

## Technical Data Sheet Model: 439A Oil Separator

### Description:

The Series 439A coalescent oil separator is specifically designed for transcritical CO<sub>2</sub> high- medium- and low-temperature applications. It is designed to remove oil from the refrigeration gas flow by using three filters. Then the oil is returned to the compressor.

The main purpose of the oil is to lubricate the moving parts of the compressor. When oil circulates through the system instead, it builds up a film on the internal surfaces of the heat exchangers and acts as an insulator.

This robs the system of efficiency, raises energy consumption, and lowers the available refrigerant volume in the evaporator. The compressor must run longer to achieve the desired Net Refrigeration Effect. Coalescing separators are capable of removing 95% to 99% of the oil component of mass flow.

### Specifications:

- Application Range: suitable for CO<sub>2</sub> (R744) transcritical applications and CO<sub>2</sub> subcritical under certain conditions.
- Dual function: filters dirt out of the refrigerant and oil; separates the oil from the refrigerant gas.
- Efficiency: nominal 98.5%+ separation efficiency rating across the widest range of mass flows.
- Filtration: sub-micron particulate retention rating. Four internal coalescent filters capture dirt and effluent down to .3 micron.

### Physical:

Overall height:	1636.5 mm (64.43 in.)	Max WP:	130 Bar (1885.49 PSIG) 140 Bar (in process, weight and some dimensions may change)
Outside diameter:	406.4mm (16 in.)	Max Temp:	160° C (320° F)
Connectors:	Inlet/Outlet: 3" or 3-1/2" NPS Types: BW, MPT, ODS	Min Temp:	0° C (32° F)
Weight:	481kg (1060 lbs.) shipping	Paint:	Baked on dry powder coat
Oil Charge:	18.9 Liters (5 Gallons)	Sensor Port:	3/4" FPT
Shipping:	1800mm (71 in.) x 1219mm (48 in.) x 1219mm (48 in.)		

### Regulatory Compliance:

- CE & UKCA Marked: compliant with the European PED & PESR.
- ASME available
- CRN Pending
- Miscellaneous:

Every unit is pressure/leak tested as required by its regulatory code. Every unit is injected with a Nitrogen charge during the packing operation in order to inhibit oxidation (rust) formation.

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1555 West Hawthorne Lane, Suite 1E, West Chicago, Illinois 60185-1822 **T: 630-293-5910 F: 630-293-9594**

**E: [temprite@temprite.com](mailto:temprite@temprite.com)**

800-552-9300

[www.Temprite.com](http://www.Temprite.com)