



PARKER APEX AND

VARION SERIES

REFRIGERATED COMPRESSED AIR DRYERS

Parker Hannifin India Pvt Ltd

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ENGINEERING YOUR SUCCESS.

INTRODUCTION

Compressed air exiting the compressor aftercooler is fully saturated with moisture. As this warm, moisture-laden air travels through the air receiver and piping system, it begins to cool, causing water vapor to condense into liquid water and fine water aerosols. This moisture-rich air can cause internal corrosion, support microbial growth, and produce oily, acidic condensate from the compressor.

In manufacturing environments where compressed air powers automation systems and processes, such contamination can compromise safety, reduce productivity, and lower overall efficiency. Therefore, proper air treatment is crucial. For applications where ultra-dry air isn't critical, refrigeration dryers offer a practical and effective solution.



REFRIGERATED DRYERS

Refrigeration dryers operate using a closed-loop cooling circuit that chills the compressed air to temperatures slightly above 0°C, prompting the water vapor to condense into liquid form. A built-in moisture separator then efficiently extracts most of this condensed water, which is discharged through a drain system. Before the air exits the dryer, it is reheated using the incoming hot compressed air. This step helps prevent moisture from forming on the exterior of the downstream piping due to temperature differences.

To ensure optimal performance, refrigeration dryers should be paired with general-purpose and high-efficiency coalescing filters. They are a reliable solution for minimizing water vapor, liquid moisture, and aerosols in compressed air systems used for standard industrial applications.

Made in India, For India –

This dryer is designed and built to perform flawlessly in Indian operating conditions, addressing the challenges of varying low to high tropical ambient temperatures, humidity, and inlet air quality. Every unit reflects Parker commitment to self-reliance, durability, and national pride, offering Indian industries a world-class solution tailored to their needs.

VARION SERIES (AIR COOLED)

Key Features for MODEL: PVA

- **Energy-Efficient Drive System**
Equipped with a specially engineered drive system that significantly reduces power consumption compared to conventional dryers of the same capacity, ensuring lower energy costs and improved operational efficiency.
- **Low Pressure Drop Design**
Optimized for minimal pressure drop using cross-flow heat exchanger technology, reducing compressor load and energy consumption, while maintaining consistent airflow and performance.
- **High-Efficiency Moisture Separation**
Incorporates a stainless-steel demister pad in the moisture separator to ensure highly effective removal of condensed moisture, increasing reliability and protecting downstream equipment.
- **Advanced Data Logging Capabilities**
Integrated data logging system captures critical parameters such as:
 - Air inlet temperature
 - Dew point
 - Suction and discharge pressures
 - Alarm/trip events Enables efficient performance monitoring and facilitates quick troubleshooting.
 - Cabinet Temperature
- **Comprehensive Safety & Interlock System**
Engineered with a full set of interlocks and safety features to ensure reliable, fail-safe operation and maximum system uptime.
- **Durable Shell & Tube Heat Exchangers**
Utilizes robust shell and tube-type heat exchangers that outperform plate-type designs (PHE) in longevity



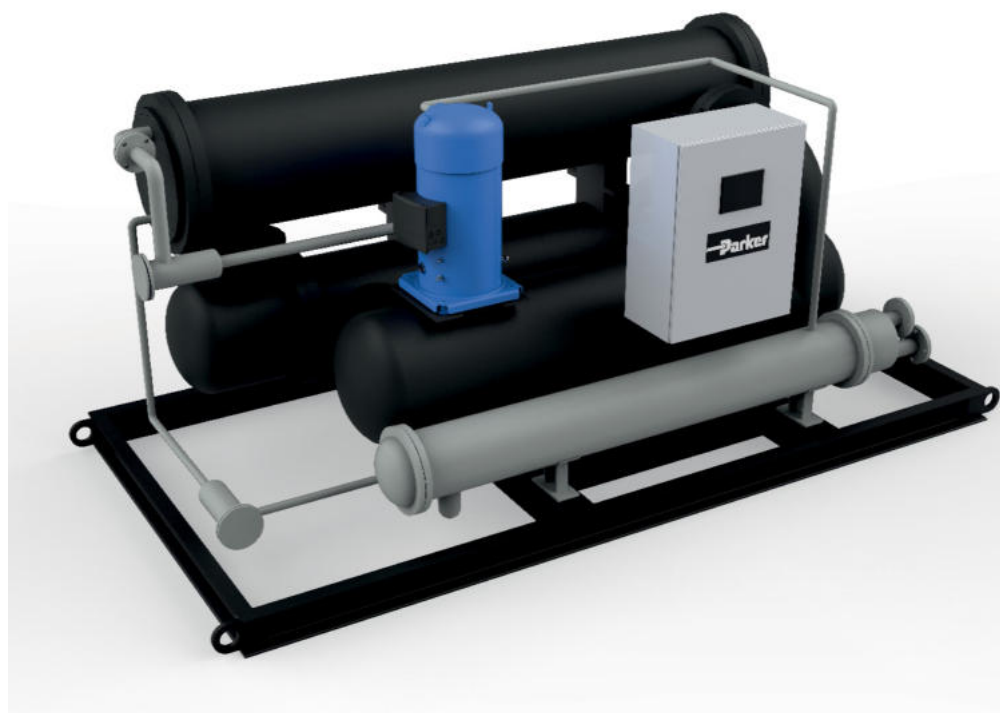
- **Dynamic Load Handling with Turndown Capability**
The system offers a **turndown capacity of up to 20%**, allowing the dryer to adapt to varying air loads—improving efficiency during partial load operation.
- **Refrigeration Capacity Boost**
Capable of delivering a 20% boost in refrigeration capacity during high demand /temperature conditions, ensuring optimal performance and consistent dew point control.
- **User-Friendly Touch Screen HMI**
4" touchscreen Human Machine Interface (HMI) offers intuitive control, real-time system monitoring, and easy parameter adjustment—enhancing operational convenience and efficiency for users.
- **Optimized Air-Cooled Condenser Orientation**
Air-cooled dryers are designed with a horizontal condenser layout, allowing efficient heat rejection, easier maintenance, and flexible machine placement in various site conditions.
- **Cleaning Provision for Air-Cooled Condenser**
In air-cooled air dryer, a dedicated cleaning nozzle with PU hose pipe is included to enable routine maintenance of the air-cooled condenser. This arrangement allows for the effective removal of dust, debris, and other contaminants that may reduce heat transfer efficiency over time.

Regular cleaning through this system helps maintain optimal condenser performance, supports consistent cooling efficiency, and ensures the reliability and longevity of the overall compressed air system. Regular cleaning of condenser will reduce the power consumption by up to 10%.

VARION SERIES (WATER COOLED)

Key Features for MODEL: PWW

- **Energy-Efficient Drive System**
Equipped with a specially engineered drive system that significantly reduces power consumption compared to conventional dryers of the same capacity, ensuring lower energy costs and improved operational efficiency.
- **Low Pressure Drop Design (0.1 Bar*)**
Optimized for minimal pressure drop using cross-flow heat exchanger technology, reducing compressor load and energy consumption, while maintaining consistent airflow and performance.
- **High-Efficiency Moisture Separation**
Incorporates a stainless-steel demister pad in the moisture separator to ensure highly effective removal of condensed moisture, increasing reliability and protecting downstream equipment.
- **Advanced Data Logging Capabilities**
Integrated data logging system captures critical parameters such as:
 - Air inlet temperature
 - Dew point
 - Water temperature
 - Suction and discharge pressures
 - Alarm/trip eventsEnables efficient performance monitoring and facilitates quick troubleshooting.
- **Comprehensive Safety & Interlock System**
Engineered with a full set of interlocks and safety features to ensure reliable, fail-safe operation and maximum system uptime.



- **Durable Shell & Tube Heat Exchangers**
Utilizes robust shell and tube-type heat exchangers that outperform plate-type designs (PHE) in longevity and reliability, especially in demanding industrial environments.
- **Dynamic Load Handling with Turndown Capability**
The system offers a **turndown capacity of up to 20%**, allowing the dryer to adapt to varying air loads—improving efficiency during partial load operation.
- **Refrigeration Capacity Boost**
Capable of delivering a **20% boost in refrigeration** capacity during high demand /temperature conditions, ensuring optimal performance and consistent dew point control.
- **User-Friendly Touch Screen HMI**
4" touchscreen Human Machine Interface (HMI) offers intuitive control, real-time system monitoring, and easy parameter adjustment—enhancing operational convenience and efficiency for users.
- **Long-Life Water-Cooled Condenser Design**
Features $\frac{3}{8}$ " diameter copper tubes that support mechanical descaling with a wire brush—simplifying maintenance and extending the lifespan of the condenser.

APEX SERIES (WATER COOLED)

Key Features for MODEL: PWW

- **Energy-Efficient Drive System**

Equipped with a specially engineered drive system that significantly reduces power consumption compared to conventional dryers of the same capacity, ensuring lower energy costs and improved operational efficiency.

- **Low Pressure Drop Design (0.1 Bar*)**

Optimized for minimal pressure drop using cross-flow heat exchanger technology, reducing compressor load and energy consumption, while maintaining consistent airflow and performance.

- **High-Efficiency Moisture Separation**

Incorporates a stainless-steel demister pad in the moisture separator to ensure highly effective removal of condensed moisture, increasing reliability and protecting downstream equipment.

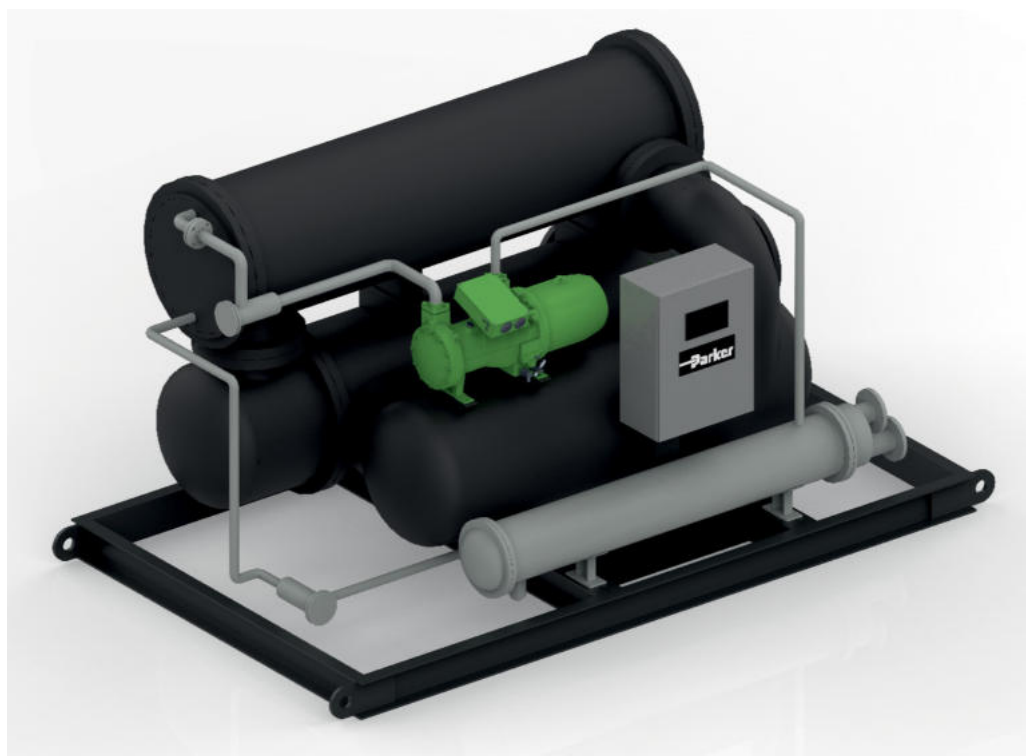
- **Advanced Data Logging Capabilities**

Integrated data logging system captures critical parameters such as:

- Air inlet temperature
- Dew point
- Water temperature
- Suction and discharge pressures
- Alarm/trip events Enables efficient performance monitoring and facilitates quick troubleshooting.

- **Comprehensive Safety & Interlock System**

Engineered with a full set of interlocks and safety features to ensure reliable, fail-safe operation and maximum system uptime.



- **Durable Shell & Tube Heat Exchangers**

Utilizes robust shell and tube-type heat exchangers that outperform plate-type designs (PHE) in longevity and reliability, especially in demanding industrial environments.

- **Long-Life Water-Cooled Condenser Design**

Features 3/4" diameter copper tubes that support mechanical descaling with a wire brush—simplifying maintenance and extending the lifespan of the condenser.

- **User-Friendly Touch Screen HMI**

7" touchscreen Human Machine Interface (HMI) offers intuitive control, real-time system monitoring, and easy parameter adjustment—enhancing operational convenience and efficiency for users.

- **Dynamic Load Handling with Turndown Capability**

The system offers a turndown capacity (-)75°C allowing the dryer to adapt to varying air loads—improving efficiency during partial load operation.

- **Refrigeration Capacity Boost**

Capable of delivering an additional 20% boost in refrigeration capacity during high demand /temperature conditions, ensuring optimal performance and consistent dew point control.

- **Integrated Oil Level Sensor for Enhanced Reliability**

The dryer is equipped with an oil level sensor that continuously monitors oil levels, providing early warnings to prevent system damage and reduce unplanned maintenance—ensuring reliable and uninterrupted operation.

VARION SERIES: MODEL: PVA

(Refrigerated Type Air Cooled Dryer - Scroll Compressor)

MODEL	CAPACITY
PVA 75	750 CFM
PVA 85	850 CFM
PVA 125	1250 CFM
PVA 160	1600 CFM
PVA 200	2000 CFM
PVA 260	2600 CFM

RATED CONDITIONS:

Working pressure: 7 Bar(g)
 Air Inlet Temperature: 50°C
 Ambient Temperature: 40°C
 Pressure Dew Point:(+)³°C
 to 5°C
 (WITH DRIVE PACKAGE)

VARION SERIES: MODEL: PVW

(Refrigerated Type Water Cooled Dryer)

MODEL	DISCRIPTION
PVW 330	Capacity: 3300 CFM
PVW 460	Capacity: 4600 CFM
PVW 560	Capacity: 5600 CFM

RATED CONDITIONS:

Working pressure: 6 Bar(g)
 Max. Air Inlet Temperature:
 35°C
 Pressure Dew Point:(+)³°C
 to 5°C
 (WITH DRIVE PACKAGE)

APEX SERIES: MODEL: PA

(Refrigerated Type Water Cooled Dryer)

MODEL	DISCRIPTION
PA 680	Capacity: 6800 CFM
PA 880	Capacity: 8800 CFM
PA 950	Capacity: 9500 CFM
PA 1140	Capacity: 11400 CFM

RATED CONDITIONS:

Working pressure: 6 Bar(g)
 Max. Air Inlet Temperature: 35°C
 Pressure Dew Point:(+)³°C to 5°C
 (WITH DRIVE PACKAGE)

Dimensions and Weight:

SERIES	MODEL	DIMENSIONS			WEIGHT
		LENGTH	WIDTH	HEIGHT	KGS
		MM	MM	MM	
PVA	PVA 75	2185	1200	1300	960
	PVA 85	2185	1200	1300	980
	PVA 125	2500	1200	1350	1100
	PVA 160	2300	1350	1450	1200
	PVA 200	2600	1350	1450	1500
	PVA 260	2750	1450	1650	1800
PVW	PVW 330	3900	1550	1500	2600
	PVW 460	4050	1730	1600	3100
	PVW 560	4000	1830	1800	3500
PA	PA 680	4100	2000	1850	4000
	PA 880	4000	2100	1950	4700
	PA 950	4000	2250	1950	4950
	PA 1140	4150	2350	2100	5700

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