

IT COOLING

CLOSE CONTROL AIR CONDITIONERS

# i-NEXT MTR PRECISE

**PRECISION  
AIR CONDITIONERS  
WITH INVERTER  
TECHNOLOGY  
FOR STABLE  
ROOM CONDITIONS**



# i-NEXT MTR PRECISE

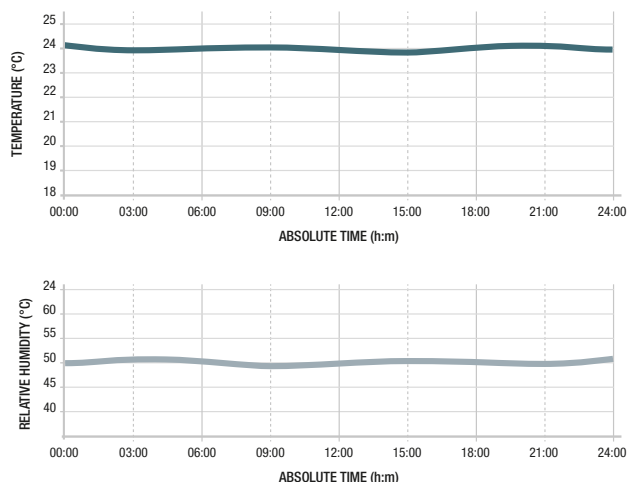
## Extreme precision in temperature and humidity control

In laboratories, archives, museums, the tobacco, textile, and pharmaceutical industries, the temperature and humidity parameters strongly affect the size, tests and storing of sensitive goods.

i-NEXT MTR PRECISE is the most dependable and efficient solution developed for these kinds of applications even in low or no load conditions.



## PRECISION AIR CONDITIONERS WITH INVERTER TECHNOLOGY FOR STABLE ROOM CONDITIONS



### TEMPERATURE AND HUMIDITY ALWAYS UNDER CONTROL

Minimal variations in the environmental conditions can influence the final result of test activities or compromise the correct preservation of perishable goods.

Thanks to the combination of the hot gas re-heating, the modulation of the refrigeration capacity through the inverter compressor and to a precise regulation of steam production, i-NEXT MTR PRECISE ensures an accurate calibration of temperature and humidity ( $\pm 0.3^\circ\text{C}$  and  $\pm 2\%$  R.H.).

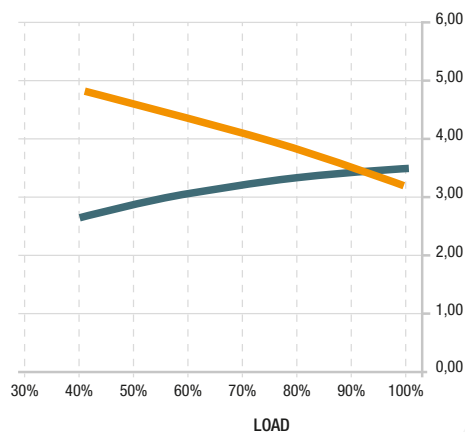
### PRECISION IN ALL LOAD CONDITIONS

The i-NEXT MTR PRECISE unit was designed as a completely autonomous unit. In fact, thanks to the EVOLUTION+ software which is dedicated to the unit, it allows for the reduction of the refrigeration capacity from 100% to 0%.

The unit is able to maintain control of the temperature and humidity with maximum precision even on low or no heat load.



— EER ON/OFF unit  
— EER FULL INVERTER unit



### MAXIMUM ENERGY EFFICIENCY

Responding to the strict requests of mission-critical applications does not necessarily mean forgetting the energy-saving strategies.

i-NEXT MTR PRECISE combines the advanced DC inverter compressor technology with that of the EC fans contributing to increased efficiency especially at partial loads if compared to traditional systems with ON/OFF compressors.



# i-NEXT MTR PRECISE



Unit fitted with modulating hot gas re-heating coil that combines the use of the INVERTER compressor with the possibility to humidify or de-humidify the environment. It allows for extremely precise and stable control of the temperature and humidity conditions, resulting in particular efficiency especially at low heat loads.

## CONFIGURATIONS

i-NEXT MTR PRECISE DX air cooled  
i-NEXT MTR PRECISE DW water cooled

## IDEAL APPLICATIONS

- ✓ Metrological environments
- ✓ Laboratories
- ✓ Technological sites
- ✓ Archives
- ✓ Textile industry
- ✓ Tobacco industry
- ✓ Paper industry

## AVANT-GARDE TECHNOLOGICAL CHOICES, FOR THE MOST CRITICAL APPLICATIONS

### DC INVERTER COMPRESSOR



The DC INVERTER technology, applied to compressors, allows for the modulation of the refrigeration power based on the real necessities, continually varying the speed of the compressor rotation, notably heightening the efficiency at partial loads.

The DC inverter compressor ensures:

- ✓ No in-rush starting current
- ✓ Energy savings up to 50% compared to the traditional on/off technology
- ✓ Utmost reliability thanks to the continuous operation, without on/off cycles.

### NEW GENERATION EC FANS



The high performing EC fans ensure a perfect airflow modulation at partial loads, thus significantly increasing the overall efficiency of the unit. Available in two versions, BASIC and HP at high prevalence (optional), the new generation fans deliver great advantages in terms of:

- ✓ Reduction of the noise levels by 4-5 dB(A) compared to traditional solutions
- ✓ Reduction of the absorbed power by 25% compared to traditional solutions



## i-NEXT MTR PRECISE DX

Model	12		18	
Frame			F2	
No. of circuits/ No. of compressors			1/1	
Refrigerant			R410A	R410A
Nominal air flow	mc/h	3500	4900	
Power supply	V/Ph/Hz	230/1/50	400/3N/50	
PERFORMANCE				
Maximum speed				
Total cooling capacity	(1)	kW	11,1	16,6
Sensible cooling capacity	(1)	kW	10,6	16,6
SHR	(1)		0,95	1,00
Compressors absorbed power		kW	2,54	4,09
EC BASIC radial fans absorbed power		kW	0,35	0,84
EC HP radial fans absorbed power		kW	0,27	0,47
Modulating cooling capacity	0 ÷ 100%			
MODULATING HOT GAS				
Heating capacity	(2)	kW	10,2	12,5
FAN SECTION				
No. EC radial fans			2	2
No. EC HP radial fans			2	2
Sound pressure level	(3)	dB(A)	49	53
HUMIDIFIER				
Capacity		kg/h	3	3
ELECTRICAL HEATERS				
Steps			3	3
Heating capacity		kW	5,4	8,1
DIMENSIONS				
Length		mm	1000	1000
Depth		mm	500	500
Height		mm	1980	1980

## i-NEXT MTR PRECISE DW

Model			12	18
Frame			F2	
No. of circuits/ No. of compressors			1/1	
Refrigerant			R410A	R410A
Nominal air flow	mc/h		3500	4900
Power supply	V/Ph/Hz		230/1/50	400/3N/50
PERFORMANCE				
Maximum speed				
Total cooling capacity	(1)	kW	11,7	17,4
Sensible cooling capacity	(1)	kW	10,9	17,0
SHR	(1)		0,93	0,98
Compressors absorbed power		kW	2,12	3,68
EC BASIC radial fans absorbed power		kW	0,35	0,84
EC HP radial fans absorbed power		kW	0,27	0,47
Modulating cooling capacity	0 ÷ 100%			
MODULATING HOT GAS				
Heating capacity	(2)	kW	10,2	12,5
FAN SECTION				
No. EC radial fans			2	2
No. EC HP radial fans			2	2
Sound pressure level	(3)	dB(A)	49	53
HUMIDIFIER				
Capacity		kg/h	3	3
ELECTRICAL HEATERS				
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Heating capacity		kW	5,4	8,1
DIMENSIONS				
Length		mm	1000	1000
Depth		mm	500	500
Height		mm	1980	1980

## NOTE

1) Return air condition 24°C/50%, Condensing temperature 45°C - ESP 20Pa

2) Return air condition 24°C/50%, Condensing temperature 45°C

3) Measured at 1.5m height and 2m in front of the unit in free field

The units highlighted in this publication contain HFC R410A [GWP100 2088] fluorinated greenhouse gases.

## ELECTRONIC EXPANSION VALVE



Thanks to its wide modulation, the electronic expansion valve allows one to follow the entire operating field variation of the inverter compressor.

This leads to:

- ✓ Rapidly reaching system stability
- ✓ Precise adaptation to load fluctuations

## ADVANCED CONTROL



The electronic heart of the unit has been designed internally to guarantee maximum reliability, efficiency and perfect control of all the parameters. Totally configurable and flexible according to the specific requests of the user, the controller presents evolved characteristics, including:

- ✓ Automatic reactivation after black out
- ✓ Serial cards for BMS interfacing
- ✓ BLACK BOX for preventive analyses
- ✓ Up to 100 events recorded
- ✓ Non-volatile 'flash' memory for data storage in case of power supply
- ✓ Display with GRAPHIC ICONS



**“BY FAR THE BEST PROOF IS EXPERIENCE”**

Sir Francis Bacon  
British philosopher (1561-1626)

All over the world, in most data centers and in all projects where efficiency, quality, and reliability are priorities, the precision RC IT Cooling air conditioners are the best guarantee.

**CONSTANTINE VIDEO  
SURVEILLANCE  
CONSTANTINE-ALGERIA**

Data center  
Total cooling capacity: 1226 kW  
Installed units:  
87x Direct expansion close control  
air conditioners, upflow version

**BRUNEI SHELL PETROLEUM  
DATA CENTER  
PANAGA-BRUNEI**

Data center  
Total cooling capacity: 1137 kW  
Installed units:  
4x Chilled water close control  
air conditioners, downflow version

**NATIONAL ARCHIVE (CIAM)  
ORAN-ALGERIA**

Institutions  
Total cooling capacity: 495 kW  
Total heating capacity: 240 kW  
Installed units:  
2x Scroll compressor heat pump,  
15x Direct expansion close control  
air conditioners, upflow version



## DELL DATACENTER SOKOŁÓW PODLASKI-POLAND

Data center  
Total cooling capacity: 29 kW  
Installed units:  
1x Direct expansion close control  
air conditioner with inverter technology;  
1x Remote condenser



## MILITARY SCHOOL BOUMERDES-ALGERIA

Military  
Total cooling capacity: 495 kW  
Total heating capacity: 503 kW  
Installed units:  
3x Direct expansion close control  
air conditioners;  
3x Scroll compressor heat pumps



## LEONARDO DA VINCI INTERNATIONAL AIRPORT ROME, FIUMICINO-ITALY

Airports  
Total cooling capacity: 266 kW  
Installed units:  
9x Air handling units,  
2x screw compressor chillers,  
9x Chilled water close control  
air conditioners



## SIAM PHARMACEUTICAL BANGKOK-THAILANDIA

Process cooling  
Total cooling capacity: 56 kW  
Installed units:  
2x Direct expansion air conditioners  
with inverter technology





for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



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