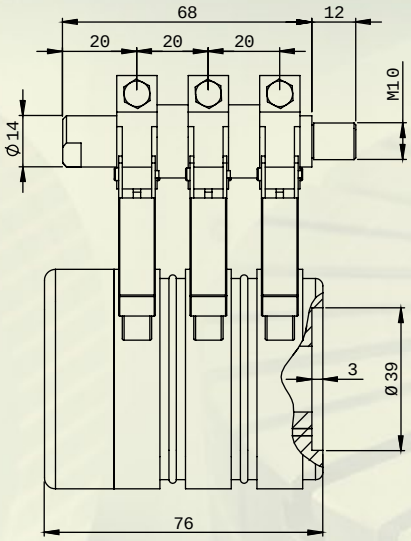
SLIP-RING

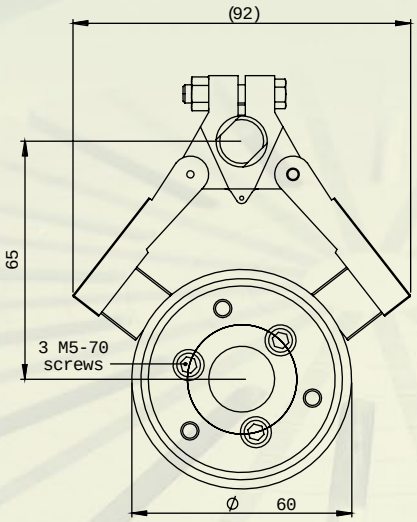
In order to supply power to the magnetic chucks, BRAILLON MAGNETICS supplies a 3 rings cylindrical slip ring assy as a standard.

Obviously, we can also supply on request slip rings.

Standard slip ring assy's features :

- **Maximal rotary speed : 4100 RPM**
- **Spring loaded brush holders**
- **Removable Bronze-Carbon brushes**
- **3 electrical contacts.**
- **PVC Insulation cap included**
- **Clamping with 3 M5 screws**
- **Weight 1.1Kg**





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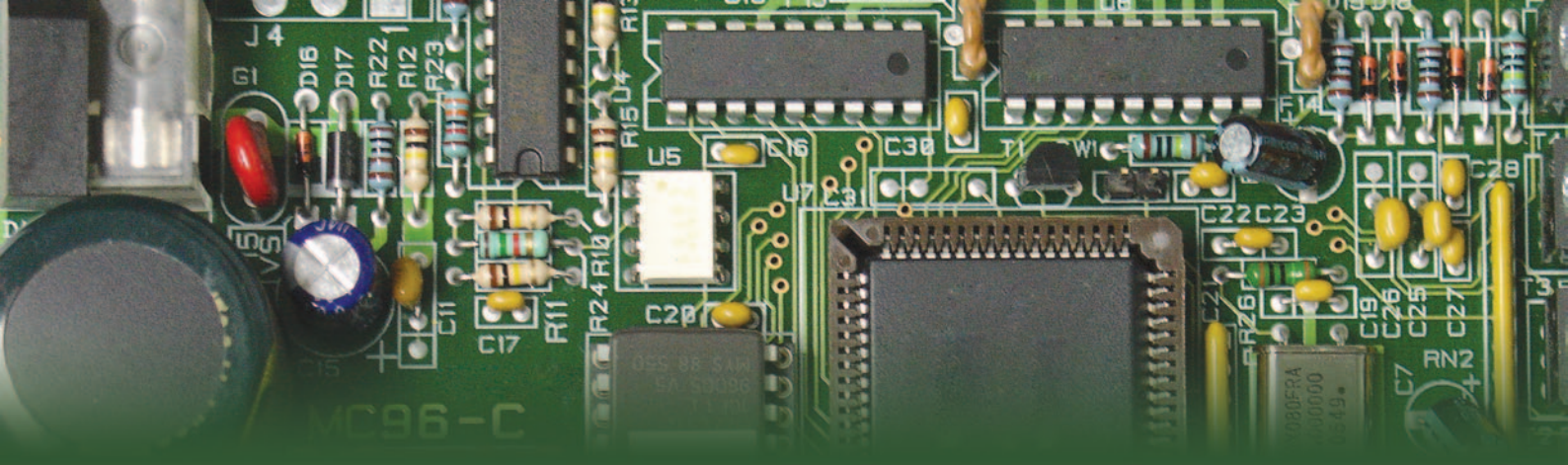


CONTROL UNITS

STANDARD FEATURES

BRAILLON MAGNETICS provide s a wide range of Control Units for both Electro-Permanent (EP) and Electro-Magnetic (EM) chucks.

SAFETY INTERLOCKING

An interlock ouput is available for machine's PLC. This signal means that a good magnetization level has been reached. In the other way, machine's PLC can enable or disable the control unit through a dedicated input.

VARIABLE MAGNETIC FORCE

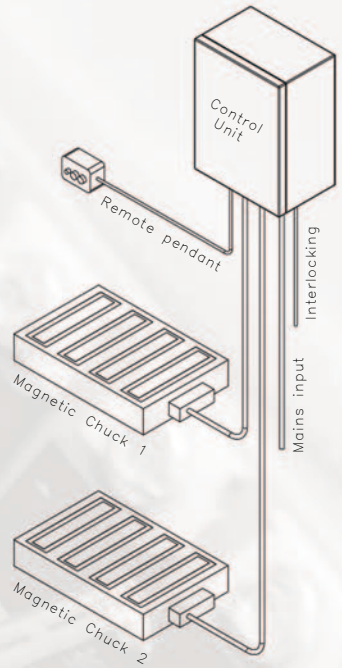
Thanks to an analog input, **BRAILLON MAGNETICS** Control Units are able to set magnetic force from null to full power with an infinite number of steps.

REMANENCE REMOVING

A true demagnetization cycle is available in order to reach an extra low level of magnetism within the workpiece. This feature is available for both Full Demagnetization Electro-Permanent (EP) and Electro-Magnetic (EM) chucks.

MULTI-CHUCKS MONITORING

One **BRAILLON MAGNETICS** Control Unit can magnetize and demagnetize several magnetic chucks. Different operating modes are available on request : pendulum, "all in a row" or multi zones chuck control.



Example with a two channels control unit

RANGE

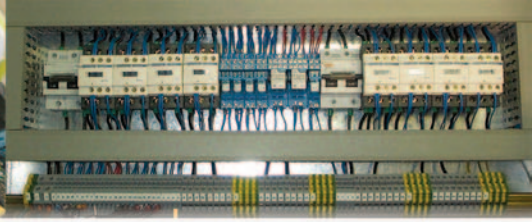
APPLICATION / CHUCK'S COMPLIANCE

Type	Maximal Number of Channels	Standard Input Voltage * Range (V)	GRINDING						TURNING			MILLING			QMC	
			UNIPERM	EPEFINE	POWERFINE	EPERING	EM-RING	EPESTAR	EM-STAR	EPESTAR-MAX	TM18	TM25	TM40B	TM40N5	PMG-HP250	PMG-HT
BUR	8	200 - 230 - 400 - 415	X	X	X						X					
BUR - FR	8	200 - 230 - 400 - 415										X	X	X		
BUR - PMG	8	200 - 230 - 400 - 415													X	X
BUP	1	200 - 230 - 400 - 415				X		X		X						
BFR	4	200 - 230 - 400 - 415										X	X	X		
BUE	1	230					X		X							
BUET	1	230 - 400 - 440					X		X							

* Other Voltages on request

BRAILLON MAGNETICS





OPTIONS

PENDULAR CONTROL

This option let the operator control two chucks independently.

SPECIAL VOLTAGES

On request, from 200 to 480 VAC.

EMBEDDED AMP-METER and VOLT-METER

This equipments show in real time the amperage and voltage supplied to the magnetic chuck. Both are located on the front side of the control unit.

RADIO REMOTE CONTROL

This option makes the remote pendant wireless.

FOOTSWITCH REMOTE CONTROL

This makes the control unit hands free.

QMC EUROMAP INTERFACE

This provides standardized signals for Quick Mould Change Applications.

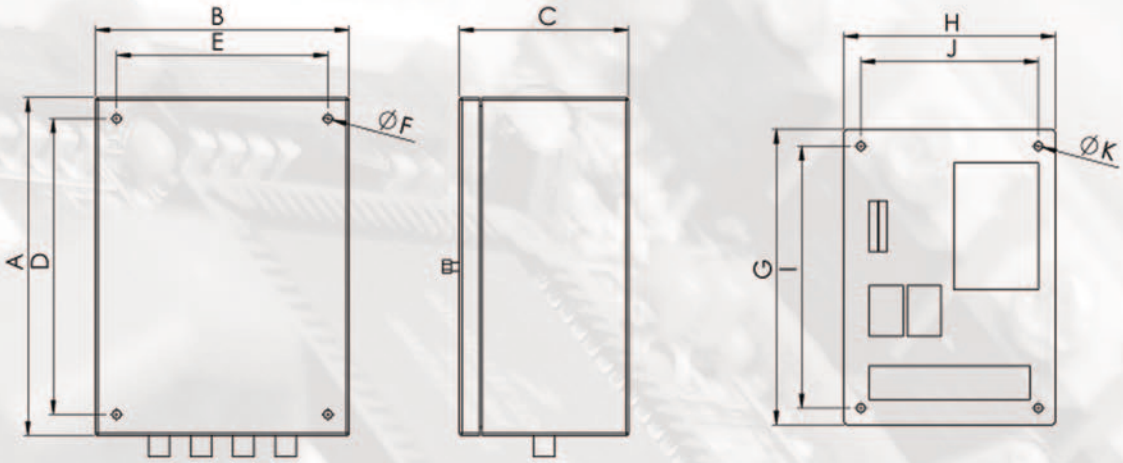
COOLING SYSTEM

Available for warm environments.

TROPICALIZATION

Available for extremely wet environments.

DIMENSIONS



CONTROL UNIT - DIMENSIONS

TYPE	Nbr of Channels	STEEL BOX A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	BRACKET G (mm)	H (mm)	I (mm)	J (mm)	K (mm)
BUR10 / BUR-FR10	1	400	300	150	355	255	10	345	270	325	225	10
BUR20 / BUR-FR20	2	400	300	200	355	255	10	345	270	325	225	10
BUR30 / BUR-FR30	3	400	300	200	355	255	10	345	270	325	225	10
BUR40 / BUR-FR40	4	500	400	200	455	355	10	445	350	425	325	10
BUR50 / BUR-FR50	5	500	400	200	455	355	10	445	350	425	325	10
BUR60 / BUR-FR60	6	500	400	200	455	355	10	445	350	425	325	10
BUR70 / BUR-FR70	7	500	400	200	455	355	10	445	350	425	325	10
BUR80 / BUR-FR80	8	600	500	200	555	455	10	545	450	525	425	10
BUR10P / BUR-FR10P	2	400	300	200	355	255	10	345	270	325	225	10
BUR20P / BUR-FR20P	4	400	300	200	355	255	10	345	270	325	225	10
BUR30P / BUR-FR30P	6	500	400	200	455	355	10	445	350	425	325	10
BUR40P / BUR-FR40P	8	500	400	200	455	355	10	445	350	425	325	10
BUET 340W to 3000W	1	500	400	200	455	355	10	445	350	425	325	10

CONTROL UNIT - DIMENSIONS

TYPE	Nbr of Channels	STEEL BOX A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	BRACKET G (mm)	H (mm)	I (mm)	J (mm)	K (mm)
BURPMG10 + E70.0	2	500	400	200	455	355	10	445	350	425	325	10
BURPMG20 + E70.0	4	600	500	200	555	455	10	545	450	525	425	10
BURPMG30 + E70.0	6	600	500	200	555	455	10	545	450	525	425	10
BURPMG40 + E70.0	8	600	500	200	555	455	10	545	450	525	425	10
BFR10	1	400	300	200	355	255	10	345	270	325	225	10
BFR20	2	500	400	200	455	355	10	445	350	425	325	10
BFR30	3	600	500	200	555	455	10	545	450	525	425	10
BFR40	4	600	500	200	555	455	10	545	450	525	425	10
BFR20P	2	500	400	200	455	355	10	445	350	425	325	10
BFR40P	4	600	500	200	555	455	10	545	450	525	425	10
BUP 3KW	1	400	300	150	355	255	10	345	270	325	225	10
BUP 10KW to 70KW	1	400	300	200	355	255	10	345	270	325	225	10
BUE 340W	1	400	300	150	355	255	10	345	270	325	225	10
BUE 850W to 1650W	1	400	300	200	355	255	10	345	270	325	225	10

* Note : "P" means Pendular

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