Model Selection Chart

Model	Nominal Capacity	
	m^3/hr	cfm
D5IM	5.1	3
D14IM	13.6	8
D25IM	25.5	15
D34IM	34	20

Capacity at 100 psig (7 barg) and 95°F (35°C) inlet

Correction Factors

Sizing Factors for Ingersoll Rand Modular Desiccant Air Dryers

Inlet Pressure		Inlet Temperature ºC (ºF)			
barg	psig	35 (95)	40 (104)	45 (113)	50 (122)
4	58	0.63	0.61	0.55	0.46
5	73	0.75	0.73	0.66	0.55
6	87	0.88	0.85	0.77	0.64
7	100	1	0.97	0.88	0.73
8	116	0.97	0.94	0.85	0.71
9	135	1.08	1.05	0.95	0.79
10	145	1.18	1.14	1.04	0.86
11	160	1.29	1.25	1.14	0.94
12	175	1.4	1.36	1.23	1.02

Dew Point Correction Factors

Outlet Dew Point		Correction Factor
ºC	ºF	
-40	-40	1
-70	-94	0.7

Inlet temperature, inlet pressure, required air flow and pressure dew point must be established before an adsorption air dryer can be specified for your application. Once these operating conditions are known, you can select the most economical adsorption dryer using the dryer sizing chart on the previous page and the model selection chart.

Example

Select a dryer for a compressor producing, at full load 8 cfm (13.60 m^3/hr) at 87 psig (6 barg) with 95°F (35°C) air inlet temperature with a pressure dew point of -40°F (–40°C).

Temperature and Pressure

Step 1

On the sizing chart locate the inlet temperature 95°F (35°C).

Step 2

At 95°F (35°C), read down the chart to 87 psi g (6 bar g) operating pressure, the correction factor is 0.88. The correction factor for the pressure dew point is 1.0. At the operating temperature and pressure, the capacity of the adsorption dryer will be 0.88 of the capacity at ISO 7183 rating conditions. No correction for the pressure dew point.

Step 3

To adjust the required flow for ISO 7183 rating conditions, divide the required flow by 0.88

Example:

$$\text{Sizing Capacity} = \frac{\text{Actual Capacity}}{\text{Sizing Factor x DPF}}$$

$$\text{Sizing Capacity} = \frac{8 \text{ cfm}}{0.88 \times 1}$$

$$= 9.1 \text{ cfm (15.5 m3/hr)}$$

Step 4

Using the model selection chart, select a dryer which has a rated capacity of 9.1 cfm (15.5 m^3/hr) or larger. Selected model is a D25IM.