



Technical Bulletin

ENGINEERING

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PVV PUMPS

Application Guidelines

The following information should be considered when applying Oilgear PVV Pumps. These guidelines are to be used to help design systems for continuous duty. Please consult the Oilgear Technical Sales Department when application and/or system requirement vary (even) slightly from the following.

Specifications (Also See "Additional Notes")	PVV 200	PVV 250	PVV 440	PVV 540
DRIVE Maximum rpm Flooded Inlet (suction) Supercharged Inlet Minimum rpm Flooded Inlet (suction) Supercharged Inlet Torque to turn shaft (ft. -lbs.) ** Consult Oilgear Tech. Sales Dept.	 1800 1800 600 600 14	 1800 1800 600 600 14	 N/A 1500 ** N/A 600 36	 1200 1500 ** 600 600 36
Inlet Pressure (psia) 1800 rpm 1500 rpm 1200 rpm ** Consult Oilgear Tech. Sales Dept.	 14.3 10.8 8.0	 14.7 11.5 10.0	 N/A ** 29	 - ** 11.1
Output Pressure (psi) Maximum Peak (See "additional notes") Continuous Minimum Minimum Volume (gpm) @ rated pressure, and indicated speed for full displacement Pumps should not be run at neutral for more than 30 consecutive minutes. For longer times, a 10% minimum stroke should be maintained.	 6500 6000 100 86 @ 1800 rpm	 5800 5000 100 109 @ 1800 rpm	 7250 6500 100 125 @ 1200 rpm	 5800 5000 100 155 @ 1200 rpm
Case Maximum Pressure psi w/Std. Shaft Seal Minimum Drain Size (inch tube)	 25 1.25	 25 1.25	 25 1.5	 25 1.5

Orientation: See Oilgear Service Instructions Bulletins 947027, 947028, or 947029 for horizontal mounting.
 See Oilgear Service Instruction Bulletin 90014 for vertical mounting.



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Specifications (Also See "Additional Notes")	PVV 200	PVV 250	PVV 440/540 "A" Series	PVV 540 "B" Series
<p>Control</p> <p>Minimum Pilot Pressure (psi) for Volume Controls (VM, VS & RU)</p> <p>Maximum Pilot Pressure (psi) for Volume Controls (VM, VS & RU)</p> <p>Stroking Rate (msec.) at rated pressure Pressure Controls (minimum)* On Stroke Off Stroke</p> <p>Volume Controls (VM, VS & RU) with minimum control psi On and Off stroke</p> <p>* Fastest possible time; stroking times may be Slower, depending on conditions.</p> <p>Consult Oilgear Technical Sales Department.</p>	<p>700</p> <p>1000</p> <p>140 100</p> <p>375</p>	<p>700</p> <p>1000</p> <p>140 100</p> <p>375</p>	<p>500</p> <p>1000</p> <p>N/A/300 N/A/100</p> <p>375/375</p>	<p>700</p> <p>1000</p> <p>350 100</p> <p>270</p>
<p>Fluids Also see "Additional Notes" for filtration and contamination levels. Mineral oil fluids shall include an anti-wear package</p> <p>Viscosity SSU Minimum Maximum</p> <p>Operating Temperature (F°)* Inlet Maximum Minimum Case maximum</p> <p>* Minimum and maximum viscosity should be observed.</p>	<p>80 2000</p> <p>160 -20 210</p>	<p>80 2000</p> <p>160 -20 210</p>	<p>80 2000</p> <p>160 -20 200</p>	<p>80 2000</p> <p>160 -20 200</p>



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ADDITIONAL NOTES

Inlet

1. Pumps mounted above the reservoir must be arranged to insure pump will "prime" when started. PVV-440 is available for supercharged service only.
2. When supercharging:
 - a) Maximum allowable supercharge pressure is 200 psi.
 - b) Volume must be sufficient to maintain inlet pressure.
3. For low viscosity and HF water based fluids consult factory.

Outlet

1. Peak Pressure:
The unit can be operated at peak pressure for 1% or less of every minute.

Case

1. **Drain**

- a) Fill case with fluid before starting
- b) Arrange case drain line to keep case full of fluid
- c) Use a minimum of bends returning case drain line to reservoir below minimum fluid level.

2. **Orientation**

Pump orientation is not restricted. But, case drain must be arranged to **keep** case **full** of fluid at all times. See Oilgear Service Bulletin 947027, 947028 or 947029 for horizontally mounted units. *For vertically mounted units, see Bulletin 90014 "Service Instructions, Installation of Vertically Mounted Axial Piston Units".*

Control

1. Case bleed of 2 gpm is recommended for volume controlled pumps and/or pumps hydraulically remote controlled. Note: A bleed orifice is incorporated internally on all VM, VS, & RU controlled pumps.

Fluid

1. **Filtration**

- a) At least 1/3 of pump volume must be filtered with an element having a B₁₀ (c) = 200.
- b) All fluid to a swing-plate servo valve control must be filtered with an element having a B₁₀ (c) = 200
- c) All fluid to other servo valve controls must be through a B₁₀ (c) 200 element.

2. **Maximum** contamination level of ISO (c) 20/18/15 and 0.1% of maximum of water.

3. Pumps must be run with anti-wear type mineral oil.

4. For low viscosity and HF water base fluids consult factory.

Start-up

1. Priming - Provisions must be made to bleed air from the high pressure lines.