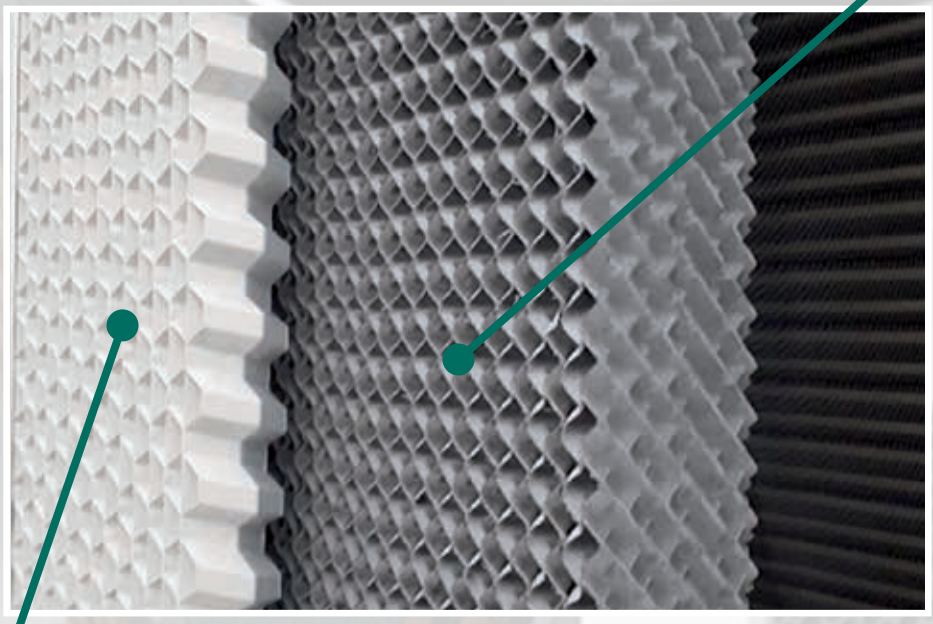
PAD-XL
Adiabatic dry cooler
Sustainable cooling

MITA cooling technologies

ADIABATIC ACCORDING TO MITA

WATER RECOVERY

- **Real water savings**, also thanks to recovery and recycling.
- **Very short non-continuous wetting cycles:** just a few seconds every 10-20 minutes instead of a constant “waterfall”
- Cellulose humidifying pack or PVC pack **rayon fibre** flocking not organic-based (optional).



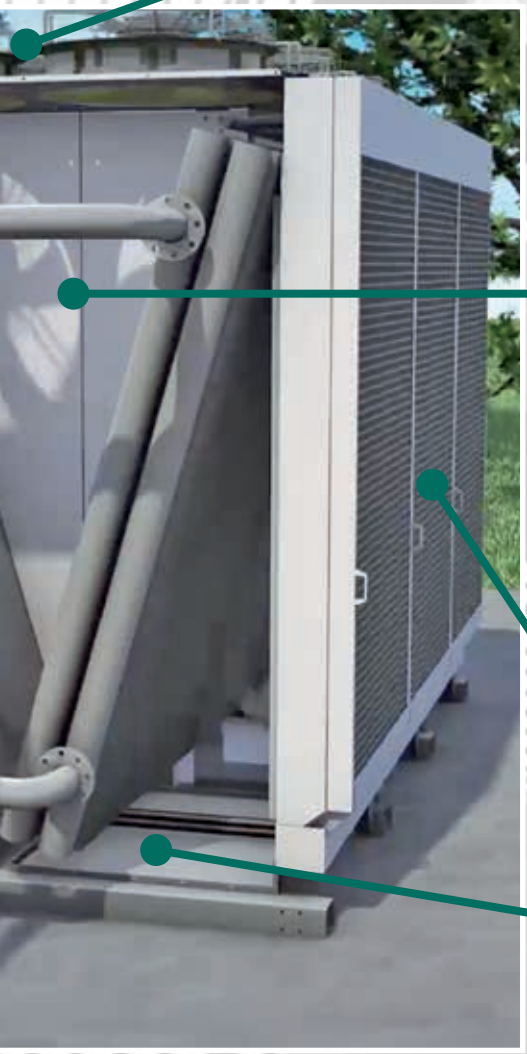
AIR INTAKE GRILLE

- Filters the air, but **protects the adiabatic pack** from light and foreign matter.
- Prevents water leaks, **ensuring a clean environment** around the machine.

Adiabatic operation in hot periods ...

- The external air passes through the **humidifier pack**.
- The adiabatically cooled air is conveyed to the finned coils: the **efficiency increases**.
- Capable of working **at lower ambient temperatures**.
- **No direct contact** between water and finned coils.

A SAFE, DURABLE AND **SUSTAINABLE** SYSTEM



SMART FAN ADJUSTMENT

- The inverter on the motors **adjusts the speed of the fans** according to ambient temperature and thermal load.
- In adiabatic mode, the motors slow down during the wetting cycles; **this prevents** drops of water being dragged outside.
- The result: **electricity savings and a healthy environment**.

MAXIMUM FLEXIBILITY

- **A completely parameter controlled** system.
- Depending on thermal load needs, external temperatures, and water and energy consumption objectives, **the system automatically adjusts** fan rotation speed, wetting cycles and adiabatic/dry modes.
- **Very low water and electricity consumption.**

HUMIDIFYING ADIABATIC PACK

- **Low pressure drops.**
- Easy access & removal.

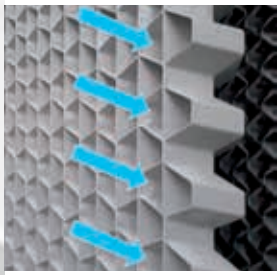
NO NEED FOR TREATED WATER

- **Programmed daily change** of wetting water.
- Parts in contact with water are made of material that does **not corrode** and is easy to clean.
- The coils **are not in contact** with the wetting water.

*... **Dry operation** in cold weather*

- The external air is **aspirated and conveyed directly** to the coils.
- **Humidification is deactivated**: no water in the circuit.
- **Fan speed modulated** according to temperature.
- Guaranteed **water and energy savings**.

OPTIMIZED HEAT EXCHANGE

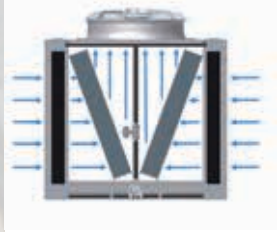


AIR INTAKE GRILLE

It improves air distribution on the humidifier pack and avoids water leaks: **greater efficiency, less energy** consumed by the fans, **less water** for humidifying the air.

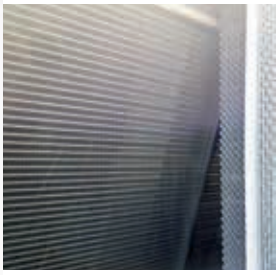
WETTING

Very short cycles to humidify air in hot weather: **water consumption tailored to** actual current need.



AIR DISTRIBUTION

Geometry and configuration of the V-shaped coils and central fans ensure **optimum performance with low load loss**.



COIL CHARACTERISTICS

Tube diameter, fin pitch, geometry and materials selected for **top performance**.

EC FANS

Electronic control fans compliant with the latest ErP edition “ESPR” **for enhanced energy efficiency** with low noise levels.

MITA’s secret for slashing consumption

Saving 1: the adiabatic pack is wetted to humidify the air **only when needed** and at intervals **from 10 to 20 minutes** (not continuously).

Saving 2: once wet, the adiabatic pack **releases only the water necessary** to obtain an air temperature that will ensure the thermal performance (cooling) of the finned coil system.

Saving 3: the adiabatic pack just needs to be wet with non-pressurized water for a short time (about 15 seconds). In the most “extreme” wetting condition, with a wetting cycle every 10 minutes, the pump runs for just one and a half minutes every hour.
A pump with 0,2 kW electric power thus consumes about 6,25 W/h: **the equivalent of a low-power light bulb!**

PERFORMANCE AND CONSUMPTION **UNDER CONTROL**

INDUSTRY 4.0

Temperature probes for the adiabatic section and the temperature of the process fluid.

A PLC controls and automates the machine's operation.

The data can be sent to a remote control panel.

OPTIMIZED EFFICIENCY

Obtained thanks to the electronically controlled fans that **modulate speed** according to various parameters.

WATER MANAGEMENT

Purging and replenishment are managed by a PLC.

MITA CONNECT

The data collected by the PLC can be sent to the MITA Connect platform **for remote monitoring, record analysis and preventive maintenance**.

MAINTENANCE HAS NEVER BEEN SO SIMPLE

The air intake grilles and adiabatic pack **are easy to remove**.

The outer doors make it **easy to inspect** the inner components.

Further, **to minimize** maintenance, the parts in contact with water are uncorrodable: **AISI 304** stainless steel or **PVC**.

THE ADVANTAGES OF ADIABATIC COOLING **WITH MITA'S EXPERIENCE**

Examples of application

- PRODUCTION OF PLASTIC
- TRIGENERATION / COGENERATION
- DATACENTERS
- HVAC
- INDUSTRIAL REFRIGERATION
- FOOD & BEVERAGE
- HEAT TREATMENT

The experience of MITA Cooling Technologies in adiabatic systems

In plastic moulding systems

HVAC

For trigeneration & cogeneration

Beverages

Power generation

Metal treatments

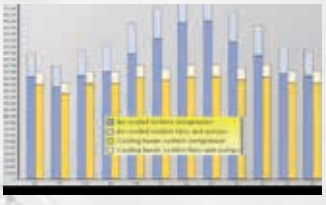
MITA COOLING TECHNOLOGIES
YOUR PROCESS COOLING ADVISOR

You can always be sure to select the right product for your system thanks to a consultancy approach: the PAD adiabatic system complements the vast range of MITA Cooling Technologies coolers.

Maximum adaptation to customer needs: customization possible for complex environments.

You can be sure of reducing complexity and nasty surprises: **integrated Plug & Play solutions.**

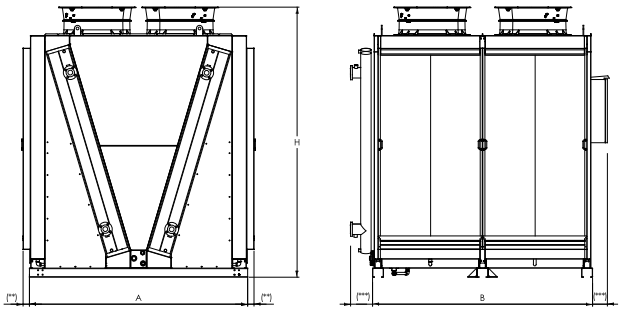
Optimized ROI thanks to **water and energy** saving in real operating conditions.



A choice that respects the environment:
We look for solutions to reduce noise and consumption constantly throughout the life of the product.
Certifications: ISO 14001 (environmental management) and EN 45001 (health and safety).

Since 1960, we have been **a serious and reliable partner**.

Dimensional specifications					Coil features				
PAD	- XL	- 06	D	-	6	Q	W	- K1	
Product line	Body type	Number of fans	Type of fans		Number of rows	Geometry	Fluid type	Options	
		04	D 4,2 kW Ø 710		4	Q 40-16	R Refrigerant	K0 Without recirculation kit	
		06							
		08			5				
		10	E 1,85 kW Ø 710			T 30-12	W Water	K1 With recirculation kit	
		12			6				
		14							
		16							
		18							
		20							



Model	Dimensions (mm)			Weight (kg)		EC Fans					Wetting pump (kW)
	A	B	H	Shipping	Operating	Number	Total "D" fans installed power (kW)	PWL(*) total "D" fans (dbA)	Total "E" fans installed power (kW)	PWL(*) total "E" fans (dbA)	
PAD-XL-04D/E-4TW-K1	2400	2420	2970	1560	1860	4	16,8	96,0	7,4	89,1	0,25
PAD-XL-04D/E-4QW-K1	2400	2420	2970	1620	1950	4	16,8	96,0	7,4	89,1	0,25
PAD-XL-04D/E-5QW-K1	2400	2420	2970	1770	2160	4	16,8	96,0	7,4	89,1	0,25
PAD-XL-04D/E-6QW-K1	2400	2420	2970	1890	2340	4	16,8	96,0	7,4	89,1	0,25
PAD-XL-06D/E-4TW-K1	2400	3570	2970	2190	2580	6	25,2	97,8	11,1	90,9	0,25
PAD-XL-06D/E-5TW-K1	2400	3570	2970	2310	2760	6	25,2	97,8	11,1	90,9	0,25
PAD-XL-06D/E-4QW-K1	2400	3570	2970	2310	2790	6	25,2	97,8	11,1	90,9	0,25
PAD-XL-06D/E-5QW-K1	2400	3570	2970	2460	3030	6	25,2	97,8	11,1	90,9	0,25
PAD-XL-06D/E-6QW-K1	2400	3570	2970	2700	3330	6	25,2	97,8	11,1	90,9	0,25
PAD-XL-08D/E-4TW-K1	2400	4720	2970	2820	3330	8	33,6	99,0	14,8	92,1	0,37
PAD-XL-08D/E-5TW-K1	2400	4720	2970	3000	3600	8	33,6	99,0	14,8	92,1	0,37
PAD-XL-08D/E-4QW-K1	2400	4720	2970	3000	3630	8	33,6	99,0	14,8	92,1	0,37
PAD-XL-08D/E-5QW-K1	2400	4720	2970	3210	3930	8	33,6	99,0	14,8	92,1	0,37
PAD-XL-08D/E-6QW-K1	2400	4720	2970	3510	4350	8	33,6	99,0	14,8	92,1	0,37
PAD-XL-10D/E-4TW-K1	2400	5870	2970	3450	4080	10	42	100,0	18,5	93,1	0,37
PAD-XL-10D/E-5TW-K1	2400	5870	2970	3660	4380	10	42	100,0	18,5	93,1	0,37
PAD-XL-10D/E-4QW-K1	2400	5870	2970	3660	4440	10	42	100,0	18,5	93,1	0,37
PAD-XL-10D/E-5QW-K1	2400	5870	2970	3900	4800	10	42	100,0	18,5	93,1	0,37
PAD-XL-10D/E-6QW-K1	2400	5870	2970	4260	5280	10	42	100,0	18,5	93,1	0,37
PAD-XL-12D/E-5TW-K1	2400	7020	2970	4380	5250	12	50,4	100,8	22,2	93,9	0,37
PAD-XL-12D/E-4QW-K1	2400	7020	2970	4350	5310	12	50,4	100,8	22,2	93,9	0,37
PAD-XL-12D/E-5QW-K1	2400	7020	2970	4680	5730	12	50,4	100,8	22,2	93,9	0,37
PAD-XL-12D/E-6QW-K1	2400	7020	2970	5070	6270	12	50,4	100,8	22,2	93,9	0,37
PAD-XL-14D/E-5TW-K2	2400	8170	2970	4638	5552	14	58,8	101,5	25,9	94,6	0,50
PAD-XL-14D/E-4QW-K2	2400	8170	2970	4676	5660	14	58,8	101,5	25,9	94,6	0,50
PAD-XL-14D/E-5QW-K2	2400	8170	2970	5068	6230	14	58,8	101,5	25,9	94,6	0,50
PAD-XL-14D/E-6QW-K2	2400	8170	2970	5428	6770	14	58,8	101,5	25,9	94,6	0,50
PAD-XL-16D/E-5TW-K2	2400	9320	2970	5218	6254	16	67,2	102,0	29,6	95,1	0,74
PAD-XL-16D/E-4QW-K2	2400	9320	2970	5258	6368	16	67,2	102,0	29,6	95,1	0,74
PAD-XL-16D/E-5QW-K2	2400	9320	2970	5686	7000	16	67,2	102,0	29,6	95,1	0,74
PAD-XL-16D/E-6QW-K2	2400	9320	2970	6120	7640	16	67,2	102,0	29,6	95,1	0,74
PAD-XL-18D/E-5TW-K2	2400	10470	2970	5876	7032	18	75,6	102,6	33,3	95,7	0,74
PAD-XL-18D/E-4QW-K2	2400	10470	2970	5920	7158	18	75,6	102,6	33,3	95,7	0,74
PAD-XL-18D/E-5QW-K2	2400	10470	2970	6398	7864	18	75,6	102,6	33,3	95,7	0,74
PAD-XL-18D/E-6QW-K2	2400	10470	2970	6890	8586	18	75,6	102,6	33,3	95,7	0,74
PAD-XL-20D/E-5TW-K2	2400	11620	2970	6468	7744	20	84,0	103,0	37,0	96,1	0,74
PAD-XL-20D/E-4QW-K2	2400	11620	2970	6514	7878	20	84,0	103,0	37,0	96,1	0,74
PAD-XL-20D/E-5QW-K2	2400	11620	2970	7064	8684	20	84,0	103,0	37,0	96,1	0,74
PAD-XL-20D/E-6QW-K2	2400	11620	2970	7588	9462	20	84,0	103,0	37,0	96,1	0,74

(*) PWL calculated from values declared by the fan manufacturer, ± 2 dbA
(**) +160 mm for protection louvers option (loose parts)
(***) +200 mm for manifold +250 mm for electical cabinet (position to be defined at time of order)

Technical data not binding

MITA cooling technologies

Proudly part of: MITA group

www.mitacoolingtechnologies.com

Via del Benessere, 13 - 27010 Siziano (PV) - Italy
+39 0382 67599 - info@mitact.it