



**Membrane Compressed Air Dryers**

HMD SERIES

## CHOOSE THE LEVEL OF DRYNESS YOUR APPLICATION REQUIRES

**DRYERS MAY BE SIZED TO PRODUCE  
DEW POINT TEMPERATURES\* FROM  
-40°F (-40°C) OR BELOW TO +50°F (+10°C)**

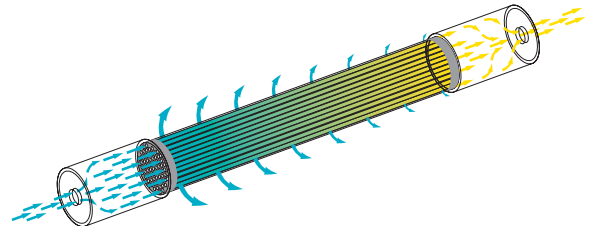


### HMD SERIES MEMBRANE DRYERS

The next generation in membrane technology

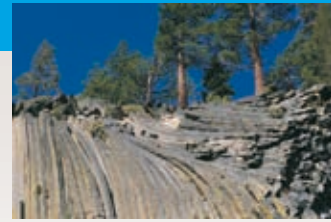
- High efficiencies – lower sweep air rates – more air available downstream
- High flow rates – the design allow higher inlet and outlet flows
- Durable Construction – maximum working pressure all models: 175 psig (12.3 kgf/cm<sup>2</sup>); maximum inlet temperature: 150°F (66°C)

Membrane gas separation technology, used for years to generate nitrogen, is now widely used for compressed air drying. Operation is simple and reliable. Compressed air, saturated with water vapor, flows through a bundle of tube-shaped membranes (think of tiny drinking straws). Water vapor (and a fraction of the compressed air used to sweep the water vapor out of the dryer) passes through the membrane walls. Dry air then exits the tube bundle for use downstream. As long as the dried air isn't exposed to temperatures below the dew point temperature produced by the dryer, no troublesome liquid water will form in your air system.



### MAINTAINS MARGIN OF DRYING PROTECTION

In typical systems there's no need to oversize a HMD Series dryer for the worst conditions (high inlet temperatures during the summer, low dew point requirements during the winter). A margin of drying protection is maintained between ambient conditions and the outlet dew point. For example, with a fixed flow rate through the dryer and a 60°F (16°C) inlet temperature, the dryer will produce a -40°F (-40°C) dew point. As the weather warms and the inlet temperature increases to 120°F (49°C), the drying margin is maintained with a 20°F (-6.7°C) outlet dew point.



## THE BEAUTY OF MEMBRANE DRYING IS ITS SIMPLICITY

### INSTALLATION VERSATILITY

- Lightweight - HMD Series dryers can be installed in air lines without additional support
- Operates in any orientation making it easy to incorporate into existing equipment
- No outside power source required
- Operates in a wide variety of environments - high and low temperatures, corrosive and explosive atmospheres, indoors or out
- Convenient mounting systems available with bracket, interconnecting piping and choice of one or two prefilters
- Choice of Prefilter packages
- For normal applications - a Hankison HF Series Grade 5 high efficiency oil removal filter
- For highly contaminated systems or applications where the highest level of air purity is required - a Hankison HF Series Grade 7 air line filter and a Grade 3 ultra high efficiency oil removal filter
- Filters include: auto drains and differential pressure indicators to signal the need for element replacement

### INSTALL A HMD SERIES DRYER AND WALK AWAY

- No operator required - no gauges to read, no adjustments to make
- No moving parts to maintain, repair or wear out
- No consumables (e.g. deliquescent tablets) to replace
- Water is removed as a vapor - no liquid condensate to dispose of
- Keep the dryer clean and oil free with Hankison HF Series filters and receive years of trouble-free service life

### MATERIALS OF CONSTRUCTION

Models	End Caps	Shell	Inlet/Outlet Fittings
HMD20-1 through HMD20-5	Nylon	CPVC	Brass
HMD20-6	Aluminum	CPVC	Aluminum*
HMD20-4SS through HMD20-6SS	304SS	304SS	304SS*

\*Integral to end caps

### CONSIDER THE LIFE-CYCLE COSTS OF MEMBRANE DRYERS... SEE IF THEY'RE RIGHT FOR YOU

Weigh the reasonable initial cost and minimal amount of sweep air used against the installation costs (space requirements, foundations, piping, wiring), operating costs (power, compressed air, chemicals), maintenance costs (cleaning, chemical replacement) and repair costs of other dryer types. You'll find HMD Series membrane dryers the right choice for many applications.

### SAFE AND ENVIRONMENTALLY SOUND

- Pressurized air is contained inside the membranes - housing contains air at atmospheric pressure
- No oil/water emulsions or chemicals to dispose of

## HMD SERIES SPECIFICATIONS

Inlet Outlet Flow Capacities (scfm) @ 100 psig (3)

	Inlet Temperature (1)	Outlet Pressure Dew Point					
		50°F (10°C)	40°F (4.4°C)	0°F (-17.8°C)	20°F (-6.7°C)	-20°F (-29°C)	-40°F (-40°C)
HMD20-1	40°F Inlet (4.4°C)	—	—	1.9	1.1	0.9	0.7
	40°F Outlet (4.4°C)	—	—	1.7	0.9	0.7	0.5
	60°F Inlet (16°C)	3.7	2.32	1.31	0.98	0.78	0.64
	60°F Outlet (16°C)	3.5	2.13	1.13	0.79	0.59	0.45
	80°F Inlet (27°C)	1.6	1.45	1.09	0.87	0.71	0.59
	80°F Outlet (27°C)	1.3	1.25	0.88	0.67	0.51	0.39
	100°F Inlet (38°C)	1.33	1.23	0.97	0.79	0.66	0.55
	100°F Outlet (38°C)	0.91	1.01	0.75	0.58	0.45	0.34
	120°F Inlet (49°C)	1.18	1.08	0.89	0.74	0.63	0.53
	120°F Outlet (49°C)	0.94	0.84	0.65	0.50	0.39	0.30
HMD20-2	150°F Inlet (66°C)	1.06	0.96	0.81	0.69	0.59	0.51
	150°F Outlet (66°C)	0.78	0.68	0.54	0.42	0.32	0.24
	40°F Inlet (4.4°C)	—	—	6.3	3.9	3.0	2.4
	40°F Outlet (4.4°C)	—	—	5.5	3.1	2.2	1.7
	60°F Inlet (16°C)	11.1	8.49	4.83	3.55	2.84	2.36
	60°F Outlet (16°C)	10.3	7.78	4.10	2.82	2.11	1.63
	80°F Inlet (27°C)	5.75	5.25	3.92	3.13	2.59	2.19
	80°F Outlet (27°C)	4.95	4.48	3.15	2.35	1.82	1.43
	100°F Inlet (38°C)	4.63	4.33	3.44	2.84	2.41	2.08
	100°F Outlet (38°C)	3.80	3.50	2.62	2.03	1.60	1.26
HMD20-3	120°F Inlet (49°C)	4.08	3.78	3.14	2.66	2.29	1.90
	120°F Outlet (49°C)	3.19	2.89	2.26	1.78	1.42	1.13
	150°F Inlet (66°C)	3.52	3.32	2.86	2.49	2.18	1.92
	150°F Outlet (66°C)	2.51	2.31	1.87	1.51	1.21	0.96
	40°F Inlet (4.4°C)	—	—	12.1	7.8	6.2	5.1
	40°F Outlet (4.4°C)	—	—	11.1	6.8	5.2	4.1
	60°F Inlet (16°C)	22.3	15.7	8.8	6.8	5.5	4.6
	60°F Outlet (16°C)	21.3	14.7	7.8	5.7	4.5	3.5
	80°F Inlet (27°C)	11.4	9.0	7.3	6.0	5.0	4.2
	80°F Outlet (27°C)	10.3	7.9	6.2	4.9	3.9	3.1
HMD20-4	100°F Inlet (38°C)	8.7	7.8	6.5	5.5	4.7	3.9
	100°F Outlet (38°C)	7.6	6.7	5.4	4.3	3.5	2.7
	120°F Inlet (49°C)	7.6	7.0	6.0	5.1	4.4	3.7
	120°F Outlet (49°C)	6.4	5.8	4.8	3.9	3.1	2.4
	150°F Inlet (66°C)	6.7	6.3	5.5	4.7	4.0	3.4
	150°F Outlet (66°C)	5.4	4.9	4.1	3.3	2.6	2.0
	40°F Inlet (4.4°C)	—	—	24.8	16.8	13.1	11.4
	40°F Outlet (4.4°C)	—	—	22.7	14.7	11.0	9.2
	60°F Inlet (16°C)	45.1	32.3	18.8	15.0	12.5	10.4
	60°F Outlet (16°C)	43.0	30.2	16.7	12.8	10.3	8.2
HMD20-5	80°F Inlet (27°C)	21.9	19.1	16.1	13.6	11.5	9.6
	80°F Outlet (27°C)	19.8	16.9	13.8	11.3	9.2	7.3
	100°F Inlet (38°C)	18.8	17.2	14.7	12.6	10.7	8.9
	100°F Outlet (38°C)	16.5	14.9	12.3	10.2	8.2	6.4
	120°F Inlet (49°C)	16.8	15.7	13.7	11.8	10.0	8.4
	120°F Outlet (49°C)	14.4	13.2	11.2	9.2	7.4	5.7
	150°F Inlet (66°C)	15.2	14.3	12.6	10.9	9.3	7.7
	150°F Outlet (66°C)	12.5	11.5	9.7	7.9	6.3	4.7
	40°F Inlet (4.4°C)	—	—	41.8	28.3	22.1	19.2
	40°F Outlet (4.4°C)	—	—	38.3	24.8	18.6	15.6
HMD20-6	60°F Inlet (16°C)	76.0	54.4	31.7	25.2	21.1	17.6
	60°F Outlet (16°C)	72.5	50.9	28.1	21.5	17.3	13.8
	80°F Inlet (27°C)	37.0	32.2	27.1	22.9	19.4	16.2
	80°F Outlet (27°C)	33.3	28.5	23.3	19.0	15.5	12.2
	100°F Inlet (38°C)	31.7	29.0	24.8	21.2	18.0	15.0
	100°F Outlet (38°C)	27.8	25.1	20.8	17.1	13.8	10.8
	120°F Inlet (49°C)	28.3	26.5	23.1	19.9	16.9	14.1
	120°F Outlet (49°C)	24.2	22.3	18.8	15.5	12.4	9.6
	150°F Inlet (66°C)	25.7	24.2	21.3	18.4	15.6	13.0
	150°F Outlet (66°C)	21.0	19.4	16.4	13.4	10.6	8.0
HMD20-6	40°F Inlet (4.4°C)	—	—	87.8	56.6	44.6	36.7
	40°F Outlet (4.4°C)	—	—	81.0	49.6	37.6	29.7
	60°F Inlet (16°C)	148.0	106.3	62.1	49.0	40.7	34.0
	60°F Outlet (16°C)	141.2	99.4	54.9	41.7	33.3	26.6
	80°F Inlet (27°C)	72.7	62.9	52.4	44.0	37.2	31.2
	80°F Outlet (27°C)	65.5	55.6	44.9	36.4	29.5	23.4
	100°F Inlet (38°C)	61.3	56.0	47.5	40.5	34.5	29.0
	100°F Outlet (38°C)	53.8	48.4	39.7	32.5	26.3	20.8
	120°F Inlet (49°C)	54.3	50.6	43.9	37.8	32.3	27.2
	120°F Outlet (49°C)	46.4	42.5	35.6	29.3	23.7	18.5
HMD20-6	150°F Inlet (66°C)	48.6	45.7	40.2	34.8	29.8	25.2
	150°F Outlet (66°C)	39.6	36.6	30.9	25.3	20.2	15.6

Larger models available see note (2)

	Inlet Temperature (1)	Outlet Pressure Dew Point					
		40°F (4.4°C)	20°F (-6.7°C)	0°F (-17.8°C)	-20°F (-29°C)	-40°F (-40°C)	
RHD016SS	40°F Inlet (4.4°C)	—	—	27.7	17.1	13.1	10.9
	40°F Outlet (4.4°C)	—	—	24.3	13.7	9.7	7.5
	60°F Inlet (16°C)	28.8	18.7	14.1	11.7	10.1	9.5
	60°F Outlet (16°C)	25.4	15.3	10.7	8.3	6.7	6.1
	80°F Inlet (27°C)	20.4	15.1	12.4	10.7	9.5	8.6
	80°F Outlet (27°C)	17.0	11.8	9.0	7.3	6.1	5.6
	100°F Inlet (38°C)	16.3	13.3	11.3	10.0	9.0	8.6
	100°F Outlet (38°C)	12.9	9.9	7.9	6.6	5.6	5.2
	120°F Inlet (49°C)	14.2	12.1	10.6	9.5	8.6	8.2
	120°F Outlet (49°C)	10.8	8.7	7.2	6.1	5.2	4.8
RHD026SS	40°F Inlet (4.4°C)	—	—	47.0	29.0	22.2	18.5
	40°F Outlet (4.4°C)	—	—	41.3	23.3	16.5	12.8
	60°F Inlet (16°C)	48.9	31.7	23.9	19.8	17.1	15.2
	60°F Outlet (16°C)	43.2	26.0	18.2	14.1	11.4	10.4
	80°F Inlet (27°C)	34.6	25.8	21.0	18.1	16.1	14.5
	80°F Outlet (27°C)	28.9	20.1	15.3	12.4	10.4	9.5
	100°F Inlet (38°C)	27.6	22.5	19.1	16.9	15.2	14.5
	100°F Outlet (38°C)	21.9	16.8	13.4	11.2	9.5	8.8
	120°F Inlet (49°C)	24.1	20.5	17.9	16.1	14.5	13.0
	120°F Outlet (49°C)	18.4	14.8	12.2	10.4	8.8	8.2
RHD052SS	40°F Inlet (4.4°C)	—	—	94.0	58.0	44.4	37.0
	40°F Outlet (4.4°C)	—	—	82.6	48.6	33.0	25.6
	60°F Inlet (16°C)	97.8	63.4	47.8	39.6	34.2	28.8
	60°F Outlet (16°C)	86.4	52.0	36.4	28.2	22.8	19.0
	80°F Inlet (27°C)	69.2	51.6	42.0	36.2	32.2	28.8
	80°F Outlet (27°C)	57.8	40.2	30.6	24.8	20.8	17.6
	100°F Inlet (38°C)	55.2	45.0	38.2	33.8	30.4	26.6
	100°F Outlet (38°C)	43.8	33.6	26.8	22.4	19.0	16.6
	120°F Inlet (49°C)	48.2	41.0	35.8	32.2	29.0	25.6
	120°F Outlet (49°C)	36.8	29.6	24.4	20.8	17.6	15.6

- Use inlet air temperature if the air entering the dryer has not been dried upstream (air is saturated). If air has been dried, (e.g. in a refrigerated dryer) use the dew point temperature of the inlet air.
- Models HMD20-7, 8, and 9 for higher flows are available. Model HMD20-7 is three HMD20-5s piped in parallel. Multiply flows found in HMD20-5 table by 3 to determine capacity. Model HMD20-8 is two HMD20-6s, and HMD20-9 is three HMD20-6s piped in parallel. Multiply flows in HMD20-6 table by 2 or 3 to find flow capacity.
- Flow capacities at 100 psig (7 kgf/cm<sup>2</sup>). For capacities at other pressures consult factory. Capacities are established in accordance with CAGI (Compressed Air and Gas Institute) Standard ADF 700: Membrane Compressed Air Dryers - Methods for Testing and Rating.

### 3 Year Warranty

Standard one year warranty is extended to three years when the dryer is installed with an optional prefilter package. To keep the warranty in effect, cartridges must be replaced at six month intervals and the drain mechanism yearly.

### Fitness Guarantee

If during the first three months of operation, you are not satisfied with the suitability of the membrane dryer for your application, return the dryer for full credit. The credit can be applied to the purchase of any other Hankison drying equipment.

Model	Dimensions			In/Out (2) Conn.	Weight	Maximum Working Pressure	Maximum Operating Temperature
	L	W	H				
HMD20-1	12.3	312	2.1	53	3/8"	1.3	0.6
HMD20-2	26.4	671	2.1	53	3/8"	1.8	0.8
HMD20-3	15.3	389	3.9	99	3/8"	4.9	2.2
HMD20-4	26.9	683	3.9	99	1/2"	6.9	3.1
HMD20-5	41.0	1,041	3.9	99	1/2"	9.5	4.3
HMD20-6	41.1	1,044	4.9	124	3/4"	14.6	6.6
HMD20-7 (1)	52.0	1,321	19.3	490	1"	30.0	13.6
HMD20-8 (1)	52.0	1,321	12.0	305	1"	30.7	13.9
HMD20-9 (1)	52.0	1,321	21.5	546	1"	45.0	20.4
RHD016SS	26.9	683	4.1	104	1/2"	12.5	5.7
RHD026SS	41.3	1,048	4.1	104	1/2"	18.4	8.5
RHD052SS	40.3	1,023	5.6	142	3/4"	44.2	20

- See Note 2 above
- Specify NPT or BSP