

PARTNERSHIP • AVAILABILITY • RELIABILITY • SERVICEABILITY • SIMPLICITY •
TECHNOLOGY YOU CAN TRUST

Solid, simple and smart: advanced reliability in compressed air

MDX 400 - 18000 REFRIGERANT DRYERS



mark-compressors.com

MARK

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

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)

Easy maintenance and accessibility

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

Advanced refrigerant solutions

- Low refrigerant gas load
- Refrigerant gas with low GWP

Solid quality

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

Costs saving

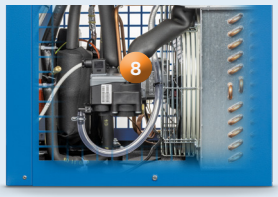
- Very little maintenance required
- Low energy consumption
- Energy savings due to low pressure drops
- No loss of compressed air due to level-controlled condensate drain

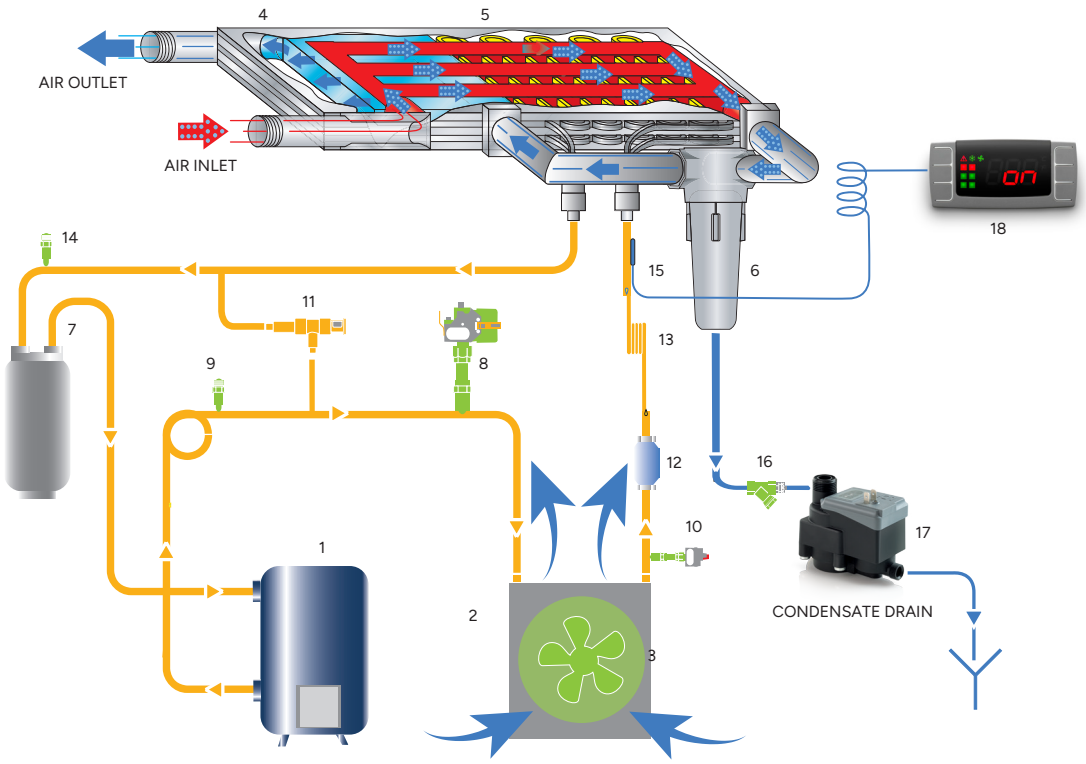
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THE SMART CHOICE FOR HIGH RELIABILITY



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 18000

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

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 10000-18000)

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.

Technical data

According to ISO 7183:2007

Model	Air Treatment Capacity			R410A - 50Hz		R513A - 50Hz		R513A - 60Hz		Inlet/outlet Connections	Dimensions (mm)	Weight up to
	Power con-sumption	Voltage	Power con-sumption	Voltage	Power con-sumption	Voltage						
	l/min.	m³/h	cfm	W	V/Ph/Hz	W	V/Ph/Hz	W	V/Ph/Hz	gas/DN	A x B x C	kg
MDX 400	350	21	12,4	–	–	130	230/1/50	170	230/1/60	3/4" M	493 x 350 x 450	19
MDX 600	600	36	21,2	–	–	164	230/1/50	172	230/1/60	3/4" M	493 x 350 x 450	19
MDX 900	850	51	30	–	–	190	230/1/50	222	230/1/60	3/4" M	493 x 350 x 450	20
MDX 1200	1200	72	42,4	–	–	266	230/1/50	306	230/1/60	3/4" M	493 x 350 x 450	25
MDX 1800	1800	108	63,6	–	–	284	230/1/50	364	230/1/60	3/4" M	493 x 350 x 450	27
MDX 2400	2350	141	83	–	–	674	230/1/50	726	230/1/60	1" F	497 x 370 x 764	44
MDX 3000	3000	180	106	–	–	716	230/1/50	763	230/1/60	1" F	497 x 370 x 764	44
MDX 3600	3600	216	127	631	230/1/50	933	230/1/50	590	230/1/60	1" 1/2 F	557 x 460 x 789	62
MDX 4100	4100	246	145	705	230/1/50	933	230/1/50	727	230/1/60	1" 1/2 F	557 x 460 x 789	60
MDX 5200	5200	312	184	905	230/1/50	933	230/1/50	745	230/1/60	1" 1/2 F	557 x 460 x 789	64
MDX 6500	6500	390	230	969	230/1/50	1276	230/1/50	1315	230/1/60	1" 1/2 F	587 x 580 x 899	82
MDX 7700	7700	462	272	1124	230/1/50	1276	230/1/50	1325	230/1/60	1" 1/2 F	587 x 580 x 899	92
MDX 10000	10000	600	353	1540	400/3/50	1912	400/3/50	2021	460/3/60	2" F	1070 x 805 x 962	157
MDX 12000	12000	720	424	1980	400/3/50	1912	400/3/50	2341	460/3/60	2" F	1070 x 805 x 962	170
MDX 15000	15000	900	530	2010	400/3/50	2629	400/3/50	2511	460/3/60	2" 1/2 F	1070 x 805 x 962	176
MDX 18000	18000	1080	636	2770	400/3/50	2629	400/3/50	3334	460/3/60	2" 1/2 F	1070 x 805 x 962	188

Notes:

Reference conditions:

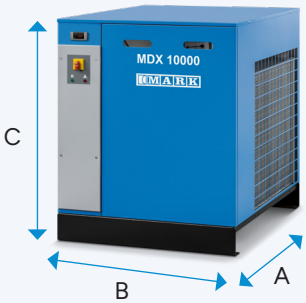
- **Operating pressure:** 7 bar (100 psi)
- **Inlet temperature:** 35°C
- **Room temperature:** 25°C
- **Pressure dewpoint:** +4°C +/-1
- Available in different voltages and frequencies

Operating limit conditions:

- **Max. operating pressure:**
  16 bar (232 psi) MDX 400-1800 -
  14 bar (203 psi) MDX 2400 - 18000
- **Max. inlet temperature:**
  55°C (60°C for MDX 10000-18000)
- **Min./Max. ambient temperature:**
  +5°C; 43°C (+5°C; 46°C for MDX 10000-18000)

Optional for MDX (400-1800):

- Bypass + filter support
- Filter support



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

Room temperature	°C	**25**	30	35	40	43	46
	A	**1**	0,91	0,81	0,72	0,67	0.62

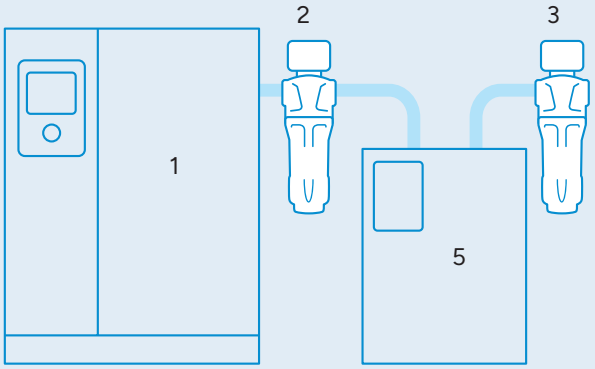
Inlet temperature	°C	25	30	**35**	40	46	50	55	60
	B	1,1	1.05	**1**	0,82	0,69	0,58	0,49	0.42

Operating pressure	bar	6	**7**	8	10	13	14	15	16
	C	0,97	**1**	1,03	1,07	1,12	1,15	1,16	1,17

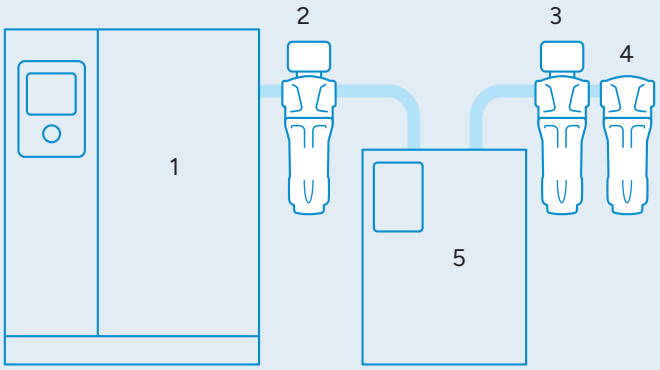
The new flow rate value can be obtained by dividing the current or real flow rate by the correction factor related to the real operation conditions.

Typical installations

High quality air with reduced dew point (air purity to ISO 8573-1: class 1:4:2)



High quality air with reduced dew point and oil concentration (air purity to ISO 8573-1: class 1:4:1)



1. Compressor with after cooler
2. G filter
3. C filter
4. V filter
5. Refrigerant dryer

Vertical receiver is always suggested.

Contact your local representative:
www.mark-compressors.com



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.

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