

# Food / Beverage / Pharmaceutical Grade Compressed Air

## FBP HL 050 - FBP HL 085



### Adsorption Dryers

Whether a compressed air user wants to control the growth of micro-organisms (essential for direct and in-direct contact applications in the food, beverage & pharmaceutical industries), ensure air used for critical applications / instrumentation is free from water contamination or has external piping where low ambient temperature can cause condensation, adsorption dryers are the go to dryer technology.

There are many different adsorption dryer technologies available and whilst they all reduce water from the compressed air in the same way, they differ in the way they regenerate the desiccant material.

### Heatless Adsorption Dryers

The simplest and most common method used to regenerate the adsorbent desiccant material is the 'heatless' method (so called as it does not use heat for desiccant regeneration).

Using a proportion of the clean, dry process air for regeneration, heatless dryers typically have the lowest capital costs of all adsorption dryer types (due to the simplicity of the heatless design).

Being very robust and having fewer components, they typically have the lowest maintenance cost of all the adsorption technologies.

Heatless dryers are available to suit all compressed air flow rates from small to large, whereas the more complicated regeneration methods are often only available for higher flow rates due to cost and complexity of the designs.



### Advantages

- Parker FBP dryers provide a constant outlet dewpoint in accordance with ISO8573-1 classes 1, 2 or 3 for water vapour
- Parker FBP dryers provide an outlet dewpoint which inhibits the growth of micro-organisms (allowing their efficient reduction using filtration)
- Parker FBP dryers use clean, dry purge air for regeneration, eliminating any risk of damage to the adsorption bed or re-contamination of the downstream compressed air
- Parker FBP dryer performance has been tested in accordance with ISO7183, the international standard for compressed air dryer testing
- The dewpoint performance of Parker FBP dryers has been 3rd party validated by Lloyds Register to ISO8573-1 air purity classifications
- No heat is used for regeneration; therefore, no insulation is required and loss of dewpoint on column changeover due to inefficient cool down is eliminated
- Parker FBP dryers include Parker OIL-X General Purpose & High Efficiency Coalescing pre-filtration, Oil Vapour Reduction Stage and General Purpose & High Efficiency Dry Particulate post filtration as standard
- Full feature electronic control with dewpoint display and Energy Saving Technology fitted as standard
- Parker FBP materials of construction are FDA Title 21 CFR compliant & EX1935/2004 exempt



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## 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	
FBP HL	-40	-40	Class 1.2.0	-70	-100	Class 1.1.0	-20	-4	Class 1.3.0

ISO8573-1 Classifications when used with Parker OIL-X pre / post filtration

## Technical Data

Dryer Models	Minimum Operating Pressure		Maximum Operating Pressure		Minimum Operating Temperature		Maximum Operating Temperature		Maximum Ambient Temperature		Electrical Supply (Standard)	Electrical Supply (Optional)	Thread Type	Noise Level dB(A)
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F				
FBP HL 050 ~ 085	4	58	16	232	5	41	50	122	55	131	100-240V (+/-10%) 1ph 50/60Hz	24V DC	BSPP or NPT	<75

## Flow Rates

Model	Pipe Size BSPP or NPT	Inlet Flow Rate			
		L/s	m³/min	m³/hr	cfm
FBP HL 050	½"	15	0.92	55	32
FBP HL 055	½"	19	1.17	70	41
FBP HL 060	½"	25	1.50	90	53
FBP HL 065	½"	31	1.84	110	65
FBP HL 070	¾"	42	2.51	150	88
FBP HL 075	1"	51	3.09	185	109
FBP HL 080	1"	61	3.67	220	129
FBP HL 085	1 ½"	83	5.01	300	177

Stated flows are for operation at 7 bar (g) (102 psi g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the maximum (summer) inlet temperature, maximum (summer) ambient temperature, minimum inlet pressure, required outlet dewpoint and maximum flow rate of the installation.

To select a dryer, first calculate the MDC (Minimum Drying Capacity) using the formula below then select a dryer from the flow rate table above with a flow rate equal to or above the MDC.

$$\text{Minimum Drying Capacity} = \text{System Flow} \times \text{CFIT} \times \text{CFAT} \times \text{CFMIP} \times \text{CFOD}$$

### CFIT - Correction Factor Maximum Inlet Temperature

Maximum Inlet Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
Correction Factor		1.00	1.00	1.00	1.04	1.14	1.37

### CFAT - Correction Factor Maximum Ambient Temperature

Maximum Ambient Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
Correction Factor		1.00	1.00	1.00	1.00	1.00	1.00

### CFMIP - Correction Factor Minimum Inlet Pressure

Minimum Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	58	73	87	100	116	131	145	160	174	189	203	218	232
Correction Factor		1.60	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.62	0.57	0.53	0.50	0.47

### CFOD - Correction Factor Outlet Dewpoint

Outlet Dewpoint	°C	-20	-40	-70
	°F	-4	-40	-100
Correction Factor		0.91	1.00	2.00

## Controller Functions

Dryer Models	Controller Function							
	Power On Indication	Visual Fault Indication	Dewpoint Display	EST - Energy Saving Technology	Filter Service Indicator	Dryer Service Indicator	Fault Relay: Power Loss Dewpoint Alarm Sensor Failure	4-20mA Dewpoint Re-transmission
FBP HL	•	•	•	•	•	•	•	•

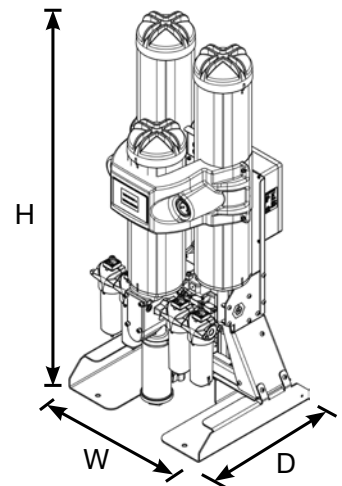
## Included Filtration

Model	Pipe Size BSPP or NPT	Dryer Inlet		Dryer Outlet		
		General Purpose Pre-filter	High Efficiency Filter	Oil Vapour Reduction Filter	General Purpose Dry Particulate Filter	High Efficiency Dry Particulate Filter
FBP HL 050	½"	AOPX015C	AAPX015C	Included	AOPX015C	AAPX015C
FBP HL 055	½"	AOPX015C	AAPX015C	Included	AOPX015C	AAPX015C
FBP HL 060	½"	AOPX020C	AAPX020C	Included	AOPX020C	AAPX020C
FBP HL 065	½"	AOPX020C	AAPX020C	Included	AOPX020C	AAPX020C
FBP HL 070	¾"	AOPX025D	AAPX025D	Included	AOPX025D	AAPX025D
FBP HL 075	1"	AOPX025E	AAPX025E	Included	AOPX025E	AAPX025E
FBP HL 080	1"	AOPX025E	AAPX025E	Included	AOPX025E	AAPX025E
FBP HL 085	1 ½"	AOPX030G	AAPX030G	Included	AOPX030G	AAPX030G

Filtration Performance	General Purpose Pre-filter	High Efficiency Filter	Oil Vapour Reduction Filter	General Purpose Dry Particulate Filter	High Efficiency Dry Particulate Filter
Filtration Grade	Grade AO	Grade AA	OVR	Grade AO	Grade AA
Filtration Type	Coalescing	Coalescing	Adsorption	Dry Particulate	Coalescing
Particle Reduction (inc water & oil aerosols)	Down to 1 micron	Down to 0.01 micron	N/A	Down to 1 micron	Down to 0.01 micron
Maximum Remaining Oil Aerosol Content at 21°C	≤0.5 mg/m³ (≤0.5 ppm(w))	≤0.01 mg/m³ (≤0.01 ppm(w))	N/A	N/A	N/A
Maximum Remaining Oil Vapour Content at System Temperature	N/A	N/A	≤0.003 mg/m³ (≤0.003 ppm(w))	N/A	N/A
Filtration Efficiency	99.925%	99.9999%	N/A	99.925%	99.9999%

## Weights & Dimensions

Model	Pipe Size BSPP or NPT	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)		kg	lbs
		mm	ins	mm	ins	mm	ins		
FBP HL 050	½"	1133	45	559	22	512	20.2	91	201
FBP HL 055	½"	1313	52	559	22	512	20.2	98	216
FBP HL 060	½"	1510	59	559	22	496	19.5	108	238
FBP HL 065	½"	1660	65	559	22	496	19.5	114	251
FBP HL 070	¾"	2020	80	630	24.8	496	19.5	136	300
FBP HL 075	1"	1595	63	630	24.8	682	27	186	410
FBP HL 080	1"	1745	69	630	24.8	682	27	198	437
FBP HL 085	1 ½"	2105	83	630	24.8	682	27	235	518



## Quality Assurance / IP Rating / Pressure Vessel Approvals

Development / Manufacture	ISO 9001 / ISO 14001 / Materials of Construction FDA Title 21 CFR Compliant & EC1935/2004 Exempt
Ingress Protection Rating	IP55 Indoor Use Only
EU	Pressure vessel approved for fluid group 2 in accordance with the Pressure Equipment Directive 2014/68/EU
USA	Approval to ASME VIII Div. 1 not required
AUS	Approval to AS1210 not required
GUS	TR (formerly GOST-R)
<b>For use with Compressed Air Only</b>	

# Parker Worldwide

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### US Product Information Centre

Toll-free number: 1-800-27 27 537

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