



inspired by technology



arcticstar[®]

*Refrigeration Dryers
(125 - 3000 scfm)*



www.zanderusa.com

Reliability & Innovation for the 21st Century

Efficient & Effective Technology

Warm saturated compressed air enters an air to air heat exchanger where it is cooled by cold, dry compressed air passing in the opposite direction. The temperature of this partially cooled air is finally reduced to the required pressure dewpoint upon entering the refrigerant/air heat exchanger. The resulting condensate is separated by a demister mechanical separator, and discharged by an efficient automatic drain.

Compressed air must be dry

Compressed air is one of the most important sources of energy within industry today. Insufficient treatment of compressed air leads to the build-up of aggressive condensate, which not only causes many inefficiencies within the piping systems and pressure

vessels but can lead to expensive downtime and failure of expensive equipment.

Eliminate the problem

The new arctic star refrigeration dryer treats compressed air efficiently, meeting users needs and eliminates the problems associated with wet untreated compressed air systems. Compressed air systems in the 21st century will need to meet ever increasing demands for better quality. Pleated filters enables **ZANDER** to surpass these demands.



Key Features:

- Constant air purity to the ISO Standard 1.4.1
- Capillary injection for reliable operation
- Compact full-size heat exchanger to handle overload conditions
- Integrated "slow flow demister" for efficient moisture removal at all operating conditions
- Scroll refrigerant compressor - reduced power consumption. No crankcase heater required and instant start-up.
- Modern full size heat exchanger design results in a low pressure differential and lower cost of operation
- Compact design - Small footprint enables easy installation and full use of the floor space by being 30% smaller and lighter
- Custom engineered packages available upon request
- Environmentally friendly refrigerant - All models use R407C resulting in 30% better performance than traditional HFC refrigerants.
- Optional zero air loss drains available to increase energy efficiency
- Cycle control ensures that the dryer will never freeze for reliable operation

arcticstar® - How it works

Refrigeration Circuit

This compressor forms part of a closed loop system compressing the refrigerant and circulating it around the system. Models AS125 to AS250 use piston compressors, and models AS325 to AS3000 use energy efficient scroll compressors.



Evaporator (air to refrigerant heat exchanger)

The evaporator removes heat from the compressed air and transfers it to the cold refrigerant. The saturated refrigerant evaporates with the heat from the compressed air. Superheated vapor is then returned to the compressor.

Hot Gas by-pass Valve

The function of the hot gas by-pass valve is to prevent freezing of the evaporator in low load conditions. It does this by sensing low pressure refrigerant leaving the evaporator and re-directing hot refrigerant gas back to the compressor inlet as required. This ensures optimum dewpoint control under all operating conditions. AS dryers use a 100% modulating valve which is pressure operated, providing a quicker response than temperature controlled valves.

Water Separator

Condenser

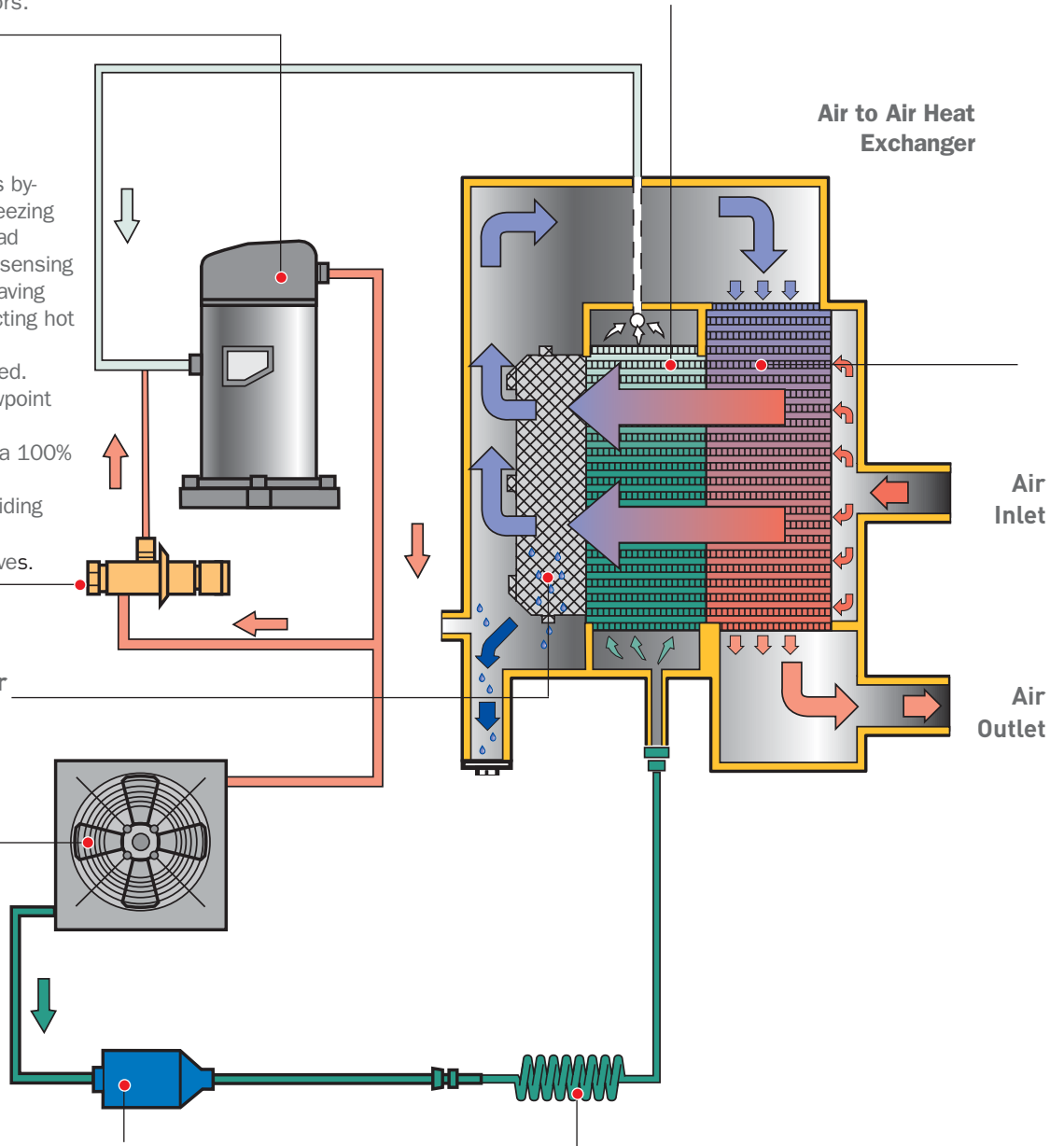
The condenser receives the hot, high pressure vapor from the compressor and cools it. The heat added to the refrigerant is exchanged with the cooling air flow. Condensation occurs as the refrigerant passes through the condenser and high pressure, sub-cooled liquid is formed to feed the capillary expander.

Filter / Dryer

The filter dryer removes moisture or particulate that may be present in the refrigerant system.

Capillary Expander

The capillary expander reduces the pressure of the liquid refrigerant to ensure the correct refrigerant flow rate enters the evaporator. This provides maximum heat exchange, and correct compressed air dewpoint. Simple design with no moving parts offers increased reliability.



Technical data

Type	Capacity* (scfm)	Compressor Power (kW)	Dimensions (ins)			Connection (NPT)	Max. pressure (psi g)	Weight (lbs)	Primary Voltages
			A	B	C				
AS125	125	0.71	24	31	22	1½" NPT	174	143	115V/1Ph/60Hz & 230V/1Ph/60Hz
AS150	150	0.76	24	31	22	1½" NPT	174	146	115V/1Ph/60Hz & 230V/1Ph/60Hz
AS175	175	1.07	24	31	22	1½" NPT	174	150	230V/1Ph/60Hz
AS200	200	1.36	24	31	22	1½" NPT	174	154	230V/1Ph/60Hz
AS250	250	1.43	36	40	27	1½" NPT	174	309	230V/3Ph/6Hz & 460V/3Ph/60Hz
AS325	325	1.69	36	40	27	2" NPT	174	313	230V/3Ph/6Hz & 460V/3Ph/60Hz
AS400	400	2.33	36	40	27	2" NPT	174	317	230V/3Ph/6Hz & 460V/3Ph/60Hz
AS500	500	2.34	36	40	27	2" NPT	174	331	230V/3Ph/6Hz & 460V/3Ph/60Hz
AS700	700	2.94	40	59	52	3" NPT	174	882	230V/3Ph/6Hz & 460V/3Ph/60Hz
AS800	800	2.96	40	59	52	3" NPT	174	926	230V/3Ph/6Hz & 460V/3Ph/60Hz
AS1000	1000	4.06	40	59	52	3" NPT	174	992	460V/3Ph/60Hz
AS1200	1200	4.23	40	59	52	3" NPT	174	1014	460V/3Ph/60Hz
AS1400	1400	6.13	40	59	52	4" ANSI	174	1036	460V/3Ph/60Hz
AS1600	1600	7.57	40	59	71	4" ANSI	174	1212	460V/3Ph/60Hz
AS1800	1800	7.80	40	59	71	4" ANSI	174	1223	460V/3Ph/60Hz
AS2000	2000	7.81	40	59	71	6" ANSI	174	1290	460V/3Ph/60Hz
AS2400	2400	9.17	40	59	71	6" ANSI	174	1301	460V/3Ph/60Hz
AS3000	3000	11.75	40	59	71	6" ANSI	174	1455	460V/3Ph/60Hz

*Capacities based upon: Ambient temperature 100°F, Inlet temperature 100°F (Relative humidity 60%), Working pressure 100 psi g

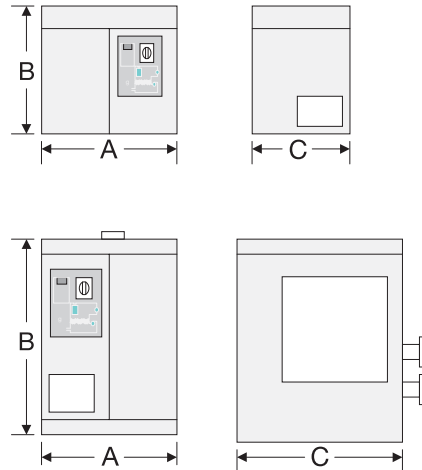
Flow correction factors

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

Ambient Temperature °F (C1)	90	100	110	120	122	
Correction Factor	1.05	1.00	0.94	0.79	0.71	
Inlet Temperature °F (C2)	90	100	110	120	130	140
Correction Factor	1.22	1.00	0.82	0.68	0.56	0.46
Working Pressure psi g (C3)	50	80	100	125	150	174
Correction Factor	0.77	0.93	1.00	1.07	1.12	1.15

Technical Data

Maximum ambient temperature	122°F
Maximum inlet temperature	140°F
Minimum ambient temperature	41°F
Maximum pressure	174 psi g
Refrigerant:	R407C



We are constantly updating our product so we cannot be responsible for manufacturing and dimension changes.
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