



CATALOG

CARBON SHIELD™
Atomized Oil Lubrication



When reliability is vital..... Alemite Carbon Shield™ Systems deliver

**Atomized Oil Lubrication
system for rotating
machinery bearings,
gears and chains.
Proven in refineries,
petro-chem plants, and
many other applications**

Our oil atomizing system continuously deposits a virtually friction free carbon layer on points needing lubrication.

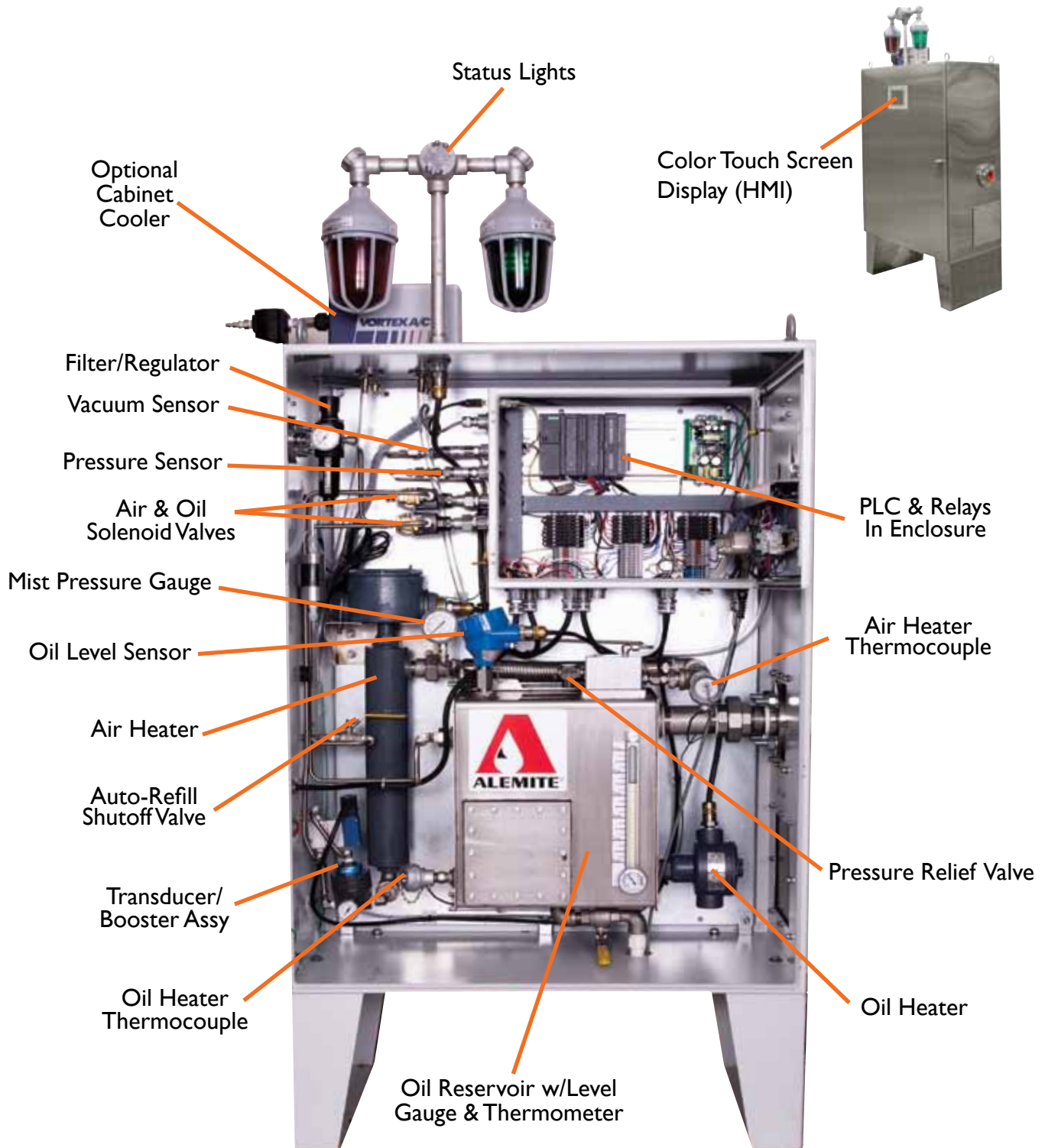
As a result, wear and tear is significantly reduced and the service life is greatly increased.

In numerous applications in many industries, our systems have a proven track record of reducing down time by over 90%, lubricant consumption by more than 40%, and operating reliably for over 15 years.



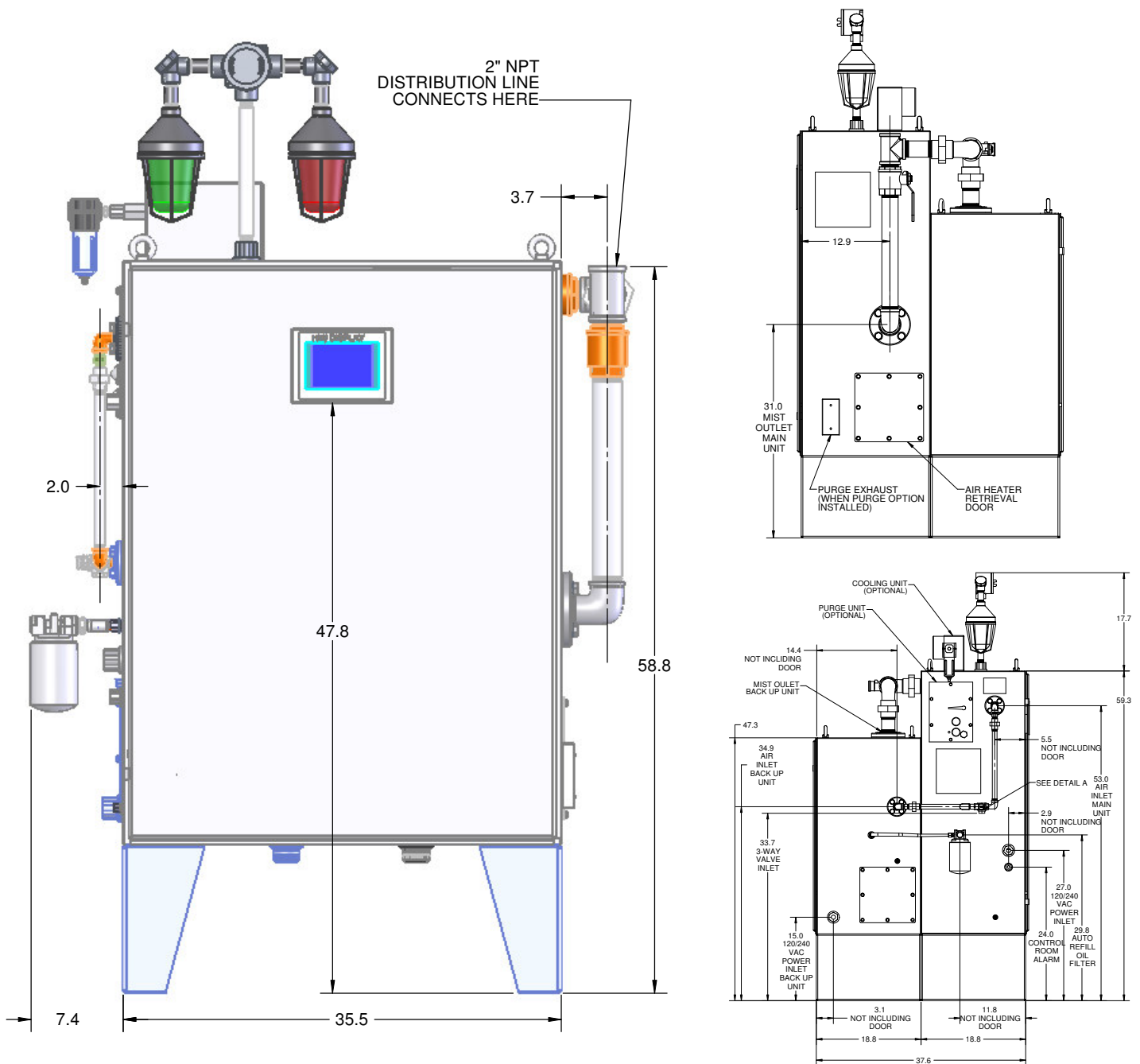


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Intelligence

Unlike other systems, we have built in intelligence that monitors every component and reports warnings to maintenance personnel. The system warns against pipe blockage or leaks and accurately measures oil-to-air ratio quantitatively. Alemite Carbon Shield™ systems are user friendly, providing access to information from your intranet connection, with many languages available.



How To Order

The process is simple, using the tables below to specify the equipment. The nomenclature is made of four separate color coded sections; general information, electrical configuration, structural configuration, and accessories. If you have any questions, please contact your authorized distributor, or your Alemite district manager.

5 7 4 4

General Configuration				
Area	Reservoir Capacity	Nozzle CFM		
5 7 Hazardous	2 3 Gallon Stainless Steel	1 1 CFM		
	4 5 Gallon Stainless Steel	2 2.3 CFM		
		3 4.3 CFM		
		4 9.7 CFM		
		5 13 CFM		
		6 21 CFM		

A B A 5

Electrical Configuration				
Control Voltage	Air Heaters	Control	Communication Module	
A 120 VAC	A 500 W	A Local PLC & HMI	4	None**
B 230 VAC	B 1000 W	C Other	5	Modbus
	C NONE			

**Dry set of contacts are standard

B A 1

Structural Configuration			
Mounting	Cabinet Options	Backup Generator	
B SS - NEMA 4X	A Cabinet Cooling	1	Yes
	D Purge	2	No
	E None		

U B 2

Accessories				
Certification	Refill Option	Others		
U UL	A Manual	1	None	
	B Auto	2	HMI Protective Cover	
	C Auto w/BST*			

*Wired for Alemite Bulk Storage Tank (BST) with Level Switch. BST sold separately.

Part No. Example:

5	7	4	4	-	A	B	A	5	-	B	A	1	-	U	B	2
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Hazardous location, 5 gallon SS reservoir, 9.7 CFM nozzle, 120 VAC control voltage, 1000 W air heater, PLC and HMI, Modbus communication, SS NEMA 4X enclosure, cabinet cooling option, Back-up unit, UL Listed for Class I Division 2 Groups B,C & D T4, auto refill, and HMI Protective Cover.

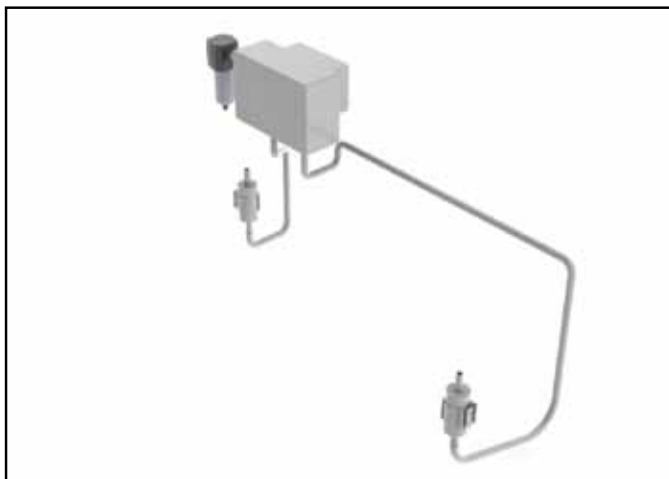
Options



Air Heater

Recommended option for locations where temperature could reach 0°F or lower. 1000W rated unit is used with 9.7 CFM nozzles or higher, and the 500W is used with 4.3 CFM nozzles or lower.

- Air heater, 120 VAC, 1000W - **Part#: 387849-1**
- Air heater, 120 VAC, 500W - **Part#: 387849-15**
- Air heater, 220 VAC, 1000W - **Part#: 387849-2**
- Air heater, 220 VAC, 500W - **Part#: 387849-25**



Cabinet Cooling Part No. 388027

Extremely useful and recommended option wherever the ambient temperature is more than 104 °F. The vortex cooling system conserves energy and maintains enclosure temperatures within a range of 80° to 90°F. Requires only a compressed air supply to operate.



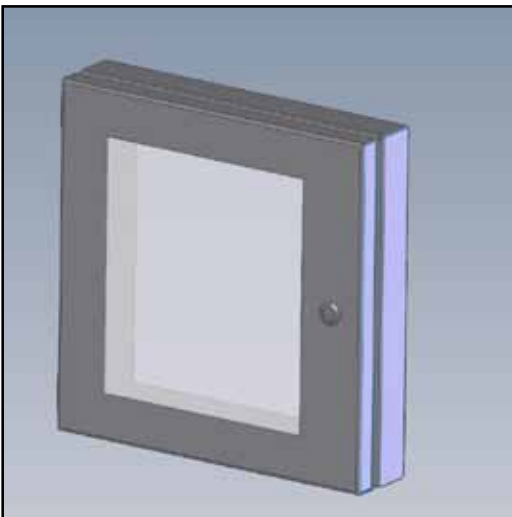
Cabinet Purge Part No. 388101

Recommended option for highly contaminated locations, system works by supplying compressed air at proper flow and pressure to eliminate or reduce entry of contaminants to the enclosure.



Auto Refill Option Part No. 387838

The auto refill assembly along with the bulk oil tank ensures that only clean filtered oil reaches the reservoir.



HMI Cover Part No. 388030

The HMI Cover offers additional protection to ensure long service time.



Modbus Communication Module Part No. 388175

Communication module link the PLC to automation system and allow easy access to native networks.

Accessories



Stainless Steel Mist Fittings

Mist fittings are used to meter the oil mist, and discharge the mist at friction points needing lubrication. Stainless steel fittings are recommended for refinery applications.

¼ in. OD tube and 1 /8 in. PTF (m)

Part No. CFM at 20 In water column

387603-2	0.08
387603-4	0.16
387603-6	0.24
387603-8	0.39
387603-10	0.49
387603-16	0.68



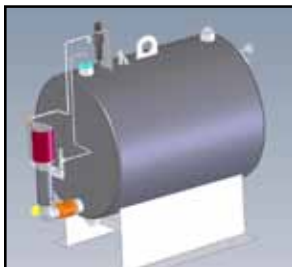
Stainless Steel Manifold Part No. 388236

Manifold is used to make easy connection between drop-off pipes and the equipment. Ports are ¾ NPT inlet and 1/8 side holes. The assembly features a drain valve with a push button for draining the sight glass.



Vent Collection Sight Glass Part No. 388241

The Vent Collection Sight Glass is used to collect coalesced oil from the bearing case exhaust. Ports are 3/8 NPT inlet and 3/8 OD tube fitting.



Bulk Oil Tank Part No. 388220

Recommended option for automated systems, this 110 Gallon tank ensures oil supply for prolonged time. It comes complete with pump, oil filter, level gauge, regulator, vent, and filling hole cover.



Oil Collection Container Part No. 388235

This container is used to collect coalesced stray mist. Ports are 6x ¼ NPT inlet, ½ OD tube exhaust and drain valve.

Mechanical Systems

Console

Height*	58.9 In
Width*	35.5 In
Depth*	37.6 In
Material	Stainless Steel
Enclosure Rating	NEMA 4X
Cabinet Cooling	Optional, vortex system
Cabinet Heating	Optional
Cabinet Purge Environment	Optional Class 1, Division 2, Groups B, C, and D, T4

Generator

Nozzle CFM	1, 2.3, 4.3, 9.7, 13, 21
Back-up	Available

Reservoir

Capacity	3 and 5 Gallons
Material	304 Stainless

Oil heater

Power	500 Watt
Nominal Temp.	100 °F
Temp. Range	80-140 °F

* Typical (with back up generator and 5 Gallon reservoir)

Air heater

Power	500 and 1000 Watt
Nominal Temp.	100 °F
Temp. Range	0-180 °F

Inlet Air

Nominal Pressure	85 psi
Pressure Range	70-150 psi
Quality	Instrument air

Regulated air pressure to generator

Nominal	30 psi
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Mist Pressure Head

Nominal	20 Inches H2O
Range	10-40 Inches H2O (depending on the nozzle size)

Bulk Oil Tank

Capacity	110 Gallons
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Electrical Systems

Voltage	120 VAC, and 240 VAC	Graphic Display	Temperature, pressure, and mist density trending
Current	20 A @ 120 VAC, 10 A @ 240 VAC	Security	Two level password access
Controller	Modular PLC platform	Mist Density	Quantifiable oil to air ratio
Annunciator	Touch screen color panel	Comm. Options	Dry Set of Contact is Standard. Modbus optional.
Control	Close loop PID control; temperature, pressure, and flow. Adaptive control mode	Display Languages	English
Analog Inputs	(3), 4-20 mA	Measurement Units	English and Metric
Digital Outputs	(7)		
Analog Outputs	(1)		
Digital Inputs	(1)		
Thermocouple	(2) inputs max		
Alarms	High/low ranges for oil, air temperature, mist pressure, mist density, and oil level in bulk oil tanks.* Leakage, blockage change in oil adjustment screw setting, and abnormality of any transducer operation.		

* When used with Alemite® Bulk Oil Storage System with Switch Option



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