PH 55 - 550 HE - Extruded profile heatless adsorption dryers

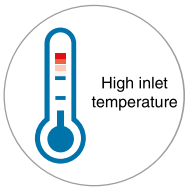
Features & Benefits

- Advanced energy management for lowest operating costs
  - Compressor synchronization
  - Purge nozzle optimization
  - PDP control (optional)
- Best-in-class performance thanks to unique valve and exhaust design (patent pending)
  - Lowest pressure drop during drying
  - Lowest purge loss by ensuring maximum purge air expansion during regeneration
- Low noise levels during purge and blow-off
- High-quality, high-efficient desiccant, selected for the right application
  - PDP -20°C/-3°F & PDP -40°C/-40°F: activated alumina
  - PDP -70°C/-94°F: molecular sieves
- Spring-loaded desiccant, minimizing the risk of crushing
- Counter-current regeneration for optimal energy efficiency and guaranteed dry air
- Designed for transportability & mountability
  - Wall-mounting kit for PH 55-190 HE (optional)
- Optimal control and monitoring thanks to the Purelogic™ controller (optional)
- Desiccant bags for easy service from the top

General Specifications

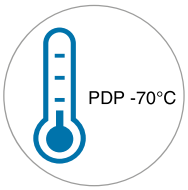
- Heatless adsorption dryers: extruded profile design
- Dew points achievable: -20°C/-3°F; -40°C/-40°F & -70°C/-94°F
- Pressure range: 4-14 barg/58-203 psig
- Ambient temperature range: 1-45°C/34-113°F
- Inlet temperature range: 1-50°C/34-122°F (For temperatures up to 60°C/140°F: see HIT option)
- Power supply: 230VAC 50/60Hz & 115VAC 50/60Hz

Options



High inlet temperature

PDP -20°C



PDP -70°C

Wall mounting kit

PDP control

Purelogic controller

IP65 protection

Incorporating high-quality components, PH heatless adsorption dryers provide you with clean, dry air to extend the life of your equipment and products. Heatless adsorption dryers use dry, expanded purge air to remove moisture from the desiccant material.

PH 55-550 HE adsorption dryers are available in 3 PDP variants: -20°C/-4°F , -40C°/-40°F and -70°C/-94°F, each optimized to provide the lowest purge loss. The unique manifold (patent pending) includes pilot air controlled 3/2-way valves, which switch fast and reliably. The pressure drop over the valves is reduced to a minimum. This does not only result in a low pressure drop over the dryer, but also ensures maximum purge air expansion during regeneration. The latter makes that the purge consumption of the dryers has been reduced significantly.

The desiccant is spring-loaded and housed in a robust extruded aluminum body, which can operate up to 14 barg/203 psig (fatigue load). The dryers are equipped with a mounted pre-filter and after-filter as standard and can also be wall-mounted with a specially designed wall-mounting kit (optional).

Operating costs are optimized at all times thanks to the availability of compressor synchronization and purge nozzle optimization as standard and PDP control as option. The full machine status can be checked on the display of the controller and the vessel pressure gauges on the unit.

The controller indicates whether power supply is connected, towers are pressurized, valves are functioning properly or preventive maintenance needs to be done. In case the optional PDP control is connected, the PDP value can monitored from the display. Alarms and warnings can also be triggered remote with the available voltage-free contacts.

Optionally the Purelogic™ can be used as central brain of the adsorption dryer.

The PurelogicTM offers impressive control and monitoring capabilities, and can communicate with industrial protocols as Modbus, Profibus or Ethernet/IP.

Technical specifications for PH 55 HE up to PH 550 HE (standard version, PDP -40 ˚C)

Specification	Unit	PH 55 HE	PH 75 HE	PH 95 HE	PH 120 HE	PH 140 HE	PH 190 HE	PH 230 HE	PH 275 HE	PH 350 HE	PH 420 HE	PH 550 HE
Nominal volume flow at dryer inlet (1)	l/s	25	35	45	55	65	90	110	130	165	195	260
	m³/hr	90	126	162	198	234	324	396	468	594	702	936
Regeneration air consumption average at max. flow	%	16.5	16.5	16.5	16	16	16.5	16.5	16.5	16.5	17	17
Connection inlet/ outlet	G	1/2"	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"
	NPT	1/2"	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"
Pressure drop at max. flow	barg	0.031	0.065	0.114	0.18	0.278	0.114	0.18	0.278	0.18	0.278	0.278
	psig	0.45	0.94	1.65	2.61	4.03	1.65	2.61	4.03	2.61	4.03	4.03
Included pre & after filter size	Super fine filter	TF 3 C HE	TF 4 C HE	TF 5 C HE	TF 5 C HE	TF 6 C HE	TF 6 C HE	TF 6 C HE	TF 7 C HE	TF 8 C HE	TF 8 C HE	TF 9 C HE
	Dust filter	TF 3 S HE	TF 4 S HE	TF 5 S HE	TF 5 S HE	TF 6 S HE	TF 6 S HE	TF 6 S HE	TF 7 S HE	TF 8 S HE	TF 8 S HE	TF 9 S HE
Height	mm	1205	1205	1495	1495	1835	1495	1495	1835	1495	1835	1835
	inch	47.4	47.4	58.9	58.9	72.2	58.9	58.9	72.2	58.9	72.2	72.2
Width	mm	807	827	847	847	877	907	906	907	907	907	985
	inch	31.8	32.6	33.3	33.3	34.5	35.7	35.7	35.7	35.7	35.7	38.8
Length	mm	394	394	394	394	394	564	564	564	734	734	929
	inch	15.5	15.5	15.5	15.5	15.5	22.2	22.2	22.2	28.9	28.9	36.6
Mass	KG	100	109	128	140	165	217	234	276	331	389	500
	Lb	220.5	240.3	282.2	308.6	363.8	478.4	515.9	608.5	729.7	857.6	1102.3

*1. Flow is measured at Refernce Conditions: 1 bara and 20°C at operating pressure of 7 barg,inlet temperature 35°C & std PDP of -40°C at the outlet

Flow correction factors due to air inlet pressure

Operating pressure	barg	4	5	6	7	8	9	10	11	12	13	14
	psig	58	72	87	100	116	130	145	160	174	189	203
Pressure correction factor	Kp	0.62	0.75	0.87	1	1.12	1.25	1.37	1.5	1.62	1.75	1.87

Flow correction factors due to air inlet temperature

Temperature	°C	20	25	30	35	40	45	50
	°F	68	77	86	95	104	113	122
Temperature correction factor	Kt	1	1	1	1	0.84	0.67	0.55