



SAYLOR-BEALL

AIR COMPRESSORS

ST. JOHNS, MICHIGAN
989-224-2371 800-248-9001



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SBD SERIES DRYERS

Model SBD 75



Model SBD 35



Model SBD 15



REFRIGERATED COMPRESSED AIR DRYERS



WHY DRY AIR?

Moisture naturally exists in our atmosphere in the form of water vapor. This same moisture is present throughout a compressed air system unless the air is treated to remove the moisture.

The amount of water that can enter a compressed air system is substantial. For example, if inlet air conditions are 75°F and 75% relative humidity, about 6 gallons of water vapor will enter the air system with each 100 scfm of air compressed within 8 hours. If the air is compressed to 175 psig and then cooled back to 75°F, 5.4 gallons of this water vapor will condense into a liquid.

Dry air adds to productivity by saving maintenance and repair costs on pneumatic equipment. It reduces the possibility of airline rust or freeze-up, eliminates paint blemishes caused by water, and reduces product contamination.

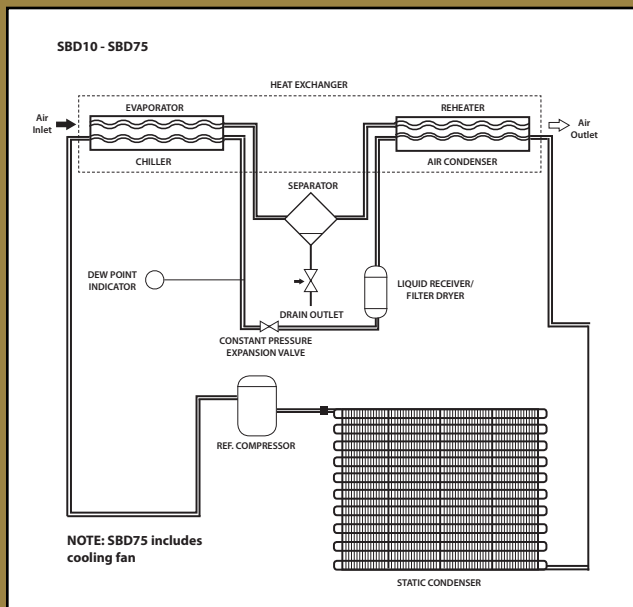
SAYLOR-BEALL Refrigerated Air Dryers are designed and manufactured to efficiently remove moisture from compressed air and assure a reliable supply of dry air.

SBD10 thru SBD75:

Saylor-Beall 10-75 scfm models feature a patented static condenser design established as the quietest in the industry – So quiet you almost cannot tell if they are even running.

How it Works

In operation, cool compressed air exiting the evaporator at a 39°F dew point pre-cools the warm compressed air as it enters the dryer. Inlet air temperature is reduced to save space and energy. The traditional air-cooled condensing unit is eliminated. Coil spacing is increased 400% to resist fouling from dirt and rust.

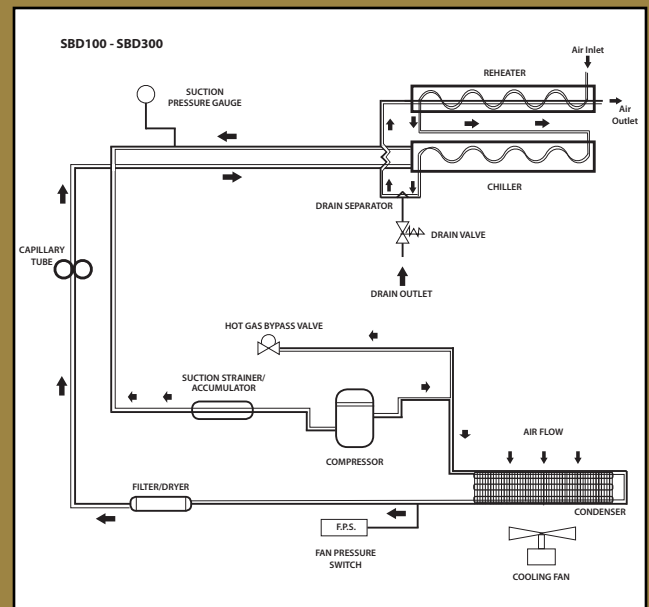


SBD100 thru SBD300:

Saylor-Beall 100-300 scfm models feature traditional refrigerated drying technology. In this flow range, we deliver a space-saving package with established component designs. These full-featured dryers achieve a high-rate of heat transfer with non-fouling, smooth-tube copper heat exchangers.

How it Works

The hot gas bypass valve precisely controls the flow of refrigerant. Once coupled to capillary tube sensors, we are able to deliver stable pressure dew point temperatures and avoid freeze-ups — even under no-load conditions.



Series Product Features

SBD models	Lighted compressor on/off switch	Dew point indicator	115v/60/1 grounded, 8 foot, power cord	Timer operated drain valve, insulation valve, strainer	Panel mounted drain valve adjustments	R-134a, HFC refrigerant	Reciprocating compressors	Copper tube-on-tube heat exchanger	Constant pressure expansion valve	304ss heat exchanger, demister & moisture separator	Capillary tube & hot gas bypass valve	Fan cycling	High pressure cut-out switch	CSA approved
10-15	X	—	X	X*	—	X	X	X	X	—	—	—	—	X
25-50	X	X	X	X	—	X	X	X	X	—	—	—	—	X
75-150	X	X	X	X	—	X	X	—	—	X	X	X	X	X
200-300	X	X	—	X	X	X	X	—	—	X	X	X	X	X

*Float Drain is standard on model SBD10

Series Product Specifications

Model	Capacity	Inlet/Outlet	Power Supply	Refrigerant	Height		Width		Depth		Shipping Weight	
					scfm	npt. male	in	mm	in	mm	in	mm
SBD10	10	3/8	115/1/60	R134a	15	381	13	320	13	320	64	29
SBD15	15	3/8			15	381	13	320	13	320	69	31
SBD25	25	3/4			22	569	15	368	15	368	88	40
SBD35	35	3/4			22	569	15	368	15	368	92	42
SBD50	50	3/4			22	569	20	500	20	500	101	46
SBD75	75	3/4			20	510	19	480	21	526	110	50
SBD100	100	1			21	525	13	330	30	761	123	56
SBD125	125	1			21	525	13	330	30	761	133	60
SBD150	150	1	21	525	13	330	30	761	153	69		
SBD200	200	1 1/2	460/360		30	762	17	437	36	904	183	83
SBD300	300	1 1/2			30	759	20	518	38	953	218	99

Capacity Correction Factors

Table 1: Dryer Sizing Chart

Inlet Air Temp.		Inlet Air Pressure psig (bar) Correction Factor						
		80	100	125	150	175	200	250
°F	°C	(5.5)	(6.9)	(8.6)	(10.3)	(12.1)	(13.8)	(17.2)
90	32	1.17	1.23	1.31	1.37	1.42	1.47	1.49
100	38	0.95	1.00	1.07	1.13	1.18	1.22	1.24
110	43	0.79	0.82	0.91	0.95	0.99	1.03	1.05
120	49	0.66	0.70	0.74	0.80	0.84	0.89	0.91

Table 2: Correction Factor

Ambient Air Temperature		Correction Factor
°F	°C	
80	27	1.12
90	32	1.06
100	38	1.00
110	43	0.94

Operating Conditions

Models	Max. Inlet Air Press.	Min. Inlet Air Press.	Max. Inlet Air Temp.	Min. Inlet Air Temp.	Max. Ambient Temp.	Min. Ambient Temp.
10-50	250	30	120°F	40°F	110°F	45°F
75-100	232	10	120°F	40°F	110°F	45°F

To adjust dryer capacity for conditions other than rated, use Correction Factors (multipliers) from Tables 1 and 2. Example: What is the capacity of a 200 scfm model when the compressed air at the inlet to the dryer is 150 psig and 100 F (38°C), and the ambient temperature is 90 F (32°C)?
Answer: 200 scfm (rated flow from Specifications Table) x 1.13 (correction factor for inlet temperature and pressure from Table 1) x 1.06 (correction factor for ambient temperature from Table 2) = 240 scfm

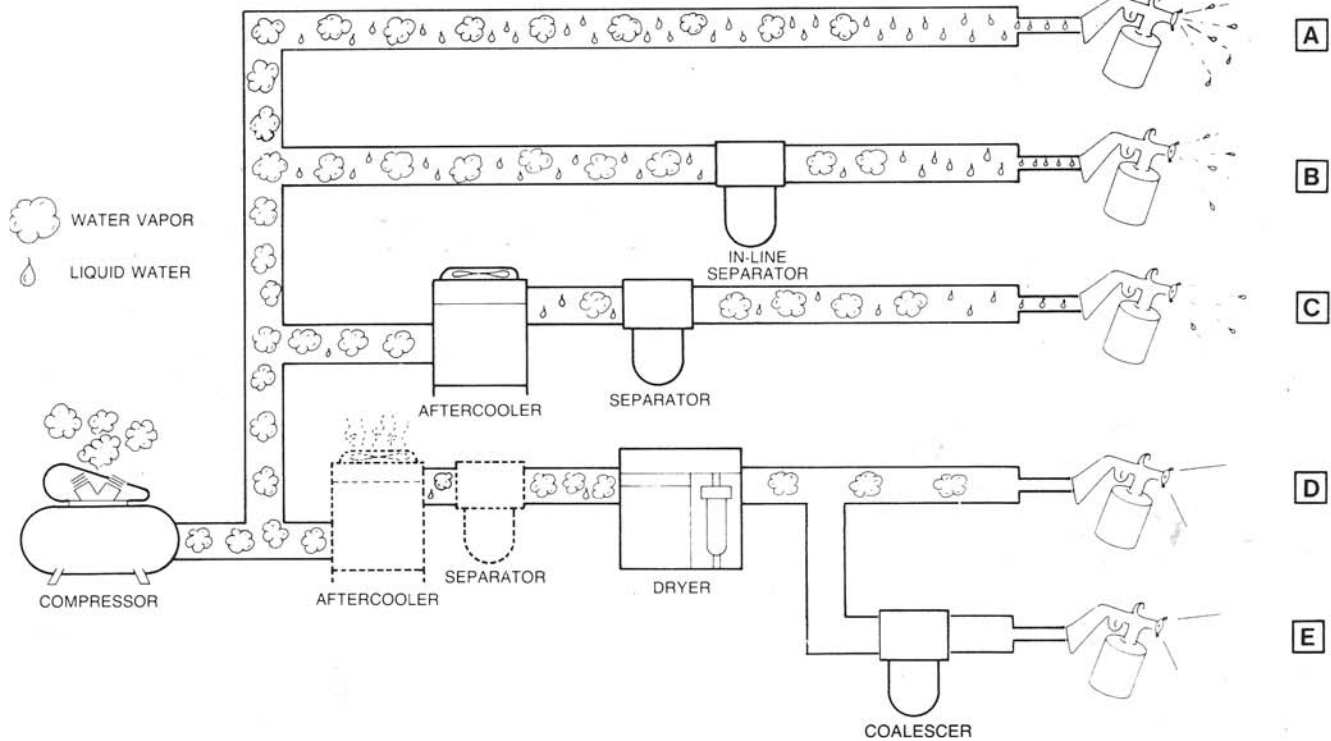


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WHICH COMPRESSED AIR SYSTEM IS RIGHT FOR YOU?



- A. No dryers or filters - liquid water forms in air lines causing corrosion, shortening tool life and ruining paint jobs.
- B. Point-of-use separator - removes liquid that has formed in the air lines. However, as air continues to travel to the paint gun or air tool, additional liquid water forms. The amount of liquid formed in air lines depends on how much the air has cooled at the point where the separator is installed. If the compressed air system is used heavily, the air remains hot and most of the water drops out after the separator.
- C. Aftercooler and separator - removes 70% of water. Downstream air lines still contain some water vapor that continues to condense into a liquid before reaching the point of use.
- D. Refrigerated compressed air dryer – removes enough water vapor so that air lines can be cooled to 35°F without any liquid forming. Air lines stay clean and dry so air tools, motors, and cylinders have a longer service life and paint job “redos” caused by water and dirt contamination are eliminated. NOTE: Aftercooler and separator are required only if air temperature ahead of dryer is greater than 120 °F.
- E. Coalescing oil removal filter – to remove oil aerosols from your compressed air system, add a Saylor-Beall SBC series coalescing oil removal filter. Removing oil is the final step in ensuring high quality paint jobs.

SAYLOR-BEALL Manufacturing Company warrants its compressors and parts when properly installed, lubricated and maintained as recommended and in accordance with good industry practice to be free from defects in material and workmanship under normal use and service. The responsibility of the Company under this warranty is limited to repair or replacement at the Company's factory, any compressor or part thereof, which shall, within one year after date of shipment to the original purchaser, be returned to the Company and which, upon examination, shall be found defective to the satisfaction of the Company. This warranty shall not apply to compressors or parts which have been subjected to misapplication, misuse, negligence or accident, to compressors or parts which have been repaired or tampered with outside the Company's factory when in the judgement of the Company, it appears that the reliability or stability of the compressor or part has been effected. Ordinary maintenance, such as adjustment and cleaning of equipment or components is the responsibility of the owner. All transportation and shipping charges shall be paid by purchaser. This warranty does not apply to electric motors or gasoline engines. These are covered by the Original Manufacturer's Warranty and should be returned by the purchaser to their authorized station for service. This warranty is expressly in lieu of all other warranties (except of title) expressed or implied and of any other obligations or liability on the part of the Company. There are no warranties of merchantability or of fitness for a particular purpose.