

Diesel Marine Engines

The Challenge

A Chicago based transportation and sightseeing company was experiencing difficulties maintaining their fleet of water craft due to ineffective crankcase ventilation systems installed on their John Deere 4045 engines. In addition to expensive change outs every 200-300 hours (1-2 months), the oil mist carryover and bypass from their existing system caused maintenance problems with alternators and would also cover the engine room floors and walls with oily residue, creating potential safety hazards for employees. Extending the service interval to a full season and reducing overall maintenance costs were the key drivers for improvement and the operator looked to Solberg for a solution that would help them meet their maintenance objectives.

The Solution

Solberg offered its ACV Series Advanced Crankcase Ventilation System as a solution to both regulate engine crankcase pressure and remove harmful oil mist emissions that could damage the turbo or bypass their existing unit and vent into the engine room. Solberg also replaced the original engine intake air filter with a complete the crankcase ventilation system upgrade.

Results

With the ACV retrofit, the operator was able to extend their maintenance interval from 1-2 months to an entire year before requiring a change out. In addition, the alternator issues were solved and the engine rooms made much safer as the oil mist is no longer accumulating on the floors and equipment.



Rev: JD4045-US1905K

Solberg Products Provided

ACV-1-5-100L Advanced Crankcase Ventilation system

ACV Accessory Components consisting of clear vacuum-rated drain hose, hose barbs, and check valve.

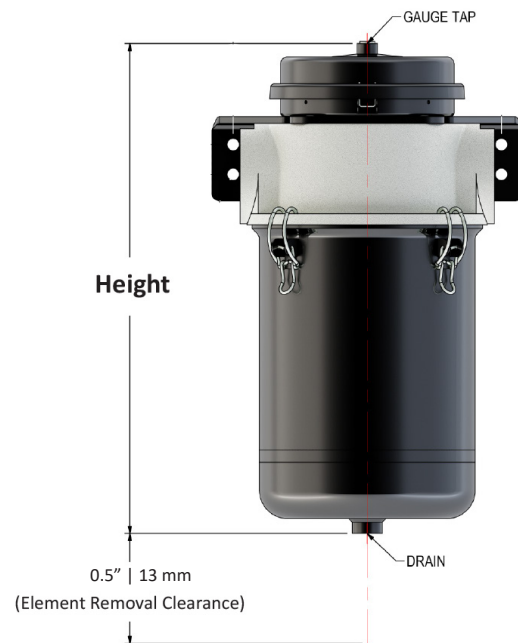
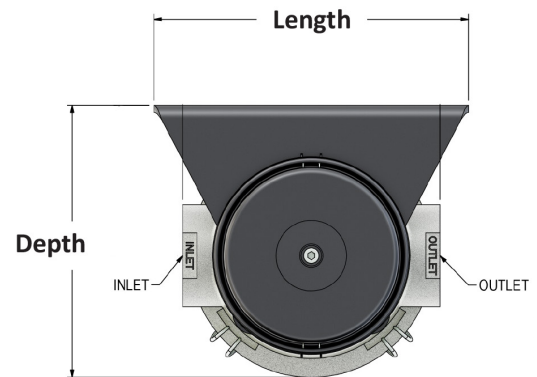
FT-235-400T Engine Intake Air Filter

The Product

The ACV is designed to protect your engine's turbo, coolers, and inlet air filters as well as help ensure environmental compliance while keeping engine rooms clean, safe & free of oil mist. The series comes standard with industry leading automated vacuum control technology to regulate crankcase pressure and prevent seal leakage. The replaceable filter element contains a proprietary media pack offering exceptional efficiency levels with an extremely long life, allowing operators up to one year before an element change is required.

ACV Design Features

- Eliminates visible emissions (99%+ efficient at 0.3 um)
- High performance coalescing elements offer long life
- Flow ranges from 2 - 40 CFM (3 - 68 m³/hr) for single units
- Integrated vacuum control valve controls precise range of vacuum
- Diaphragm vacuum regulation valve design, no springs; No manual vacuum adjustment required
- Drain port for oil recovery
- Universal mounting bracket
- Available with installation kits
- Optional atmospheric bypass



PART NUMBER	ACV-1-5-100L
INLET/OUTLET	1" NPSC
DRAIN	.5" NPSC
GAUGE TAP	.25" NPSC
FLOW RATE	5 CFM 8 m ³ /hr
HEIGHT	16.6" 421 mm
LENGTH	4.5" 114 mm
DEPTH	9.1" 230 mm