



Refrigeration dryers

With our refrigeration dryers too, we let you choose between investment cost and lifecycle cost.

Pneumatech's COOL range is our robust, no-frills drying solution, meant for basic condensate removal in your compressed air system. With the AD dryer we guarantee dry air through real-time PDP monitoring, while also reducing power consumption and compressed air losses. Our premium AC dryers optimize the energy consumption based on the actual compressed air demand, through energy saving algorithms or variable speed technology.

AC 650 - 2100 -

Large cycling refrigeration dryers (including VSD solutions)

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Features & Benefits

- ▶ Premium energy efficiency
 - Energy-saving & flow control: adapt energy consumption to the real load
 - Variable speed range: exact match between energy consumption and actual demand (available for AC 1600-2100)
 - Lowest pressure drop over heat exchanger and air piping
 - Zero-loss drains
- ▶ Strong performance & reliability
 - Stable pressure dew point as low as 3°C
 - Rotary refrigerant compressors: limited mechanical load & low vibrations
 - Guaranteed drying performance in wide range of ambient temperatures
 - Refrigeration cycle optimized in all conditions thanks to automatic expansion valve & electronic hot gas bypass valve
- ▶ Air-cooled as well as water-cooled versions available
- ▶ Optimal control and monitoring thanks to the Purelogic™ controller
 - Communication via industrial protocols like Modbus, Profibus or Ethernet/IP
 - Internet-based visualization
- ▶ Easy maintenance at low cost
 - Pipe connections on top
 - Long service intervals
 - Easy access to key components

General Specifications

- ▶ AC refrigeration dryers: cycling type including VSD option (only for AC 1600-2100)
- ▶ Operating Pressure: 4-14 bar/ 58-189 PSI
- ▶ Max. temperature: 50°C / 122°F
- ▶ Flow rate: 1116-3636m³/h (657-2141 cfm)⁽¹⁾
- ▶ Pressure dew point: 3°C / 37°F
- ▶ Power supply: 400V/50Hz; 380V/60Hz; 400-460V/60Hz
- ▶ Refrigerant: R410a
- ▶ Cooling type: Air-cooled and water-cooled



Options



IP 54 protection
(only for 650-1050;
standard on AC1250-2100)

¹ Flow is measured at reference conditions: ambient pressure of 1 Bar(a) and 25°C at operating pressure of 7 bar (g), inlet temperature 35°C .



AC 650-2100 is Pneumatech's premium refrigeration dryer range at higher flows: from 1120 up to 3636m³/h (657-2141 cfm).

As in the small AC range, operating costs are significantly reduced thanks to the energy saving and flow switch algorithms, the zero-loss drains, the low pressure drop over the heat exchangers and the combination of rotary compressors and R410A refrigerant. The refrigeration cycle is further optimized in all working conditions by making use of the automatic expansion valve & electronic hot gas bypass valve.

From AC1600 onwards, dedicated variable speed (VSD) variants have been added to the range. The VSD controller incorporated

in these dryers matches the energy consumption to the actual compressed air demand. This reduces energy used by as much as 70%, compared to conventional dryers. It works by varying the speed of the compressor, hereby ensuring a stable dew point.

The Purelogic™ is installed as standard on all dryers: it ensures maximum reliability by monitoring the most important parameters of the dryer and offers impressive control and monitoring capabilities, like internet-based visualization.

The entire range is available in both air-cooled and water cooled versions.

Technical specifications for AC650-2100																						
		Air Cooled (Including VSD)										Water Cooled (Including VSD)										
Pneumatech Variants → Specifications ↓	Units	AC 650	AC 850	AC 1050	AC 1250	AC 1600	AC 1600 VSD	AC 1800	AC 1800 VSD	AC 2100	AC 2100 VSD	AC 650	AC 850	AC 1050	AC 1250	AC 1600	AC 1600 VSD	AC 1800	AC 1800 VSD	AC 2100	AC 2100 VSD	
Flow ⁽¹⁾	l/s	310	410	510	610	760	760	870	870	1010	1010	310	410	510	610	760	760	870	870	1010	1010	
	m ³ /hr	1116	1476	1836	2196	2736	2736	3132	3132	3636	3636	1116	1476	1837	2196	2736	2736	3132	3132	3636	3636	
Power consumption	kW	2.80	4.60	6.40	4.80	5.30	5.30	6.60	5.8	7.40	6.6	2	2.4	4.1	3.10	3.60	3.3	4.50	4.2	5.10	5.6	
	hp	3.75	6.17	8.58	6.40	7.10	7.10	8.80	7.8	9.90	8.8	2.68	3.22	5.5	4.20	4.80	4.4	6.00	5.6	6.80	7.5	
Pressure drop over dryer	mBar	230	210	200	170	170	170	140	140	170	170	230	210	200	170	170	90	140	120	170	170	
	PSI	3.3	3.0	2.9	2.5	2.5	2.5	2.0	2.0	2.5	2.5	3.3	3	2.9	2.5	2.5	131	2.0	174	2.5	2.5	
Refrigerant type	kg	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	
Inlet and Outlet Connections	Inch/DN	G3"	G3"	G3"	DN100	DN100	DN100	DN150	DN150	DN150	DN150	G3"	G3"	G3"	DN100	DN100	DN100	DN150	DN150	DN150	DN150	
Dimensions	L (mm)	986	1250	1525	1040	1245	1245	1245	1245	1580	1580	986	1250	1250	1245	1245	1580	1245	1580	1245	1580	
	L (inch)	38.9	49.2	60.0	40.9	49.0	49.0	49.0	49.0	62.2	62.2	38.9	49.2	49.2	49.0	49.0	62.2	49.0	62.2	49.0	62.2	
	W (mm)	850	850	850	1060	1060	1060	1060	1060	1060	1060	850	850	850	1060	1060	1060	1060	1060	1060	1060	
	W (inch)	33.5	33.5	33.5	41.7	41.7	41.7	41.7	41.7	41.7	41.7	33.5	33.5	33.5	41.7	41.7	41.7	41.7	41.7	41.7	41.7	
	H (mm)	1190	1375	1375	1580	1580	1580	1580	1580	1580	1580	1190	1375	1375	1580	1580	1580	1580	1580	1580	1580	1580
	H (inch)	46.9	54.1	54.1	62.2	62.2	62.2	62.2	62.2	62.2	62.2	46.9	54.1	54.1	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2
Weight	kg	200	240	310	320	380	380	400	400	460	460	180	240	260	350	360	410	370	410	380	410	
	lbs	441	529	683	705	838	838	882	882	1014	1014	397	529	573	772	794	904	816	904	838	904	

1. Flow is measured at reference conditions: ambient pressure of 1 Bar(a) and 25°C at operating pressure of 7 bar (g), inlet temperature 35°C .

K1 Flow correction factors due to compressed air inlet temperature and/or pressure dewpoint (PDP)- 50Hz units										
Temperature	°C	25	30	35	40	45	50	55	60	
	°F	77	86	95	104	113	122	131	140	
PDP	3°C	37°F	1,2	1,1	1	0,85	0,72	0,6	0,49	0,37
	5°C	41°F	1,35	1,23	1,11	0,94	0,8	0,67	0,55	0,42
	7°C	45°F	1,5	1,35	1,22	1,02	0,88	0,75	0,61	0,47
	10°C	50°F	1,72	1,54	1,38	1,15	1	0,86	0,7	0,54
	15°C	59°F	2,11	1,89	1,68	1,43	1,23	1,03	0,83	0,62

K1 Flow correction factors due to compressed air inlet temperature and/or pressure dewpoint (PDP)- 60Hz units										
Temperature	°C	25	30	35	38	45	50	55	60	
	°F	77	86	95	100	113	122	131	140	
PDP	4°C	39°F	1,14	1,09	1,03	1	0,8	0,67	0,53	0,4
	7°C	45°F	1,27	1,22	1,14	1,09	0,88	0,74	0,59	0,44
	10°C	50°F	1,4	1,35	1,24	1,18	0,96	0,8	0,65	0,49
	15°C	59°F	1,63	1,55	1,41	1,32	1,08	0,91	0,74	0,56

K2 Flow correction factor due to compressed air inlet pressure (g)											
Air inlet pressure	Bar(g)	2	3	4	5	6	7	8	10	12	14
	psi	29	43	58	72	87	101	116	145	174	203
		0,5	0,63	0,74	0,84	0,92	1	1,05	1,15	1,25	1,31

Flow correction factor due to ambient temperature or cooling water temperature - 50Hz units							
Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
		1,00	0,95	0,88	0,81	0,74	0,67

Flow correction factor due to ambient temperature or cooling water temperature - 60Hz units							
Temperature	°C	25	30	35	38	45	50
	°F	77	86	95	100	113	122
		1,10	1,06	1,02	1,00	0,93	0,88



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