Technical Bulletin
PVWJ PUMPS
Application Guidelines

ENGINEERING

				A-Frame			B-Frame			C-Frame			
Displacement			**cm³**	**11**	**14**	**22**	**25**	**34**	**46**	**64**	**76**	**98**	**130**
Outlet	**Pressure**	Rated Continuous Pressure	psi bar	5000 345	4000 276	3000 207	5000 345	3500 241	2500 172	5000 345	3500 241	2500 172	1500 103
		Peak Pressure see definition in "Notes" section	psi bar	5800 400	4500 310	3500 241	5800 400	4000 276	3000 207	5800 400	4000 276	3000 207	2000 138
		Minimum Pressure	psi bar	100 7			100 7			100 7			
		Minimum Pressure with Pressure Controls P-L control can achieve lower minimum pressure	psi bar	200 13,8			400 27,6			600 41,4			
	Flow	Nominal Outlet Flow @ 1800 rpm, full stroke, rated pressure	gpm lpm	4.2 15,9	5.9 22,4	9.5 36,0	10.9 41,3	14.7 55,7	20.6 78,1	27.4 103,8	33.7 127,7	43.3 164,1	58.2 220,3
Input Shaft	**Speed**	Maximum Speed @ Full Stroke May require supercharged inlet.	rpm	3600	3600	3600	3000	3000	2700	2700	2700	2700	2100
		Min Speed	rpm	600			600			600			
	Torque	Approximate torque to turn Drive Shaft	ft-lbs N-m	1.7 to 2.1 2,3 to 2,8			2.9 to 3.3 4,0 to 4,5			7.9 to 8.3 10,8 to 11,3			
		Moment of Inertia for Rotating Group	lbs/in^2 kg/cm^2	5 14,6			21 61,5			53 155,1			
Fluid Temperature①		Maximum Operating - At Inlet	°F °C	190 90			190 90			190 90			
		Minimum Operating - At Inlet	°F °C	14 -14			14 -14			14 -14			
		Minimum Starting - At Inlet	°F °C	-40 -40			-40 -40			-40 -40			
		Maximum Operating - Case with standard seals	°F °C	230 110			230 110			230 110			
Case	**Pressure**	Max Continuous Case Pressure	psi bar	15 1,0			15 1,0			15 1,0			
		Maximum Case Pressure with Standard Shaft Seal	psi bar	25 1,7			25 1,7			25 1,7			
		Maximum Case Pressure with High Pressure Shaft Seal	psi bar	100 7,0			100 7,0			100 7,0			
	Fill	Approximate amount of fluid necessary to fill case	ounces cc	10 300			24 700			30 900			
Inlet Pressure				Refer to the graphs in the "Inlet Data" section of Oilgear Bulletin 47019 to determine pump inlet pressure requirements									

① Minimum and Maximum viscocities MUST be observed.

Customer Connections	Case Drain Port		#8 SAE Straight Thread	#12 SAE Straight Thread	#12 SAE Straight Thread
	Minimum Case Drain Line Size Inside Diameter	inch mm	0.5 12	.625 16	.75 19
	Remote Pressure Compensator Port	inch mm	#4 SAE Straight Thread	#4 SAE Straight Thread	#4 SAE Straight Thread
	Load Sensing Port	inch mm	#6 SAE Straight Thread	#6 SAE Straight Thread	#6 SAE Straight Thread
Fluid Viscosity	Min Allowable Fluid Viscosity	SSU cSt	65 13	65 13	65 13
	Max Allowable Fluid Viscosity	SSU cSt	2000 450	2000 450	2000 450
Control Information	Min Pilot Pressure to Destroke Pump	psi bar	200 13,8	400 27,6	600 41,4
	Minimum % Stroke Attainable with Standard Stroke Limiter		25%	25%	25%
	On-Stroke Response Time ②		100 mS	100 mS	200 mS
	Off-Stroke Response Time ②		80 mS	80 mS	200 mS

All data is for ISO 46 Mineral-based Oil @ 125 deg F 160 SSU.

② Fastest possible time, stroking times may be slower depending on conditions. Consult Oilgear Technical Sales.

Installation Data Sheets for Pumps without Controls

	11/14/22	25/34/46	64	76/98/130
Rear Ported	47480	47483	47486	47488
Side Ported	47481	47484	47487	47489
Side Ported Thu-Shaft	47482	47485		

Additional Notes

Inlet

1. Pumps mounted above the reservoir must be arranged to insure pump will prime when started.

2. When supercharging, maximum allowable inlet pressure is 100 psi. Volume required to fully supercharge units must be sufficient to maintain a minimum required inlet pressure.

3. For low viscosity and HF water based fluids consult the Oilgear Technical Sales Department.

4. Oilgear does not recommend suction line filtration. Suction line filtration can starve the pump if the pressure drop across the filter becomes excessive. Return line filtration is the preferred method .

Output

Be sure system and pumps are protected against overloads with high pressure relief valves.

Peak pressure is the maximum pressure the unit can be operated at 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 947019 for horizontally mounted units. For vertically mounted units, see Bulletin 90014 "Service Instructions, Installation of Vertically Mounted Axial Piston Units".*

Fluid

Contamination level of ISO code 21/19/16 is maximum and 0.1% of water is maximum level for the pump.

Multiple Unit Mounting

Additional mounting support should be considered for multiple pump units, especially in mobile or high vibration applications.