



Solid, simple and smart:  
advanced reliability in compressed air

MDX 400 - 84000 Refrigerant Dryers



**KMARK**

## User benefits



### Simple installation

- Light and compact design
- Easy to transport
- Easy and fast installation using the optional filter supports and by pass option (MDX 400-1800)

### Solid quality

- High reliability was a key driver when developing the MDX dryer range
- First-class components tested under extreme operating conditions
- Constant dewpoint under any load conditions

### Easy maintenance and accessibility

- Low maintenance level
- Reliable components easily accessible
- Long service intervals

### Costs saving

- Very little maintenance required
- Low energy consumption
- Energy savings due to low pressure drops
- No loss of compressed air due to level-controlled condensate drain



## MDX Refrigerant dryer

The inlet air of a compressor contains humidity and contaminants like dust, oil, etc. During the compression these contaminants reach a high concentration. This can cause wear and corrosion to the downstream equipment, with potential costly interruption to production and reduction in the efficiency and service life of the equipment used.

By cooling down the compressed air, a refrigerant dryer removes the largest part of the water content. Our MDX range ensures high quality dry air, increasing efficiency and productivity as well as the life span of your equipment and tools.

## The benefit of refrigerant dryers

### Clean and dry air

- Increase your overall productivity
- Improve your final product quality
- Protect your downstream equipment against corrosion, rust and leakages.
- Avoid costly service interventions

## Environmental friendly refrigerant gases

A key objective in the design of the MDX dryer was to deliver a product that offers performance, reliability and safety with the lowest possible environmental impact.

- Environmentally friendly thanks to the use of R513A, R410A and R452A gas.

- No impact on the ozone layer.
- R410A benefits:
  - Low Global Warming Potential (GWP)
  - Energy saving with rotary refrigerant compressor (20 to 30% more efficient than the conventional piston)



# The smart choice for high reliability

## 1. REFRIGERANT COMPRESSOR

driven by an electric motor, cooled using refrigerant fluid and protected against thermal overload.

## 2. REFRIGERANT CONDENSER

air-cooled and with a large exchange surface for high thermal exchange.

## 3. MOTOR-DRIVEN FAN

for the condenser cooling air flow.

## 4. AIR-AIR EXCHANGER

with high thermal performance and low pressure drop.

## 5. AIR/REFRIGERANT

EVAPORATOR with high thermal performance and low pressure drop.

## 6. CONDENSATE SEPARATOR

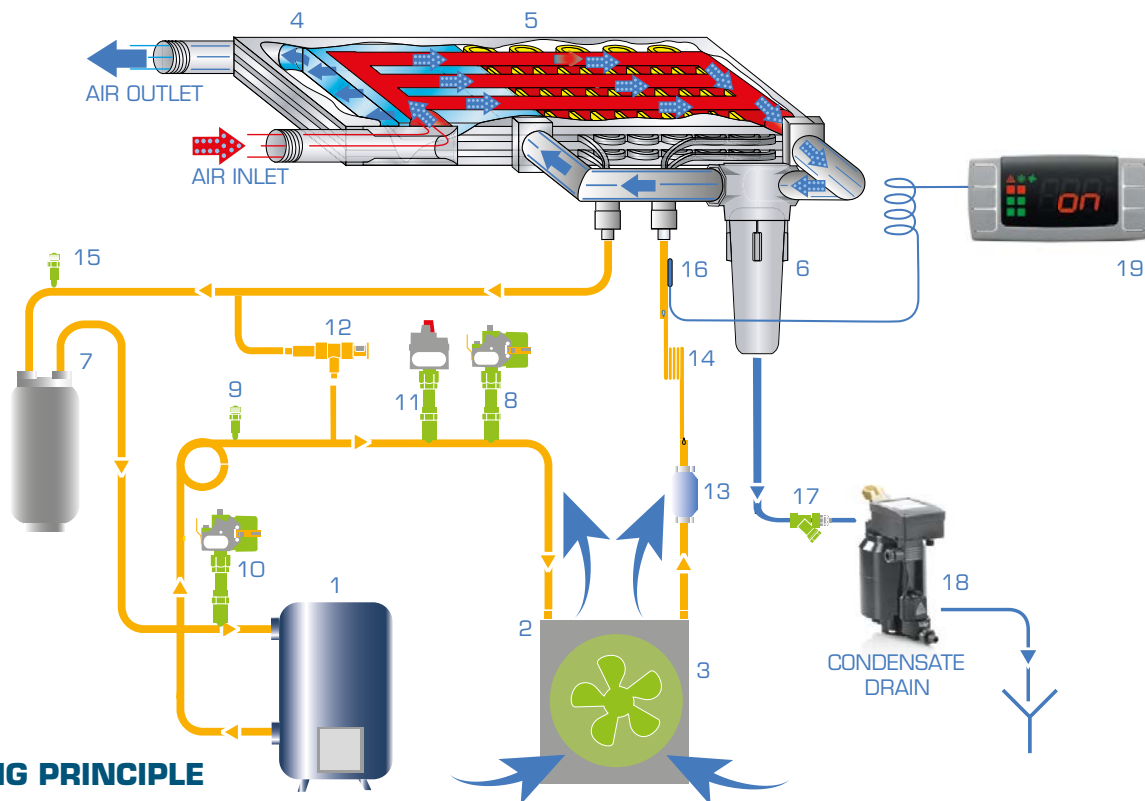
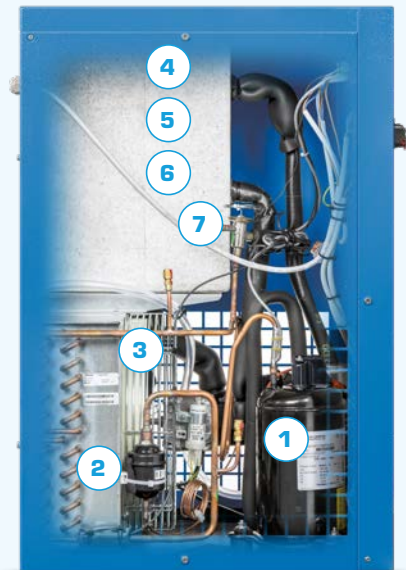
for efficient condensate removal.

## 7. HOT GAS BYPASS VALVE

controls the refrigerant capacity under all load conditions.

## 8. AUTOMATIC DISCHARGE OF CONDENSATE

energy saving and self adjusting, allows only moisture to discharge and prevents waste discharge of valuable compressed air.



**DRYING PRINCIPLE**  
**DIAGRAM FOR MDX 24000**

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

# Technical data

According to ISO 7183:2007 and Cagi Pneurop PN8NTC2

| Model     | Max. Working Pressure |     | Air Treatment Capacity |      |      | Motor power | V/Hz/Ph  | Inlet/outlet Connections | Dimensions |      |      | Kg. | Refrigerant gas |
|-----------|-----------------------|-----|------------------------|------|------|-------------|----------|--------------------------|------------|------|------|-----|-----------------|
|           | Bar                   | PSI | l/min.                 | m³/h | cfm  |             |          |                          | A          | B    | C    |     |                 |
| MDX 400   | 16                    | 232 | 350                    | 21   | 12,4 | 130         | 230/50/1 | 3/4" M                   | 493        | 350  | 450  | 19  | R513A           |
| MDX 600   | 16                    | 232 | 600                    | 36   | 21,2 | 164         | 230/50/1 | 3/4" M                   | 493        | 350  | 450  | 19  | R513A           |
| MDX 900   | 16                    | 232 | 850                    | 51   | 30,0 | 190         | 230/50/1 | 3/4" M                   | 493        | 350  | 450  | 20  | R513A           |
| MDX 1200  | 16                    | 232 | 1200                   | 72   | 42,4 | 266         | 230/50/1 | 3/4" M                   | 493        | 350  | 450  | 25  | R513A           |
| MDX 1800  | 16                    | 232 | 1825                   | 110  | 64,4 | 284         | 230/50/1 | 3/4" M                   | 493        | 350  | 450  | 27  | R513A           |
| MDX 2400  | 14                    | 203 | 2350                   | 141  | 83,0 | 674         | 230/50/1 | 1" F                     | 497        | 370  | 764  | 44  | R513A           |
| MDX 3000  | 14                    | 203 | 3000                   | 180  | 106  | 716         | 230/50/1 | 1" F                     | 497        | 370  | 764  | 44  | R513A           |
| MDX 3600  | 14                    | 203 | 3600                   | 216  | 127  | 631         | 230/50/1 | 1" 1/2 F                 | 557        | 460  | 789  | 62  | R410A           |
| MDX 4100  | 14                    | 203 | 4100                   | 246  | 145  | 705         | 230/50/1 | 1" 1/2 F                 | 557        | 460  | 789  | 60  | R410A           |
| MDX 5200  | 14                    | 203 | 5200                   | 312  | 184  | 905         | 230/50/1 | 1" 1/2 F                 | 557        | 460  | 789  | 62  | R410A           |
| MDX 6500  | 14                    | 203 | 6500                   | 390  | 230  | 969         | 230/50/1 | 1" 1/2 F                 | 587        | 580  | 899  | 82  | R410A           |
| MDX 7700  | 14                    | 203 | 7700                   | 462  | 272  | 1124        | 230/50/1 | 1" 1/2 F                 | 587        | 580  | 899  | 82  | R410A           |
| MDX 10000 | 14                    | 203 | 10000                  | 600  | 353  | 1540        | 400/50/3 | 2" F                     | 1070       | 805  | 962  | 145 | R410A           |
| MDX 12000 | 14                    | 203 | 12000                  | 720  | 424  | 1980        | 400/50/3 | 2" F                     | 1070       | 805  | 962  | 158 | R410A           |
| MDX 15000 | 14                    | 203 | 15000                  | 900  | 530  | 2010        | 400/50/3 | 2" 1/2 F                 | 1070       | 805  | 962  | 165 | R410A           |
| MDX 18000 | 14                    | 203 | 18000                  | 1080 | 636  | 2770        | 400/50/3 | 2" 1/2 F                 | 1070       | 805  | 962  | 164 | R410A           |
| MDX 24000 | 14                    | 203 | 24000                  | 1440 | 848  | 3260        | 400/50/3 | 3" F                     | 1083       | 1020 | 1526 | 325 | R410A           |
| MDX 30000 | 14                    | 203 | 30000                  | 1800 | 1060 | 3890        | 400/50/3 | 3" F                     | 1083       | 1020 | 1526 | 335 | R410A           |
| MDX 35000 | 14                    | 203 | 35000                  | 2100 | 1237 | 4750        | 400/50/3 | 3" F                     | 1083       | 1020 | 1526 | 350 | R410A           |
| MDX 45000 | 14                    | 203 | 45000                  | 2700 | 1589 | 6715        | 400/50/3 | DN 125                   | 1121       | 1020 | 1526 | 380 | R452A           |
| MDX 50000 | 14                    | 203 | 50000                  | 3000 | 1766 | 6800        | 400/50/3 | DN 125                   | 2099       | 1020 | 1535 | 550 | R452A           |
| MDX 70000 | 14                    | 203 | 70000                  | 4200 | 2472 | 10200       | 400/50/3 | DN 125                   | 2099       | 1020 | 1535 | 600 | R452A           |
| MDX 84000 | 14                    | 203 | 84000                  | 5040 | 2966 | 12300       | 400/50/3 | DN 125                   | 2099       | 1020 | 1535 | 650 | R452A           |

## NOTES:

Reference conditions:

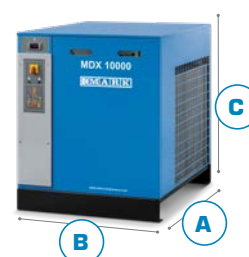
- Operating pressure: 7 bar (100 psi)
- Operating temperature: 35°C
- Room temperature: 25°C
- Pressure dewpoint: +4°C +/-1
- Available in different voltages and frequencies

Operating limit conditions:

- Max. operating pressure: 16 bar (232 psi) MDX 400-1800 - 14 bar (203 psi) MDX 2400-84000
- Max. inlet temperature: 55°C (60°C for MDX 10000-84000)
- Min./Max. ambient temperature: +5°C; 43°C (+5°C; 46°C for MDX 10000-84000)

Optional for

- MDX (400-1800):
- Bypass + filter support
- Filter support



Correction factor for conditions differing from the project  $K = A \times B \times C$

| Room temperature | °C | 25   | 30   | 35   | 40   | 43   | 46   |                   |
|------------------|----|------|------|------|------|------|------|-------------------|
|                  | A  | 1,00 | 0,92 | 0,84 | 0,80 | 0,79 | /    | (MDX 400-7700)    |
|                  |    | 1,00 | 0,91 | 0,81 | 0,72 | /    | 0,62 | (MDX 10000-84000) |



# Product features and options

## PDP Indicator

The operation of the MDX dryer is monitored by an electronic controller indicating all relevant information:

### Technical details:

- Status of the refrigerant dryer
- Status of the fan
- Dew point indication

### Alarm display:

- High or low dew point
- Fan probe failure (MDX 1200-7700)
- Service reminder



## Potential free contact

### (MDX 2400-7700)

- **PDP alarm**
- **High refrigerant temperature**
- **Fan probe failure**

### (MDX 10000-84000)

- **General alarm**
  - High/low PDP alarm
  - High-refrigerant temperature
  - Probe failures
  - High-pressure switch
  - Electrical failure

- **Drain alarm**
- **Remote start/stop**



## Intelligent drain discharge

The full refrigerant dryer range is equipped with a level-controlled condensate drain, a range using electronic sensors to discharge only condensate and without wasting any compressed air.

### Benefits

- No loss of compressed air
- Energy saving
- Low noise level



## Available options (for MDX 400-1800)

### Filter support and bypass \*

The optional bypass allows the system to operate using the filters only during maintenance or malfunction of the dryer, thus avoiding any downtime.

### Filter support \*

This option allows two filters to be installed on the rear side of the dryer, reducing overall dimensions and installation costs.

\*Filters are not included in the option.



Contact your local representative:

[www.mark-compressors.com](http://www.mark-compressors.com)

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#### CARE

Care is what service is all about: professional service by knowledgeable people, using high-quality original parts.

#### TRUST

Trust is earned by delivering on our promises of reliable, uninterrupted performance and long equipment lifetime.

#### EFFICIENCY

Equipment efficiency is ensured by regular maintenance. Efficiency of the service organization is how Original Parts and Service make the difference.