

PRD10 - PRD175



- “Plug & Play” Design for Easy Installation and Operation (PRD10 - PRD175)
- Small Space Saving Design
- Oversized Demister Separator Resulting in Excellent Liquid Removal Over All Operating Conditions
- Low Pressure Differential Across the Dryer (1.45 PSIG average)
- Environmentally Friendly Refrigerant
- Oversized Condenser to Operate in Ambients To 122°F (50°C)
- All Models Incorporate a Dewpoint Indicator

PNC0200 - DRD2400



- Optimum Dewpoint Levels for Highest System Performance
- Advanced Patented Design Solutions
- Environmentally Friendly Refrigerant
- High Reliability, Easy To Use and Maintain
- Unique 4-in-1 SmartPack Heat Exchanger
- Integral Drain
- Extremely Low Pressure Drop Design
- Smartcontrol Energy Saving Function
- Excellent Dewpoint Performances
- Advanced Compliant Scroll Compressor

Capacity SCFM @ 100 PSIG (m³/min @ 6.9 bar)	Primary Voltage	Part Number	Pipe Size	Recommended Filtration		
				Bulk Separator	Pre-filter (5µ Particulate)	Post-filter (.01µ Coalescing)
10 (17)	115V /1ph/60Hz	PRD10-A11516016FLU	1/2" NPT-F	WSA-04-FM0	F18-04-SH00	M18-04-CG00
15 (26)	115V/1ph/60Hz	PRD15-A11516016TXU	1/2" NPT-F	WSA-04-FM0	F18-04-SH00	M18-04-CG00
25 (43)	115V/1ph/60Hz	PRD25-A11516016TXU	1/2" NPT-F	WSA-04-FM0	F18-04-SH00	M18-04-CG00
35 (60)	115V/1ph/60Hz	PRD35-A11516016TXU	1/2" NPT-F	WSA-04-FM0	F18-04-SH00	M18-04-CG00
50 (85)	115V/1ph/60Hz	PRD50-A11516016TXU	3/4" NPT-F	WSA-06-FM0	F28-06-SH00	M28-06-CH00
75 (127)	115V/1ph/60Hz	PRD75-A11516016TXU	3/4" NPT-F	WSA-06-FM0	F28-06-SH00	M28-06-CH00
100 (170)	115V/1ph/60Hz	PRD100-A11516016TXU	3/4" NPT-F	WSA-06-FM0	F28-06-SH00	M28-06-CH00
125 (212)	115V/1ph/60Hz & 230V/1ph/60Hz	PRD125-A11516016TXU PRD125-A23016016TXU	1-1/2" NPT-F	WS0-0B-000B	F35-0B-F00	M35-0B-F00
150 (255)	115V/1ph/60Hz & 230V/1ph/60Hz	PRD150-A11516016TX PRD150-A23016016TX	1-1/2" NPT-F	WS0-0B-000B	F35-0B-F00	M35-0B-F00
175 (297)	230V/1ph/60Hz	PRD175-A23016016TX	1-1/2" NPT-F	WS0-0B-000B	F35-0B-F00	M35-0B-F00
200 (425)	230V/1ph/60Hz	PNC0200-A2	2" NPT-F	WS0-0C-000B	F35-0C-F00	M35-0C-F00
250 (425)	230V/3ph/60Hz & 460V/3ph/60Hz	PNC0250-A3 PNC0250-A4	2" NPT-F	WS0-0C-000B	F35-0C-F00	M35-0C-F00
325 (552)	230V/3ph/60Hz & 460V/3ph/60Hz	DRD325-23036014EI DRD325-46036014EI	2" NPT-F	WS0-0C-000B	F35-0C-F00	M35-0C-F00
400 (680)	230V/3ph/60Hz & 460V/3ph/60Hz	DRD400-23036014EI DRD400-46036014EI	2" NPT-F	WS0-0C-000B	F35-0C-F00	M35-0C-F00
500 (849)	230V/3ph/60Hz & 460V/3ph/60Hz	DRD500-23036014EI DRD500-46036014EI	2" NPT-F	WS0-0C-000B	F35-0C-F00	M35-0C-F00
700 (1189)	230V/3ph/60Hz & 460V/3ph/60Hz	DRD700-23036014EI DRD700-46036014EI	3" NPT-M	WS0-0E-000B	F43-0E-F00	M43-0E-F00
800 (1359)	230V/3ph/60Hz & 460V/3ph/60Hz	DRD800-23036014EI DRD800-46036014EI	3" NPT-M	WS0-0E-000B	F43-0E-F00	M43-0E-F00
1000 (1700)	460V/3ph/60Hz	DRD1000-46036014EI	3" NPT-M	WS0-0E-000B	F43-0E-F00	M43-0E-F00
1200 (2039)	460V/3ph/60Hz	DRD1200-46036014EI	3" NPT-M	WS0-0E-000B	F43-0E-F00	M43-0E-F00
1600 (2718)	460V/3ph/60Hz	DRD1600-46036014EI	4" Flg.	WWSA1000F	M55-0F-F00*	M55-0F-FS0
2000 (3400)	460V/3ph/60Hz	DRD2000-46036014EI	6" Flg.	WWSA1800F	M55-0H-F00*	M55-0H-FS0
2400 (4078)	460V/3ph/60Hz	DRD2400-46036014EI	6" Flg.	WWSA1800F	M55-0H-F00*	M55-0H-FS0

■ = “Most Popular”

* 1µ coalescing

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Dryers

PlusPack Heat Exchanger (patent pending)

The revolutionary PlusPack features a 3-in-1 aluminum design with integral air connections. All models include an air-to-air freecooler, while the unique “slowflow” demister ensures perfect dewpoints whatever the operating conditions.

Demister Separator

A high capacity demister separator is employed for the removal of condensed liquids. This lowers the air velocity which maximizes the condensate separation from the air, even when the dryer is not operating at maximum flow. This design also ensures the differential pressure across the dryer is kept to a minimum.

Refrigerant Condenser

Oversized high efficiency air cooled condenser. Re-positioned to improve reliability and reduce the risk of dirt contamination.

Condensate Drain Niche

The PRD Refrigeration Dryer range comes standard with a level sensing automatic float drain. Other drains are available upon request. The positioning of the drain niche allows for easy access to the drain without the requirement of removing panels.

Refrigerant Compressor

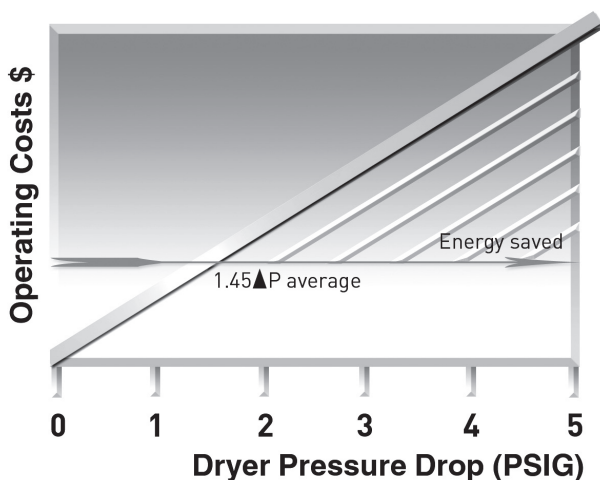
Maintenance free hermetically sealed refrigerant compressor. Low refrigerant charge eliminates the requirement for pre-heating on start up & prevents any liquid refrigerant returns.



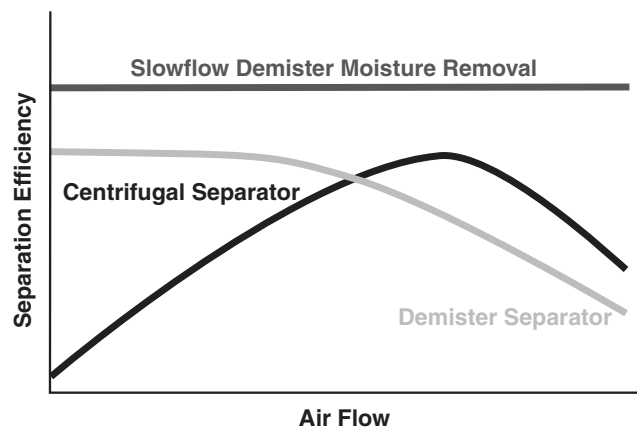
Assured Quality & Performance

Every dryer undergoes sophisticated testing, including dewpoint tests with compressed air flow. Multiple helium leak testing, again on every dryer, ensures years of trouble-free operation.

Energy Efficiency



Moisture Separation Technology



The oversized “slowflow” demister is non-velocity sensitive and therefore offers excellent liquid separation whatever the airflow.

Poorly constructed heat exchangers and liquid separators create a high pressure differential across the dryer which leads to high operational costs and poor dewpoint performance.

The WDRD dryer range utilizes advanced heat exchanger and demister separation technology and delivers uncompromising performance at the lowest cost of ownership.

The importance of compressed air as a provider of energy for modern industrial processes is widely known. What is often overlooked however is the need to provide quality treatment for this air.

In fact, the air entering the system contains condensate which, when cooled, will turn into liquid water, causing extensive damage not only to the compressed air network, but also to the finished product.

WDRD refrigeration dryers actively remove this condensate to achieve extremely dry compressed air.

Our SmartPack heat exchanger offers minimal pressure drops and class leading performance, and significantly increases the efficiency of the whole compressed air treatment process. The innovative SmartControl function automatically and continuously adjusts dryer operation to the effective working conditions, minimizing operating costs and maximizing performances.

Compressed air purification equipment must deliver uncompromising performance and reliability while providing the right balance of air quality with the lowest cost of operation. Many manufacturers offer products for the filtration and purification of contaminated compressed air, which are often selected only upon their initial purchase cost, with little or no regard for the air quality they provide, the cost of operation throughout their life or their environmental impact. When purchasing purification equipment, delivered air quality, the overall cost of ownership and the equipment's environmental impact must always be considered.



Smart Technology: The Benefits

SmartPack Heat Exchanger Provides Less Than 2 PSI Pressure Drop

The SmartPack (patent pending) heat exchanger features an extremely robust, all-in-one aluminum design, with no interconnecting tubing.

The geometry of the heat exchanger has been designed in order to optimize its performances. In particular, large volumes allow low air velocity through the heat exchanger section, resulting in high exchange efficiency and low pressure drops. Pressure drops are further improved thanks to the absence of interconnecting pipes through the different sections of the heat exchanger and to a straight forward path of the compressed air flow with smooth and minimum changes of flow directions.

Smart BMS Interface

Simple BMS interface includes:

- RS485 serial card provides direct communication to Modbus. Requires no gateway or A.N.I.
- Provides visualization of dewpoint, alarm conditions and service indication.
- Provides remote control of the dryer including on/off and alarm reset (depending on actual alarm)

SmartDrain - Dual Mode Zero Air Loss Drain

The drainage chamber is integrated into the heat exchanger while the valve mechanism is fitted in an easily accessible drain niche. The SmartDrain continuously adjusts itself to the actual working conditions, ensuring zero air loss and a notable reduction in system power consumption.

An innovative control system continuously monitors for fault situations. If a fault does occur, an alarm is signaled and the drain switches to conventional timed solenoid drain operation. The dual mode circuitry ensures maximum reliability.

Smart Control With SmartSave Cycling

The multifunction SmartControl provides a versatile platform for user interface and SmartSave Cycling (if enabled). The innovative SmartSave (patent pending).

Cycling Control continuously monitors the demand placed on the dryer. At conditions of low demand the refrigerant compressor is cycled off to save energy. A sophisticated algorithm continuously adapts the operation of the dryer for optimum energy efficiency while minimizing the dewpoint spikes common to traditional thermal mass dryers.

Compliant Scroll Compressors

These units feature Compliant Scroll compressors, offering energy savings of 20 -30% when compared with piston compressors. The ability to tolerate liquid returns coupled with 50% less moving parts render them nearly indestructible and highly reliable. Low vibration levels increase overall refrigeration circuit.

Operating information

= "Most Popular"

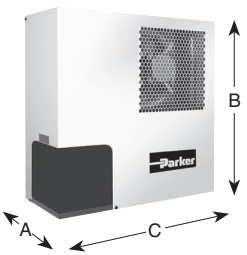
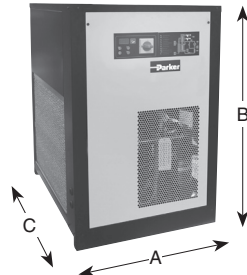
	PRD10-PRD175	PNC0200-PNC0250	DRD325-DRD2400
Temperature			
Ambient (maximum)	122°F (50°C)	115°F (46°C)	122°F (50°C)
Ambient (minimum)	41°F (5°C)	41°F (5°C)	41°F (5°C)
Inlet (maximum)	149°F (65°C)	140°F (60°C)	149°F (65°C)
Pressure (maximum)	232 PSIG (16 bar)	200 PSIG (13.8 bar)	203 PSIG (14 bar)
Refrigerant	R134a	R404a	R407C

Flow correction factors Capacities are based upon:
 Ambient Temperature - 100°F (38°C); Inlet Temperature - 100°F (38°C);
 and Working Pressure - 100 PSIG (7 bar g).

To obtain dryer capacity at new conditions, multiply nominal capacity x C1 x C2 x C3

	PRD10 - PRD175								PNC0200 - PNC0250								DRD325 - DRD2400										
Ambient Temperature (C1)																											
°F	60	70	80	89	100	110	120		70	80	90	100	110	120	122	90	100	110	120	122							
°C	16	21	27	32	38	43	49		21	27	32	38	43	49	50	32	38	43	49	50							
Factor	1.34	1.26	1.17	1.09	1.00	0.91	0.82		1.22	1.12	1.08	1.00	0.90	0.79	0.71	1.05	1.00	0.94	0.79	0.71							
Inlet Temperature (C2)																											
°F	90	100	110	120	140	149		90	100	110	120	130	140		90	100	110	120	130	140							
°C	32	38	43	49	60	65		32	38	43	49	54	60		32	38	43	49	54	60							
Factor	1.24	1.00	0.81	0.67	0.45	0.44		1.24	1.00	0.82	0.68	0.56	0.40		1.22	1.00	0.82	0.68	0.56	0.46							
Inlet Pressure (C3)																											
PSIG	60	80	100	125	150	175	200	230	50	80	100	125	150	174	203	50	80	100	125	150	174	203					
bar	4	6	7	9	10	12	14	16	3	6	7	9	10	12	14	3	6	7	9	10	12	14					
Factor	0.83	0.93	1.00	1.07	1.12	1.16	1.19	1.22	0.77	0.93	1.00	1.07	1.12	1.15	1.18	0.77	0.93	1.00	1.07	1.12	1.15	1.18					

Dimensions

	Model Number	A	B	C	Weight (kg)
	PRD10-A11516016FLU	8.3 (210)	17 (430)	17.7 (450)	42 (19)
	PRD15-A11516016TXU	8.3 (210)	17 (430)	17.7 (450)	42 (19)
	PRD25-A11516016TXU	8.3 (210)	19.9 (505)	19.7 (500)	52 (24)
	PRD35-A11516016TXU	8.3 (210)	19.9 (505)	19.7 (500)	52 (24)
	PRD50-A11516016TXU	8.9 (225)	22.3 (565)	20.5 (520)	58 (27)
	PRD75-A11516016TXU	8.9 (225)	22.3 (565)	20.5 (520)	68 (31)
	PRD100-A11516016TXU	8.9 (225)	22.3 (565)	20.5 (520)	77 (35)
	PRD125-A11516016TXU	16.7 (425)	23.8 (605)	21.8 (555)	115 (52)
	PRD150-A11516016TX	16.7 (425)	23.8 (605)	21.8 (555)	128 (58)
	PRD175-A23016016TX	16.7 (425)	23.8 (605)	21.8 (555)	132 (60)
	PNC0200-A2	28.0 (711)	37.0 (940)	22.0 (559)	183 (83)
	PNC0250-A3	28.0 (711)	42.0 (1067)	41.0 (1041)	287 (130)
	DRD325-A2303614EI	28.0 (711)	42.0 (1067)	41.0 (1041)	320 (145)
	DRD400-A2303614EI	28.0 (711)	42.0 (1067)	41.0 (1041)	320 (145)
	DRD500-A2303614EI	28.0 (711)	42.0 (1067)	41.0 (1041)	342 (155)
	DRD700-A2303614EI	32.0 (813)	52.0 (1321)	46.0 (1168)	529 (240)
	DRD800-A2303614EI	32.0 (813)	52.0 (1321)	46.0 (1168)	529 (240)
	DRD1000-A4603614EI	32.0 (813)	52.0 (1321)	46.0 (1168)	551 (250)
	DRD1200-A4603614EI	40.0 (1016)	67.0 (1702)	43.0 (1092)	816 (370)
	DRD1600-A4603614EI	40.0 (1016)	68.0 (1727)	71.0 (1803)	1279 (580)
	DRD2000-A4603614EI	40.0 (1016)	68.0 (1727)	71.0 (1803)	1477 (670)
	DRD2400-A4603614EI	40.0 (1016)	68.0 (1727)	71.0 (1803)	1521 (690)

Inches (mm)