

SM-3 to SM-1650

Sullair Heatless Regenerative Dryer
3 to 1656 scfm at 58 to 232 psig
Dry air to -40°F pressure dew point

How the SM Dryers work

Sullair offers a desiccant dryer that is typically 50% the size and weight of conventional twin tower designs. The design consists of high tensile extruded aluminum columns containing twin chambers each filled with desiccant material which dries the compressed air as it passes through. One chamber is drying, while the opposite chamber is regenerating.

A small volume of the dried compressed air is used to regenerate the saturated desiccant bed by expanding air from line pressure to atmospheric pressure, removing the water adsorbed by the desiccant material.

Modular design eliminates the need for complex valves and interconnecting piping used in conventional twin tower designs.

Multibanking

Unique modular construction allows for higher flow rates realized by simply adding additional banks.

Multibanking of dryers allows individual banks to be easily isolated for routine maintenance work, or even a decrease in air capacity requirements.

Snow Storm Filling

The use of this technique ensures the desiccant achieves a maximum packing density. This means the Sullair SM Dryers, with 30% less volume of desiccant installed, achieve comparable performance of conventional twin tower designs. Since desiccant movement is eliminated during dryer cycling, longer desiccant life and a consistent dryer performance is achieved.

Ease of maintenance

SM dryers are easier to maintain. Column changeover valves and purge air silencers are easily accessible and desiccant exchange is done simply by removing the top manifold and vacuuming the desiccant from the chambers.

Electronic controllers

State-of-the-art electronic controllers offer “at a glance” system status from the control panels.

The controllers include:

- Easy to read LED mimic display panel with integrated membrane keypad (Microprocessor)
- Fault indication with remote alarm facility
- NEMA 4/IP65 control panel
- Multi-language program facility (Microprocessor)
- Memory retention restarts dryer at point of interruption
- Quantified energy savings
- Remote communications capability utilizing RS 485 interface (Microprocessor)
- Self diagnostic and memory log capability (Microprocessor)

Options

- Automatic shutdown
- BSP inlet and outlet
- Pneumatic controls
- 220/1/50
- DDS Energy Management System

Dewpoint Dependent Switching (DDS) Energy Management System (Optional)

Up to 80% of compressed air dryer energy can be saved by selecting the Dewpoint Dependent Switching option. By directly monitoring the outlet air quality (dewpoint) of the dryer, the system can automatically extend the drying period beyond a fixed cycle if the on-line drying chamber has adsorptive capacity remaining. Since compressed air systems rarely operate at full rated capacity all of the time, this energy management system can provide considerable savings. During this extended period of energy-free drying, no purge air energy is consumed for regeneration.



This product is manufactured to the highest quality standards in an ISO 9001 certified quality system.

Sullair SM Heatless Regenerative Dryer 60 Hz Specifications.

Model SM	Cap. Req'd at Std. Press. @ 102 psig	Min Op. Press. (psig)	Max. Op. Press. (psig)	Dimensions (in.)			Weight (lb.)	Air in/out NPT	Inlet Filter	Outlet Filter
				L	W	H				
SM-3	3	58	152	3.5	6.1	14.8	5	1/4"	MPH-20	MPR-20
SM-6	6	58	152	3.5	6.1	18.5	7	1/4"	MPH-20	MPR-20
SM-13	13	58	152	3.5	6.1	28.0	9	1/4"	MPH-20	MPR-20
SM-24	24	58	232	11.9	11.2	32.9	32	1/2"	MPH-65	MPR-65
SM-32	32	58	232	11.9	11.2	39.5	37	1/2"	MPH-65	MPR-65
SM-42	42	58	232	11.9	11.2	46.0	42	1/2"	MPH-65	MPR-65
SM-53	53	58	232	11.9	11.2	52.5	47	1/2"	MPH-65	MPR-65
SM-65	65	58	232	11.9	11.2	59.0	52	1/2"	MPH-65	MPR-65
SM-88	88	58	232	11.9	11.2	68.8	60	3/4"	MPH-125	MPR-125
SM-106	106	58	189	22.3	8.7	56.4	80	1"	MPH-170	MPR-170
SM-129	130	58	189	22.3	8.7	62.9	90	1"	MPH-170	MPR-170
SM-175	176	58	189	22.3	8.7	72.7	104	1"	MPH-170	MPR-170
SM-160	160	58	152	27.6	9.1	62.1	298	2"	MPH-470	MPR-470
SM-240	240	58	152	31.7	9.1	62.1	397	2"	MPH-470	MPR-470
SM-320	320	58	152	35.9	9.1	62.1	485	2"	MPH-470	MPR-470
SM-400	400	58	152	40.0	9.1	62.1	551	2"	MPH-470	MPR-470
SM-480	480	58	152	44.3	9.1	62.1	650	2-1/2"	MPH-850	MPR-850
SM-560	560	58	152	48.5	9.1	62.1	761	2-1/2"	MPH-850	MPR-850
SM-640	640	58	152	52.7	9.1	62.1	882	2-1/2"	MPH-850	MPR-850
SM-800	800	58	152	61.1	9.1	62.1	1146	2-1/2"	MPH-850	MPR-850
SM-1100	1104	58	152	74.6	21.7	70.4	1683	3"	MPH-1315	MPR-1315
SM-1350	1380	58	152	87.5	21.7	70.4	1969	4"	MPH-2120	MPR-2120
SM-1650	1656	58	152	100.4	21.7	70.4	2255	4"	MPH-2120	MPR-2120

Capacity based on 95°F inlet temperature.

Filter selection is based on thread size rather than flow. To select filters by flow, consult the Filter Spec Sheet: SIP-14060.

For extremely dirty applications, a MPF prefilter is recommended before the MPH.

Additional Data

Dewpoint: -40°F standard, -100°F optional

Minimum inlet temperature: 41°F

Maximum inlet temperature: 122°F

Note: For -100°F dewpoint contact Sullair

For flow rates at other pressure, apply the correction factor.

Line	psig	58	73	87	102	116	131	145	160	174	189
Pressure	barg	4	5	6	7	8	9	10	11	12	13
Correction Factor		0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.5	1.63	1.75

For flow rates at other temperatures, apply the correction factor.

Degrees F	77	95	104	113	122
	1	1	0.97	0.88	0.73

$$\text{Capacity @ 102 psig} = \frac{\text{inlet flow requirement}}{\text{temp. correction} \times \text{psig. correction}}$$

Sullair is committed to a program of continuous improvement. Features and specifications may change without notice. Consult your Sullair representative or authorized Sullair distributor.



This is one of several compressed air products that comprise the Sullair System. The System includes oil-free and lubricated air compressors, dryers, filters and related accessories, designed to deliver peak performance and energy efficiency.



www.sullairsolutions.com

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