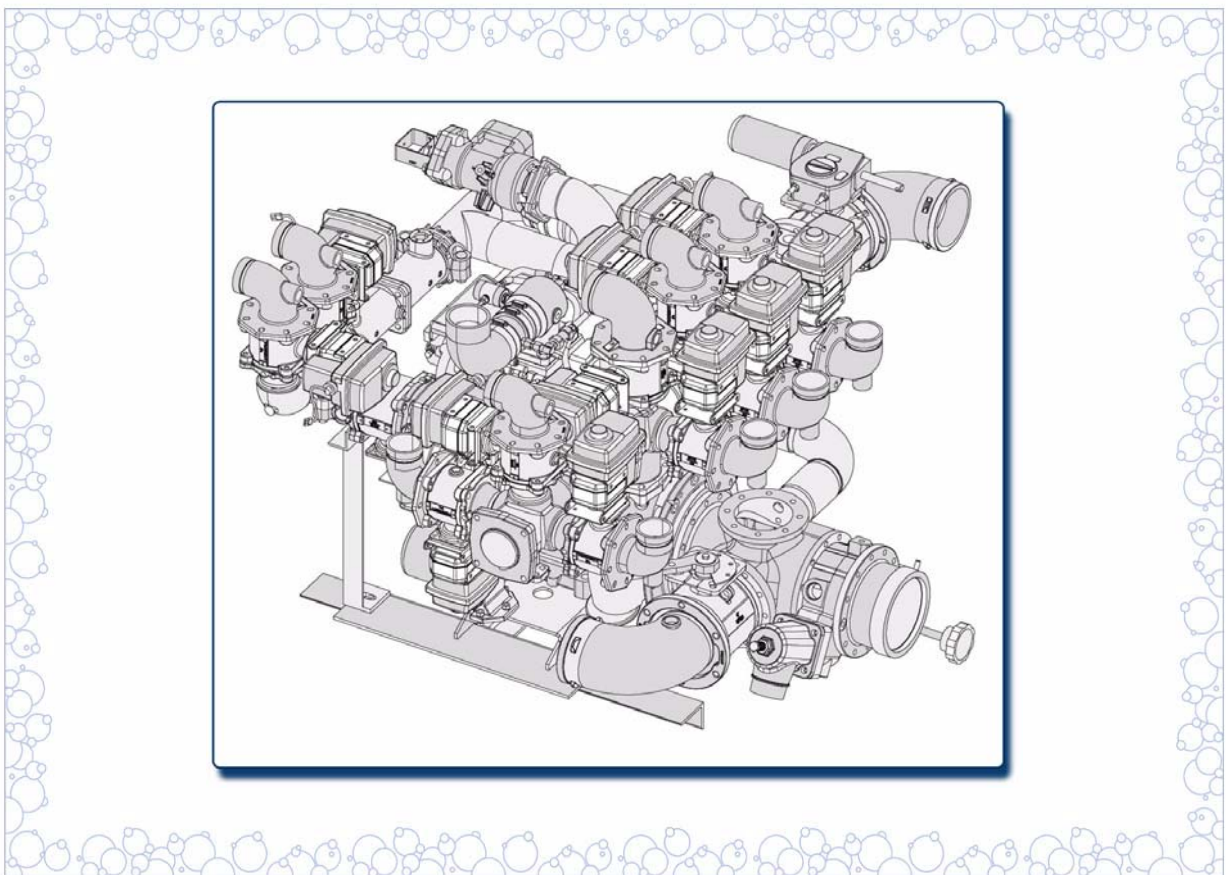




SMR-AC Addendum “A” Compressed Air Foam System CAFSPRO



Hale Products Inc. ♦ A Unit of IDEX Corporation
700 Spring Mill Avenue ♦ Conshohocken, PA 19428 U.S.A.
Telephone: 610-825-6300 ♦ FAX: 610-825-6440
Web.....www.haleproducts.com






NOTICE !

Class1 cannot assume responsibility for product failure resulting from improper maintenance or operation. Class1 is responsible only to the limits stated in the product warranty. Product specifications contained in this manual are subject to change without notice.

All Class1 products are quality components -- ruggedly designed, accurately machined, precision inspected, carefully assembled and thoroughly tested. In order to maintain the high quality of your unit, and to keep it in a ready condition, it is important to follow the instructions on care and operation. Proper use and good preventive maintenance will lengthen the life of your unit.

**ALWAYS INCLUDE THE UNIT SERIAL NUMBER
IN YOUR CORRESPONDENCE.**

ECO NO	REV	CHANGE FROM	BY	DATE	APVD	 HALE PRODUCTS, INC. A Unit of IDEX Corporation Conshohocken, PA 19428 USA			
0032	A	INITIAL RELEASE	LwH	07/29/2005	MAL			<small>DRAWN BY</small> LwH <small>ISSUE DATE</small> <small>CHECKED BY</small> PW 06/30/2005 <small>COPYRIGHT ©</small> <small>NOT TO BE REPRODUCED OR USED TO MAKE OTHER DRAWINGS OR MACHINERY.</small>	
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Addendum: SMR-AC Installation

This SMR-AC Installation Addendum is in addition to and is to be used in conjunction with the CAFSPRO Installation Guide, Hale p/n: 029-0020-78-0. Additional installation is required by the builder / installer as the Oil Separator Tank must be externally mounted, requiring additional plumbing.

A.1 UNPACKING

The SMR-AC CAFSPRO system is shipped primarily assembled on two skids. One skid contains the main SMR-AC CAFSPRO pump, manifold and valve assembly. The second skid contains the FoamLogix Pump Unit, Air Separator Tank, Gearbox, along with all supplied loose items.

Use care when removing the SMR-AC CAFSPRO from its packaging (skid) to prevent injury and/or damage to the system, especially the external system connections.



IMPORTANT!

EXERCISE CARE DURING UNPACKING AND INSTALLATION TO PREVENT INJURY AND/OR DAMAGE TO THE SYSTEM AND TO ENSURE THAT THE IDENTIFICATION TAGS ARE NOT REMOVED BEFORE THE CONNECTIONS ARE MADE.

DO NOT REMOVE OR ALTER ANY HYDRAULIC OR PNEUMATIC CONNECTIONS WITHOUT WRITTEN APPROVAL FROM HALE PRODUCTS. ALSO SEE SECTION "1 SAFETY PRECAUTIONS" BEGINNING ON PAGE 7.

Lifting the System



WARNING !

THE SMR-AC CAFSPRO PUMP SYSTEM IS HEAVY AND BULKY, POSSIBLY WEIGHING OVER 2,000 LBS. (907 KGS.). CHECK BILL OF LADING FOR APPROXIMATE WEIGHT. USE PROPER LIFTING SUPPORT DEVICES (OVERHEAD CRANE, STRAPS/CHAINS, ETC.) CAPABLE OF HANDLING THE LOAD WHEN MOVING OR INSTALLING THE SYSTEM.

DO NOT ATTACH LIFTING APPARATUS TO THE SYSTEM MANIFOLDING. ATTACH DIRECTLY TO THE FRAME.

WARNING - continued !



PLACE A BRACE, APPROXIMATELY 3' (1 METER) BETWEEN THE LIFTING STRAPS / CHAINS TO PREVENT APPLYING EXCESSIVE PRESSURE TO THE MANIFOLDS AS THE SYSTEM IS LIFTED INTO PLACE. APPLY A STRAP AROUND THE FRONT SUCTION INLET AS SHOWN TO DEVELOP A THREE-POINT LIFT, MAKING SURE THE SYSTEM IS BALANCED. ALSO SEE FIGURE A-1: "LIFTING THE SMR-AC SYSTEM (THREE-POINT LIFT)."

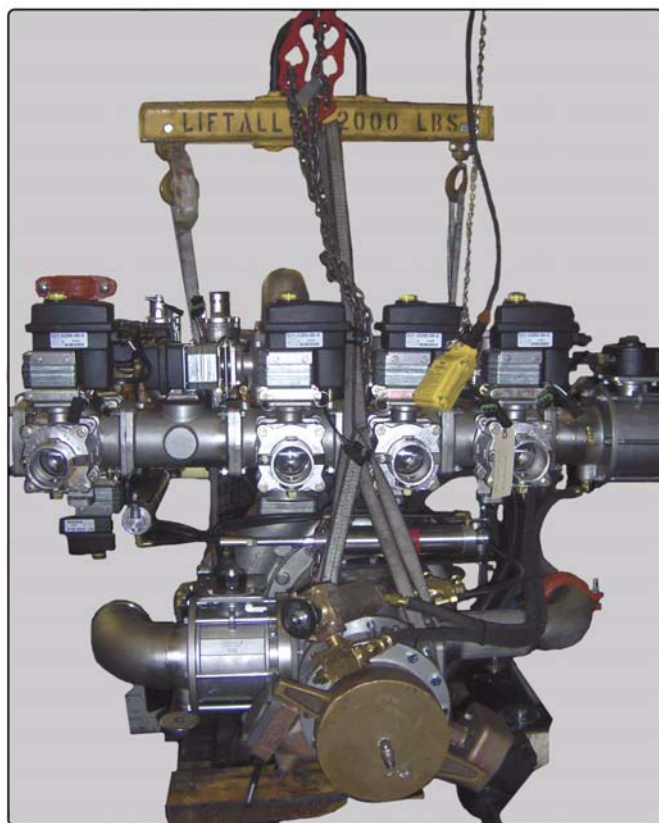


Figure A-1: Lifting the SMR-AC System (Three-Point Lift)

A.2 SMR-AC SYSTEM MOUNTING

SMR-AC CAFSPRO Main Pump System Assembly

When installing the SMR-AC CAFS System to the apparatus chassis, use accepted practices for mounting. Review previous Section 3 "Receiving and Inspection" beginning on page 13. Also see Figure A-2: "Shock Mounting" on page 53.

Whether mounting directly to the chassis, or constructing a separate bracket, accepted brackets must be used. Shock absorption is provided and must be included in any mounting modification. (See Figure A-2: “Shock Mounting.”)

All mounting brackets must be constructed from structural angled steel, having minimum dimensions of 4” x 36” x 1/2” (102 x 914 x 13 mm). **Use minimum 5/8”, Grade 8 bolts with flat washers and lock nuts.**

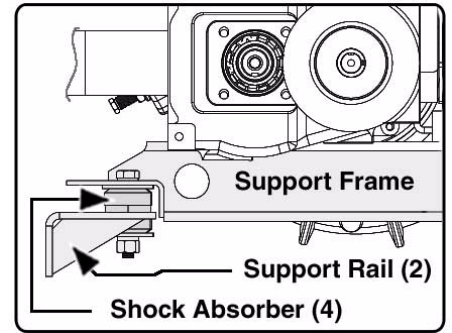


Figure A-2: Shock Mounting

Installation diagrams are located at the back of this manual to assist with overall dimensions and clearances required for the various mounting configurations. Also see Section “Drawing Package” beginning on page 67.

Oil Separator Tank Assembly

Mount the oil separator tank assembly at a convenient and accessible location, enabling a clear view of the oil level sight gauge and oil fill cap. (See Figure A-3: “Separator Tank Mounting Bracket.”).

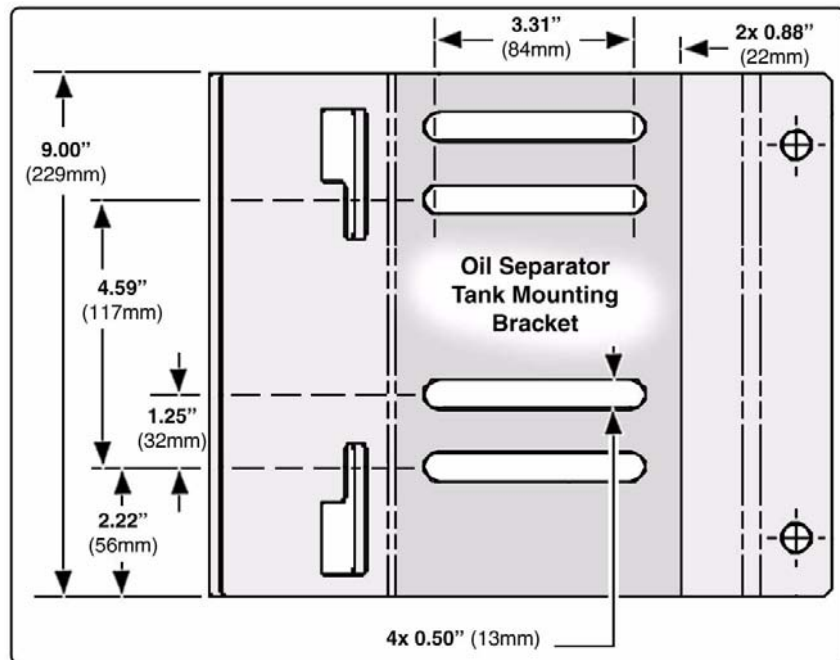


Figure A-3: Separator Tank Mounting Bracket

Attach female eye-bolts, 12 mm, to the top cross bracket mounting studs for lifting. Mount the separator tank having the inlet port slightly **BELOW** the compressor discharge port to ensure back-flush does not enter the compressor, which would severely damage the unit. (See Figure A-4: “Lifting Separator Tank.”)

Mount the tank using 7/16”-14, Grade 8 screws, flat and lock washers and nuts. For a separator tank mounting overview schematic, see Section “Drawing Package” on page 67.



Figure A-4: Lifting Separator Tank

Panel Strainer, Water Cooling

For mounting instructions, see Section 4.4 “Panel Strainer” on page 21.

A.3 PLUMBING CONNECTIONS

(See Figure A-5: “Overview, SMR-AC System Connections,” on page 55.)

The following connections are made by the system builder/installer:

- ☐ Truck air to solenoid manifold
- ☐ Gearbox cooler return line to booster tank
- ☐ Pressure lines (3/8” tube) to PM control
- ☐ Control line (3/8” tube) from PM control to sensing valve
- ☐ Switch and truck air to pump master drain
- ☐ Water and air to duplex master gauge
- ☐ TRV electrical and discharge connections
- ☐ TPM electrical connections

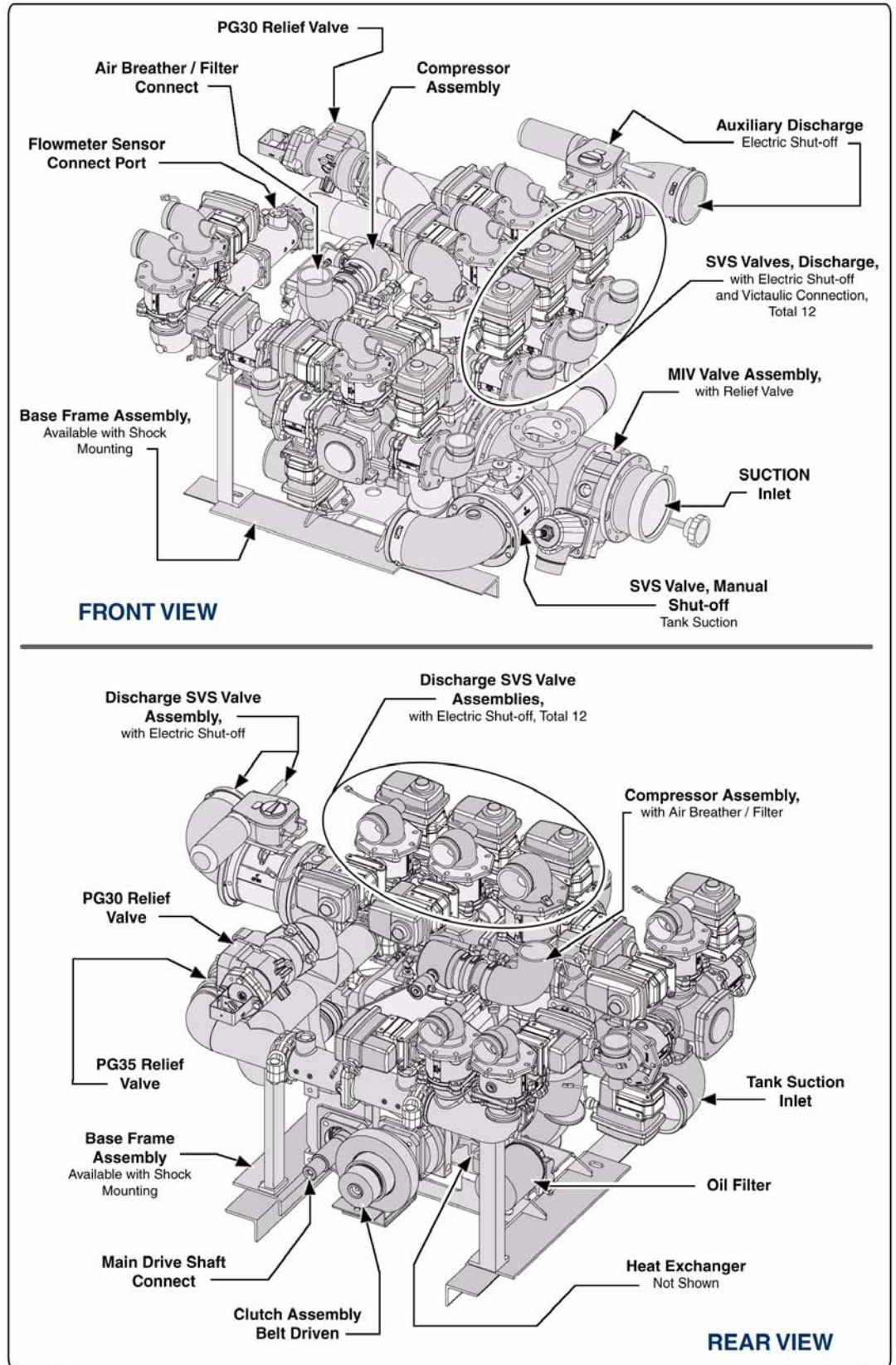


Figure A-5: Overview, SMR-AC System Connections

A.4 OIL SEPARATOR TANK

For a general overview of the oil separator tank connection, see Section “Drawing Package” on page 67. (See Figure A-6: “Separator Tank Installation Overview.”)

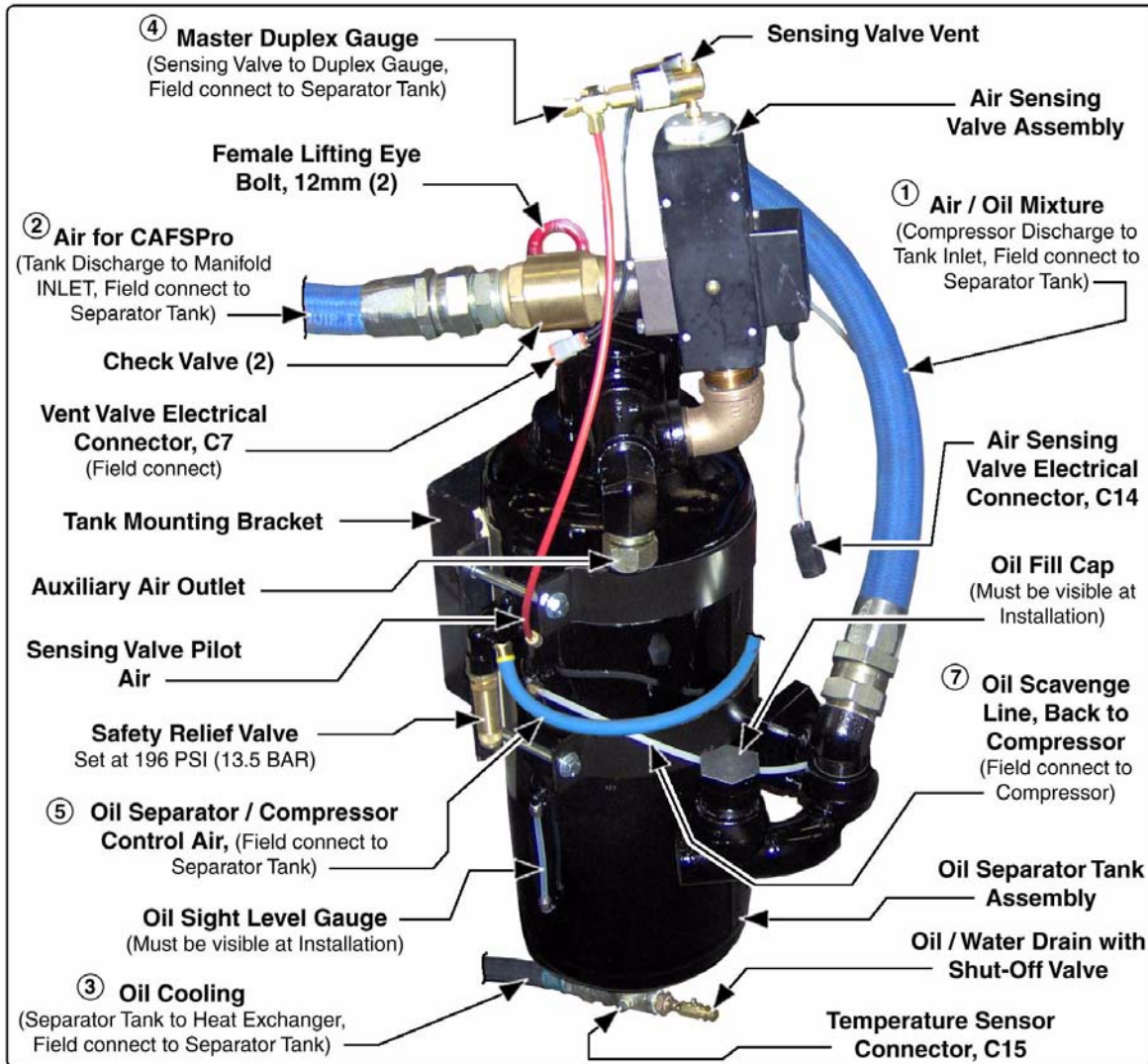


Figure A-6: Separator Tank Installation Overview

The following connections are made by the system builder/installer:

- (#1) Compressor discharge air / oil mixture to oil separator tank INLET.
Use 1-1/2" (38 mm), wire reinforced hose. For example, Aeroquip FC350-24. (See Figure A-6: “Separator Tank Installation Overview.”)
- (#2) Oil separator tank DISCHARGE to CAFSPRO manifold (air INLET).

Use 1-1/4" (32 mm), wire reinforced hose for maximum air flow. For example, Aeroquip FC350-20.

Note: Two check valves are provided in this discharge line to ensure water is not back-flushed into the oil separator tank.

- (#3) Oil separator tank DISCHARGE to heat exchanger.

Use 7/8" (22 mm), wire reinforced hose. For example, Aeroquip FC350-16. (See Figure A-6: "Separator Tank Installation Overview," on page 56.)

- (#4) Air sensing valve to duplex gauge.

Use DOT approved red 1/4" (6 mm) tubing

- (#5) Oil separator tank to compressor control line.

Provided - 3/8" (10 mm), wire reinforced high pressure hose. For example, Aeroquip FC332-06.

- (#6) Oil separator tank "discharge" air feed to air filter line (blow-down line). (See Figure A-7: "Depressurizing Valve Assembly.")

Use DOT approved low pressure tubing (1/4" / 6 mm).

- (#7) Oil separator tank to compressor, oil scavenge line. Use DOT approved air supply tubing. (See Figure A-6: "Separator Tank Installation Overview," on page 56.)

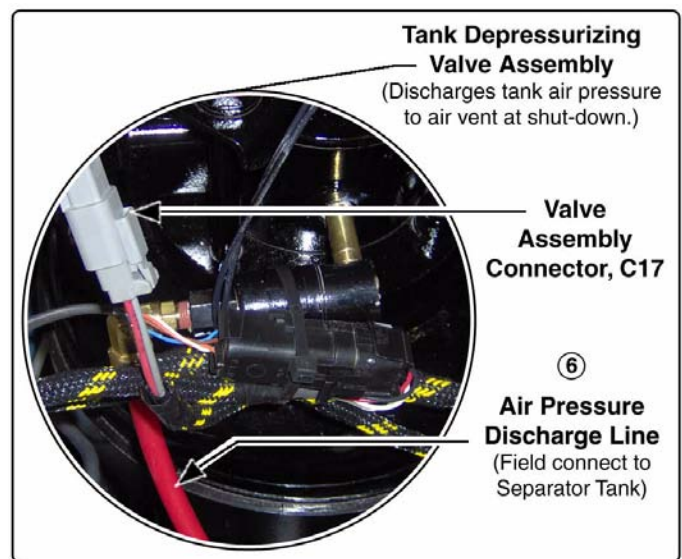


Figure A-7: Depressurizing Valve Assembly

- Oil / water separator tank drain and shut-off valve.
- An auxiliary air outlet for rescue tools and testing is provided. A fitting is available, with JIC cap, on the outlet of the separator tank.

Remove the protective cap, and install an appropriate hose. Use 3/4" (19 mm) to 1" (25.4 mm), wire reinforced hose for maximum air flow. For example, Aeroquip FC350-16, 1" (25.4 mm) wire reinforced hose.

A quick disconnect and ball valve should be installed on the panel, as required.

Note: A minimum 1" (25.4 mm) connection is required to test the system per NFPA standards.

A.5 AIR FILTER

For reliable operation, the CAFS air filter must be located in a clean, fresh-air environment, usually in the dunnage area above the pump compartment.

DO NOT damage the filter during assembly and be sure the mounting area offers protection.

Mount the air filter 6" (152 mm) MINIMUM above the decking platform to prevent standing water from being sucked into the filter and possibly back into the system. (See Figure A-8: "Typical Air Filter Installation," on page 58.)

Use 3" (76.2 mm) CPVC pipe and rubber connections. Support the piping with brackets as needed.

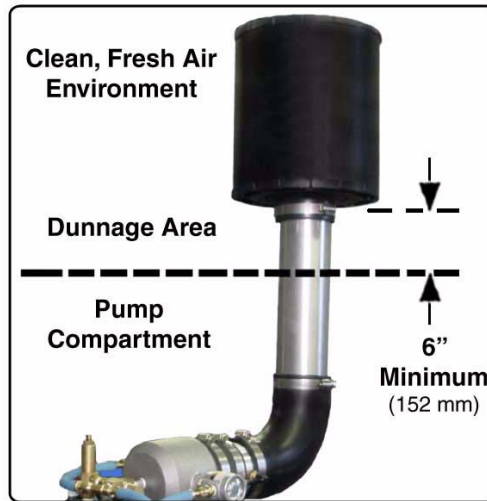


Figure A-8: Typical Air Filter Installation

A.6 ELECTRICAL CONNECTIONS

Harness Connections

To	From	Connector Number
Separator Tank	Air Sensing Valve	C14
	Vent Valve	C7
	Oil temperature Sensor	C15
	Oil Salvage (Blow-Down)	C17
Gearbox	Pump Engaged Switch	C9
	Tachometer Sender	C13
Labeled	Apparatus Power	C16

Table A-9: Harness Connections

(See Figure A-6: “Separator Tank Installation Overview,” on page 56.) Also see Figure A-7: “Depressurizing Valve Assembly” on page 57.

A.7 FLUID LEVELS

To meet various shipping regulations, oil within the pump gearbox and separator tank assemblies is drained prior to shipping from the factory.



IMPORTANT !

AT INSTALLATION AND BEFORE OPERATION, ALL FLUIDS MUST BE ADDED TO THE APPROPRIATE LEVELS.

Before operation, refill and check as necessary -

- Separator tank - see page 35.
- Hot shift clutch option - see page 36.
- Pump gearbox reservoir - see separate pump service manual.

