SMC Corporation of America

Product Information



Refrigerated Dryers - Series IDFB

SMC dryers are insurance for down stream components, and in the long run, allow for sustainable production performance.

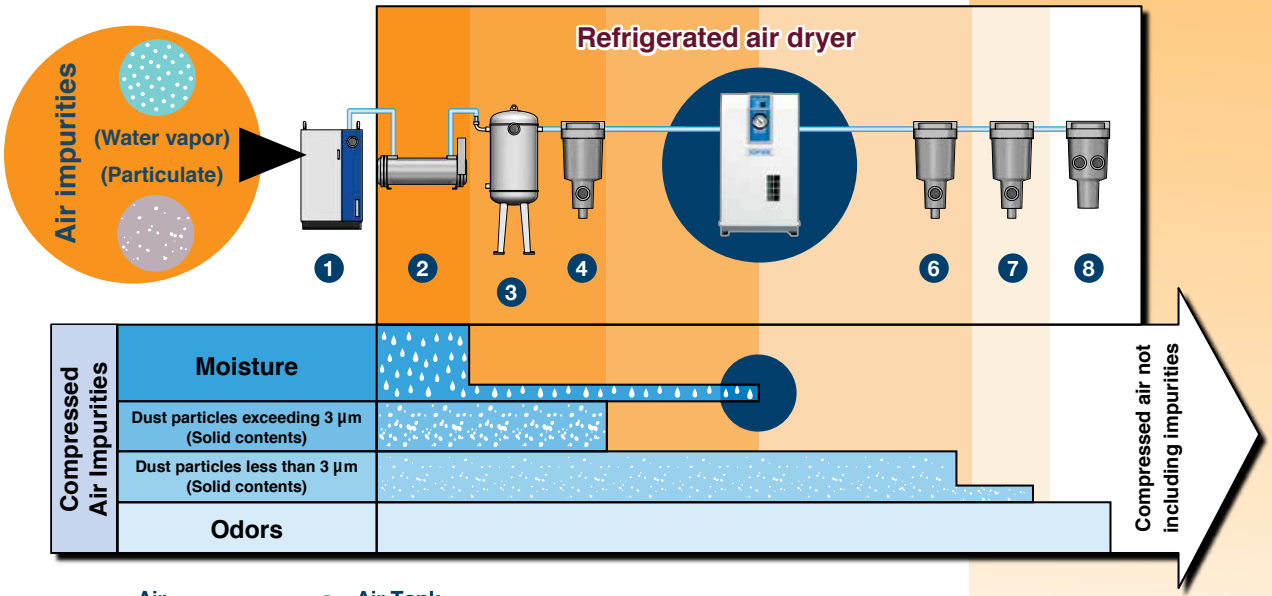
- ***Environmentally friendly R134a/R407C refrigerant***
- ***Simple control system, incorporating easy to read evaporator gauge***
- ***Stainless steel heat exchangers providing long life and low pressure drop***
- ***Compact design with staggered inlet/outlet ports for ease of installation***
- ***3/8" push-in condensate drain port***

Maximize the Life of:

- ***Bottling Lines***
- ***Packaging Lines***
- ***Pneumatically Actuated Process Valves***
- ***Control Valves***

Typical Industrial Supply Side System

- A dryer lowers the dew point of the compressed air to an acceptable level
- By lowering the dew point the dryer removes moisture/water from the compressed air lines
- A refrigerated dryer also lowers the compressed air temperature



1. Air Compressor
2. After Cooler
3. Air Tank (Receiver)
4. Main Line Filter
5. Mist Separator
6. Micro Mist Separator
7. Odor Removal Filter (Deodorization)

Other Series

IDU□E

High Inlet Temperature Refrigerated Dryers



- Ideal for use in systems without after coolers (typ. reciprocating compressors)
- Suitable for compressors up to 50 hp

AFF

Main Line Filter



AFF2C to 22C

AFF37B/75B

- Protect dryer from fouling
- Required for extended warranty

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All reasonable efforts to ensure the accuracy of the information detailed in this flyer were made at the time of publishing. However, SMC can in no way warrant the information herein contained as specifications are subject to change without notice.

IDFB□E Dryer Technical Specifications

Model	Flow scfm at Presure Dew Points			Power Supply AC 60Hz	Compressor HP (screw compressor w/ aftercooler)	Port Connections NPT	Refrigerant
	37°F	45°F	50°F				
IDFB3E-11N	10	11	12	Single Phase 115V	1-2	3/8"	R134a
IDFB4E-11N	15	16	17		3	1/2"	
IDFB6E-11N	25	26	28		5	3/4"	
IDFB8E-11N	41	43	45		7.5		
IDFB11E-11N	59	62	65		10		
IDFB15E-11N	71	80	86		15	1"	
IDFB22E-11N	107	120	130		20		
IDFB22E-23N				Single Phase 230V			
IDFB37E-23N	161	173	181		30	1-1/2"	
IDFB55E-30N-X224	226	258	297	Three Phase 220V	40	2"	R407c
IDFB55E-46N	226	258	297	Three Phase 460V			
IDFB75E-30N-X224	300	353	406	Three Phase 220V	50		
IDFB75E-46N	300	353	406	Three Phase 460V			

1. Flow capacities are based on CAGI (Compressed Air and Gas Institute) standard ADF100: Refrigerated Compressed Air dryers - method for testing and rating. The reference conditions are - Inlet air temperature: 100°F, Inlet pressure: 100 psi.
2. Dryer models IDFB55E-30-X224 and IDFB75E-30-X224 are not UL certified.
3. Compressor HP is provided as an approximation and may vary based on actual compressor efficiency.

If your operating conditions are other than standard reference conditions stated above, please make use of the following capacity correction factors to size a suitable dryer for your application.

Correction Factors

Inlet temperature

Temperature	Correction factor (A)	
°F	IDFBE3E~37E	IDFB55E~75E
90	1.31	1.08
100	1.00	1.00
110	0.82	0.83
120	0.66	0.46

Ambient air temperature

Temperature	Correction Factor (B)
°F	
77	1.24
90	1.09
95	1.04
100	1.00
105	0.98
110	0.95

Inlet pressure

Pressure	Correction Factor (C)
PSIG	
75	0.95
100	1.00
110	1.04
120	1.07
125	1.09
150	1.13
175	1.18
200	1.22
250	1.24

Example of Selecting a Suitable Dryer

Example of selecting a suitable dryer

- Operating air flow rate: 50 scfm
- Ambient temperature:105°F
- Inlet air temperature: 110°F
- Inlet air pressure: 120psig
- Corrected air flow rate = Operating air flow rate / (Factor A x Factor B x Factor C.)
  50 / (0.82 x 0.98 x 1.07) = 58.82

Select a model with nominal air flow rate higher than the corrected air flow rate calculated in the formula above.

The dryer model: IDFB11E-11N Providing 59scfm at 37°F pressure dew point