

# Large cycling FS & VSD refrigeration dryers

## AC 650-2100 & AC 765-2120



The AC 650-2100 and the AC 765-2120 are Pneumatech's premium refrigeration dryer ranges for higher flows – from 1120 to 3636 m<sup>3</sup>/hr (657-2141 cfm). Both deliver strong drying performance, superior reliability, and significantly reduced operating costs, thanks to their energy-saving controls and algorithms, low pressure drop, and quality components.

Dedicated variable speed drive (VSD) variants are available in both ranges to reduce energy use by as much as 60% compared to conventional dryers and ensure a stable dew point. The AC 650-2100 comes in air-cooled and water-cooled versions. The AC 650-2100 VSD is water-cooled; the AC 765-2120 VSD is air-cooled.

### Features and benefits

- Energy-saving and flow control algorithms
- Variable speed drive versions save up to 60% on energy use
- Lowest pressure drop over heat exchanger and air piping
- Zero-loss drains
- Stable pressure dew point as low as 3°C/37°F
- Rotary screw refrigerant compressor with limited mechanical load and low vibrations
- Guaranteed drying performance in wide range of ambient temperatures
- Optimized refrigeration cycle in all conditions with automatic expansion valve and electronic hot gas bypass valve
- Advanced control and monitoring with Purelogic™ & Purelogic™ Touch controllers
- Plug & play operation
- Available versions: AC 650-2100 FS (air-cooled and water-cooled), AC 650-2100 VSD (water-cooled), AC 765-2120 VSD (air-cooled)

### General specifications

- Cycling and VSD refrigeration dryers
- Operating pressure: 4-14 barg / 58-203 psi
- Max. ambient temperature: AC 650-1050 FS AC: 46°C / AC 1250-2100 FS AC: 40°C / AC 650-2100 VSD WC: 50°C / AC 765-2120 VSD AC: 46°C
- Flow rate: 1116-3636 m<sup>3</sup>/h (657-2141 cfm)
- Pressure dew point: 3°C/37°F
- Power supply available: 400V/50Hz; 380V/60Hz; 400-460/60Hz
- Refrigerant gas: R410A: AC 650-2100 & VSD / R513A: AC 765-2120 VSD

## Premium high-flow refrigeration dryer technology

- Energy-saving and flow control algorithms adapt energy consumption to the real load.
- VSD technology reduces energy use by up to 60% by matching energy consumption to compressed air demand. Varying the speed of the compressor also ensures a stable dewpoint.
- Automatic expansion valve and electronic hot gas bypass valve optimize the refrigeration cycle in all working conditions.
- High-efficiency rotary screw refrigerant compressor is designed for limited mechanical load and low-vibration operation.
- Low pressure drop over the heat exchangers and use of high-efficiency refrigerant minimize energy consumption.
- The advanced Purelogic™ controlled is installed as standard, offering (remote) monitoring of the most important dryer parameters.
- Zero-loss drains minimize air and energy loss.
- Plug & play operation and low maintenance needs thanks to easy access to pipe connections and key components, and long service intervals.

## Technical specifications AC 650 - 2100 FS

Pneumatech variant specifications	Units	Air-cooled							Water-cooled						
		AC 650	AC 850	AC 1050	AC 1250	AC 1600	AC 1800	AC 2100	AC 650	AC 850	AC 1050	AC 1250	AC 1600	AC 1800	AC 2100
Flow	l/s	310	410	510	610	760	870	1010	310	410	510	610	760	870	1010
	m³/h	1116	1476	1836	2196	2736	3132	3636	1116	1476	1836	2196	2736	3132	3636
Power consumption*	Kw	2.8	4.6	6.4	4.8	5.3	6.6	7.4	2	2.4	4	3.1	3.6	4.5	5.1
	mbar	230	210	200	170	170	150	170	230	210	200	170	170	150	170
Pressure drop over dryer	psi	3.3	3.0	2.9	2.5	2.5	2.2	2.5	3.3	3.0	2.9	2.5	2.5	2.2	2.5
Refrigerant type		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Dimensions	L (mm) front	850	850	850	1060	1060	1060	1060	850	850	850	1060	1060	1060	1060
	L (inch) front	33.5	33.5	33.5	41.7	41.7	41.7	41.7	33.5	33.5	33.5	41.7	41.7	41.7	41.7
	W (mm)	1330	1330	1605	1040	1245	1245	1594	1330	1330	1330	1260	1260	1260	1260
	W (inch)	52.4	52.4	63.2	41	49	49	62.8	52.4	52.4	52.4	49.6	49.6	49.6	49.6
	H (mm)	1190	1375	1375	1660	1685	1685	1660	1190	1375	1375	1685	1685	1685	1685
	H (inch)	46.9	54.1	54.1	65.4	66.4	66.4	65.4	46.9	54.1	54.1	66.4	66.4	66.4	66.4
Inlet & outlet connections		G3*	G3*	G3*	DN100	DN100	DN150	DN150	G3*	G3*	G3*	DN100	DN150	DN150	DN150
Weight	kg	220	245	315	325	390	410	460	200	245	265	360	370	380	390
	lbs	485	540	694	716	860	904	1014	441	540	584	793	816	838	860

## Technical specifications AC 765 - 2120 VSD & AC 650 - 2100 VSD

Pneumatech variant specifications	Units	Air-cooled						Water-cooled					
		AC 765 VSD	AC 975 VSD	AC 1125 VSD	AC 1400 VSD	AC 1865 VSD	AC 2120 VSD	AC 650 VSD	AC 850 VSD	AC 1050 VSD	AC 1600 VSD	AC 1800 VSD	AC 2100 VSD
Flow	l/s	360	460	530	660	880	1000	310	410	510	760	870	1010
	m³/h	1296	1656	1908	2376	3168	3600	1116	1476	1836	2736	3132	3636
Power consumption*	Kw	2.52	2.61	3	4.55	5.43	5.76	1.48	2.2	2.78	3.3	4.2	5.6
	mbar	200	200	200	200	200	220	230	210	200	90	120	170
Pressure drop over dryer	psi	2.9	2.9	2.9	2.9	2.9	3.2	3.3	3.0	2.9	1.3	1.7	2.5
Refrigerant type		R513A	R513A	R513A	R513A	R513A	R513A	R410A	R410A	R410A	R410A	R410A	R410A
Dimensions	L (mm) front	1132	1121	1121	1121	1521	1521	850	850	850	1060	1060	1060
	L (inch) front	44.6	44.1	44.1	44.1	60.3	60.3	33.5	33.5	33.5	41.7	41.7	41.7
	W (mm)	1012	1012	1012	1012	1012	1012	1330	1330	1330	1594	1594	1594
	W (inch)	39.8	39.8	39.8	39.8	39.8	39.8	52.4	52.4	52.4	62.8	62.8	62.8
	H (mm)	1399	1596	1596	1826	1826	1826	1190	1375	1375	1660	1660	1660
	H (inch)	55.1	62.8	62.8	71.9	71.9	71.9	46.9	54.1	54.1	65.4	65.4	65.4
Inlet & outlet connections		G3*	G3*	G3*	DN100	DN100	DN100	G3*	G3*	G3*	DN150	DN150	DN150
Weight	kg	235	330	345	405	505	505	200	245	265	410	410	410
	lbs	518	728	761	893	1113	1113	441	540	584	904	904	904

\* 3 control modes i.e Economy, Lowest dDw Point and Maximum Saving Control offer different power consumption.

## Correction factors

AC 650-2100		Flow correction factor due to ambient temperature or cooling water temperature - 50Hz									
Ambient temperature	°C	25	30	35	40	45	50				
	°F	77	86	95	104	113	122				
		1	0.95	0.88	0.81	0.74	0.67				
Air inlet temperature		Flow correction factor due to compressed air inlet temperature - 50 Hz									
Air inlet temperature	°C	25	30	35	40	45	50	55	60		
	°F	77	86	95	104	113	122	131	140		
		1.2	1.1	1	0.85	0.72	0.6	0.49	0.37		
Air inlet pressure		Flow correction factor due to compressed air inlet pressure (g)									
Air inlet pressure	barg	2	3	4	5	6	7	8	10	12	14
	psig	29	44	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

AC 765-2120		Flow correction factor due to ambient temperature or cooling water temperature - 50Hz							
Ambient temperature	°C	25	30	35	40	45	50		
	°F	77	86	95	104	113	122		
		1	0.91	0.81	0.72	0.67	0.62		
Air inlet temperature		Flow correction factor due to compressed air inlet temperature - 50 Hz							
Air inlet temperature	°C	25	30	35	40	46	50	55	60
	°F	77	86	95	104	114	122	131	140
		1.1	1.05	1	0.82	0.69	0.58	0.49	0.42
Air inlet pressure		Flow correction factor due to compressed air inlet pressure (g)							
Air inlet pressure	barg	4	5	6	7	8	10	13	14
	psig	58	72	87	101	116	145	188	203
		0.74	0.84	0.97	1	1.03	1.07	1.12	1.15