

***motivair***<sup>™</sup>

**MDX**

NON-CYCLING  
REFRIGERATION  
COMPRESSED  
AIR DRYERS



18-3,000 scfm

# **motivair**<sup>™</sup>

**Motivair MDX** refrigeration compressed air dryers were designed to maximize thermal efficiency in a compact package, while offering a constant dew point of 35F. Simplicity of design, with built-in reliability, insures minimal maintenance, for prolonged periods of operation. A patented system of hot-gas injection maintains the dew point, while eliminating any possibility of freezing under low load conditions. Environmentally friendly R134A & R22 refrigerants are used throughout the range.

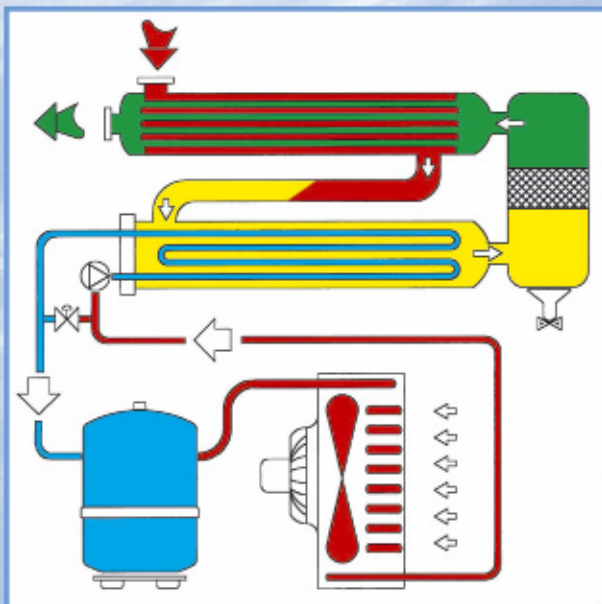
## **Components**

Smooth bore copper heat exchangers and stainless steel separators are utilized in all models. This design results in low power consumption, and low pressure-drop. The patented refrigeration control system and high-efficiency separator provide very close dew point control, from zero to 100% of compressed air flow. High quality refrigeration components are used throughout the range, including suction accumulators, liquid receivers and solenoid valves, to insure a totally functional and reliable system. High & low refrigeration safety switches on all models above MDX 100 protect the system

against damage. Zero-loss drain valves discharge condensate reliably, with push-to-test button for verification. All models feature easily removable access panels, which are coated in baked epoxy powder, for a superior, durable finish.

## **MDX Operation**

Hot entering compressed air is first pre-cooled by the leaving cold air, in the economizer. The pre-cooled air then enters the evaporator, where it is cooled to its final dew point by direct heat exchange with the refrigerant. Condensed moisture is removed in the high-efficiency separator and ejected from the system via the zero-loss drain valve. The cold, dry air is reheated in the air/air economizer, before finally leaving the dryer. The refrigeration control system insures a constant dew point regardless of compressed air fluctuation, from zero to 100%.



# MDX Non-Cycling Refrigeration Dryers

## Controls

### All Models

#### Power disconnect switch

#### Microprocessor controls with:

On/off push-button

LCD 3-digit display of dew point temperature

LCD 3-digit alarm codes for:

High dew point (HA1)

Low dew point (LA1)

Sensor failure (PF1) with auto-stop

LED indicators for:

Compressor running

Hot Gas valve operating

Drain operation

#### Adjustment:

Dew point temperature

Alarm parameters

Zero-loss drain push-to-test

#### Options:

Remote stop/start

### Models MDX 800 - 3,000

Above, plus:

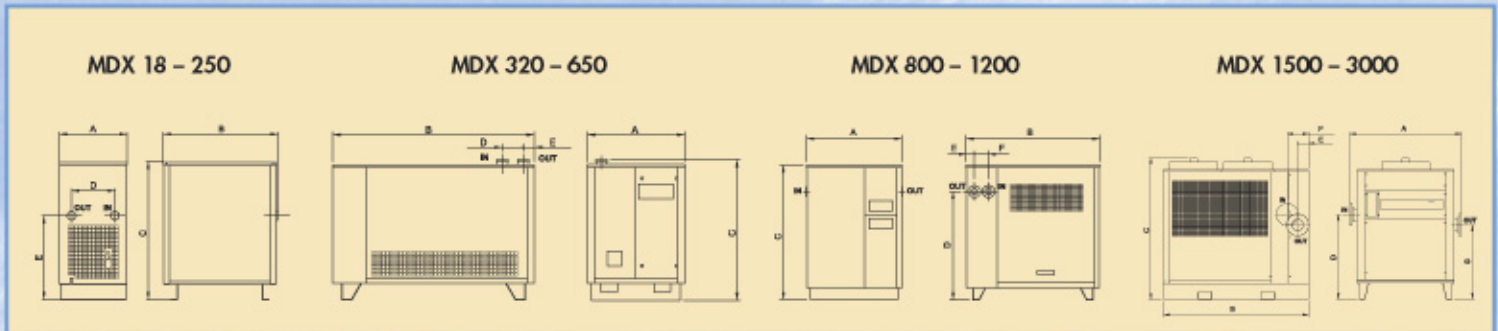
Refrigerant suction gauge

Refrigerant discharge gauge



## MDX TECHNICAL DATA

Model	Cooling media	Capacity 35°F dpt SCFM	Capacity 50°F dpt SCFM	Compress. HP	Max Current FLA	Electrical Connection V/Ph/Hz	Air Connection V/Ph/Hz	Dimension - Inches							Weight lbs
								A	B	C	D	E	F	G	
MDX 18	R134a	18	23	1/6	2.7	115/1/60	1/2" NPT	15.4	18.1	15.8	12.0	10.5	-	-	64
MDX 30	R134a	30	39	1/4	4.7	115/1/60	1/2" NPT	15.4	18.1	15.8	12.0	10.5	-	-	66
MDX 50	R134a	50	65	1/3	6.7	115/1/60	3/4" NPT	17.3	23.6	21.3	13.6	13.2	-	-	88
MDX 75	R134a	75	98	3/4	10	115/1/60	3/4" NPT	17.3	23.6	21.3	13.6	13.2	-	-	104
MDX 100	R134a	100	130	1	10.5	115/1/60	3/4" NPT	17.3	23.6	21.3	13.6	13.2	-	-	132
MDX 120	R134a	120	156	1	14	115/1/60	1.1/2" NPT	18.9	33.6	38.2	12.2	28.23	-	-	195
MDX 150	R134a	150	195	1-1/2	9	230/1/60	1.1/2" NPT	18.9	33.6	38.2	12.2	28.23	-	-	210
MDX 200	R134a	200	260	1-1/2	10.2	230/1/60	1.1/2" NPT	18.9	33.6	38.2	12.2	28.23	-	-	215
MDX 250	R134a	250	325	2	12.6	230/1/60*	1.1/2" NPT	18.9	33.6	38.2	12.2	28.23	-	-	219
MDX 320	R134a	320	416	2-1/2	15	230/1/60*	2" NPT	27.7	57.2	40.0	6.0	3.2	-	-	419
MDX 420	R134a	420	546	3	5.8	460/3/60	2" NPT	27.7	57.2	40.0	6.0	3.2	-	-	470
MDX 515	R134a	515	670	3-1/2	7.1	460/3/60	2" NPT	27.7	57.2	40.0	6.0	3.2	-	-	640
MDX 650	R134a	650	845	4	7.1	460/3/60	2" NPT	27.7	57.2	40.0	6.0	3.2	-	-	662
MDX 800	R134a	800	1,040	5	9.5	460/3/60	3" NPT	39.5	55.5	56.0	45.8	3.4	6.0	-	865
MDX 1000	R134a	1,000	1,300	6	11.5	460/3/60	3" NPT	39.5	55.5	56.0	45.8	3.4	6.0	-	915
MDX 1200	R134a	1,200	1,560	8	12.5	460/3/60	3" NPT	39.5	55.5	56.0	45.8	3.4	6.0	-	925
MDX 1500	R134a	1,500	1,950	8-1/2	17.3	460/3/60	4" FLG	63.4	82.7	80.3	48.2	6.3	12.2	42.3	1212
MDX 1800	R134a	1,800	2,340	10	21	460/3/60	4" FLG	63.4	82.7	80.3	48.2	6.3	12.2	42.3	1740
MDX 2400	R22	2,400	3,120	12	25.5	460/3/60	4" FLG	63.4	82.7	80.3	48.2	6.3	12.2	42.3	1940
MDX 3000	R22	3,000	3,900	14	32	460/3/60	6" FLG	63.4	82.7	80.3	48.2	6.3	12.2	42.3	2315



**RATING CONDITIONS:** Working pressure 100 psig max 230 psig  
 Inlet air temperature 100 °F  
 Ambient temperature 100 °F  
 Pressure dew-point 33-39 °F

Motivair reserves the right to change specifications without notice

\* Also available in 460/3/60  
 460V models also available in 575/3/60

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### MULTIPLY THE CAPACITIES BY THE CORRECTION FACTORS

Inlet air temperature		Inlet air pressure		Ambient air temperature	
°F	(cf)	psgi	(cf)	°F	(cf)
80	1.30	60	0.85	80	1.10
90	1.18	80	0.95	90	1.05
100	1.00	100	1.00	100	1.00
110	0.75	150	1.05	110	0.90
120	0.62	200	1.10	120	0.75