

AC 15 - 600 - Cycling refrigeration dryers

Features & Benefits

- ▶ Premium energy efficiency
 - Energy-saving & flow control: adapt energy consumption to the real load
 - Lowest pressure drop over heat exchanger and air piping
 - Zero-loss drains
- ▶ Strong performance & reliability
 - Stable pressure dew point as low as 3°C
 - Guaranteed drying performance in wide range of ambient temperatures
- ▶ Optimal control and monitoring
 - Energy-saving control
 - Voltage-free contact for remote alarm
 - Auto-restart after voltage-failure
 - Communication via industrial protocols like Modbus, Profibus or Ethernet/IP (for AC250-600 only)
- ▶ Easy installation and maintenance at low cost
 - Pipe connections on top
 - Long service intervals
 - Easy access to key components



General Specifications

- ▶ AC refrigeration dryers: cycling type
- ▶ Operating pressure: 4-16 barg/58-232 psig (4-14 barg/ 58-189 psig from AC 125 onwards)
- ▶ Max. inlet temperature: 60°C / 140°F
- ▶ Flow rate : 22-1026 m³/hr (13-604 cfm)⁽¹⁾
- ▶ Pressure dew point: 3°C / 37°F (ISO 8573-1:2010 class 4)
- ▶ Power supply: 115/230VAC 50/60 Hz
- ▶ Refrigerant: R134a (AC 15-100), R410a (AC 125-600)

Options



Integrated high efficiency line filters



Electric panel protection IP 54

¹ Flow is measured at reference conditions: ambient pressure of 1 bara and 25°C at operating pressure of 7 barg, inlet temperature 35°C .



Pneumatech's AC range offers premium refrigeration drying technology at the lowest operational costs. All AC dryers are equipped with our proprietary energy saving algorithm, which adapts the energy consumption to the real load by continuously monitoring the ambient temperature and the pressure dewpoint. In this way, the risk of downstream corrosion is reduced to zero at all times. When there is less cooling needed, the refrigerant compressor stops and power consumption is significantly reduced, with savings up to 50%.

AC250-600 dryers are also equipped with a flow switch which detects whether there is flow going through the dryer; and shuts down the refrigerant compressor when there is no flow

(even if the energy saving algorithm would not be activated). To make these energy saving functionalities work, the AC range makes use of advanced controllers, which communicate through voltage-free contacts (for AC15-200) or industrial protocols like Modbus, Profibus or Ethernet/IP (for AC250-600).

Premium energy efficiency is also guaranteed thanks to low pressure drops over the heat exchangers, zero-loss drains and our winning combination: rotary compressors and R410A refrigerant on AC125-600. This combination is up to 30% more energy efficient, requires 19% less refrigerant gas and is 100% compliant with European regulation EU No 517 / 2014.

Technical specifications for AC 15-600 50Hz Aircooled																		
Pneumatech Variant → Specifications ↓	Units	AC-15	AC-20	AC-30	AC-40	AC-50	AC-65	AC-85	AC-100	AC-125	AC-150	AC-200	AC-250	AC-300	AC-350	AC-450	AC-500	AC-600
Flow ⁽¹⁾	l/s	6	10	15	20	25	30	40	50	60	70	95	120	150	185	220	245	285
	m³/hr	22	36	54	72	90	108	144	180	216	252	342	432	540	666	792	882	1026
Power consumption	kW	0.2	0.2	0.33	0.41	0.41	0.41	0.6	0.5	0.7	0.7	0.89	1	1	1.4	1.9	1.9	2.2
	hp	0.27	0.27	0.44	0.55	0.55	0.55	0.80	0.67	0.94	0.94	1.19	1.34	1.34	1.88	2.55	2.55	2.95
Pressure drop over dryer	barg	0.07	0.11	0.12	0.12	0.17	0.25	0.2	0.2	0.21	0.28	0.25	0.11	0.15	0.22	0.12	0.18	0.22
	psig	1.02	1.60	1.74	1.74	2.47	3.63	2.90	2.90	3.05	4.06	3.63	1.59	2.18	3.19	1.74	2.61	3.19
Refrigerant type		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Dimensions	L (mm)	496	496	496	496	496	496	716	716	792	792	792	882	882	948	948	948	948
	L (inch)	19.5	19.5	19.5	19.5	19.5	19.5	28.2	28.2	31.2	31.2	31.2	34.7	34.7	37.3	37.3	37.3	37.3
	W (mm)	377	377	377	377	377	377	380	380	500	500	500	661	661	802	802	802	802
	W (inch)	14.8	14.8	14.8	14.8	14.8	14.8	15.0	15.0	19.7	19.7	19.7	26.0	26.0	31.6	31.6	31.6	31.6
	H (mm)	461	461	461	461	461	461	676	676	680	680	680	1015	1015	1026	1026	1026	1026
	H (inch)	18.1	18.1	18.1	18.1	18.1	18.1	26.6	26.6	26.8	26.8	26.8	40.0	40.0	40.4	40.4	40.4	40.4
Inlet and Outlet Connections		ISO7-R3/4"(m)	ISO7-R3/4"(m)	ISO7-R3/4"(m)	ISO7-R3/4"(m)	ISO7-R3/4"(m)	ISO7-R3/4"(m)	ISO7-R1"(m)	ISO7-R1"(m)	ISO7-R1"(m)	ISO7-R1"(m)	ISO7-R1"(m)	ISO7-R1 1/2"(m)	ISO7-R1 1/2"(m)	ISO7-R2 1/2"(m)	ISO7-R2 1/2"(m)	ISO7-R2 1/2"(m)	ISO7-R2 1/2"(m)
Weight	kg	27	27	32	34	34	34	56	57	82.4	82.4	109.4	170	170	185	197	197	197
	lbs	60	60	71	75	75	75	123	126	182	182	241	375	375	408	434	434	434

1. Flow is measured at reference conditions: ambient pressure of 1 bara and 25°C at operating pressure of 7 barg, 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 factors due to compressed air inlet pressure (g)										
Air inlet pressure	barg	4	5	6	7	8	10	12	14	16
	psig	58	72	87	101	116	145	174	203	232
		0,74	0,84	0,92	1	1,05	1,15	1,25	1,31	1,35

Flow correction factor due to ambient 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 - 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

AC 650 - 2100 - Large cycling refrigeration dryers (including VSD solutions)

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 barg/ 58-189 psig
- ▶ Max. temperature: 50°C / 122°F
- ▶ Flow rate: 1116-3636 m³/hr (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 bara and 25°C at operating pressure of 7 barg, inlet temperature 35°C .



AC 650-2100 is Pneumatech's premium refrigeration dryer range at higher flows: from 1120 up to 3636 m³/hr (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	3	4.5	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	4.02	6.03	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
	psig	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
	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
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 bara and 25°C at operating pressure of 7 barg, inlet temperature 35°C.

2. Power consumption of the units are specified for max ambient temperature of 40°C. In case of higher ambient temperatures contact Pneumatech.

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	barg	4	5	6	7	8	10	12	14	
	psig	58	72	87	101	116	145	174	203	
		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