

PURESTREAM PLH DRYERS



BY FRIULAIR



ULTIMATE
ENERGY SAVING
TECHNOLOGY



Efficiency, quality and aesthetics are the major characteristics of the PLH series high pressure compressed air dryers. Utilizing high quality components combined with a compact design the PLH dryers provide the user with purified high pressure compressed air.

Main features include: simple and ergonomic component layout, guaranteed performance and efficiency, low pressure drop constant dewpoint and robust cabinet and heat exchanger construction.

MAINTENANCE AND ACCESSIBILITY

The PLH series dryer has been designed and built to allow for ease of maintenance and service. The cabinet panels are removable and allows for easy access to all components within the dryer. The layout of the components and simple design of the refrigerant circuit as well as numbered wires in the electrical system facilitate maintenance and accessibility for the maintenance staff. All models are also fitted with a system that monitors condensate and also includes a pressure switch designed to prevent the pressure of the refrigerant from rising over the system design.



CONDENSER

Generous sizing of the condenser ensures maximum performance of the refrigerant circuit and the ability to operate in high ambient conditions. Access to the condenser for cleaning and maintenance is easily achieved.

CONTROL PANELS



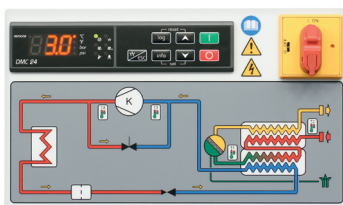
DMC 15 (PLH 15 - 40) CONTROLLER

The DMC 15 is composed of a digital thermometer displaying dew point with 10 LED displays.



DMC 14 (PLH 50 - 550) CONTROLLER

The DMC 14 features a 3 digit dew point display, remote alarm contacts for alarm conditions and manages the condensate draining system.



DMC 24 (PLH 700 - 3500) CONTROLLER

In addition to the characteristics already present in the DMC14 model, this instrument features a new client-protection function which allows the user to plan maintenance operations and receive advance warning of defects. The 4 temperature probes and pressure transducer record and display the parameters of the dryer when in use. The DMC24 model includes a meter, an RS485 interface for connection to a PC and a series of protective devices, including one for monitoring the supply phases.

HEAT EXCHANGER

PLH 15 - 40

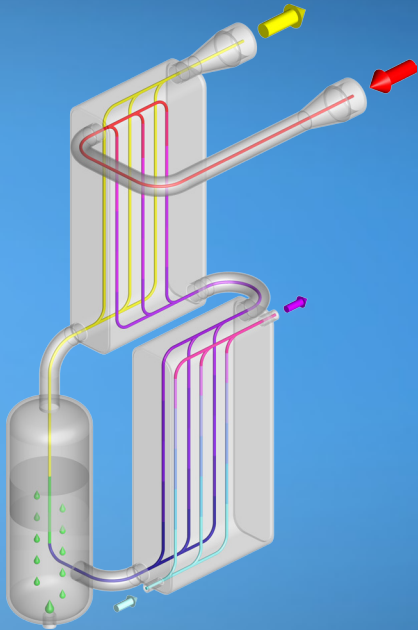
Composed of copper coaxial heat exchangers with demister condensate separator in stainless steel.

PLH 50 - 550

Featuring a stainless steel plate module which combines both air-to-air and air-to-refrigerant heat exchangers. The heat exchange surface is composed of corrugated stainless steel plates stacked one on top of the other and brazed-welded with copper. The circuits which form between the plates and the connections are sufficient to guarantee the counter-current of the flows and to ensure extremely high efficiency. The air-to-air heat exchanger, or economizer, pre-cools the air entering the dryer, in order to reduce the cooling power required when the air subsequently passes into air-to-refrigerant heat exchanger (or economizer). The air exiting the dryer is heated in the same way in order to prevent condensation from forming in the factory pipes. The demister condensate separator completes the "heat exchanger" system. The air supply tubes and collection tank of the condensate separator are made of 100% stainless steel.

PLH 700 - 3500

From model PLH 700 on, the heat exchange is based on an innovative configuration with independent modules. The air-to-air exchanger (economizer) and air-to-refrigerant exchanger (evaporator) are made of 2 separate stainless steel plates which, combined with the air tubes and the external demister condensate separator, form an innovative type of "heat exchanger" group capable of offering stronger resistance to pulsating current and a single clear circuit for airflow. The air supply tubes and the collection tank of the condensate separator are made of 100% stainless steel. Entirely vertical flows in counter current to the plates ensure the heat exchange works to maximum efficiency without producing condensation.



COMPRESSORS

RECIPROCATING TYPE

Models PLH 15 - 140 are fitted with high efficiency piston compressors sourced from major producers.

ROTARY COMPRESSOR

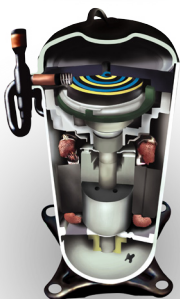
For models PLH 180 - 550 (with single-phase power supply). This is a new technology applied to refrigerants as an alternative to the traditional piston compressor. Compression of the refrigerant is achieved by way of interaction between a cylindrical stator and rotating eccentric nucleus. In this method, the parts which come into contact with one another are wear-resistant and therefore more reliable.

SCROLL COMPRESSOR

From model PLH 700 on, the type of compressor used is the scroll. Widely used in the air conditioning and refrigeration sectors, the scroll compressor performs well and has low energy consumption. Compression of the is achieved by way of two concentric coils: one fixed and the other mobile. The scrolls are wear-resistant, highly reliable and guarantee a high level of noise reduction.

HOT GAS BY-PASS VALVE

The precise and accurate hot gas by-pass valve, which prevents the formation of ice inside the evaporator at any load condition, is a recent development unavailable in the past. The valve is set during final test and no further adjustments are necessary.



TECHNICAL DATA

MODEL	FLOW RATE SCFM	VOLTAGE				REFRIG.	PIPE SIZE	WEIGHT (lbs)	DIMENSIONS IN INCHES					
		115/1/60	230/1/60	460/3/60	575/3/60				A	B	C	D	E	F
PLH15	15	115/1/60	230/1/60			R134.a	3/8" NPT	62	14.57	20.28	18.70	3.35	14.17	2.95
PLH30	30	115/1/60	230/1/60			R134.a	3/8" NPT	64	14.57	20.28	18.70	3.35	14.17	2.95
PLH40	40	115/1/60	230/1/60			R134.a	3/8" NPT	71	14.57	20.28	18.70	3.35	14.17	2.95
PLH50	50	115/1/60	230/1/60			R134.a	3/4" NPT	84	13.58	16.54	29.13	1.57	16.73	4.92
PLH80	80	115/1/60	230/1/60			R134.a	3/4" NPT	86	13.58	16.54	29.13	1.57	16.73	4.92
PLH100	100	115/1/60	230/1/60			R407C	3/4" NPT	110	19.88	17.91	32.48	1.57	18.50	4.92
PLH140	140	115/1/60	230/1/60			R407C	3/4" NPT	117	19.88	17.91	32.48	1.57	18.50	4.92
PLH180	180	115/1/60	230/1/60	460/3/60	575/3/60	R407C*	1" NPT	196	21.85	22.83	34.84	1.97	20.08	9.45
PLH260	260		230/1/60	460/3/60	575/3/60	R407C*	1" NPT	223	21.85	22.83	34.84	1.97	20.08	9.45
PLH350	350		230/1/60	460/3/60	575/3/60	R407C*	1" NPT	254	21.85	22.83	34.84	1.97	20.08	9.45
PLH450	450		230/1/60	460/3/60	575/3/60	R407C	1-1/2" NPT	344	26.18	28.54	43.50	2.76	30.91	5.51
PLH550	550		230/1/60	460/3/60	575/3/60	R407C	1-1/2" NPT	419	26.18	28.54	43.50	2.76	30.91	5.51
PLH700	700			460/3/60	575/3/60	R407C	2" NPT	556	57.68	39.37	31.10	11.81	54.72	4.72
PLH900	900			460/3/60	575/3/60	R407C	2" NPT	584	57.68	39.37	31.10	11.81	54.72	4.72
PLH1300	1300			460/3/60	575/3/60	R407C	2" NPT	862	57.68	39.37	31.10	11.81	54.72	4.72
PLH1400	1400			460/3/60	575/3/60	R407C	3" 150# FL.	979	44.69	47.44	68.70	5.91	63.78	12.20
PLH1700	1700			460/3/60	575/3/60	R407C	3" 150# FL.	1016	44.69	47.44	68.70	5.91	63.78	12.20
PLH2300	2300			460/3/60	575/3/60	R407C	3" 150# FL.	1071	44.69	47.44	68.70	5.91	63.78	12.20
PLH2900	2900			460/3/60	575/3/60	R407C	3" 150# FL.	1217	44.69	47.44	68.70	5.91	63.78	12.20
PLH3500	3500*			460/3/60	575/3/60	R407C	3" 150# FL.	1631	44.69	47.44	68.70	5.91	63.78	12.20

Flow rates are based on the following conditions:

Pressure Dewpoint	38°F / 3°C
Maximum Ambient	122°F / 50°C
Minimum Ambient	34°F / 1°C
Maximum Inlet Temperature	150°F / 65°C
Operating Pressure	580 psig / 40 barg
Maximum OperPressure	PLH15 - 550 = 725 psig / 50 barg, PLH700 - 3500 = 650 psig / 45 barg

Notes: * R134a for 575/3/60 models

* Water-cooled only

PLH 3500 WATER COOLED

Control Of Water Flow	Automatic By Valve
Maximum Water Temperature	86°F / 30°C
Minimum Water Pressure	45 psig - 3 barg
Maximum Water Pressure	145psig - 10 barg

CORRECTION FACTORS

Correction factor for operating pressure changes:									
Inlet air pressure	psig	200	300	400	500	550	580	650	725
	barg	14	21	28	34	38	40	45	50
	Factor (F1)	0.53	0.71	0.84	0.94	0.98	1.00	1.05	1.10

Correction factor for ambient temperature changes (Air-Cooled):									
Ambient temperature	°F	80	90	95	100	105	110	115	122
	°C	27	32	35	38	40	43	45	50
	Factor (F1)	1.11	1.09	1.06	1.00	0.94	0.87	0.78	0.69

Correction factor for inlet air temperature changes:									
Inlet air temperature	°F	90	100	110	120	130	140	150	
	°C	32	38	43	50	55	60	65	
	Factor (F1)	1.16	1	0.82	0.68	0.61	0.52	0.45	

Correction factor for Dew Point changes:									
Dew Point	°F	38	41	45	50				
	°C	3	5	7	10				
	Factor (F1)	1.00	1.08	1.20	1.36				

DIMENSIONAL DATA

