HANKISON

HMM SERIES

MODULAR

MEMBRANE

COMPRESSED

AIR DRYERS

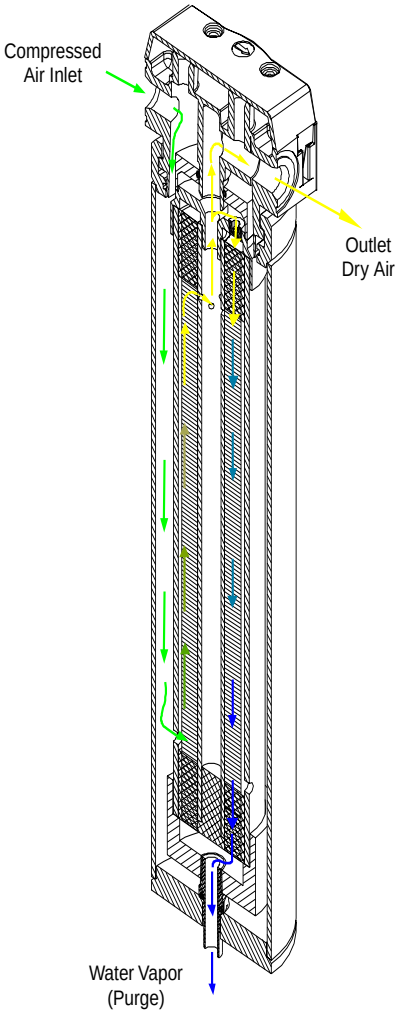
HMM Series Modular Membrane Air Compressed Dryers

Drying with Confidence

Since 1948, people around the globe have relied on Hankison International to deliver the right solutions to efficiently meet their compressed air drying and filtering needs. The HMM Series, Modular Membrane Compressed Air Dryers, continue that tradition in offering a revolutionary “point-of-use” alternative for low dew point applications.

Revolutionary Membrane Design

Successful water vapor removal, without the loss of oxygen, is accomplished by the unique permeation method and proprietary construction of the HMM Series. Our advanced design features:



- Unique outside-to-inside permeation increases surface area for more efficient drying
- Special membrane fiber coating prevents hydro-carbon adsorption and maximizes forgiveness to liquid upset conditions
- Helically wound fiber bundles gain 30% more drying capacity in a space-saving package
- Structured fiber packing with consistent cross-sectional density, provides greater energy efficiency, reduces pressure drop, and eliminates by-pass channeling
- Rugged welded aluminum housings are lightweight and robust for security under pressure. Epoxy powder coated (both inside and out) for protection from the elements

Customizable Performance

For larger quantity orders the HMM Series can be tailored to match OEM feed air and dew point requirements. Our unique purge configurations allow us to customize our performance to match your design.

Why Choose The HMM Series?

- Eliminate damaging water by reducing system pressure dew point from +40°F to -40°F (+4.4°C to -40°C) and beyond
- No oxygen loss
- Modular connections mate the HMM Series and HF Series prefilters and afterfilters together for quick, clean, and easy installations
- Free up your valuable floor space with our compact vertical O.E.M. ready design
- No moving parts to wear out
- No electrical requirements make it ideal for portable applications and remote installations
- Replaceable membrane bundles combine the convenience of a filter with the reliability of a dryer

Convenient Oil-Free Dry Air Packages

The HMM Series, Modular Membrane Compressed Air Dryers, when paired with HF Series Compressed Air Filters, creates an air treatment system that meets, or exceeds, ISO 8573.1 standards for air quality. Do you need oil-free compressed air for food packaging, pharmaceutical labs, or other critical applications such as integrated circuit manufacturing? By simply adding an HF Series Grade 1 afterfilter, to remove the oil vapors, you can gain oil free air with confidence.

Air Preparation

The HMM Series is designed to remove water vapor from your compressed air stream. As such, proper operation requires the removal of contaminants like liquid water, compressor lubricant, dust, rust, and pipe scale before entering the dryer. Clean, filtered, compressed air will reward you with many years of satisfactory performance from your HMM Series dryer.

Simply select the model that meets the flow requirements of your system, then, add the level of filtration you need from our world-class HF Series prefilter and afterfilter packages.

Filter Package Recommendations

Application	Maximum Liquid Inlet Content to Filter	Recommended HF Series Filtration
Space-sensitive OEM's & Packages	1,000 ppm w/w	Prefilter: Grade 5 - 0.008 ppm (0,01 mg/m³) oil removal
General Industrial Point-of-use	2,000 ppm w/w	Prefilters: Grade 7 - 1 micron particulate Grade 3 - 0.0008 ppm (0,001 mg/m³) oil removal
Food & Pharmaceutical Direct & Indirect air contact with product	2,000 ppm w/w	Prefilters: Grade 7 - 1 micron particulate Grade 3 - 0.0008 ppm (0,001 mg/m³) oil removal Afterfilter: Grade 1- Oil vapor and 0.003 ppm (0,004 mg/m³) oil removal

Advanced Monitoring Capabilities

Do you have an extra-critical location or an unmanned robotically controlled system to worry about? Our WebAirNet Internet Remote Monitoring option gives you real-time operational status viewable on your own private Web site. System abnormalities or scheduled maintenance conditions can generate an instant response to any e-mail address, cell phone, or pager of your choosing.

Typical Applications

- Original Equipment Manufacturers (O.E.M.)
- NEMA 7 Hazardous Environments
- Paint Spray Booths
- Dust Collectors
- Coordinate Measuring Machines
- Fluid Agitation
- Dental Equipment
- Instrument Air
- Locomotive Air Brakes
- Medical Equipment
- Oil & Gas Wells
- Ozone Generators
- Air Logic
- Rapid Transit Fare Collection Systems
- Air Blanketing
- Telephone Cable Pressurization
- Ship Supply Air
- Laboratory Instruments
- Control Panel Purge Air
- Optical Lens Cleaning
- Laser Optics
- Welding Equipment
- Chemical and Gas Analyzers
- Dimensioning and Positioning Machines
- Product fluidization
- Distilling Equipment
- Photo Processing Equipment
- Packaging Equipment
- Graphic Arts Equipment
- Dry Cleaning Equipment

Projected Inlet and Outlet Flow Capacities (scfm) @ 100 psig

	Inlet Temperature	Outlet Pressure Dew Point 50°F (10°C)	40°F (4.4°C)	20°F (-6.7°C)	0°F (-17.8°C)	-20°F (-29°C)	-40°F (-40°C)
HMM1-3	40°F (4.4°C) Inlet	-	-	3.14	1.24	0.86	0.63
	40°F (4.4°C) Outlet	-	-	2.92	1.02	0.64	0.41
	60°F (16°C) Inlet	4.98	3.7	1.39	0.95	0.7	0.53
	60°F (16°C) Outlet	4.77	3.49	1.17	0.73	0.49	0.31
	80°F (27°C) Inlet	2.89	1.52	1.06	0.78	0.59	0.45
	80°F (27°C) Outlet	2.67	1.31	0.84	0.57	0.38	0.23
	100°F (38°C) Inlet	1.35	1.15	0.87	0.67	0.51	0.38
	100°F (38°C) Outlet	1.13	0.94	0.65	0.45	0.3	0.16
	120°F (49°C) Inlet	1.07	0.94	0.74	0.58	0.45	0.34
	120°F (49°C) Outlet	0.85	0.73	0.53	0.37	0.24	0.12
	150°F (66°C) Inlet	0.84	0.76	0.62	0.49	0.39	-
	150°F (66°C) Outlet	0.63	0.55	0.41	0.29	0.18	-
HMM2-3	40°F (4.4°C) Inlet	-	-	8.25	3.78	2.77	2.16
	40°F (4.4°C) Outlet	-	-	7.68	3.21	2.20	1.59
	60°F (16°C) Inlet	13.09	9.73	4.16	3.03	2.36	1.89
	60°F (16°C) Outlet	12.52	9.16	3.59	2.45	1.79	1.31
	80°F (27°C) Inlet	7.59	4.52	3.30	2.57	2.07	1.68
	80°F (27°C) Outlet	7.02	3.95	2.73	2.00	1.50	1.11
	100°F (38°C) Inlet	4.07	3.56	2.80	2.26	1.85	1.51
	100°F (38°C) Outlet	3.50	2.99	2.23	1.69	1.28	0.94
	120°F (49°C) Inlet	3.32	2.99	2.45	2.03	1.68	1.38
	120°F (49°C) Outlet	2.76	2.43	1.89	1.46	1.12	0.82
	150°F (66°C) Inlet	2.69	2.48	2.10	1.77	1.49	-
	150°F (66°C) Outlet	2.14	1.93	1.55	1.22	0.94	-
HMM3-4	40°F (4.4°C) Inlet	-	-	20.3	8.34	6.05	4.67
	40°F (4.4°C) Outlet	-	-	18.9	6.94	4.64	3.27
	60°F (16°C) Inlet	32.3	24.0	9.24	6.62	5.12	4.07
	60°F (16°C) Outlet	30.8	22.6	7.83	5.21	3.71	2.67
	80°F (27°C) Inlet	18.7	10.1	7.25	5.60	4.47	3.62
	80°F (27°C) Outlet	17.3	8.70	5.84	4.19	3.07	2.22
	100°F (38°C) Inlet	9.02	7.84	6.11	4.90	3.99	3.27
	100°F (38°C) Outlet	7.61	6.43	4.71	3.49	2.59	1.86
	120°F (49°C) Inlet	7.29	6.54	5.32	4.38	3.63	3.00
	120°F (49°C) Outlet	5.91	5.16	3.94	2.99	2.24	1.62
	150°F (66°C) Inlet	5.85	5.38	4.53	3.82	3.22	-
	150°F (66°C) Outlet	4.50	4.03	3.19	2.47	1.87	-
HMM4-4	40°F (4.4°C) Inlet	-	-	26.7	11.2	8.3	6.5
	40°F (4.4°C) Outlet	-	-	24.9	9.3	6.5	4.7
	60°F (16°C) Inlet	42.4	31.5	12.3	9.0	7.1	5.7
	60°F (16°C) Outlet	40.6	29.7	10.4	7.2	5.3	3.9
	80°F (27°C) Inlet	24.6	13.3	9.8	7.7	6.3	5.1
	80°F (27°C) Outlet	22.7	11.4	8.0	5.9	4.4	3.3
	100°F (38°C) Inlet	12.0	10.5	8.4	6.8	5.6	4.7
	100°F (38°C) Outlet	10.1	8.7	6.5	5.0	3.8	2.8
	120°F (49°C) Inlet	9.8	8.9	7.4	6.1	5.1	4.3
	120°F (49°C) Outlet	8.0	7.1	5.5	4.3	3.3	2.5
	150°F (66°C) Inlet	8.0	7.4	6.3	5.4	4.6	-
	150°F (66°C) Outlet	6.2	5.6	4.6	3.6	2.8	-
HMM5-6	40°F (4.4°C) Inlet	-	-	47.6	20.6	15.1	11.8
	40°F (4.4°C) Outlet	-	-	44.3	17.3	11.8	8.5
	60°F (16°C) Inlet	75.5	56.1	22.7	16.5	12.9	10.3
	60°F (16°C) Outlet	72.2	52.8	19.4	13.2	9.6	7.0
	80°F (27°C) Inlet	43.7	24.7	18.0	14.0	11.3	9.2
	80°F (27°C) Outlet	40.5	21.4	14.7	10.7	8.0	5.9
	100°F (38°C) Inlet	22.2	19.4	15.3	12.3	10.1	8.3
	100°F (38°C) Outlet	18.9	16.1	12.0	9.0	6.8	5.0
	120°F (49°C) Inlet	18.1	16.3	13.3	11.0	9.2	7.6
	120°F (49°C) Outlet	14.8	13.1	10.1	7.8	6.0	4.4
	150°F (66°C) Inlet	14.6	13.5	11.4	9.7	8.2	-
	150°F (66°C) Outlet	11.5	10.3	8.3	6.5	5.0	-
HMM6-6	40°F (4.4°C) Inlet	-	-	77.6	32.3	23.9	18.8
	40°F (4.4°C) Outlet	-	-	72.2	26.9	18.6	13.4
	60°F (16°C) Inlet	123	91.5	35.5	26.0	20.5	16.5
	60°F (16°C) Outlet	118	86.1	30.1	20.6	15.1	11.2
	80°F (27°C) Inlet	71.3	38.4	28.3	22.3	18.1	14.8
	80°F (27°C) Outlet	66.0	33.1	23.0	16.9	12.7	9.4
	100°F (38°C) Inlet	34.7	30.4	24.2	19.7	16.2	13.4
	100°F (38°C) Outlet	29.3	25.1	18.8	14.3	10.9	8.0
	120°F (49°C) Inlet	28.4	25.7	21.2	17.7	14.8	12.3
	120°F (49°C) Outlet	23.1	20.4	15.9	12.4	9.5	7.0
	150°F (66°C) Inlet	23.1	21.3	18.2	15.5	13.2	-
	150°F (66°C) Outlet	17.9	16.2	13.1	10.3	8.0	-

	Inlet Temperature	Outlet Pressure Dew Point 50°F (10°C)	40°F (4.4°C)	20°F (-6.7°C)	0°F (-17.8°C)	-20°F (-29°C)	-40°F (-40°C)
HMM7-8	40°F (4.4°C) Inlet	-	-	147	60.8	44.7	34.9
	40°F (4.4°C) Outlet	-	-	137	50.6	34.5	24.7
	60°F (16°C) Inlet	233	173	67.0	48.7	38.1	30.5
	60°F (16°C) Outlet	223	163	56.8	38.5	27.9	20.4
	80°F (27°C) Inlet	135	72.8	53.1	41.5	33.4	27.3
	80°F (27°C) Outlet	125	62.6	43.0	31.3	23.3	17.1
	100°F (38°C) Inlet	65.5	57.2	45.1	36.5	30.0	24.6
	100°F (38°C) Outlet	55.3	47.1	35.0	26.3	19.8	14.5
	120°F (49°C) Inlet	53.3	48.1	39.5	32.7	27.3	22.7
	120°F (49°C) Outlet	43.3	38.1	29.5	22.7	17.3	12.7
	150°F (66°C) Inlet	43.1	39.8	33.8	28.6	24.2	-
	150°F (66°C) Outlet	33.4	30.1	24.0	18.9	14.5	-
HMM8-16	40°F (4.4°C) Inlet	-	-	205	90.7	68.9	55.1
	40°F (4.4°C) Outlet	-	-	191	76.5	54.7	40.9
	60°F (16°C) Inlet	326	242	98.9	74.4	59.6	48.8
	60°F (16°C) Outlet	311	228	84.8	60.2	45.5	34.6
	80°F (27°C) Inlet	189	107	80.4	64.4	53.0	43.9
	80°F (27°C) Outlet	174	92.4	66.2	50.2	38.9	29.7
	100°F (38°C) Inlet	96.9	85.9	69.5	57.4	48.0	40.0
	100°F (38°C) Outlet	82.7	71.8	55.3	43.2	33.8	25.8
	120°F (49°C) Inlet	80.4	73.4	61.5	51.9	43.9	36.9
	120°F (49°C) Outlet	66.5	59.4	47.6	37.9	30.0	23.0
	150°F (66°C) Inlet	66.3	61.7	53.3	45.8	39.3	-
	150°F (66°C) Outlet	52.7	48.1	39.7	32.2	25.7	-
HMM9-16	40°F (4.4°C) Inlet	-	-	287	118	89.6	71.7
	40°F (4.4°C) Outlet	-	-	267	97.9	69.7	51.8
	60°F (16°C) Inlet	456	339	129	96.7	77.6	63.5
	60°F (16°C) Outlet	436	319	109	76.8	57.7	43.6
	80°F (27°C) Inlet	264	138	105	83.8	69	57.2
	80°F (27°C) Outlet	244	119	84.6	63.9	49.1	37.3
	100°F (38°C) Inlet	126	112	90.4	74.7	62.4	52.0
	100°F (38°C) Outlet	106	91.8	70.5	54.8	42.5	32.2
	120°F (49°C) Inlet	104	95.3	80.0	67.5	57.1	48.0
	120°F (49°C) Outlet	84.9	75.8	60.4	47.9	37.6	28.5
	150°F (66°C) Inlet	86.1	80.2	69.2	59.5	51.1	-
	150°F (66°C) Outlet	67.1	61.1	50.2	40.5	32.0	-

NOTE:
1. 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.
2. Flow capacities are at 100 psig (7 kgf/cm²). Capacities are established in accordance with CAGI (Compressed Air and Gas Institute) Standard ADF 700; Membrane Compressed Air Dryers - Methods for Testing and Rating. Larger capacities, alternate pressures, and dew points consult factory.

3 Year Warranty

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

Model	Inlet Flow Capacity scfm (m³/min) @+40°F (+4°C) pdp	@-40°F (-40°C) pdp	In/Out (1) Connections	Dimensions in (mm) L	W	Weight lb (kg)	Replacement Bundles Part No.
HMM1-3	1.15 (0.94)	0.38 (0.16)	3/8"	11 (281)	8 (209)	5 (2.45)	HMB1
HMM2-3	3.56 (2.99)	1.51 (0.94)	3/8"	15 (387)	8 (209)	6 (2.77)	HMB2
HMM3-4	7.84 (6.43)	3.27 (1.86)	1/2"	19 (486)	8 (209)	7 (3.04)	HMB3
HMM4-4	10.5 (8.7)	4.7 (2.8)	1/2"	27 (696)	8 (209)	8 (3.58)	HMB4
HMM5-6	19.4 (16.1)	8.3 (5.0)	3/4"	20 (498)	11 (267)	11 (4.90)	HMB5
HMM6-6	30.4 (25.1)	13.4 (8.0)	3/4"	27 (696)	11 (267)	14 (6.19)	HMB6
HMM7-8	57.2 (47.1)	24.6 (14.5)	1"	29 (747)	12 (310)	17 (7.55)	HMB7
HMM8-16	85.9 (71.8)	40.0 (25.8)	1"	35 (885)	14 (346)	35 (15.88)	HMB8
HMM9-16	112 (91.8)	52.0 (32.2)	1"	41 (1040)	14 (346)	40 (18.14)	HMB9

Maximum Operating Pressure: Membrane dryer: 200 psig (14 kgf/cm²)
Maximum Inlet Temperature: 150°F (66°C)
Dimensions and weights are for reference only. Request certified drawings for construction purposes.
(1) Flow capacity at 100 psig (7 kgf/cm²) and 100°F (38°C) saturated inlet. Flow capacities are established in accordance with CAGI (Compressed Air and Gas Institute) Standard ADF 700: Membrane Compressed Air Dryers - Methods for testing and rating.
(2) NPT or BSP - For BSP add B to the model number (eg. HMM1-3B).

Global Leader in Efficiently Treating Compressed Air

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