MDX 400 - 84000
Refrigerant dryers

Solid, simple, smart.
Advanced reliability in
compressed air.

AVAILABILITY
SERVICEABILITY
RELIABILITY
SIMPLICITY
PARTNERSHIP

TECHNOLOGY YOU CAN TRUST

MARK

User benefits

Simple Installation

- Light and compact design
- Easy to transport
- Easy installation that does not require any special equipment or special foundation work.

Solid Quality

- High reliability was a key driver when developing the MDX dryer range
- First-class components that have been tested under the worst possible operating conditions
- Constant dewpoint under any load conditions when correctly sized.

Easy Maintenance and Accessibility

- Less maintenance is required and is easier
- Reliable components that are easily accessed.
- Long service intervals

Cost savings

- Very little maintenance required
- Low energy consumption
- Energy savings due to low pressure drops throughout the dryer system
- No compressed air waste due to intelligent automatic discharge of condensate.

MDX Refrigerant dryer

A compressor takes humidity and contamination from the intake air, during the compression process these particles combine with the oil used in the compressor. All these impurities 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.

To reduce this negative impact, a range of refrigerant dryers has been developed to ensure air quality, increase efficiency and productivity and lengthen the life span of your equipment and tools.

The benefits of refrigerant dryers

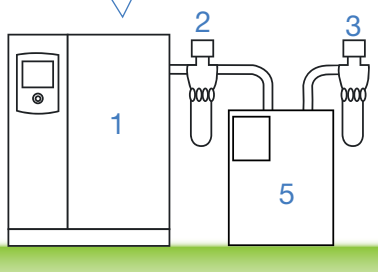
Clean and dry air

- Compressed air is cooled down by refrigerant gas, condensing the water in the air, allowing it to be removed.
- Protection of the air network from corrosion, rust and leakages.
- Higher final product quality.
- Increase your overall productivity
- Protection for the downstream equipment

Typical installations

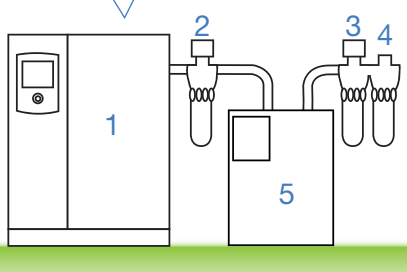
1. Compressor with after cooler
2. G filter
3. C filter

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



4. V filter
5. Refrigerant dryer. Vertical receiver is always recommended

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



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
- Dewpoint indication

Alarm display:

- Alarm about high or low dewpoint
- Fan probe failure (MDX 1200-7700)
- Service warning

Control panel with free contact (on request) for a:

- Remote PDP alarm (MDX 2400-84000)
- Remote high refrigerant temperature (MDX 2400-84000)
- Remote fan probe failure (MDX 2400-7700)

Intelligent capacitive drain discharge

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

Benefits

- ✔ Only water is discharged, no compressed air
- ✔ Energy saving
- ✔ No noise and environmental friendly

Standard features (for MDX 10000-84000)

Free contacts for a:

- Remote start/stop
- Remote general alarm
- Remote drain alarm

Available options (for MDX 400-1800)

Bypass valve and filter support*

The optional bypass facility 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.*

THE SMART CHOICE FOR HIGH RELIABILITY

Components

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/REFRIGERANT EVAPORATOR
with high thermal exchange and low leakage rates.

5 CONDENSATE SEPARATOR
High-efficiency.

6 AIR-AIR EXCHANGER
with high thermal exchange and low load losses.

7 HOT GAS BYPASS VALVE
controls the refrigerant capacity under all load conditions preventing any formation of ice within the system.

8 AUTOMATIC DISCHARGE OF CONDENSATE
Energy saving and self adjusting, allows only moisture to discharge and prevents waste discharge of valuable compressed air.

9 CONTROL PANEL
indicating all relevant information

Drying principle

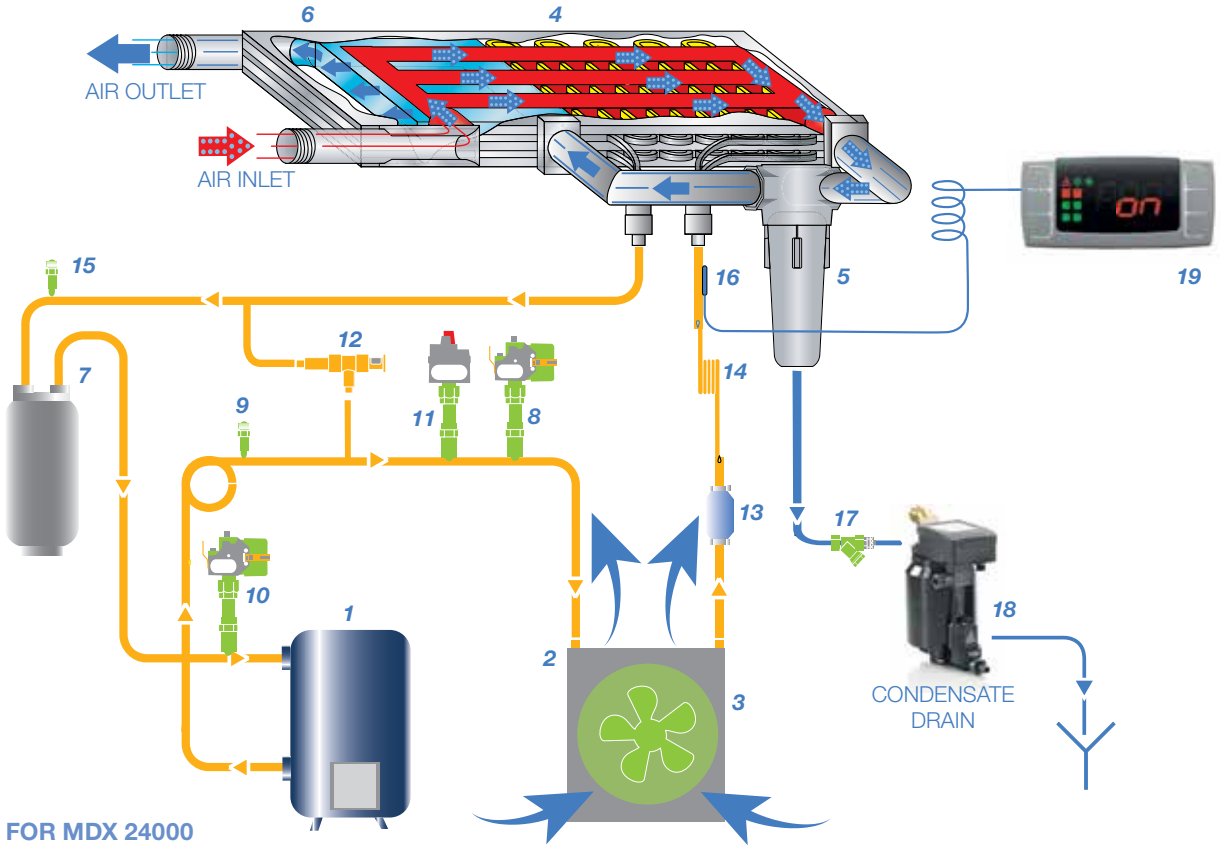


DIAGRAM FOR MDX 24000

1. *Refrigerant fluid compressor*
2. *Condenser*
3. *Motor driven fan*
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. *Fan pressure switch*
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. *PDP indicator*

MDX 400 -84000 REFRIGERANT DRYERS

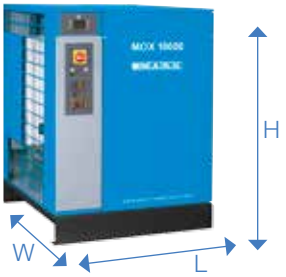
Technical data • According to ISO 7183 and Cagi Pneurop PN8NTC2

TYPE	Max. Working Pressure		Air Treatment Capacity			Motor Power		Inlet / outlet Connections	Dimensions			Weight	
	bar	psi	l/1'	m^3/h	cfm	W	V/Hz/Ph	gas/DN	L	W	H	kg	refrigerant gas
MDX 400	16	232	350	21	12,4	130	230/50/1	3/4" M	350	500	450	19	R134a
MDX 600	16	232	600	36	21,2	164	230/50/1	3/4" M	350	500	450	19	R134a
MDX 900	16	232	850	51	30,0	190	230/50/1	3/4" M	350	500	450	20	R134a
MDX 1200	16	232	1.200	72	42,4	266	230/50/1	3/4" M	350	500	450	25	R134a
MDX 1800	16	232	1.825	110	64,4	284	230/50/1	3/4" M	350	500	450	27	R134a
MDX 2400	13	188	2.350	141	83,0	609	230/50/1	1" F	370	500	764	44	R404A
MDX 3000	13	188	3.000	180	106	673	230/50/1	1" F	370	500	764	44	R404A
MDX 3600	13	188	3.600	216	127	793	230/50/1	1"1/2" F	460	560	789	53	R404A
MDX 4100	13	188	4.100	246	145	870	230/50/1	1"1/2" F	460	560	789	60	R404A
MDX 5200	13	188	5.200	312	184	1.072	230/50/1	1"1/2" F	460	560	789	65	R404A
MDX 6500	13	188	6.500	390	230	1.190	230/50/1	1"1/2" F	580	590	899	80	R404A
MDX 7700	13	188	7.700	462	272	1.446	230/50/1	1"1/2" F	580	590	899	80	R404A
MDX 10000	13	188	10.000	600	353	1.319	400/50/3	2" F	735	898	962	128	R410A
MDX 12000	13	188	12.000	720	424	1.631	400/50/3	2" F	735	898	962	146	R410A
MDX 15000	13	188	15.000	900	530	1.889	400/50/3	2" F	735	898	962	158	R410A
MDX 18000	13	188	18.000	1.080	636	2.110	400/50/3	2" F	735	898	962	165	R410A
MDX 24000	13	188	24.000	1.440	848	3.900	400/50/3	3" F	1.020	1.082	1.535	325	R404A
MDX 30000	13	188	30.000	1.800	1.060	4.460	400/50/3	3" F	1.020	1.082	1.535	335	R404A
MDX 35000	13	188	35.000	2.100	1.237	5.550	400/50/3	3" F	1.020	1.082	1.535	350	R404A
MDX 45000	13	188	45.000	2.700	1.589	6.715	400/50/3	DN125	1.020	1.082	1.535	380	R404A
MDX 50000	13	188	50.000	3.000	1.766	6.800	400/50/3	DN125	1.020	2.099	1.535	550	R404A
MDX 70000	13	188	70.000	4.200	2.472	10.200	400/50/3	DN125	1.020	2.099	1.535	600	R404A
MDX 84000	13	188	84.000	5.040	2.966	12.300	400/50/3	DN125	1.025	2.099	1.535	650	R404A

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

Limit conditions:
- Working pressure:
  16 bar (232 psi) MDX 400-1800
  13 bar (188 psi) MDX 2400-84000
- 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

Room temperature	°C	25	30	35	40	45	
	A	1,00	0,92	0,84	0,80	0,74	(MDX 400-7700)
		1,00	0,91	0,81	0,72	0,62	(MDX 10000-84000)

Operating temperature	°C	30	35	40	45	50	55	
	B	1,24	1,00	0,82	0,69	0,58	0,45	(MDX 400-7700)
		1,00	1,00	0,82	0,69	0,58	0,49	(MDX 1000-84000)

Operation pressure	bar	5	6	7	8	9	10	11	12	13	14	15	16	
	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	(MDX 400-7700)
		0,90	0,97	1,00	1,03	1,05	1,07	1,09	1,11	1,12				(MDX 10000-84000)

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.

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 R134a, R404A and R410A gas.
- No impact on the ozone layer.
- R410A gas has exceptional properties:
  - Very low Global Warming Potential (GWP)
  - Energy saving by use of rotary refrigerant compressor

MDX 400-84000
Refrigerant dryers

Part of a full range of Quality air products

MARK

- A high quality product offering you **technology you can trust**.
- Our products are **easy to use** and guarantee high **reliability.**
- Distributors are always nearby ensuring **availability** of both products and support.
- Choosing our high performance products entails a **partnership** that will boost your business.
- Safeguarding long-term productivity through optimal **serviceability** and use of original parts.

ORIGINAL PART

Care. Trust. Efficiency.

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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