



GLACIER[®]

PURIFICATION SYSTEMS

www.glacierindustrial.com

Model ACS 900

2 GPM at 60 PSI
900cc Dirt Capacity

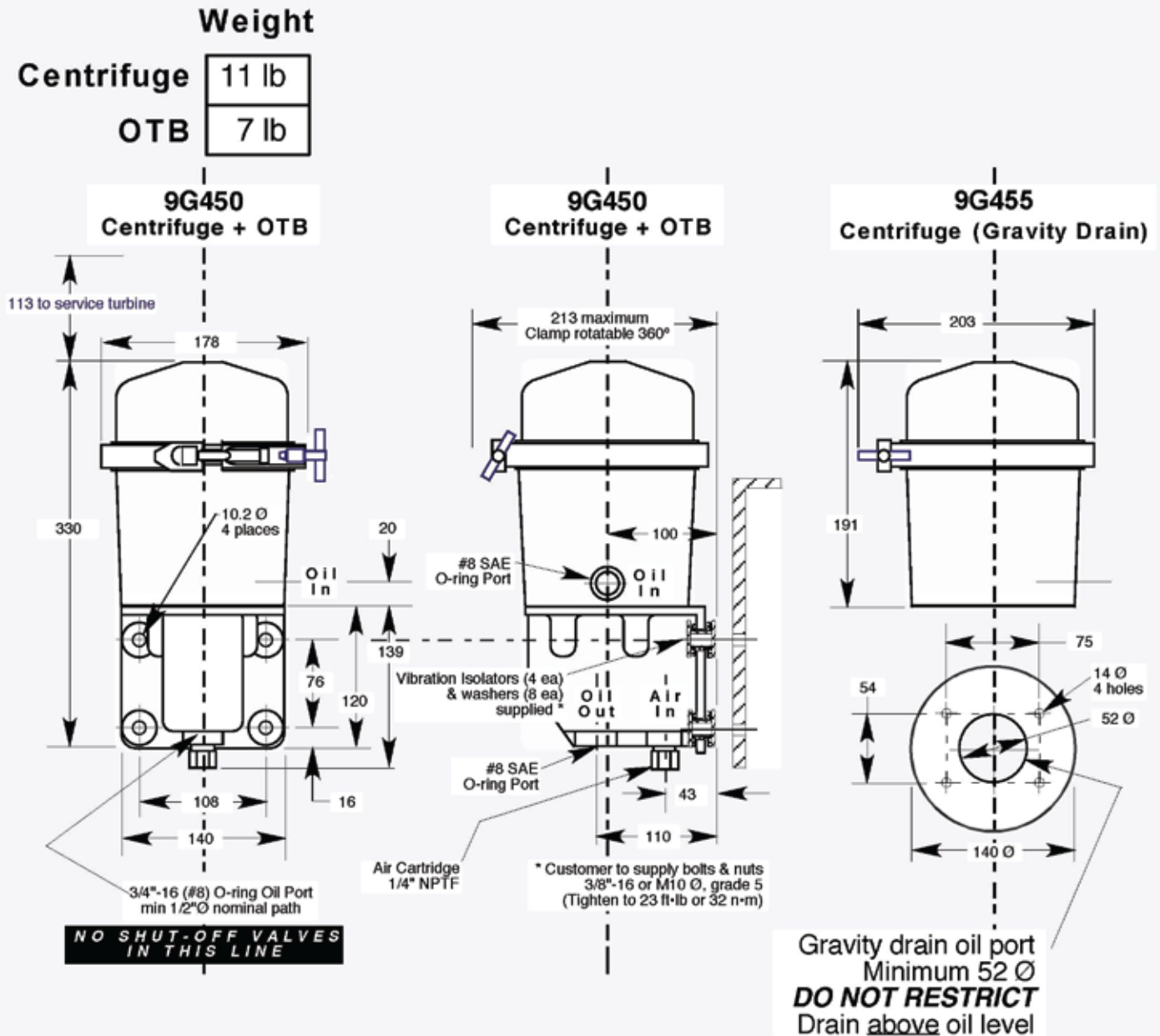
Installation Instructions
Parts List
Service Instructions



Service & Install

ACS 900 Centrifuge

— Installation Dimensions —



ACS 900 Centrifuge

— Installation Instructions —

Oil Supply to Centrifuge

Oil for the centrifuge should come from the source with the highest pressure and temperature, typically just downstream of the lube oil pump. Use a 1/2" nominal (#8) hose for the supply conduit installing a full-opening ball valve at the inlet, allowing service while avoiding engine or system shutdown. Preferred inlet pressure is 60 to 80 psig, but the ACS 900 centrifuge will operate effectively at 40 to 100 psig (2.7 to 6.5 bar). Below 35 psig, the internal idle cut-out valve will close, preventing oil demand during low speed operation of the supply pump.

Clean Oil Return to Sump

Gravity Drainage (tank top mount or into engine sump): For gravity-drain installation the PN 9G455 centrifuge must be close-coupled to the sump with an unrestricted 50 mm Ø I.D. drain; this drain must return fluid above the fluid level. The drain line must be level or sloped downward from the centrifuge outlet, free of sharp bends or traps. On an engine, a modified crankcase door can provide both a functional sump drain and centrifuge mounting. Be sure the sump side of the drain opening is clear and that the drain oil does not impinge on moving parts of the engine. Securely mount the centrifuge using four 3/8" bolts & seal-washers (for example, Parker Stat-o-Seal PN 600-0101-3/8). Special mounting assemblies and installation kits are available from Glacier.

Oil Transfer Base (for remote mounting of centrifuge):

The air-operated control of the Oil Transfer Base (OTB) in PN 9G450 centrifuge allows installation of the ACS 900 centrifuge onto a truck framerail or bracket at a location convenient for service of the unit, preferably above the sump level. Mount the centrifuge to the OTB using four 3/8" capscrews and washers (see PN XG084). Securely mount the centrifuge-OTB assembly using four bolts & nuts of your choice. Use a minimum length of #8 hose for the clean oil drain line to return oil to the sump. A smaller return path Ø will hinder centrifuge performance.

The return oil connection point may be an oil fill openings, existing ports shared with a sump drain function or a special port attached to the sump. If the centrifuge-OTB is positioned below the oil return point use a 1/2" Ø swing type or low-opening pressure check valve to prevent fluid backflow during centrifuge service.

Shut-off valves must NEVER be used in the return path of an OTB-equipped centrifuge.

OTB Air Supply Requirements:

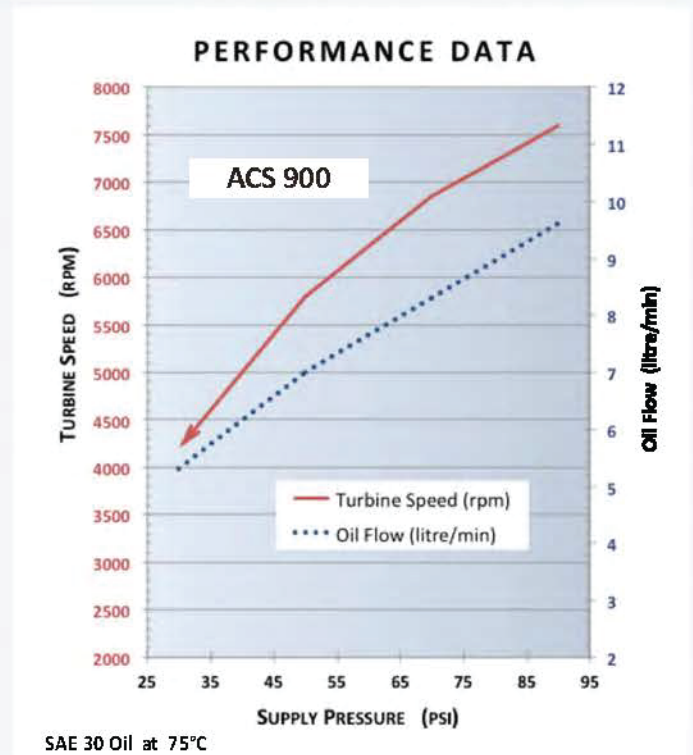
The float & valve system in the OTB maintain proper oil level for maximum centrifuge speed and efficiency. Compressed air to operate the OTB can be obtained from any air source less than 90 psi. The 0.02 SCFM air consumption is nearly too small to measure.

For all OTB installations where high-pressure sources are used, Glacier Purification Systems recommends use of the XG082 air regulation kit. This regulates air supplies up to 400 psi, making it practical for engines using air starters. The kit includes a pre-filter on the inlet.

In the absence of compressed air, it may possible to use engine turbo boost as a supply; in this case, the OTB will perform properly when the boost pressure exceeds 2 psi. For details explaining this alternative air source contact Glacier.

Mechanical Considerations

The ACS 900 centrifuge is a high speed device & should be securely mounted to prevent excessive vibration. Operation up to 15 degrees from vertical is permitted. Pump/motor units can be matched to supply pressurized oil to the centrifuge when a supply source is unavailable; in that case, contact Glacier for more details.



ACS 900 Centrifuge

— Service Instructions —

ACS 900 — Routine Service Instructions

1. Shut off oil supply & allow centrifuge turbine assembly to come to a complete stop.
2. Make certain interior of centrifuge is not pressurized; if unit is under pressure, locate the source and remove before proceeding. Check especially for unauthorized shut-off valves in the drain line and remove if found.
3. Loosen clamp T-Handle, PN 9G466 (turn in CCW direction) and remove centrifuge cover PN 9G465; if cover is "sticky", twist a coin or screwdriver in the gap with the housing and release the cover.
4. Partially withdraw turbine assembly PN 9G479 from the housing PN 9G468, rest at angle on the spindle & allow oil to drain from nozzles into the OTB and cool.
5. Loosen the turbine bowl nut, PN 9G478, two full rotations. Do not fully remove nut. Invert the turbine assembly on a wooden tool bench and dislodge the centrifuge bowl by impacting the still-assembled nut and assembly on the work surface. With a proper "impact", the bowl will be heard to be loose from the base.
6. Remove the bowl nut from the base, and separate the turbine assembly into three sections: the bowl, the baffle and the turbine base (PN 9G477).
7. Remove the paper insert & dirt cake from the bowl. Clean bowl with solvent or fuel and discard used insert; ensure all surfaces of bowl, baffle and turbine base are clean and free of debris.
8. Reposition baffle into the turbine base, ensuring it seats evenly onto the base.
9. Replace bowl o-ring seal on outer edge of baffle.
10. Fit fresh paper insert (PN 9G461) into the bowl.

Note: If bowl cleaning is neglected, dirt may over-fill the bowl, making baffle removal and/or service very difficult. The turbine assembly may be secured for dismantling by placing it onto the hexhead of a 3/4" capscrew (use hex recess in 9G478 base bottom).

11. Re-assemble the turbine components by replacing bowl/insert onto the baffle-seal-base, and tighten the nut by hand. Use no tools, since the nut will self-tighten during operation. Confirm bowl is evenly seated onto base: the rim of the bowl will extend slightly beyond the base bottom.
12. Reposition turbine assembly onto centrifuge spindle and confirm it spins freely.
13. Replace the cover o-ring seal, PN 9G463.
14. Reposition centrifuge cover onto housing and reinstall clamp assembly. Tighten clamp T-handle by hand. Use no tools. This clamp must be securely fitted during operation of the centrifuge.

ACS 900 — Long-Term Maintenance

1. Examine spindle journals for damage or excessive wear. If excessive wear or play is evident (greater than 0.010 inches clearance on either journal bearing), the housing assembly should be replaced. Depending on conditions, wear can also occur on the turbine base bearings, requiring replacement of base.
2. Inspect the idle cut-out valve assembly and mating bore in the filter base. The piston should move freely in the bore. Correct problems or reinstall new parts by use of repair kit PN 9G467.
3. When OTB is used, check the control mechanism by using a thin wire with a hook formed on one end to engage the float arm on the bracket side. Raise the float with this wire hook. Air should flow into the OTB through the air cartridge. Air flow should stop when the float is lowered. If air control is defective, replace air cartridge or float assembly as diagnosis reveals.

Note: All centrifuge turbines are correctly balanced before leaving the factory. An out-of-balance condition can occur as a result of uneven build-up of dirt in the bowl or as a result of excessive bearing or spindle journal wear.



ACS 900 Centrifuge

— Parts Index —

Part Number Description

Centrifuge Systems

9G450	ACS 900 Centrifuge w/ Integral OTB
9G455	ACS 900 G Centrifuge

Rotating Components

9G479	Turbine Assembly
9G474	Turbine Bowl Nut
9G475	Bowl-centrifuge
9G461	Insert, Turbine, pkg of 50
9G476	Baffle, outlet
9G460	O-Ring, Turbine, viton®
9G477	Turbine Base
9G478	Nozzle, Turbine (2 gpm, Chrome color)
9G480	Nozzle, Turbine (1 gpm, Gold color)

Centrifuge Housing & Base

9G465	Cover, centrifuge
9G463	O-Ring, Centrifuge Cover, viton®
9G466	Clamp, cover
9G468	Housing Assembly
9G467	Cut Out Valve Kit
9G481	Seal-Cut Out Valve
9G462	Gasket, base, gravity drain

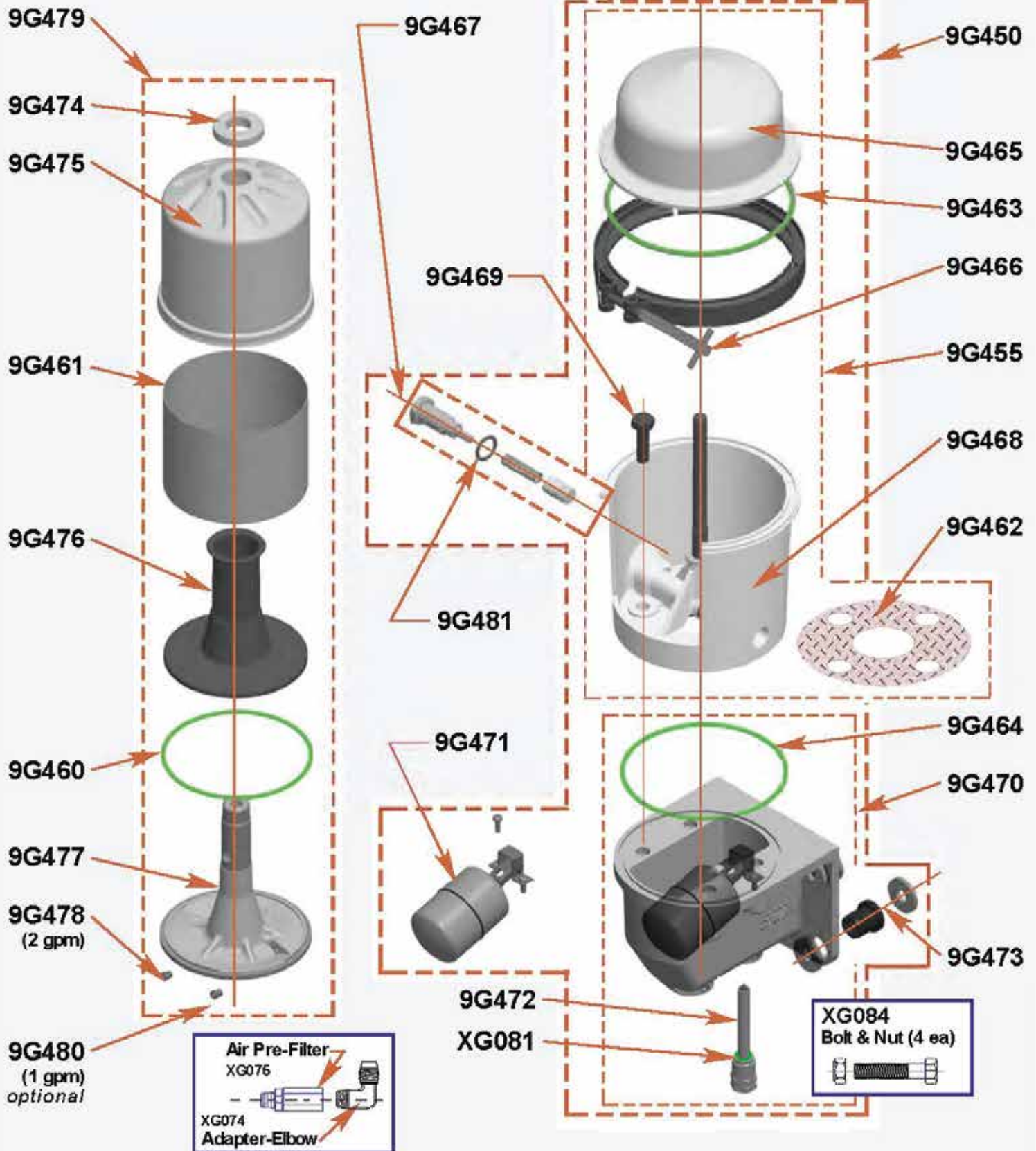
Oil Transfer Base (OTB)

9G464	O-Ring, Oil Transfer Base, viton®
9G470	Oil Transfer Base #2
9G473	Isolator Kit, vibration (4 ea) w/washer (8 ea)
XG084	Capscrew & Lock Nut (4 ea)
XG081	Washer Seal
9G472	Cartridge, Air Valve & Washer Seal
9G471	Float Assembly
9G469	Capscrew, hexhead, M10x35 (4 ea)

Air Supply Items

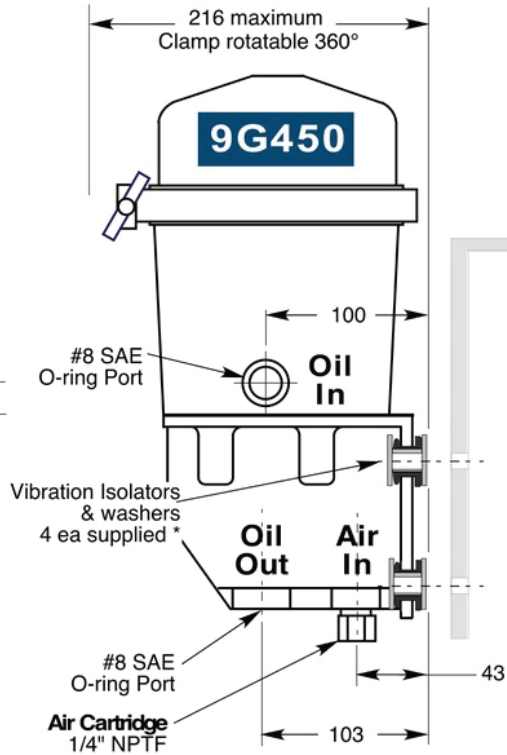
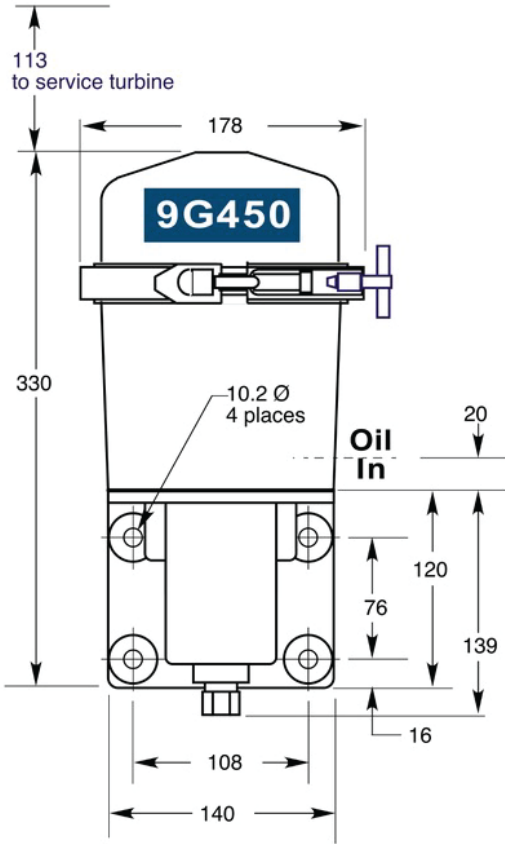
XG075	Air Pre-Filter
XG074	Adapter, elbow, JIC to pipe

ACS 900 Parts Explosion



Request document "ACS 900 Service & Installation"

ACS 900 Centrifuge



All DIM's in metric (mm)

* Customer to supply bolts & nuts 3/8"-16 or M10 Ø, grade 5 (Tighten to 23 ft·lb or 32 n·m)

Installation Practice

Ensure Optimum Operation

- 1-Oil supply and return hoses, minimum internal diameter 10.4 mm
- 2-Use SAE JIC fittings for all hose ends
- 3-Oil supply from #8 size port preferred, use highest pressure, hottest oil
- 4-Oil return to #8 size port preferred
- 5-Air supply max 90 psid, min. 3 psid; turbo boost may be used
- 6-Air cartridge has special seal-washer to prevent air leakage. Do Not Remove during installation.
- 7-NO Shut-off valve allowed in oil return line

Mounting Methods

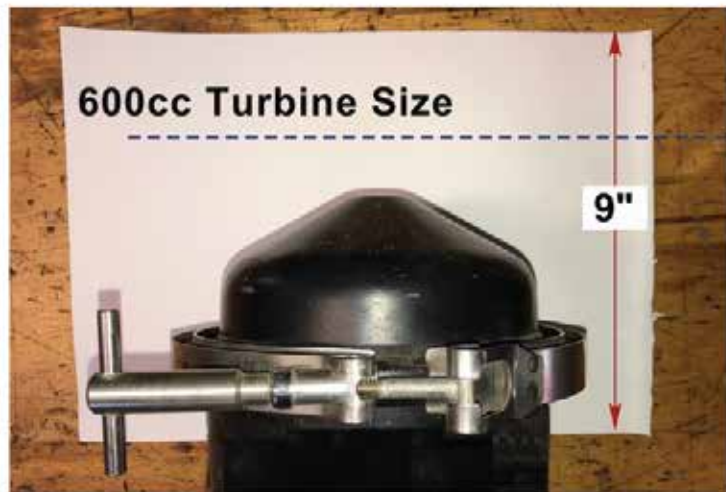
- 1-Unit is designed to be flush-mounted against bracket or truck framrail; ensure clamp clears any surface to the rear to allow disassembly.
- 2-Unit will operate properly when inclined as much as 10° from vertical.
- 3-Use supplied vibration isolators and two washers each as shown, with recommended fastener torque.



Glacier
Purification
Systems
Eureka, MO USA

ACS 900 Guidelines for Installation	
date © 8 Nov 15	dwg ACS 900 Install Guide

TRUCK CENTRIFUGE VERSIONS



Part Number

T-Clamp Type: 2Q185

3-Lobe Knob Type: 2Q180 (not shown)



Part Number

T-Clamp Type: 9G950 (*current production*)

3-Lobe Knob Type: 2Q190 (not shown)