

# High Pressure Starlette Plus Air Refrigeration Dryers

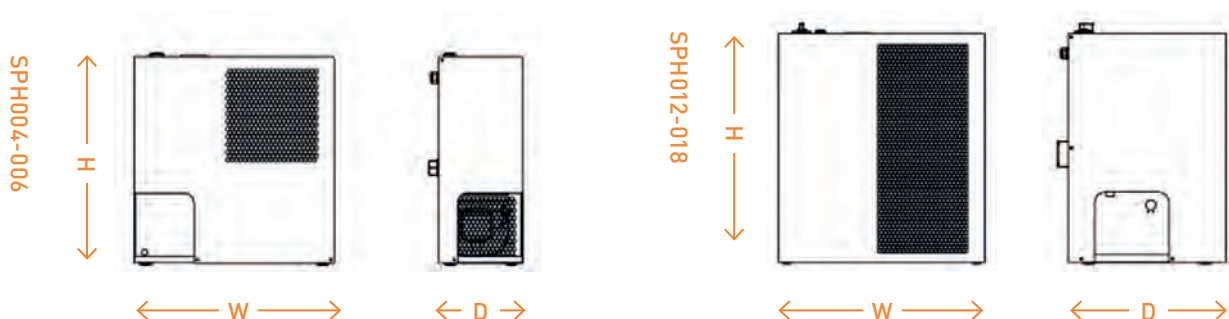
Designed for the efficient removal of water from compressed air in PET molding, but also suitable for any application up to 50bar, Starlette Plus HP (SPH) models feature stainless steel plate heat exchangers and stainless-steel separators and air pipes.

All units are equipped with programmable timed drain and available in 50Hz version (60Hz on request). Low absorbed power and low pressure drops guarantee efficient operations and low running costs.

The refrigerant circuits utilise environmentally friendly refrigerants (R134a) and can cope with wide operating limits up to 50°C ambient and 65°C inlet temperature.



## Diagrams:



## Dryer Performance

Model	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

Model	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	Port Connection	Inlet Flow Rate			
		L/s	m <sup>3</sup> /min	m <sup>3</sup> /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 kW

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 bar g 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 bar g. Data refers to 50Hz models.

### 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

Pressure Dewpoint	°C	+3	+5	+7	+10
	°F	+37	+41	+45	+50
Correction Factor		1.00	0.86	0.80	0.71

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

### Controller Functions

Controller	Power On Indication	Dewpoint Indication
SPH	•	•

## Weights and Dimensions

Model	Port Connection	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)		kg	lbs
		mm	ins	mm	ins	mm	ins		
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

## Part Numbers

Model	Part Number
SPH004	SPH004-A23015050TXS
SPH006	SPH006-A23015050TXS
SPH012	SPH012-A23015050TXS
SPH018	SPH018-A23015050TXS

# High Pressure PoleStar Smart Air Refrigeration Dryers

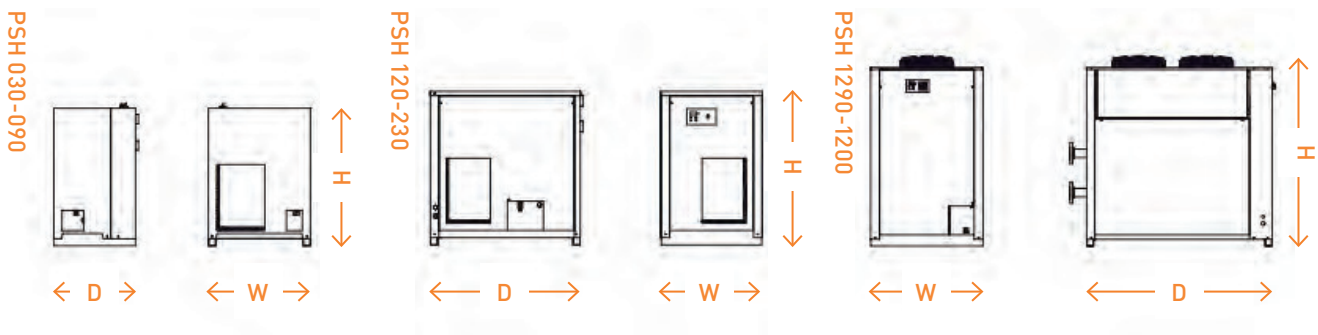
Designed for the efficient removal of water from compressed air in PET molding, but also suitable for any application up to 50bar, PoleStar Smart HP (PSH) models feature stainless steel plate heat exchangers and stainless-steel separators and air pipes.

All units are equipped with programmable timed drain and available in 50Hz version (60Hz on request). Low absorbed power and low pressure drops guarantee efficient operations and low running costs.

The refrigerant circuits utilise environmentally friendly refrigerants (R407C) and can cope with wide operating limits up to 50°C ambient and 65°C inlet temperature.



## Diagrams:



### Dryer Performance

Model	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

Model	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 and 2 1/2" Flange ANSI 300/600 lb	58

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

### Flow Rates

Model	Port Connection	Inlet Flow Rate			
		L/s	m <sup>3</sup> /min	m <sup>3</sup> /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

### Absorbed Power kW

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 bar g 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 bar g. Data refers to 50Hz models.

### 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

Pressure Dewpoint	°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

## Controller Functions

Model	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

## Weights and Dimensions

Model	Port Connection	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

## Part Numbers

Model	Air-cooled Version	Water-cooled Version
PSH030	PSH030-A23015050TI	n/a
PSH045	PSH045-A23015050TI	n/a
PSH065	PSH065-A23015050TI	n/a
PSH090	PSH090-A23015050TI	n/a
PSH120	PSH120-A40035050TI	n/a
PSH160	PSH160-A40035050TI	n/a
PSH200	PSH200-A40035050TI	n/a
PSH230	PSH230-A40035050TI	n/a
PSH290	PSH290-A40035050TI	PSH290-W40035050TI
PSH380	PSH380-A40035050TI	PSH380-W40035050TI
PSH460	PSH460-A40035050TI	PSH460-W40035050TI
PSH630	PSH630-A40035050TI	PSH630-W40035050TI
PSH800	PSH800-A40035050TI	PSH800-W40035050TI
PSH1000	PSH1000-A40035050TI	PSH1000-W40035050TI
PSH1200	PSH1200-A40035050TI	PSH1200-W40035050TI