



Blast Freezing Unit Cooler



Unit Cooler for fast freezing tunnel, continuous freezing, blast freezer and giro freezer



4.164 to 29.771 Kcal/h
4.842 to 34.617 W



15.682 to 103.788 Kcal/h
18.235 to 120.684 W



INTENSE

Blast Freezing Unit Cooler

Standard Version



- 3/8" copper tubes (external diameter)
- 4,2mm aluminum fins spacing
- Flat plain aluminum cabinet
- 450mm electronic motor fan
- Air defrost in the evaporator and electrical in the drain pan



- 1/2" copper tubes (external diameter)
- 8mm in between aluminum fins spacing
- Flat plain aluminum cabinet
- 630mm electronic motor fan
- Electrical defrost in the evaporator and in the drain pan
- Prepared for flex defrost with hot gas
- Liquid line feed from the top
- Internal electrical box

Optionals



- Copper tubes and aluminum fins (Cu/Al) for Co2
- Copper tubes and aluminum fins (Cu / Al) with circuits for cold water and glycol solutions
- Gas defrost in the evaporator
- Double circuit for two compressors
- White electrostatic painting of the cabinet and in the tray in epoxy
- Anti-corrosion treatment for harsh environments
- Stainless steel cabinet



- Copper tubes and aluminum fins (Cu/Al) for Co2
- Copper tubes and aluminum fins (Cu / Al) with circuits for cold water and glycol solutions
- Gas defrost in the evaporator
- Inverted air flow.
- White electrostatic painting of the cabinet and in the tray in epoxy
- Anti-corrosion treatment for harsh environments
- Stainless steel cabinet
- Anti-collision protection for strollers
- Anchoring bracket and fixation with ajustable distance

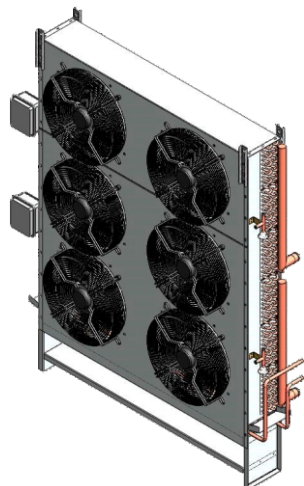
Applications

Evaporator for fast mass freezing tunnel, continuous freezing, blast freezer and giro freezer



Model		Capacities						Electric Characteristics						
		Kcal/h			Watts			Motor Fans			Defrost			
		Evaporation Temperatures						m ³ /h			W			
		-40°F -40°C	-31°F -35°C	-22°F -30°C	-40°F -40°C	-31°F -35°C	-22°F -30°C			3F 220V A			3F 220V A	3F 380V A
1V	1	4164	4471	4730	4842	5199	5500	1 x 5000	345	1 x 2,2	5x 500	5x 1,32	5x 0,80	
3V	3	10380	11000	11512	12070	12791	13386	3 x 5000	1035	3x 2,2	6x 1000	6x 2,63	6x 1,53	
6V	6	25744	27040	28086	29935	31442	32658	6 x 5000	2070	6x 2,2	6x 1600	6x 4,20	6x 2,44	

Capacities (DTI=8K/14,4°F)

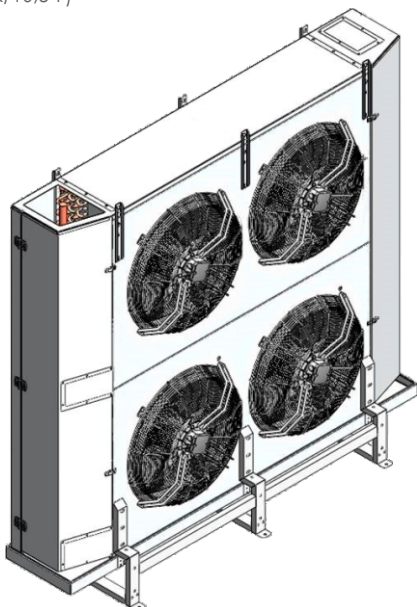


Connector resistant to temperature variations, vibration and shock. Spring-loaded technology reduces the time for electrical installations without the need for special tools.

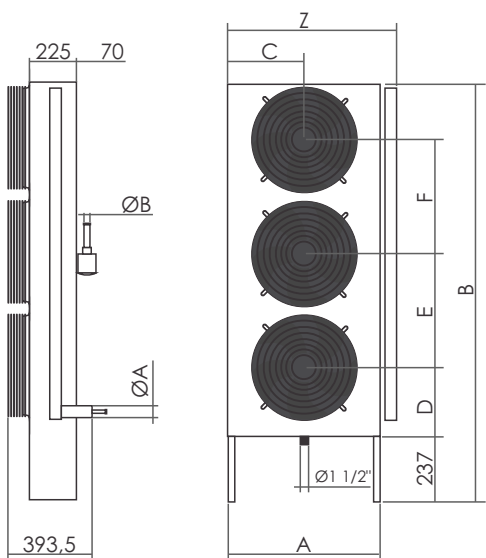


Model		Capacities						Electric Characteristics							
		Kcal/h			Watts			Motor Fans			Defrost				
		Evaporation Temperatures						m ³ /h			W				
		-40°F -40°C	-31°F -35°C	-22°F -30°C	-40°F -40°C	-31°F -35°C	-22°F -30°C			3F 220V A	3F 380V A			3F 220V A	3F 380V A
2V3R	2	15682	16431	16896	18235	19106	19647	32000	2X 1720	2X 8,18	2X 4,73	6x 1600	25,2	14,6	
2V4R	2	18740	19748	20327	21791	22963	23636	31000	2X 1720	2X 8,18	2X 4,73	6x 1600	25,2	14,6	
2V6R	2	23411	24959	25947	27222	29022	30171	28800	2X 1720	2X 8,18	2X 4,73	6x 1600	25,2	14,6	
4V3R	4	31364	32862	33792	36470	38212	39293	64000	4X 1720	4X 8,18	4X 4,73	6x 3200	50,4	29,2	
4V4R	4	37480	39496	40654	43581	45926	47272	62000	4X 1720	4X 8,18	4X 4,73	6x 3200	50,4	29,2	
4V6R	4	46822	49918	51894	54444	58044	60342	57600	4X 1720	4X 8,18	4X 4,73	6x 3200	50,4	29,2	
6V4R	6	57605	61116	63035	66983	71065	73297	96000	6X 1720	6X 8,18	6X 4,73	6x 4800	75,7	43,8	
6V6R	6	66921	72414	75867	77815	84202	88217	86400	6X 1720	6X 8,18	6X 4,73	6x 4800	75,7	43,8	
8V4R	8	74960	78992	81308	87163	91851	94544	128000	8X 1720	8X 8,18	8X 4,73	6x 6000	94,6	54,8	
8V6R	8	93644	99836	103788	108888	116088	120684	115200	8X 1720	8X 8,18	8X 4,73	6x 6000	94,6	54,8	

Capacities (DTI=6K/10,8°F)

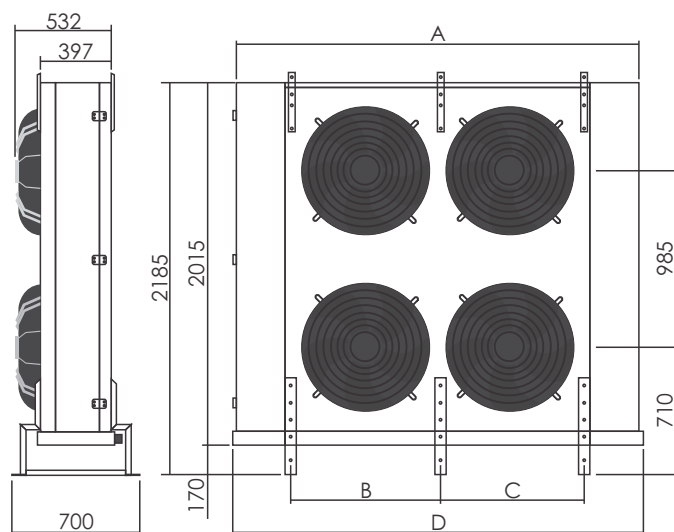


Connector resistant to temperature variations, vibration and shock. Spring-loaded technology reduces the time for electrical installations without the need for special tools.



Dimensional							
Fan	mm						
	A	B	C	D	E	F	Z
1	560	1160	280	543	-	-	790
3	710	1950	355	389	528	528	940
6	1410	1950	355	389	528	528	1640

Fan	Ø		Weight	
	A	B	Net	Gross
1	1"	1/2"	42	59
3	1 3/8"	5/8"	81	114
6	1 5/8"	5/8"	168	236

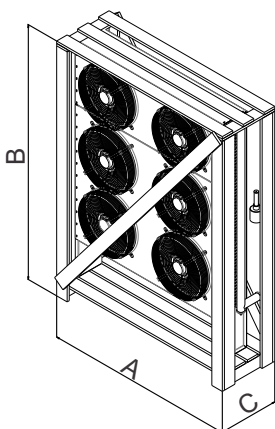


Dimensional				
Fan	mm			
	A	B	C	D
2	1455	830	-	1488
4	2255	830	800	2288
6	3055	830	800(2X)	3088
8	3855	830	800(3X)	3888

Fan	Ø		Weight	
	Input	Output	Net	Gross
2V3R	3/4" (2X)	1 1/2" (2X)	1	1
2V4R	3/4" (2X)	1 1/2" (2X)	1	1
2V6R	7/8" (2X)	1 1/2" (2X)	1	1
4V3R	7/8" (2X)	1 1/2" (2X)	1	1
4V4R	1 1/8" (2X)	1 1/2" (2X)	1	1
4V6R	1 1/8" (2X)	1 1/2" (2X)	1	1
6V4R	1 1/8" (2X)	2 1/8" (2X)	1	1
6V6R	1 3/8" (2X)	2 1/8" (2X)	1	1
8V4R	1 3/8" (2X)	2 1/8" (2X)	1	1
8V6R	1 5/8" (2X)	2 1/8" (2X)	1	1

The resistances are removed from the rear of the equipment, without need lateral space

Packing



Fan	A	B	C
	mm	mm	mm
1	850	1332	550
3	1000	2120	550
6	1700	2120	550

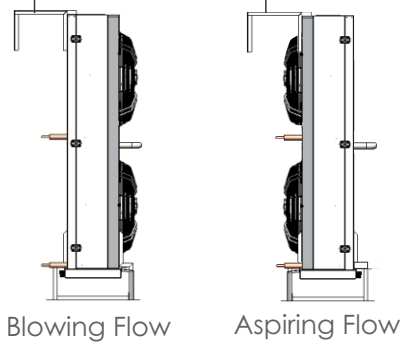


Fan	A	B	C
	mm	mm	mm
2	1588	2370	800
4	2388	2370	800
6	3188	2370	800
8	3988	2370	800

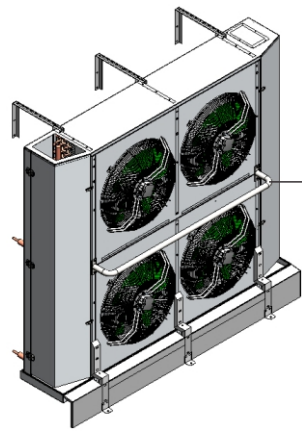
Model	Description	Available Options
BNE	Fast Freezing Evaporator	BNE • Model Bne
B	Spacing between fins	B • 4,2mm (Bne 450) H • 8,0mm (Bne 630)
A	Defrost	A • By Air E • Electric in the core and tray G • Gas in the core and tray H • Gas oin the core and electric in the tray
2V3	Model	Bne 01V to 06V (Bne 450) 2V3 to 8V6 (Bne 630)
T		T • Liquid output on finned side F • Liquid output on fan saide (Bne 630)
C	Tubes	A • Aluminum B • Copper for Co2 C • Copper
A	Connections and Tray	A • Direct expansion B • 2 collectors C • 2 collectors with Flanges D • 2 collectors with Niples E • 2 Threaded collector(Al) F • Direct Expansion and double Isolated drain pan G • 2 Collectors and Double Isolated drain pan H • 2 Collectors with Flanges and Double Isolated drain pan I • 2 Collectors with Niples and Double Isolated drain pan J • 2 Collectors Screwed (Al) and Double Isolated drain pan
0	Accessories	00 • Without accessories 51 • 50 + 01 63 • 58 + 01 + 03 01 • Expansion valve 52 • 50 + 02 64 • 58 + 02 + 03 02 • Solenoid valve 53 • 50 + 03 65 • 58 + 01 + 02 + 03 03 • Drain Resistance 54 • 50 + 01 + 02 66 • 50 + 58 10 • 1 + 2 + 3 55 • 50 + 01 + 03 67 • 66 + 01 11 • 1 + 2 56 • 50 + 02 + 03 68 • 66 + 02 12 • 2 + 3 57 • 50 + 01 + 02 + 03 69 • 66 + 03 13 • 1 + 3 59 • 58 + 01 70 • 66 + 01 + 02 50 • Anti-collision protection 60 • 58 + 02 71 • 66 + 01 + 03 58 • Anchoring bracket and fixation 61 • 58 + 03 72 • 66 + 02 + 03 62 • 58 + 01 + 02 73 • 66 + 01 + 02 + 03
A	Finishing	A • Aluminum Cabinet B • Aluminum cabinet and fins N1 protection C • Aluminum cabinet and fins N2 protection D • Aluminum cabinet protected E • Al. cabinet protected and fins N1 protection F • Al. cabinet protected and fins N2 protection M • Stainless steel cabinet N • Stainless steel cabinet and fins N1 protection O • Stainless steel cabinet and fins N2 protection
MAC	Motor	MAC • AC Motor Fan MEC • EC Motor Fan (Only in version 450)
E	Voltage and Frequency	H • Motor = 230V/3F/50Hz E • Motor = 380V/3F/50Hz Q • Motor = 230V/3F/60Hz V • Motor = 380V/3F/60Hz
1	Packing	1 • Crate

Optionals

Anchoring bracket and adjustable fixation.

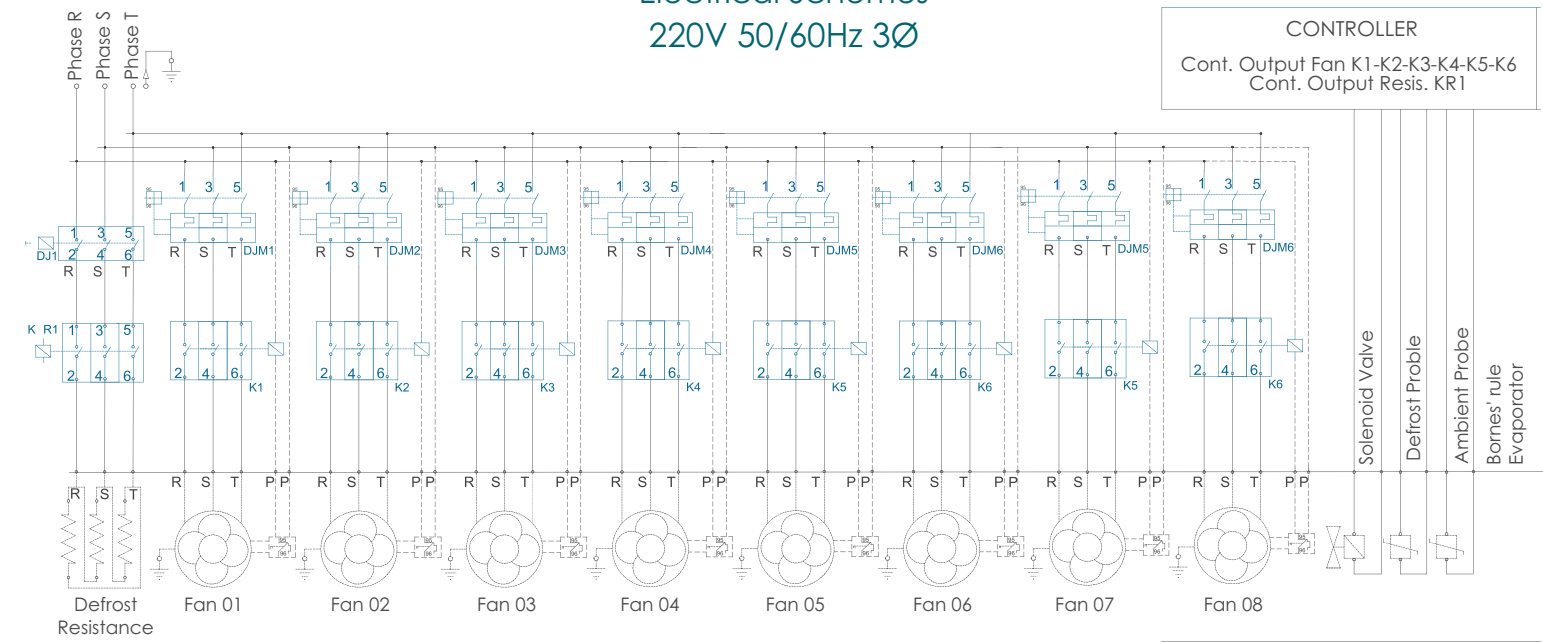


Anti-collision protection for strollers.



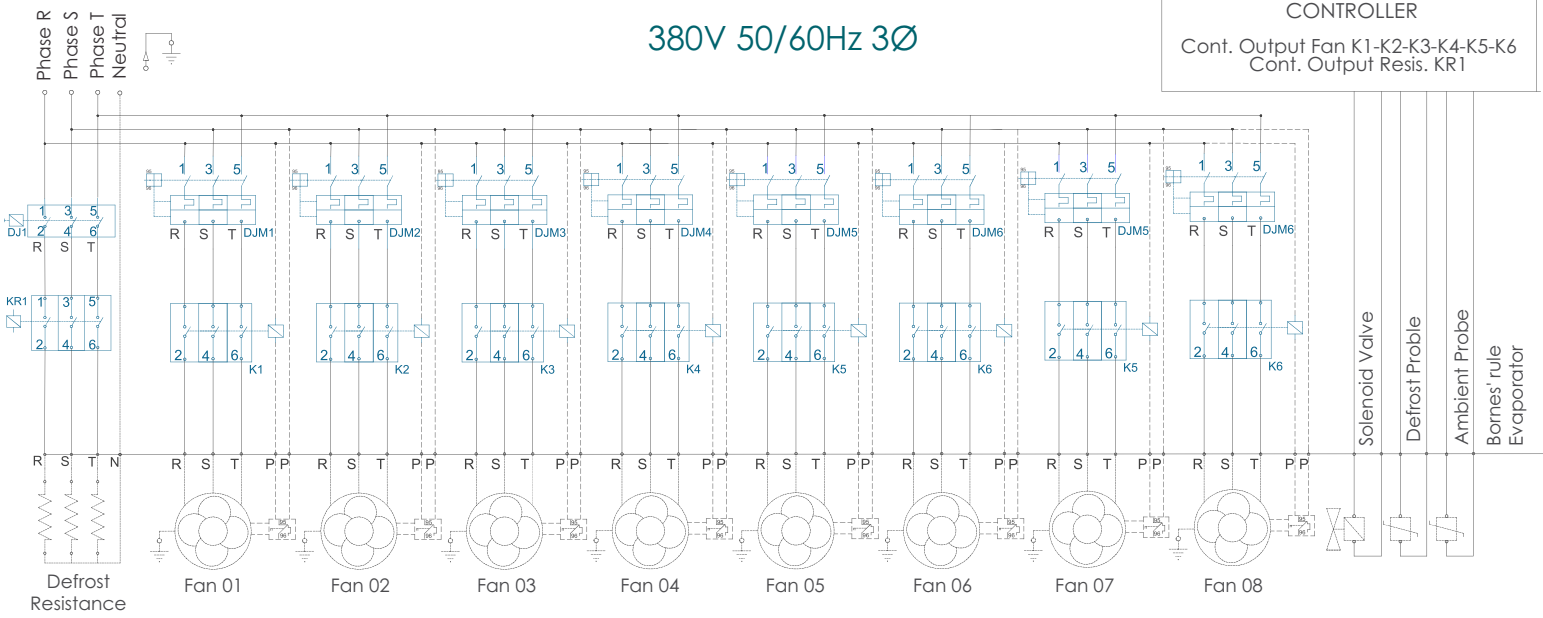
Electrical Schemes

220V 50/60Hz 3Ø



CONTROLLER
Cont. Output Fan K1-K2-K3-K4-K5-K6
Cont. Output Resis. KR1

380V 50/60Hz 3Ø



CONTROLLER
Cont. Output Fan K1-K2-K3-K4-K5-K6
Cont. Output Resis. KR1

Subtitles

Subtitles:

- R = Phase 1
- S = Phase 2
- T = Phase 3
- PP = Thermal Protector
- K1-K2-K3-K4 = Fan Contactor
- KR = Resistance Contactor
- DJ = Circuit breaker
- DJM = Motor Circuit breaker

Attention

- When dimensioning installation components, refer to the catalog data table
- To change factory power, contact Mipal engineering
- The safety thermostat must be connected in series with the contactor coil and the controller heating
- Always use the ground wire
- Connect the fan thermal protector in series with the contactor coil and drive the controller

Mipal Indústria de Evaporadores Ltda., (Mipal), warrants its product for workmanship and material for a period of three years from time of purchase, for the first buyer (user). In no circumstances that period will be longer than forty two months from manufacture time, there included the legal period, taken that the product has not been misused, abused, correctly installed and that its operational condition fits Mipal's technical recommendations.

This guaranty prevails if the equipment is to be operated in full conformity with Mipal's installation and/or maintenance instructions. Warranty rules out equipment repair or installation by others or outside Mipal's premises (except for jobs executed by Mipal itself) or inappropriately operated or subjected to misuse, negligence, imprudence or lack of expertise.

Mipal, at its exclusive judgment, will repair or otherwise replace at no charge to the original buyer a product or any product component which was or has been impaired due to faulty manufacture, project or inadequate choice of material, except those due to regular operation. And this will prevail if none of the below described actions may have been discarded:

- Product application according to original prescriptions;
- Every installation instruction and product prescribed operative condition has been abided to;
- Installation components and piping system kept in pace with the latest state of the art as to HVAC concepts;
- Every brazed junction has been carried out along with nitrogen or inert gas flow inside the pipework or product mounting.

In every case modern industrial installation, maintenance and operation practices shall have been effectively employed by certified technicians, engineers, designers and every personnel involved in the job.

Regular product, or its moving parts, repair, maintenance and installation correction will not be covered by this guaranty, and neither will it cover damages incurred during transport or movement of the product once out of Mipal's hands.

Third party components and parts such as: valves, motors, resistors and electrical accessories that integrate Mipal's products will be generally warranted by their respective suppliers or manufacturers usually for a year period in the case of mechanical parts or a semester for electrical, if that be the case.

Products guaranties will be suspended should there be any misuse or maltreat, electrical voltage fluctuation, aggressive environment, pressure in excess, accidental crash, mechanical damages (internal or external) due to irregular operation or installation or other inadequacies or even if simply operated out of Mipal's recommendations. Mipal will also waive guaranty in the case of defaced or removed product or part serial number.

And again, Mipal will not be deemed responsible for caused damages due to an unauthorized third party job our unauthorized job serviced on its products or even if not genuine parts have been mounted in the product.

If a product is to be sent for re-servicing, a document called: "call back authorization" must be issued by Mipal prior to its dispatch. Transport should be CIF Mipal, back and forth, totally on Client's expenses. Mipal will analyze the damage, or Client's complaint, and in the case that the fault stems from manufacture causes, the product will be repaired, or replaced, free from charge to the first buyer, except for transportation charges as stated above.

The problem report, must be sent by mail, phone or fax, sent to Mipal, not later than two days after the event has taken place and time must be granted to Mipal so that its support team may properly define the procedure that best sorts out the matter.

As pointed out above there must be a "call back authorization" document accompanying the cargo so that things will be readily attended by the factory.

Every cost involved in the repair or replacement of the product, such as freight, customs, exchange, will be at customer's expense.

Mipal will also not be held responsible for any cost incurred to remove, reinstall or whatever to have the product brought to any point which is made necessary.

After product reception and inspection, Mipal will at its discretion decide which steps to take in order to solve the situation, be it replacement or repair. At the time the product is ready for dispatch Mipal will advise the customer who from then on will provide for the return of the product to its premises at its own cost. This encompasses Mipal's warranty fulfillment.

In case of no inherent fault due to factory or any other cause described in the conditions of purchase, Mipal may send quotation for its repair or else ask the sender to retrieve the product at its expenses.

Mipal will not accept any responsibility regarding resultant consequences due to alteration on or repair of its product either by the purchaser or a third party, without previous Mipal's acknowledgement.

Mipal reserves its right to inspect the product during the guarantee period in case there have been hints of equipment irregular operation or installation not in accordance with the state of the art. Also in the case of alleged faulty operation or misunderstanding over the correct expectation over the equipment result, Mipal will intercede over the matter.

Disclaimer

Every Mipal's intervention on a purchaser's complaint of any equipment or part supplied will encompass exclusively either replacement or repair of the supplied item, FOB Cabreúva, SP, Brazil, at its own convenience. In no circumstance will Mipal be liable to any further claim on losses which may be deemed to have arisen from causes linked with its products or parts. These losses may be taken as, but not limited to, because unpredictable by Mipal: refrigerant, stored goods, sales, unfulfilled orders, profits, incomes, and all items that represent marginal financial losses, each or all of them might be conceived as stemming directly, or indirectly, from the fault occurred in Mipal's product or part thereof, or even from its alleged inefficacy.

Since 1956 Mipal are writing the history of refrigeration. With a complete line of condensers, evaporators and fins for the most varied commercial and industrial applications, stands out in the market by the high quality and efficiency in our products.

That's why it's growing in large scale our presence in other countries.

This is the result of dedication for innovation and attention to our customers. That's why the Mipal brand it's too strong, becoming a synonym of technology and reliability.

INTENSE

Mipal developed the Intense system with electronic motor fans and the concept of intense thermal exchange, improving the efficiency in finned equipments. This represents one more innovation from Mipal, aligned with world trends for maximum performance and low energy consumption.