



REFRIGERATION AIR DRYERS  
**MDX from 400 to 70000**

T E C H N O L O G Y   Y O U   C A N   T R U S T

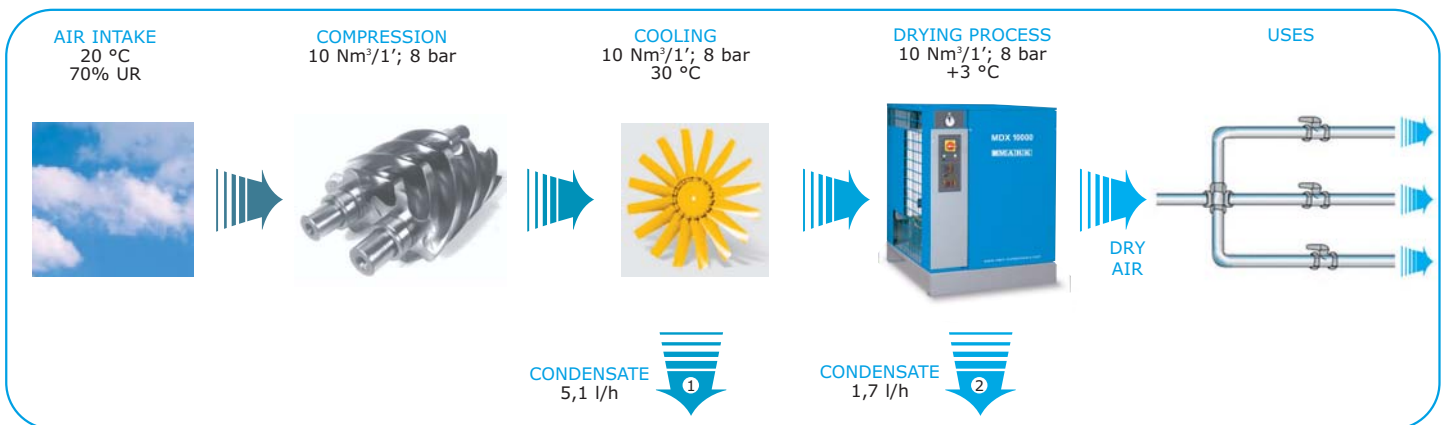
# Using a dryer is worth it

Humidity is a component of atmospheric air, which can be found in our compressed air distribution systems and the machines that use the compressed air in the form of condensate and/or vapour.

If the condensate can be easily separated and discharged, humidity, in the form of vapour, will follow the compressed air flow all the way to the final product.

When it then cools, a part of this humidity present in the compressed air condenses and over time causes serious damage to the distribution network, the machines using the compressed air and the final product.

For example, 5.1 l/h of condensate is separated from a compressor with an output capacity of 10 Nm<sup>3</sup>/min and an ambient intake air temperature of 20°C and 70% relative humidity, whilst operating at a delivery pressure of 8 bar(g) and cooling the air to 30°C. ①



If the compressed air is then dried further to a dewpoint of +3°C, an additional 1.7 l/h of condensate can be separated. ②

## The distribution unit costs less

and can be installed without slopes to drain points, without separators and without condensate drains, but with simple "T" slopes coming directly from the distribution ring.

## Lower maintenance costs:

- for the distribution network, as there is no need to clean line separators or check the operation of the drains, which at times may even be spread over very wide areas.
- for machine applications and pneumatic tools, as the absence of condensate eliminates the main cause of breakdowns.

## Energy savings

due to fewer line pressure drops.

**Longer life** for pneumatic equipment, as the use of dry air guarantees reliable performance over time.

**Greater productivity** because of fewer untimely breakdowns due to machine faults.

**Higher final product quality** both for applications where compressed air comes directly into contact with the product and where the air acts purely to assist movement of the machine's servomechanisms.

## It increases profits and improves the company's image.

*That's why maintenance managers, production managers, and air compressor specialists ensure their systems have a DRYER.*



# Quality • Installation • Maintenance

Mark is one of the world's leading manufacturers of dryers and is the only air compressor manufacturer that designs and produces all the dryers they use for their range of compressors in their own factory.

## Quality

High reliability achieved through the development of the dryers in the MDX range.

First-class components that have been tested under the most adverse operating conditions.

Constant dewpoint under any load condition.

Automatic operation.

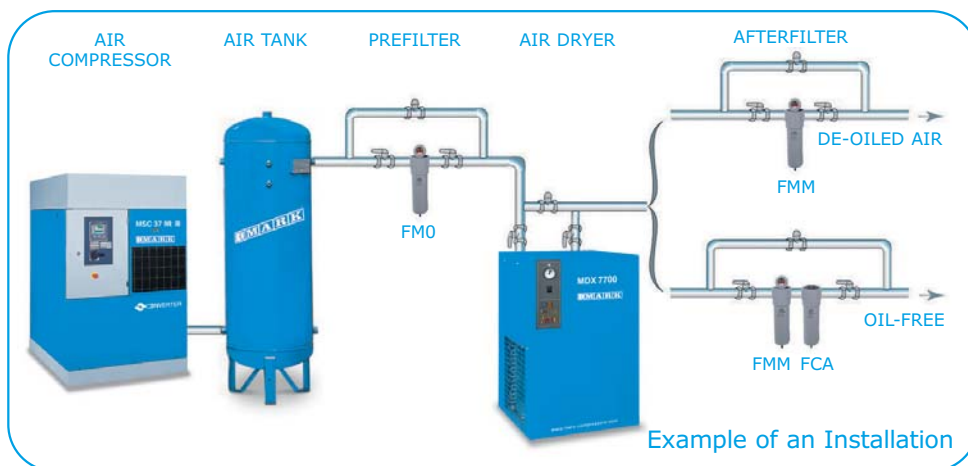


## Installation

Its unique light and compact design makes it easy to transport by whatever means you choose to use. Installation of the MDX dryer is simple and does not require any special equipment nor any special foundation work, whether it is a new system or an update to an existing system.

All that's necessary is a pneumatic and an electrical connection and the dryer is ready to use.

Installation is only complete once filters have also been fitted.



## Maintenance

Years of experience, the quality of the components we use, the generous size of the unit, its simple design and effective control system all contribute towards making these units safe and reliable over time.

All the dryers in the MDX range have been designed and built with particular attention given to its operation and performance using first-class components that have been tested in the field for many years.

The refrigerant dryer offered by MARK is a unit that:

- requires low maintenance and long intervals between overhauls;
- has few components subject to stress.

# Savings • Environment



## Savings

High energy savings due to low pressure drops throughout the system.

No wastage of compressed air because of the intelligent automatic discharge of condensate.

A cleaner compressed air distribution network without leakage.

Greater reliability and longer life of applications.

Less and easier maintenance due to the reliability of the components and the easy access to any internal component.

Safe and reliable operation.

## Intelligent automatic discharger of condensate

### Advantages

- **Discharges only water, NOT compressed air**  
= Energy savings
- **Noise-free, no acoustic impact**  
= Environmental protection



## Environmental protection

No CFC = No impact on the OZONE LAYER

Ecological thanks to the adoption of R134a - R404 A gas

Complies with current EC regulations

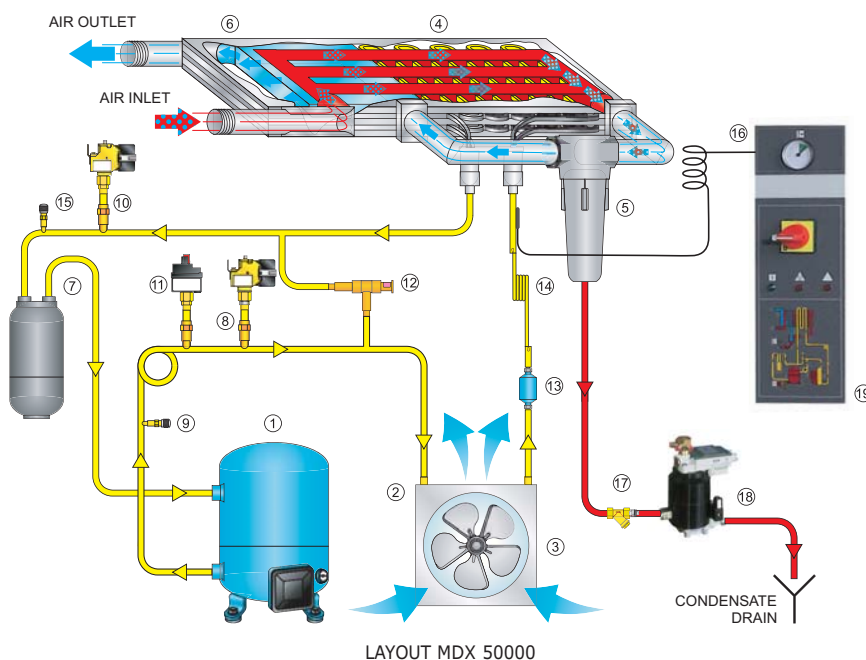
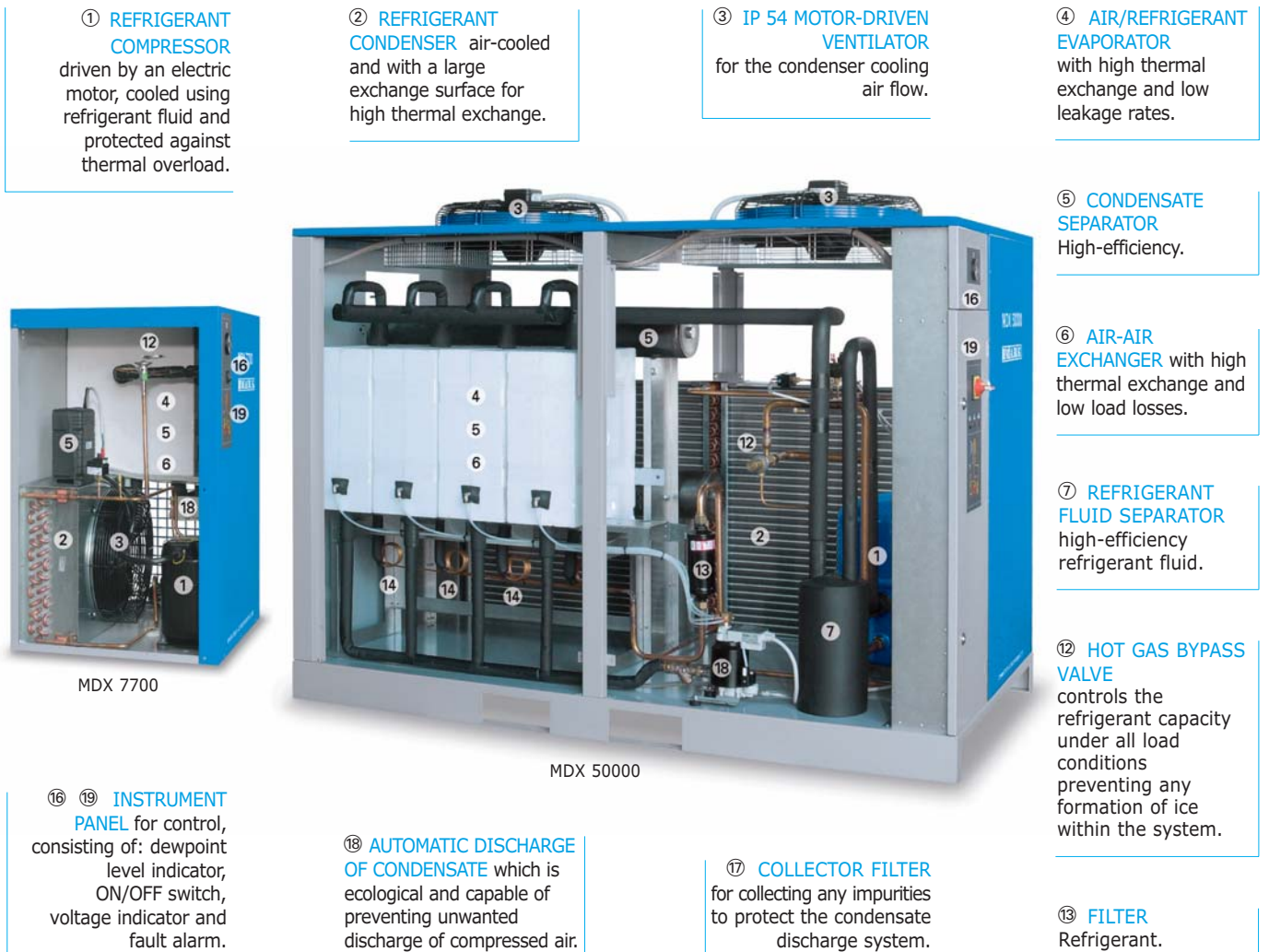
Thermal insulation to guarantee high efficiency Intelligent discharge of condensate



***That's why maintenance managers, production managers, and air compressor specialists make sure their systems have a DRYER made by MARK***

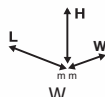


# MDX dryers • Layout



- ① Refrigerant fluid compressor
- ② Condenser
- ③ Motor-driven ventilator
- ④ Air/Refrigerant Evaporator
- ⑤ Condensate separator with a demister filter
- ⑥ Air/air heat exchanger
- ⑦ Refrigerant fluid separator
- ⑧ Maximum pressure switch
- ⑨ Service valve
- ⑩ Minimum pressure switch
- ⑪ Pressure switch, fan control
- ⑫ Hot gas bypass valve
- ⑬ Refrigerant fluid filter
- ⑭ Capillary Tube
- ⑮ Service valve
- ⑯ Dewpoint thermometer
- ⑰ Impurity collector
- ⑱ Automatic discharge of condensate
- ⑲ Instrument panel



| TECHNICAL DATA ( according to ISO 7183 and Cagi Pneurop PN8NTC2 ) |                                                                                   |     |                                                                                   |                      |       |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                |      |                                                                                     |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|----------------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|------|-------------------------------------------------------------------------------------|
| Type                                                              |  |     |  |                      |       |  |  |  |  |                |      |  |
|                                                                   | bar                                                                               | psi | m³/1'                                                                             | <sup>①</sup><br>m³/h | cfm   | <sup>①</sup><br>W                                                                 | V/Hz/Ph                                                                           | gas/DN                                                                              | L                                                                                   | W <sub>m</sub> | H    | Kg                                                                                  |
| MDX 400                                                           | 16                                                                                | 232 | 0,350                                                                             | 21                   | 12,4  | 130                                                                               | 230/50/1                                                                          | 3/4" M                                                                              | 350                                                                                 | 500            | 450  | 19                                                                                  |
| MDX 600                                                           | 16                                                                                | 232 | 0,600                                                                             | 36                   | 21,2  | 164                                                                               | 230/50/1                                                                          | 3/4" M                                                                              | 350                                                                                 | 500            | 450  | 19                                                                                  |
| MDX 900                                                           | 16                                                                                | 232 | 0,850                                                                             | 51                   | 30,0  | 190                                                                               | 230/50/1                                                                          | 3/4" M                                                                              | 350                                                                                 | 500            | 450  | 20                                                                                  |
| MDX 1200                                                          | 16                                                                                | 232 | 1,200                                                                             | 72                   | 42,4  | 266                                                                               | 230/50/1                                                                          | 3/4" M                                                                              | 350                                                                                 | 500            | 450  | 25                                                                                  |
| MDX 1800                                                          | 16                                                                                | 232 | 1,825                                                                             | 110                  | 64,4  | 284                                                                               | 230/50/1                                                                          | 3/4" M                                                                              | 350                                                                                 | 500            | 450  | 27                                                                                  |
| MDX 2400                                                          | 13                                                                                | 188 | 2,350                                                                             | 141                  | 83,0  | 609                                                                               | 230/50/1                                                                          | 1" F                                                                                | 370                                                                                 | 500            | 764  | 44                                                                                  |
| MDX 3000                                                          | 13                                                                                | 188 | 3,000                                                                             | 180                  | 106   | 673                                                                               | 230/50/1                                                                          | 1" F                                                                                | 370                                                                                 | 500            | 764  | 44                                                                                  |
| MDX 3600                                                          | 13                                                                                | 188 | 3,600                                                                             | 216                  | 127   | 793                                                                               | 230/50/1                                                                          | 1½" F                                                                               | 460                                                                                 | 560            | 789  | 53                                                                                  |
| MDX 4100                                                          | 13                                                                                | 188 | 4,100                                                                             | 246                  | 145   | 870                                                                               | 230/50/1                                                                          | 1½" F                                                                               | 460                                                                                 | 560            | 789  | 60                                                                                  |
| MDX 5200                                                          | 13                                                                                | 188 | 5,200                                                                             | 312                  | 184   | 1,072                                                                             | 230/50/1                                                                          | 1½" F                                                                               | 460                                                                                 | 560            | 789  | 65                                                                                  |
| MDX 6500                                                          | 13                                                                                | 188 | 6,500                                                                             | 390                  | 230   | 1,190                                                                             | 230/50/1                                                                          | 1½" F                                                                               | 580                                                                                 | 590            | 899  | 80                                                                                  |
| MDX 7700                                                          | 13                                                                                | 188 | 7,700                                                                             | 462                  | 272   | 1,446                                                                             | 230/50/1                                                                          | 1½" F                                                                               | 580                                                                                 | 590            | 899  | 80                                                                                  |
| MDX 10000                                                         | 13                                                                                | 188 | 10,000                                                                            | 600                  | 353   | 1,818                                                                             | 400/3/50                                                                          | 2" F                                                                                | 735                                                                                 | 898            | 962  | 128                                                                                 |
| MDX 12000                                                         | 13                                                                                | 188 | 12,000                                                                            | 720                  | 424   | 2,013                                                                             | 400/3/50                                                                          | 2" F                                                                                | 735                                                                                 | 898            | 962  | 146                                                                                 |
| MDX 15000                                                         | 13                                                                                | 188 | 15,000                                                                            | 900                  | 530   | 2,636                                                                             | 400/3/50                                                                          | 2" F                                                                                | 735                                                                                 | 898            | 962  | 158                                                                                 |
| MDX 18000                                                         | 13                                                                                | 188 | 18,000                                                                            | 1,080                | 636   | 3,568                                                                             | 400/3/50                                                                          | 2" F                                                                                | 735                                                                                 | 898            | 962  | 165                                                                                 |
| MDX 24000                                                         | 13                                                                                | 188 | 24,000                                                                            | 1,440                | 848   | 3,900                                                                             | 400/3/50                                                                          | 3" F                                                                                | 1020                                                                                | 1082           | 1535 | 325                                                                                 |
| MDX 30000                                                         | 13                                                                                | 188 | 30,000                                                                            | 1,800                | 1,060 | 4,460                                                                             | 400/3/50                                                                          | 3" F                                                                                | 1020                                                                                | 1082           | 1535 | 335                                                                                 |
| MDX 35000                                                         | 13                                                                                | 188 | 35,000                                                                            | 2,100                | 1,237 | 5,550                                                                             | 400/3/50                                                                          | 3" F                                                                                | 1020                                                                                | 1082           | 1535 | 350                                                                                 |
| MDX 50000                                                         | 13                                                                                | 188 | 50,000                                                                            | 3,000                | 1,766 | 6,800                                                                             | 400/3/50                                                                          | DN125                                                                               | 1020                                                                                | 2099           | 1535 | 550                                                                                 |
| MDX 70000                                                         | 13                                                                                | 188 | 70,000                                                                            | 4.200                | 2.472 | 10.200                                                                            | 400/3/50                                                                          | DN125                                                                               | 1020                                                                                | 2099           | 1535 | 600                                                                                 |

## NOTES:

## ① Reference conditions:

- Operating pressure: : 7 bar (100 psi)
- Operating temperature : 35 °C

- Room temperature: : 25 °C
- Pressure dewpoint: : +3 °C +/- 1
- Available in different voltages and frequency

According to

## Limit conditions:

- Working pressure : 16 bar (232 psi) MDX 400-1800
- : 13 bar (188 psi) MDX 2400-70000
- Operating temperature : 55 °C
- Min/Max room temperature : +5 °C; +45 °C

Optional for MDX (400-1800):

- Bypass + filter support
- Filter support

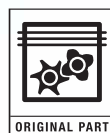


## Correction factor for conditions differing from the project K = A x B x C

| Correction factor for conditions differing from the project R = X X X X X |     |      |      |      |      |      |                |                       |      |                   |      |      |      |                |      |                |
|---------------------------------------------------------------------------|-----|------|------|------|------|------|----------------|-----------------------|------|-------------------|------|------|------|----------------|------|----------------|
| Room temperature                                                          | °C  | 25   | 30   | 35   | 40   | 45   | (MDX 400-7700) | Operating temperature | °C   | 30                | 35   | 40   | 45   | 50             | 55   | (MDX 400-7700) |
|                                                                           | A   | 1,00 | 0,92 | 0,84 | 0,80 | 0,74 |                |                       | B    | 1,24              | 1,00 | 0,82 | 0,69 | 0,58           | 0,45 |                |
|                                                                           |     | 1,00 | 0,91 | 0,81 | 0,72 | 0,62 |                |                       |      | (MDX 10000-70000) | 1,00 | 1,00 | 0,82 | 0,69           | 0,58 |                |
| Operation pressure                                                        | bar | 5    | 6    | 7    | 8    | 9    | 10             | 11                    | 12   | 13                | 14   | 15   | 16   | (MDX 400-7700) |      |                |
|                                                                           |     | C    | 0,90 | 0,96 | 1,00 | 1,03 | 1,06           | 1,08                  | 1,10 | 1,12              | 1,13 | 1,15 | 1,16 |                |      | 1,17           |
|                                                                           |     |      | 0,90 | 0,97 | 1,00 | 1,03 | 1,05           | 1,07                  | 1,09 | 1,11              | 1,12 | 1,15 | 1,16 |                |      | 1,17           |

The new flow rate value can be obtained by dividing the current or real flow rate by the correction factor related to the real operation conditions.

The company reserves the right to make any changes from the point of view of continuous product improvement.



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