

Refrigeration Dryers

SPH 004 - 018 Intermediate Pressure Direct Expansion Refrigeration Dryers

Dryer Performance

Dryer Models	Dewpoint (Standard)		ISO8573-1:2010 Classification (Standard)	Dewpoint (Option 1)		ISO8573-1:2010 Classification (Option 1)	Dewpoint (Option 2)		ISO8573-1:2010 Classification (Option 2)
	°C	°F		°C	°F		°C	°F	
SPH	+3	+37	Class 2.4.2	+7	+45	Class 2.5.2	+10	+50	Class 2.6.2

Technical Data

Dryer Models	Max Operating Pressure		Min Air Inlet Temperature		Max Air Inlet Temperature		Max Ambient Temperature		Electrical Supply (Standard)	Electrical Supply (Optional)	Thread Connections	Noise Level dB(A)
	bar g	psi g	°C	°F	°C	°F	°C	°F				
SPH 004 - 018	50	725	5	41	65	149	50	122	230V 1ph 50Hz	60Hz on request	BSPT-F	<55

All units fitted with timed drain. All models are Air-cooled

Flow Rates

Model	Pipe Size	Inlet Flow Rate			
		L/s	m³/min	m³/hr	cfm
SPH 004	1/2"	7	0.4	25	15
SPH 006	1/2"	10	0.6	37	22
SPH 012	1/2"	21	1.3	75	44
SPH 018	1/2"	36	2.2	131	77

Absorbed Power

Model	kW
SPH 004	0.17
SPH 006	0.17
SPH 012	0.25
SPH 018	0.57



Performances refer to air-cooled model with air suction of FAD 20°C / 1 bar A, and at the following operating conditions: air suction 25°C / 60%RH, 40 barg working pressure, 25°C cooling air temperature, 35°C compressed air inlet temperature and pressure dewpoint in accordance with ISO8573-1. All indicated data refers to DIN ISO 7183. SPH supplied with refrigerant R134a. All models designed for operation up to 50 barg. Data refers to 50Hz models.

Correction Factors

CFIT - Correction Factor Maximum Inlet Temperature

Maximum Inlet Temperature	°C	25	30	35	40	45	50	55	60	65
	°F	77	86	95	104	113	122	131	140	149
Correction Factor Models		0.85	0.85	1.00	1.15	1.30	1.45	1.61	1.79	2.00

CFAT - Correction Factor Maximum Ambient Temperature

Maximum Ambient Temperature	°C	20	25	30	35	40	45	50
	°F	68	77	86	95	104	113	122
Correction Factor		0.98	1.00	1.02	1.05	1.08	1.11	1.16

CFP - Correction Factor Minimum Inlet Pressure

Minimum Inlet Pressure	bar g	15	20	25	30	35	40	45	50
	psi g	218	290	363	435	508	580	653	725
Correction Factor		1.18	1.10	1.06	1.03	1.01	1.00	0.99	0.99

CFD - Correction Factor Dewpoint

Maximum Inlet Temperature	°C	+3	+5	+7	+10
	°F	+37	+41	+45	+50
Correction Factor		1.00	0.86	0.8	0.71

Calculate Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD and select dryer from table above

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Dryer Performance

Controller	Function	
	Power On Indication	Dewpoint Indicator
SPH	•	•

Medium & Protection Class

Medium	Compressed Air & Gaseous Nitrogen
Protection Class	IP20

Pressure Vessel Approvals

EU	Approval for fluid group 2 in accordance with the Pressure Equipment Directive 97/23/EC. Product range SPH004 - SPH018, in accordance with article 3, paragraph 3
USA	Approval to ASME VIII Div. 1 not required. 60Hz versions are UL compliant (not UL marked)
Aus	Approval to AS1210 not required
GUS	TR (formerly GOST-R)

Quality Assurance

Development Manufacture	ISO 9001, ISO 14001, OHSAS 18001
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Recommended Filtration - P.E.T. / Food / Beverage / Pharmaceutical Applications

For Dryer Model	Filter Pipe Size (BSPP)	Inlet General Purpose Coalescing Filter	Outlet High Efficiency Coalescing Filter
SPH 004	1/4"	AO IP50 010A	AA IP50 010A
SPH 006	1/4"	AO IP50 010A	AA IP50 010A
SPH 012	1/4"	AO IP50 010A	AA IP50 010A
SPH 018	3/8"	AO IP50 020B	AA IP50 020B

Recommended Filtration - General Industrial Applications

For Dryer Model	Filter Pipe Size (BSPP)	Inlet General Purpose Coalescing Filter	Outlet High Efficiency Coalescing Filter
SPH 004	1/4"	G2/50ZP	G2/50XP
SPH 006	1/4"	G2/50ZP	G2/50XP
SPH 012	1/4"	G3/50ZP	G3/50XP
SPH 018	3/8"	G5/50ZP	G5/50XP

OIL-X IP50 ADVANTAGE Filters recommended above have been matched to dryer flow rate based on an operating pressure of 40 bar g. For other operating pressures, select filters from catalogue: 174004415

Weights & Dimensions

Model	Pipe Size	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)			
		mm	ins	mm	ins	mm	ins	kg	lbs
SPH 004	1/2"	430	16.93	450	17.7	210	8.3	19	42
SPH 006	1/2"	430	16.93	450	17.7	210	8.3	19	42
SPH 012	1/2"	600	23.6	555	21.9	425	16.7	40	88
SPH 018	1/2"	600	23.6	555	21.9	425	16.7	42.5	94

