

Refrigeration Dryers

PSH 030 - 1200 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	
PSH	+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				
PSH 030 - 090	50	725	5	41	65	149	50	122	230V 1ph 50Hz	60Hz on request	BSPT-F	55
PST 0120 - 1200	50	725	5	41	65	149	50	122	400V 3ph 50Hz	60Hz on request	BSPT-F & 2 1/2" Flange ANSI 300/600 lb	58

All units fitted with integral timed drain. All models are air-cooled; Wwater cooled available from model PSH290

Flow Rates

Model	Pipe Size	Inlet Flow Rate			
		L/s	m³/min	m³/hr	cfm
PSH030	1 1/4"	50	3.0	180	106
PSH045	1 1/4"	75	4.5	270	159
PSH065	1 1/4"	108	6.5	390	230
PSH090	1 1/4"	150	9	540	318
PSH120	1 1/4"	200	12	720	424
PSH160	1 1/4"	267	16	960	565
PSH200	1 1/4"	333	20	1200	706
PSH230	1 1/4"	383	23	1380	812
PSH290	2 1/2" ANSI	483	29	1740	1024
PSH380	2 1/2" ANSI	633	38	2280	1342
PSH460	2 1/2" ANSI	767	46	2760	1625
PSH630	2 1/2" ANSI	1050	63	3780	2225
PSH800	2 1/2" ANSI	1333	80	4800	2825
PSH1000	2 1/2" ANSI	1667	100	6000	3531
PSH1200	2 1/2" ANSI	2000	120	7200	4238

Average Power

Model	kW
PSH030	0.53
PSH045	0.55
PSH065	1.33
PSH090	1.37
PSH120	1.41
PSH160	1.44
PSH200	1.47
PSH230	1.52
PSH290	2.89
PSH380	3.18
PSH460	3.44
PSH630	4.12
PSH800	6.6
PSH1000	6.9
PSH1200	7.3



Performances refer to air-cooled model with air suction of FAD 20°C / 1 bar A, and 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. All models supplied with refrigerant R407c. 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	0.81	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 Fault Indication	Digital Dewpoint Indicator	Display Fault Condition Values	Configurable Alarm Settings	Remote Volt Free Alarm Contacts
PSH	•	•	From model PSH120	From model PSH120	From model PSH120

Medium & Protection Class

Medium	Compressed Air & Gaseous Nitrogen
Protection Class	IP44

Quality Assurance

Development Manufacture	ISO 9001, ISO 14001, OHSAS 18001
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Pressure Vessel Approvals

EU	Approval for fluid group 2 in accordance with the Pressure Equipment Directive 97/23/EC. Product range PSH030 - PSH230, in accordance with category I (module A); product range PSH290 - PSH1200 in accordance with category II (module H)
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)

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
PSH030	1/2"	AO IP50 030C	AA IP50 030C
PSH045	1/2"	AO IP50 030C	AA IP50 030C
PSH065	3/4"	AO IP50 040D	AA IP50 040D
PSH090	1"	AO IP50 050E	AA IP50 050E
PSH120	1"	AO IP50 050E	AA IP50 050E
PSH160	1 1/2"	AO IP50 060G	AA IP50 060G
PSH200	1 1/2"	AO IP50 060G	AA IP50 060G
PSH230	1 1/2"	AO IP50 060G	AA IP50 060G
PSH290		Contact HZFD	
PSH380		Contact HZFD	
PSH460		Contact HZFD	
PSH630		Contact HZFD	
PSH800		Contact HZFD	
PSH1000		Contact HZFD	
PSH1200		Contact HZFD	

Recommended Filtration - General Industrial Applications

For Dryer Model	Filter Pipe Size (BSPP)	Inlet General Purpose Coalescing Filter	Outlet High Efficiency Coalescing Filter
PSH030	1/2"	G7/50ZP	G7/50XP
PSH045	3/4"	G9/50ZP	G9/50XP
PSH065	1"	G11/50ZP	G11/50XP
PSH090	1"	G11/50ZP	G11/50XP
PSH120	1 1/2"	G12/50ZP	G12/50XP
PSH160	1 1/2"	G13/50ZP	G13/50XP
PSH200	1 1/2"	G13/50ZP	G13/50XP
PSH230	1 1/2"	G13/50ZP	G13/50XP
PSH290		2"	
PSH380		Contact HZFD	
PSH460		Contact HZFD	
PSH630		Contact HZFD	
PSH800		Contact HZFD	
PSH1000		Contact HZFD	
PSH1200		Contact HZFD	

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)		kg	lbs
		mm	ins	mm	ins	mm	ins		
PSH030	1 1/4"	945	37.20	703	27.68	562	22.13	83	183
PSH045	1 1/4"	945	37.20	703	27.68	562	22.13	83	183
PSH065	1 1/4"	945	37.20	703	27.68	562	22.13	85	187
PSH090	1 1/4"	945	37.20	703	27.68	562	22.13	85	187
PSH120	1 1/4"	1064	41.89	706	27.80	1046	41.18	152	335
PSH160	1 1/4"	1064	41.89	706	27.80	1046	41.18	152	335
PSH200	1 1/4"	1064	41.89	706	27.80	1046	41.18	152	335
PSH230	1 1/4"	1064	41.89	706	27.80	1046	41.18	152	335
PSH290	2 1/2" ANSI	1690	66.54	1007	39.65	1097	43.19	356	785
PSH380	2 1/2" ANSI	1690	66.54	1007	39.65	1097	43.19	356	785
PSH460	2 1/2" ANSI	1690	66.54	1007	39.65	1097	43.19	356	785
PSH630	2 1/2" ANSI	1690	66.54	1007	39.65	1657	65.24	455	1003
PSH800	2 1/2" ANSI	1723	67.83	1007	39.65	1657	65.24	610	1345
PSH1000	2 1/2" ANSI	1723	67.83	1007	39.65	1657	65.24	610	1345
PSH1200	2 1/2" ANSI	1723	67.83	1007	39.65	1657	65.24	610	1345

