

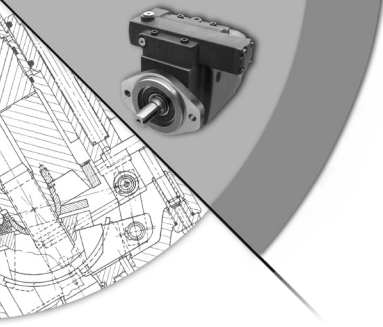
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# Oilgear

## PVWJ, PFWJ Open Loop Pumps





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## PERFORMANCE ASSURANCE – STANDARD WITH EVERY OILGEAR PUMP



**Oilgear**  
PERFORMANCE  
ASSURANCE

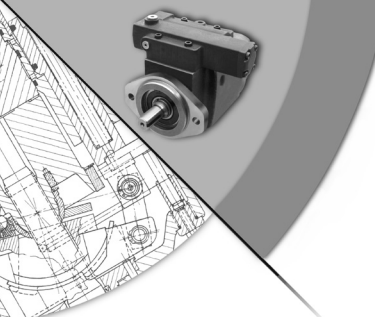
**Every** Oilgear product is shipped to you with our Performance Assurance — a corporate commitment to stay with your installation until our equipment performs as specified.

Hydraulic equipment and systems have been Oilgear's primary business since 1921. For decades, we have developed hydraulic techniques to meet the unique needs and unusual fluid power problems of machinery builders and users worldwide, matching fluid power systems to a tremendous range of applications and industries. Our exclusive Performance Assurance program is built upon that strong foundation.

As a customer, you also benefit from access to Oilgear's impressive technical support network. You'll find factory trained and field-experienced application engineers on staff at every Oilgear facility. They are backed by headquarters staff who can access the records and knowledge learned from decades of solving the most difficult hydraulic challenges.

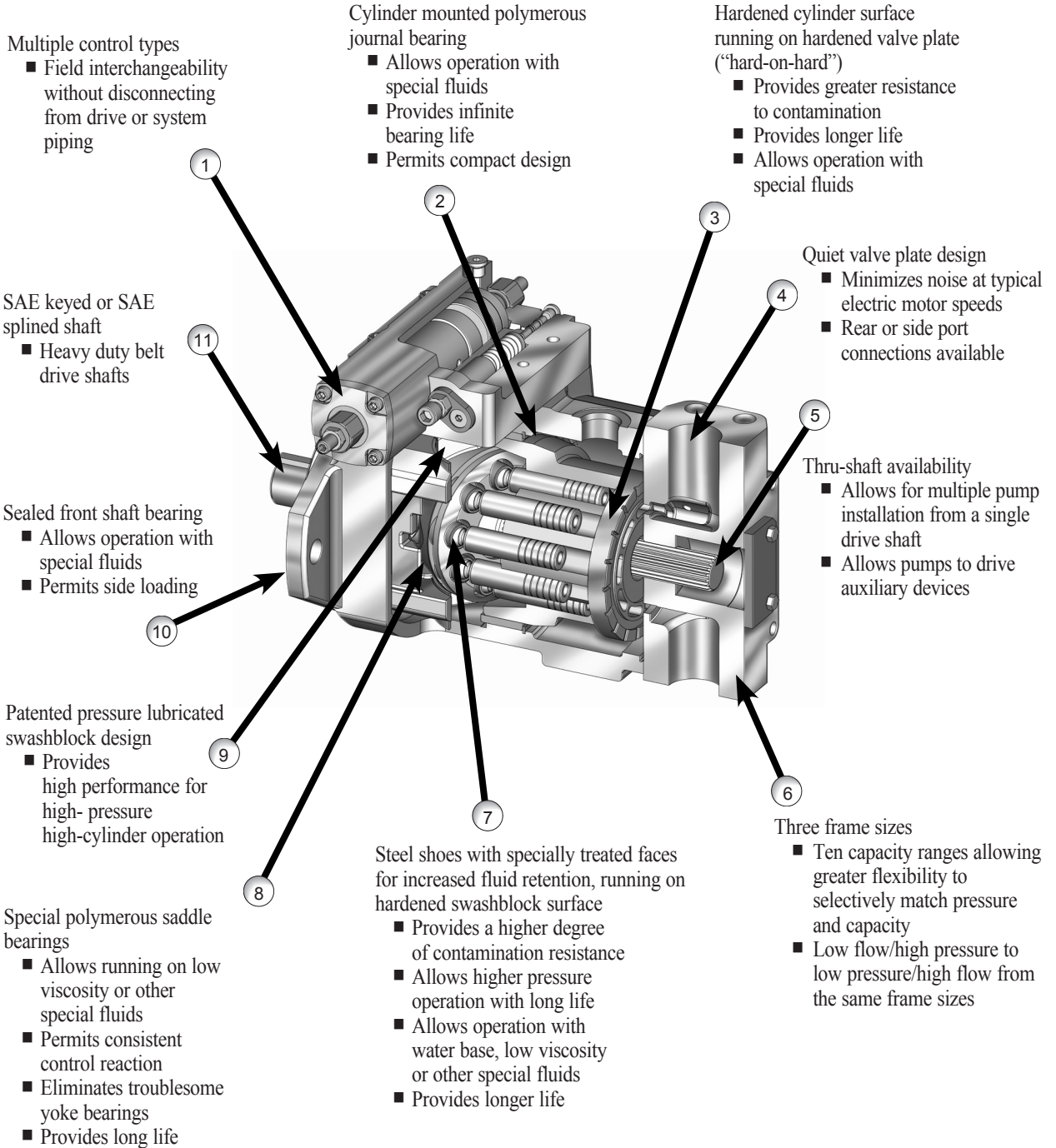
When your design or purchase is complete, our service is just beginning. If you ever need us, our Oilgear engineers will be there, ready to help you with the education, field service, parts and repairs to assure that your installation runs smoothly — and keeps right on running.

**Oilgear** Performance Assurance



# PVWJ Open Loop Pumps

## Oilgear Features and Benefits



# SINGLE PUMP

Based on 150 – 300 ssu viscosity fluid

FRAME SIZE	UNIT SIZE	THEORETICAL MAXIMUM DISPLACEMENT		RATED CONTINUOUS PRESSURE		MAXIMUM PRESSURE		FLOW RATE at 1800 rpm, rated continuous pres. & 14.7 psia (1.0 bar) inlet condition		MINIMUM INLET PRESSURE* psia (bar)			MAXIMUM SPEED*	POWER INPUT at rated cont. pres. & 1800 rpm	
		in <sup>3</sup> /rev	ml/rev	psi	bar	psi	bar	gpm	l/min	1200rpm	1500rpm	1800rpm	rpm	hp	kw
A	011	0.66	10,8	5000	345	5800	400	4.2	15,9	5.4 (.37)	5.7 (.39)	6.1 (.42)	3000	16.3	12,2
	014	0.86	14,1	4000	275	4500	310	5.9	22,4	5.5 (.38)	5.9 (.41)	6.4 (.44)	3000	17.7	13,2
	022	1.35	22,1	3000	210	3500	240	9.5	36,0	5.5 (.38)	6.0 (.41)	7.0 (.48)	3000	20.2	15,1
B	025	1.55	25,4	5000	344	5800	400	10.9	41,3	7.0 (.48)	7.3 (.50)	8.2 (.57)	3000	36.5	27,2
	034	2.06	33,8	3500	240	4000	275	14.7	55,7	7.0 (.48)	7.6 (.52)	8.4 (.58)	3000	35.5	26,5
	046	2.83	46,4	2500	175	3000	210	20.6	78,1	7.2 (.50)	7.9 (.54)	9.0 (.62)	2400	35.0	26,1
C	064	3.88	63,6	5000	345	5800	400	27.4	103,8	7.6 (.59)	8.5 (.59)	9.5 (.66)	2400	95.1	70,9
	076	4.67	76,5	3500	240	4000	275	33.7	127,7	8.0 (.55)	8.6 (.59)	9.6 (.66)	2400	80.4	60,0
	098	6.00	98,3	2500	175	3000	210	43.3	164,1	7.6 (.52)	8.6 (.59)	9.8 (.68)	2400	74.1	55,3
	130	7.94	130,2	1500	105	2000	140	58.2	220,3	8.0 (.55)	9.3 (.64)	14.5 (1,00)	1800	64.0	48,8

\* For higher speeds, see Suction Curves on pages 19-21.  
Higher speeds available – consult factory.

Note: Minimum speed 600 rpm.

These units are designed to run with fluids in the 65 to 2000 SSU range.

## PUMP COMBINATIONS

Two or more Oilgear axial piston variable delivery pumps can be integrally coupled together and driven from a single shaft.

The front pump can be used at full rated output while the rear pumps are governed by the thru-shaft torque listed in the table below.

Pump deliveries can be combined for large volume circuits or deliveries can be used individually. See page 5 for individual pump ratings.

## THRU-SHAFT SIZING/COMPATIBILITY

PISTON PUMP FRAME SIZE	PUMP SIZE	INPUT TORQUE										ALLOWABLE THRU-SHAFT TORQUE	
		RATED PRESSURE		INPUT TORQUE (T <sub>R</sub> ) @ RATED PRESSURE		PEAK PRESSURE		INPUT TORQUE @ PEAK PRESSURE					
		psi	bar	in-lb	Nm	psi	bar	in-lb	Nm	in-lb	Nm		
A	011	5000	344,8	570.7	64,3	5800	400,0	662.0	74,6				
	014	4000	275,9	612.7	70,0	4500	310,3	689.3	77,6	1290	145,1		
	022	3000	206,9	717.8	80,8	3500	241,4	837.4	94,3				
B	025	5000	344,8	1306.0	147,1	5800	400,0	1515.0	170,6				
	034	3500	241,4	1278.0	143,9	4000	275,9	1460.6	165,5	2250	253,1		
	046	2500	172,4	1243.0	140,0	3000	206,9	1450.2	163,3				
C	064	5000	344,8	3263.3	367,5	5800	400,0	3785.3	426,3				
	076	3500	241,4	2871.1	323,3	4000	275,9	3281.3	369,5	6400	720,0		
	098	2500	172,4	2661.0	299,7	3000	206,9	3104.5	349,6				
	130	1500	103,4	2100.8	236,6	2000	137,9	2801.1	315,4				

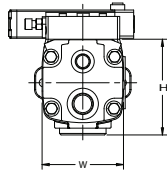
### ACTUAL INPUT TORQUE CALCULATION

$$T_A = T_R \times \left( \frac{\text{ACTUAL OPERATING PRESSURE}}{\text{RATED PRESSURE}} \right) \times \left( \frac{\% \text{ FULL DELIVERY}}{100\%} \right)$$

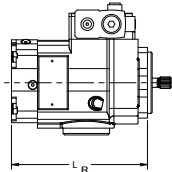
NOTE: Total input torque to the front unit may not exceed the values given in the table. The torque may be divided between the units in any fashion as long as the total does not exceed the table value.

## SINGLE PUMP

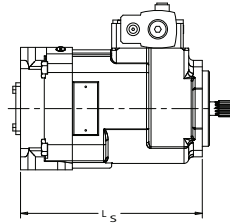
All Pumps



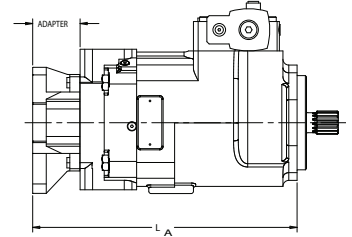
Single Pump w/Rear Ports



Single Pump w/Side Ports w/wo Thru-shaft



Single Pump w/Side Ports w/Thru-shaft & w/Adapter



### DIMENSIONS and WEIGHTS W/O CONTROLS

FRAME SIZE	PVWJ PUMP SIZE	HEIGHT		WIDTH		LENGTH						WEIGHT	
		H		W		L <sub>R</sub>		L <sub>S</sub>		L <sub>A</sub>		SINGLE PUMP W/REAR PORTS	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	lb	kg
<b>A</b>	011, 014, 022	4.50	114,3	4.32	109,7	7.20	182,9	9.62	244,3	10.94	277,9	32	14,5
<b>B</b>	025, 034, 046	6.11	155,2	5.80	147,3	8.50	215,9	9.63	244,6	12.36	313,9	68	30,9
<b>C</b>	064, 076, 098, 130	7.18	182,4	6.76	171,7	10.44	265,2	11.50	292,1	14.00	355,6	103	46,8

See appropriate data sheet for further details.

All dimensions are approximate. For detailed dimensions, contact your Oilgear representative.

#### Length Example: SINGLE PUMP

\* With rear ports

PVWJ - 034 - A1UV - RSAY - P - 1NNNN  
Size 034 (L<sub>R</sub>) length = 8.50 inches (215,9 mm)

\* With side ports, with or without thru-shaft  
PVWJ - 034 - A1UV - RDFY - P - 1NNNN  
Size 034 (L<sub>S</sub>) length = 9.63 inches (244,6 mm)

\* With side ports, with thru-shaft adapter  
PVWJ - 034 - A1UV - RDFY - P - 1NNNN  
Size 034 (L<sub>A</sub>) length = 12.36 inches (313,9 mm)

## STANDARD AUXILIARY GEAR PUMPS

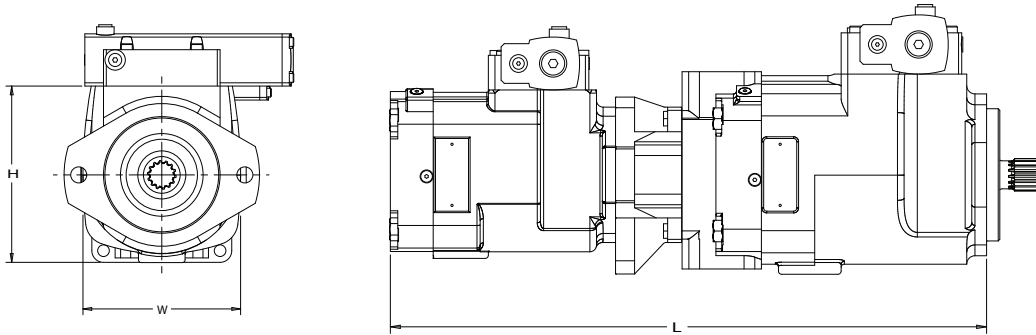
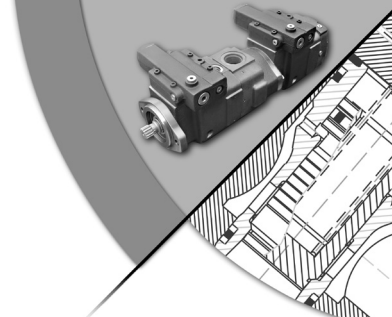
### DIMENSIONS and WEIGHTS

GEAR PUMP SIZE	LENGTH L <sub>G</sub>		WEIGHT	
	inch	mm	lb	kg
05	4.30	109,2	5.1	2,3
07	4.46	113,3	5.5	2,5
10	4.71	119,6	6.0	2,7
14	5.09	129,3	6.4	2,9
20	5.62	142,7	7.6	3,4

Gear Pumps are Spline Driven.

Add dimension L<sub>G</sub> to Pump Length (L<sub>A</sub> shown in table above).

# DUAL PUMP



## DIMENSIONS and WEIGHTS W/O CONTROLS

FRAME SIZE	PVWJ DUAL PUMP SIZES	H HEIGHT		W WIDTH		L LENGTH		WEIGHT	
		inch	mm	inch	mm	inch	mm	lb	kg
<b>A/A</b>	011, 014 or 022 & 011, 014 or 022	4.50	114,3	4.32	109,7	18.12	460,2	72	33
<b>B/A</b>	025, 034 or 046 & 011, 014 or 022	6.11	155,2	5.80	147,3	19.56	496,8	108	49
<b>B/B</b>	025, 034 or 046 & 025, 034 or 046	6.11	155,2	5.80	147,3	20.86	529,8	144	66
<b>C/A</b>	064, 076, 098 or 130 & 011, 014 or 022	7.18	182,4	6.76	171,7	21.20	538,5	143	65
<b>C/B</b>	064, 076, 098 or 130 & 025, 034 or 046	7.18	182,4	6.76	171,7	22.50	571,5	179	82
<b>C/C</b>	064, 076, 098 or 130 & 064, 076, 098 or 130	7.18	182,4	6.76	171,7	24.44	620,8	214	97

Length dimensions are for a rear ported dual pump. For further dimensions of these or other multiple combinations including other types of auxiliary pumps, contact your Oilgear representative.

### Length Example:

#### DUAL PUMP

Two Variable Delivery Pumps

PVWJ-098-A1UV-LDFS-P-1NNSN-AN/PVWJ-046-LSAS-P-1NNSN

Size 098 pump ( $L_A$ ) length = 14 inches (355,6 mm) plus

Size 046 pump ( $L_R$ ) length = 8.5 inches (215,9 mm) = 22.50 inches (571,5 mm)

One Variable Delivery Pump and A Gear Pump

PVWJ-098-A1UV-LDFS-P-1NNSN-AN/10

Size 098 piston pump ( $L_A$ ) length = 14 inches (355,6 mm) plus

Size 10 gear pump ( $L_G$ ) length = 4.2 inches (106,8 mm) = 18.2 inches (462,4 mm)

#### TRIPLE PUMP

Three Variable Delivery Pumps

PVWJ-098-A1UV-LDFS-P-1NNSN-BN/PVWJ-046-A1UV-LDFS-P-1NNSN-AN/

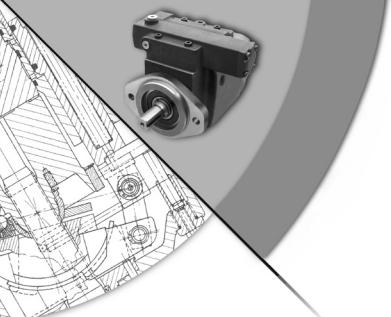
PVWJ-022-A1UV-LDAS-P-1NNSN-CP

Size 098 pump ( $L_A$ ) length = 14 inches (355,6 mm) plus

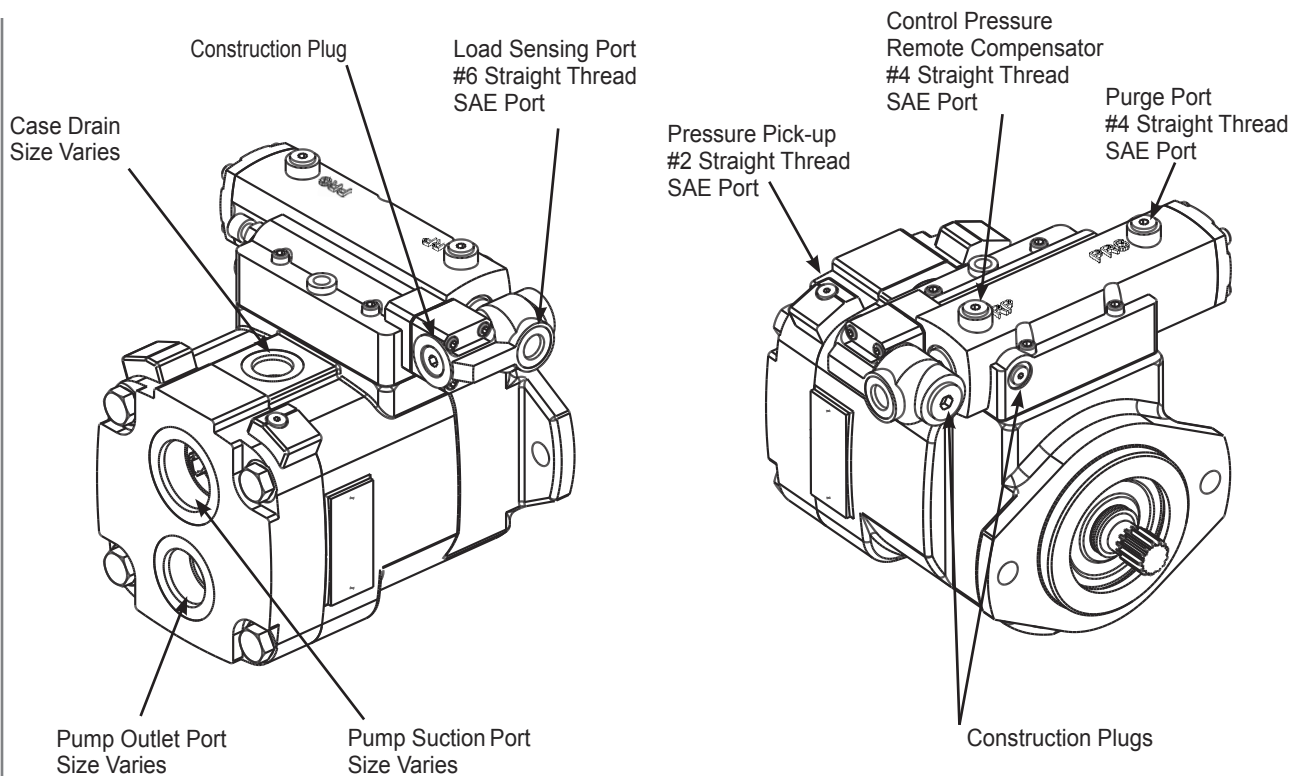
Size 046 pump ( $L_A$ ) length = 12.36 inches (313,9 mm) plus

Size 022 pump ( $L_G$ ) length = 9.62 inches (244,3 mm) = 35.98 inches (913,9 mm)





# Oilgear Typical Port Locations



NOTE: Pump shown in illustration above is a PVWJ B frame with fixed load sense control (P-1NN/F), RH (CW) rotation. Port size and/or location can vary with different pump size or configuration. Refer to the proper installation drawings for your specific pump . A listing of standard installation drawings can be found on page 23.

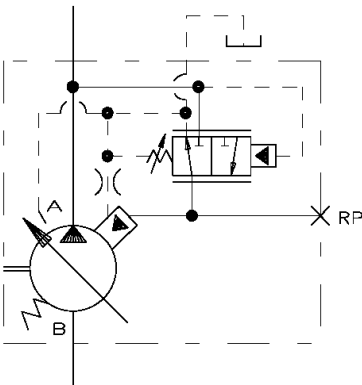
# Pump Controls

PRESSURE\*

## Pressure Compensator

"P-1NN"  
"P-LNN"

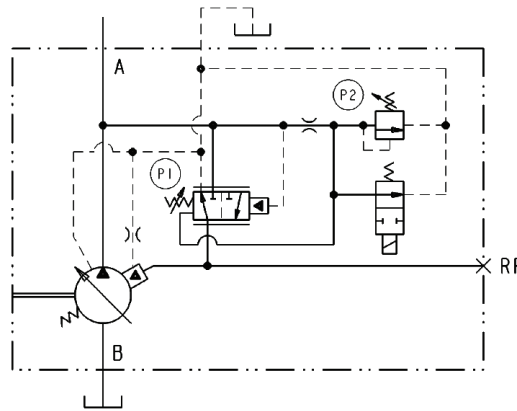
Ensures maximum pump flow until unit reaches preset control pressure setting then regulates output flow to match the requirements of the system while maintaining preset output pressure. Can be adjusted from 750 psi (52 bar) working pressure up to the maximum pressure rating of the applicable pump. "P-LNN" control provides a lower minimum pressure. Can be adjusted from 250 psi (17 bar) working pressure up to a maximum of 1500 psi (105 bar).



## Dual Pressure Compensator

"P-2NN"

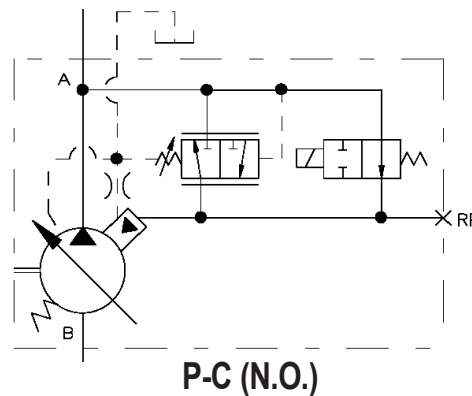
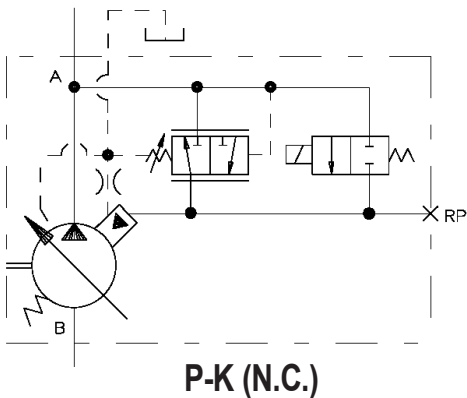
Works the same as the "P-1NN" control except it provides two independently adjustable pressure compensated settings as selected by an integral solenoid.



## Soft Start Pressure Compensator

"P-KNN", "P-CNN"

Pump starts "softly" by going quickly at low pressure to a reduced flow setting, thereby reducing start up torque requirements. The "P-KNN" control uses a normally closed cartridge that will unload the pump at the minimum pressure setting with the solenoid energized. The "P-CNN" control uses a normally open cartridge that will unload the pump at the minimum pressure setting with no power to the solenoid.



Oilgear Pump Controls

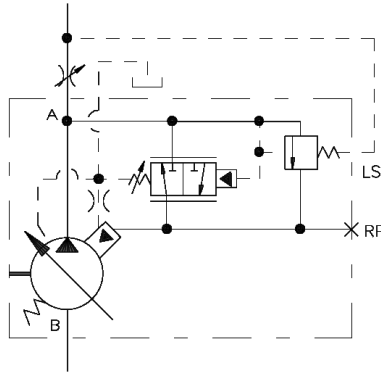
\* Be sure system and pumps are protected against overloads with a high-pressure relief valve.

## VOLUME PRESSURE SENSING\*

### Fixed Load Sense w/Pressure Compensator

**"P-1NN/F"**  
**"P-LNN/F"**

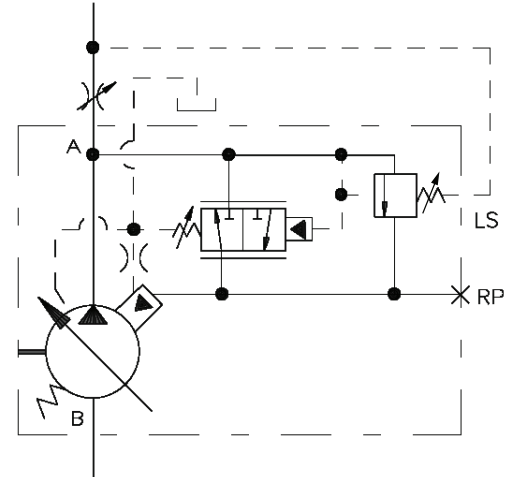
A constant flow output is maintained for a given flow control valve setting regardless of changes in drive speed and/or working pressure. The pressure compensator control over rides the load sense control when system pressure reaches the preset control pressure. Control pressure can be adjusted from 750 psi (52 bar) up to the maximum pressure rating of the applicable pump. The **P-LNN/F** control provides a lower minimum pressure. It can be adjusted from 250 psi (17 bar) working pressure up to a maximum of 1500 psi (105 bar). Load sense differential for both versions is set at 170 PSID (11,7 bar). See page 12 for remote control options.



### Adjustable Load Sense w/Pressure Compensator

**"P-1NN/J"**  
**"P-1NN/K"**

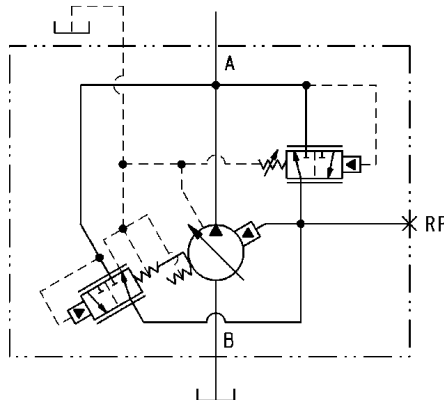
Same as the "P-1NN/F" and "P-LNN/F" controls except the load sense differential is externally adjustable. The adjustment range for the "P-1NN/J" control is 100 to 220 PSID (7 to 15 bar). The adjustment range for the "P-1NN/K" control is 225 to 350 PSID (15,5 to 24 bar).



### Horsepower Limiter w/Pressure Compensator

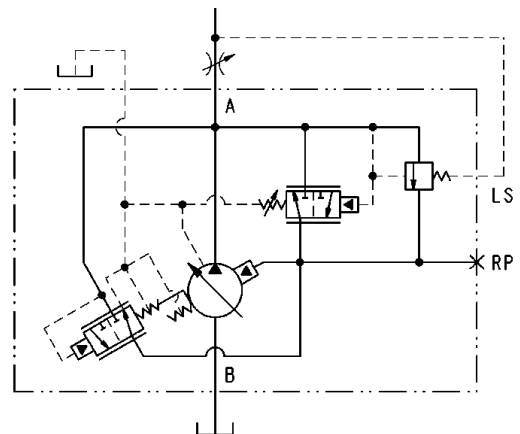
**"P-1NN/H"**

Automatically reduces delivery, as unit pressure rises, to limit horsepower consumption. The pressure compensator control over rides the horsepower control when system pressure reaches the preset control pressure. Control pressure can be adjusted from 750 psi (52bar) up to the maximum pressure rating of the applicable pump.

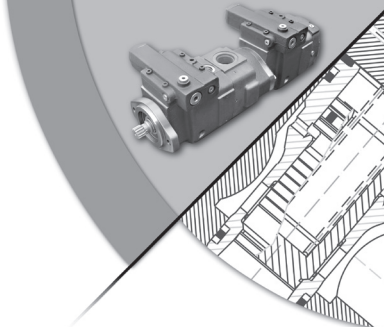


### Horsepower Limiter "P-1NN/G," "P-1NN/C," & "P-1NN/D"

A constant flow output is maintained for a given flow control valve setting regardless of changes in drive speed and/or working pressure until (limited) horsepower setting is reached. Control then automatically reduces delivery, as unit pressure rises, to limit horsepower consumption. **P-1/G** has fixed load sense differential set at 170 PSID (11,7 bar). **P-1/C** has variable load sense differential adjustable from 100-220 PSID (7 to 15 bar). **P-1/D** is variable with differential adjustable from 225-350 PSID (15,5 to 24 bar).



\* Be sure system and pumps are protected against overloads with a high-pressure relief valve.

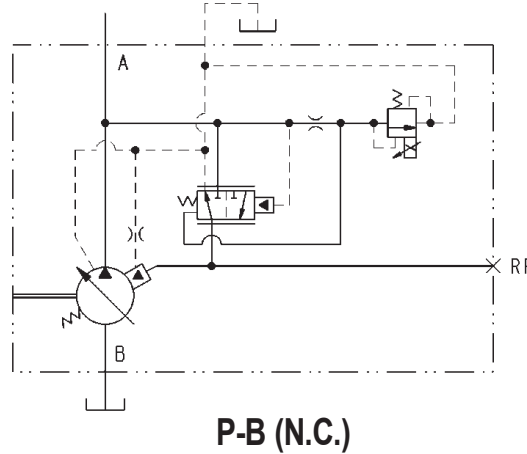
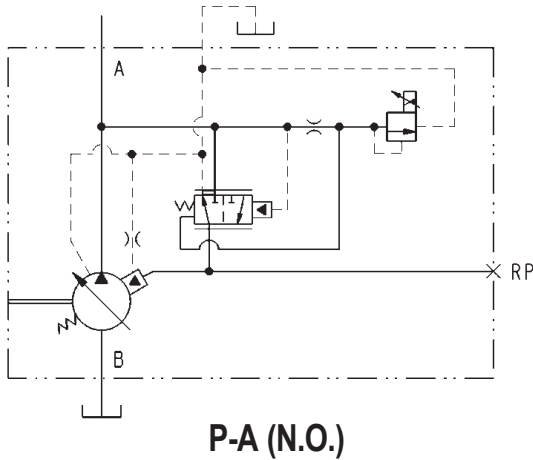


# PROPORTIONAL PRESSURE\*

## ■ Electronic Proportional Pressure Compensator

Ensures maximum pump flow until the unit reaches the commanded pressure setting then regulates output flow to match the requirements of the system while maintaining commanded output pressure. The proportional operator provides an infinite number of remotely adjustable pressure settings in response to an electrical command. The **"P-A"** control uses a normally open proportional relief. Minimum command to the valve results in a minimum pressure setting. Increasing the command increases the compensator setting. The **"P-B"** control uses a normally closed valve. Minimum command to the valve results in a maximum compensator setting. Increasing the command decreases the compensator setting.

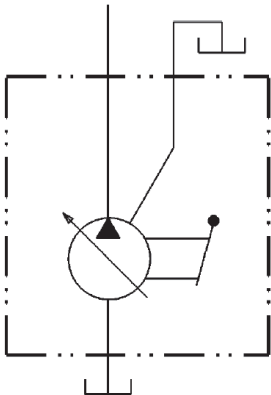
## "P-A" (N.O.), "P-B" (N.C.)



## MANUAL\*

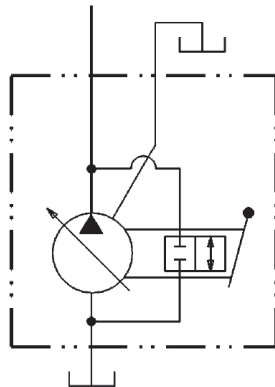
### ■ Lever Operated "M-N"

Varies displacement proportional to the rotation of a pintle.



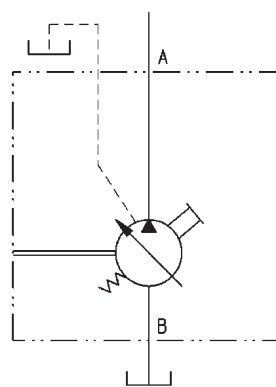
### ■ Lever Operated w/Neutral Bypass "M-S"

Varies displacement proportional to the rotation of a pintle which is equipped with a neutral bypass to prevent creep when centered.

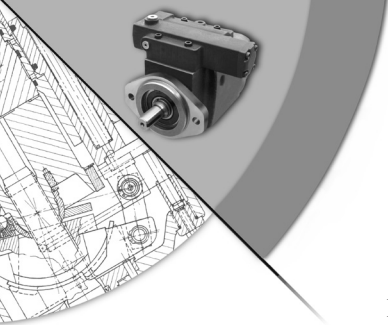


### ■ Handwheel "M-H"

Provides simple handwheel adjustment of delivery.



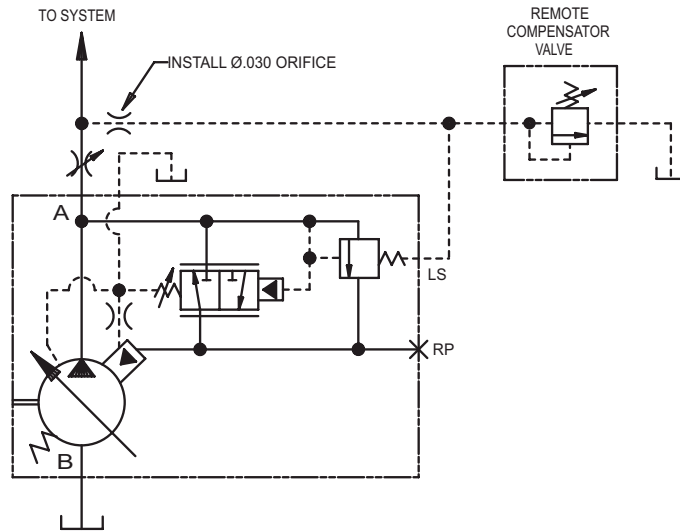
\* Be sure system and pumps are protected against overloads with a high-pressure relief valve.



# LINE MOUNTED REMOTE PRESSURE CONTROL FOR SINGLE & MULTIPLE PUMPS

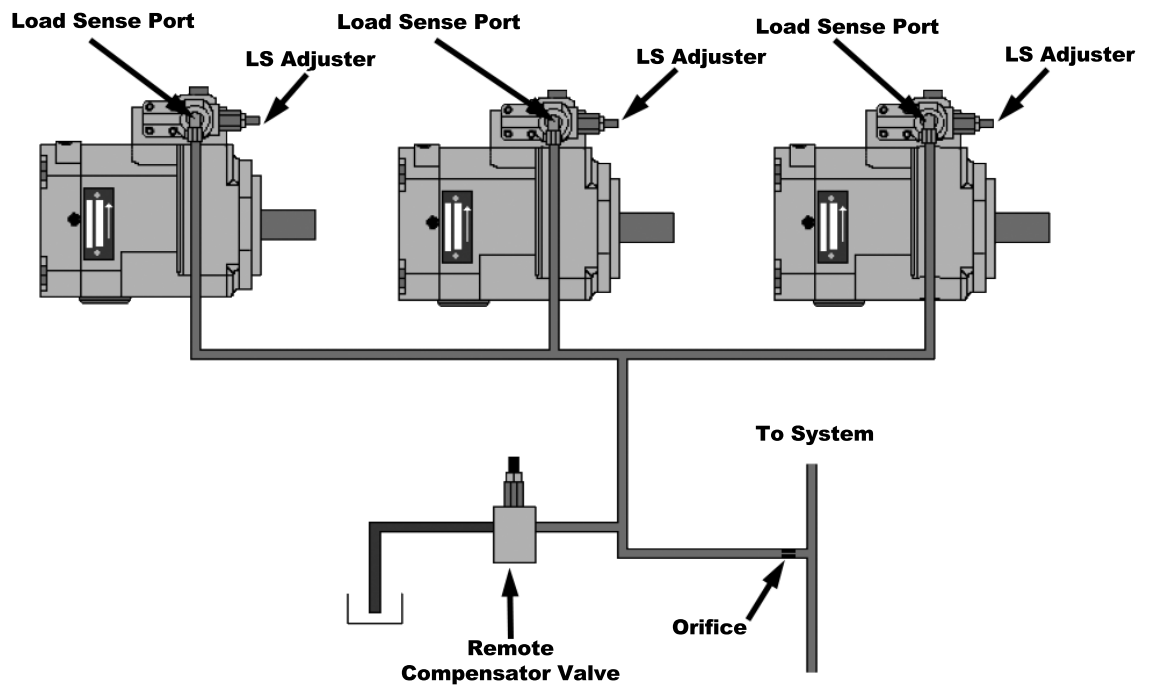
Remote operation of pumps with load sense controls can be accomplished by installing a Remote Compensator Valve at the location shown in the control circuits.

## SINGLE PUMP

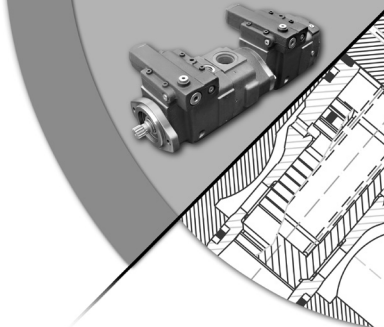


Refer to Data Sheet 47491

## MULTIPLE PUMPS



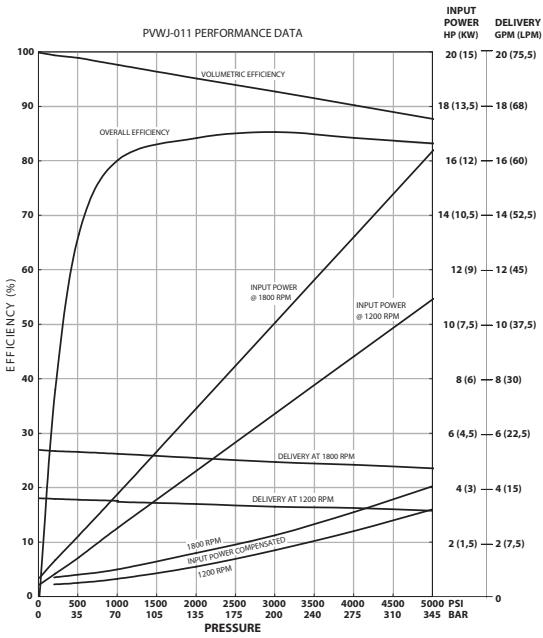
Refer to Data Sheet 47974A



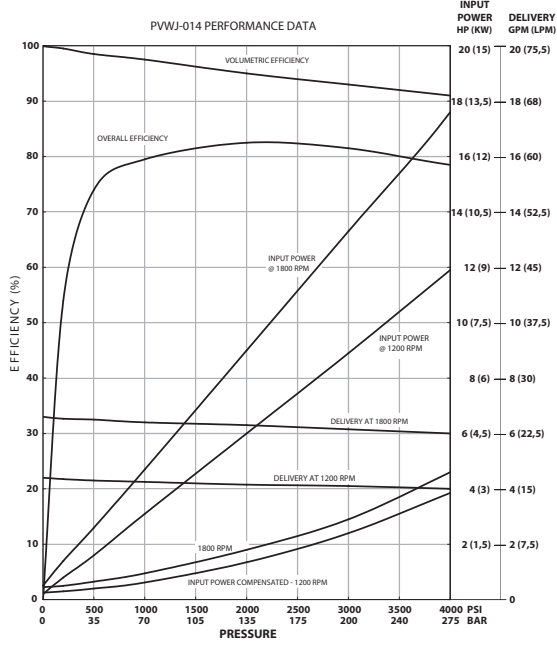
The following single pump curves are based on an oil temperature of 125° F (160 SSU) and 14.7 psia (1 bar<sub>abs</sub>). Efficiency curves are based on pump running at 1800 rpm.

### Frame Size A

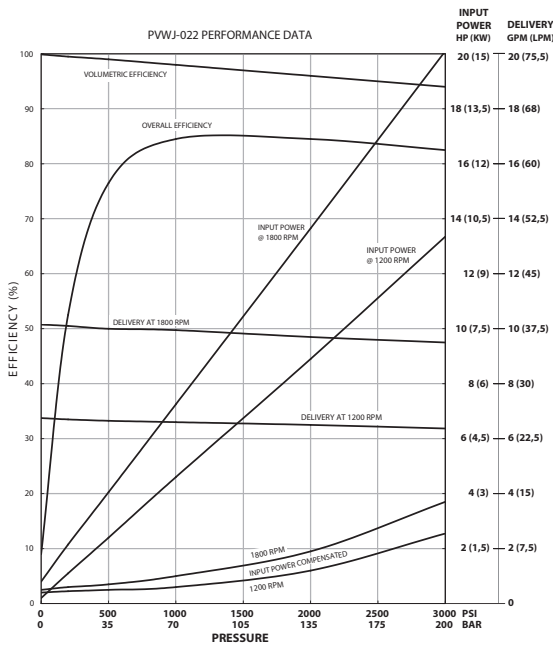
#### ■ PVWJ-011



#### ■ PVWJ-014



#### ■ PVWJ-022

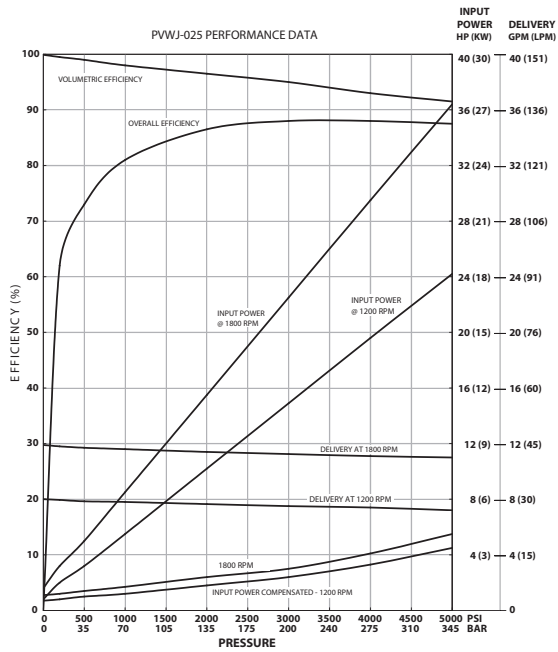


# Oilgear Performance Curves

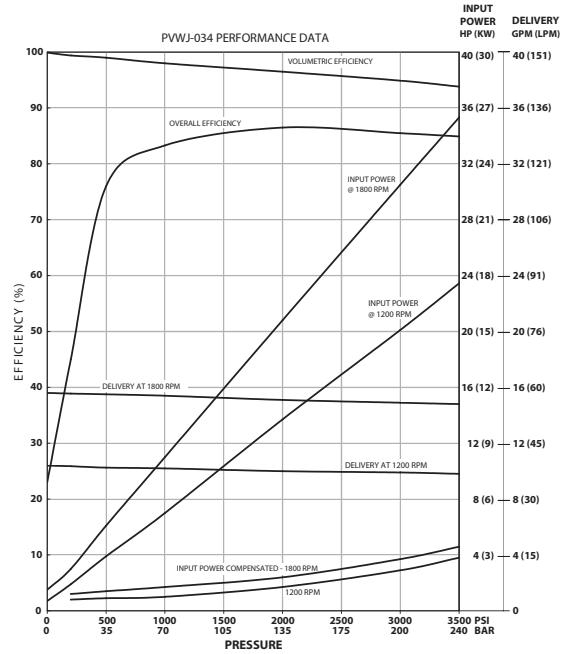
The following single pump curves are based on an oil temperature of 125° F (160 SSU) and 14.7 psia (1 bar<sub>abs</sub>). Efficiency curves are based on pump running at 1800 rpm.

## Frame Size B

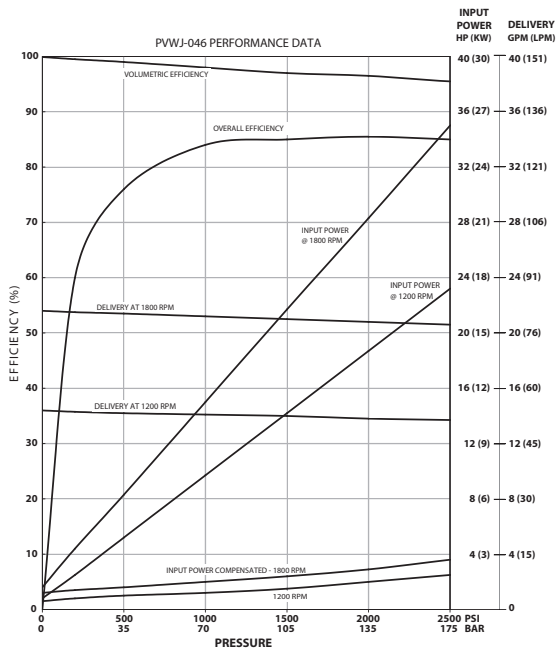
### ■ PVWJ-025

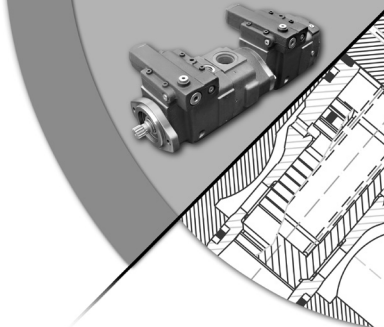


### ■ PVWJ-034



### ■ PVWJ-046

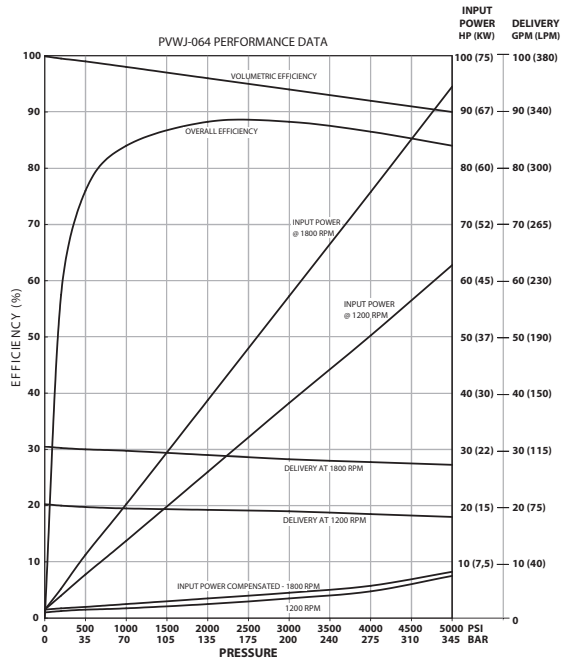




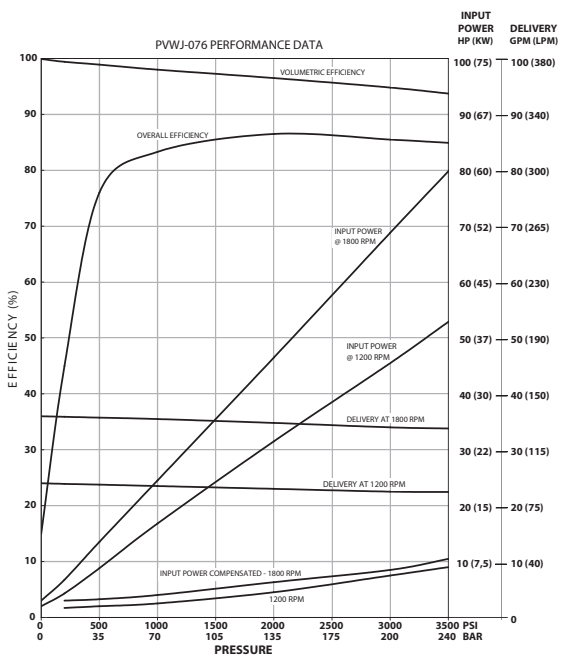
The following single pump curves are based on an oil temperature of 125° F (160 SSU) and 14.7 psia (1 bar<sub>abs</sub>). Efficiency curves are based on pump running at 1800 rpm.

### Frame Size C

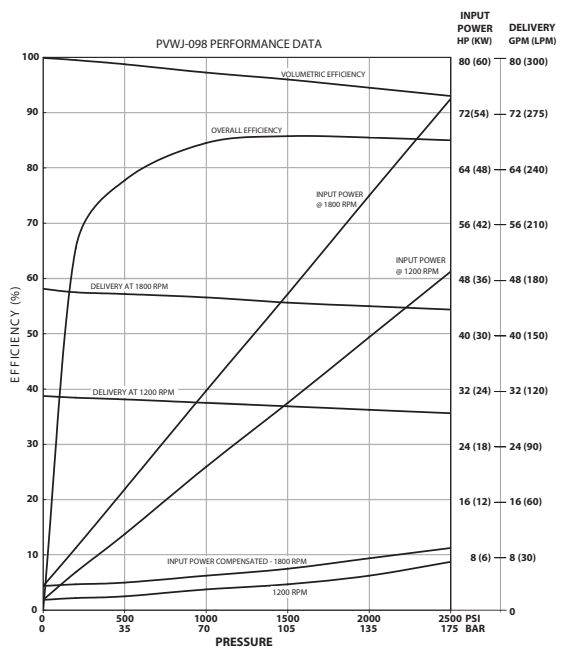
#### ■ PVWJ-064



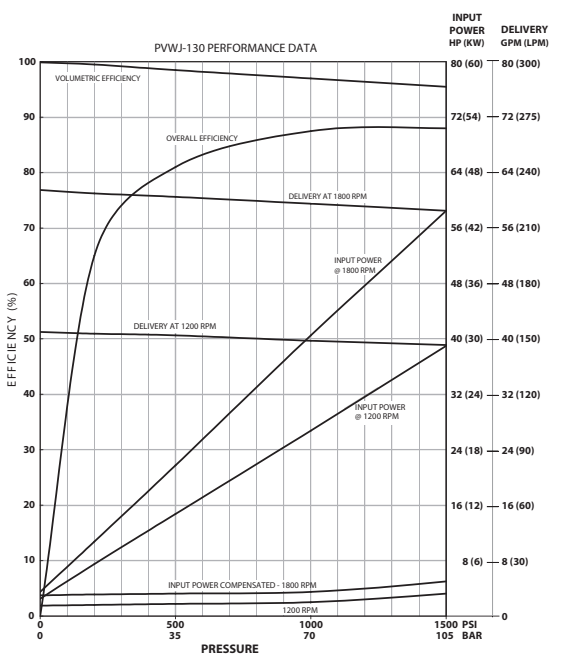
#### ■ PVWJ-076



#### ■ PVWJ-098

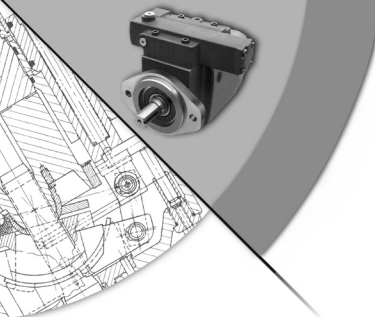


#### ■ PVWJ-130



# Oilgear Performance Curves



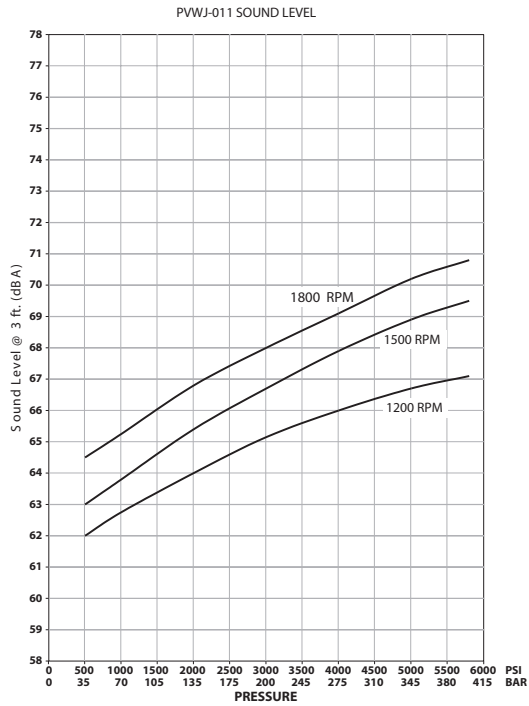


# SOUND CURVES

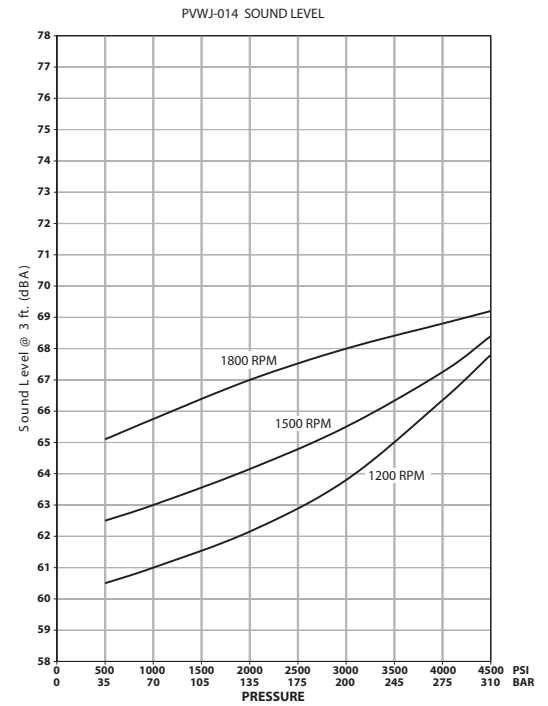
All of the following sound curves are based on the pump delivering full volume from port "A." Single microphone noise taken in semi-reverberant room at three feet from pump surface. Tolerance on curves is +3 dBA.

## Frame Size A

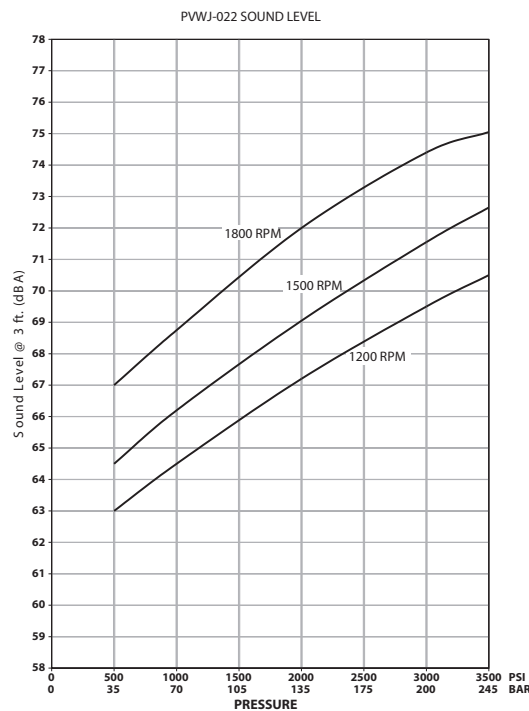
### ■ PVWJ-011—FULL STROKE

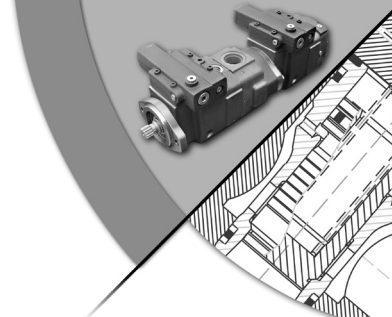


### ■ PVWJ-014—FULL STROKE



### ■ PVWJ-022—FULL STROKE

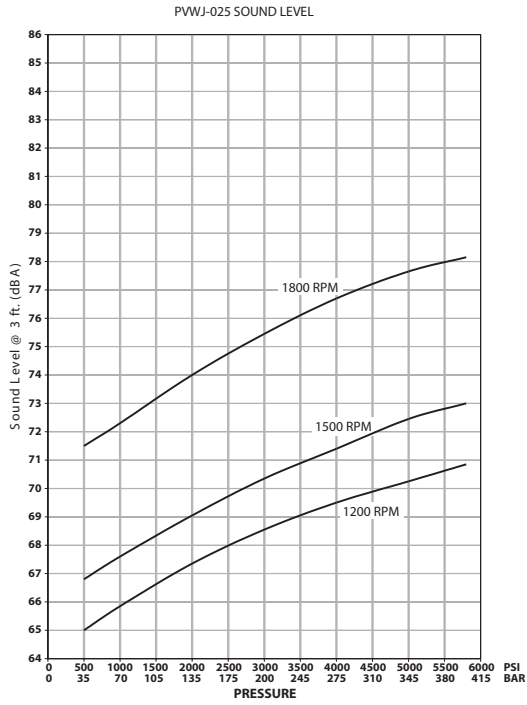




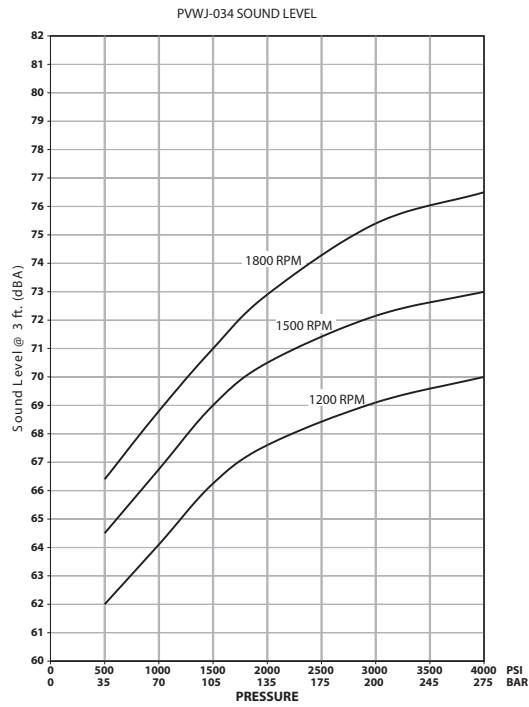
All of the following sound curves are based on the pump delivering full volume from port "A." Single microphone noise taken in semi-reverberant room at three feet from pump surface. Tolerance on curves is +3 dBA.

## Frame Size B

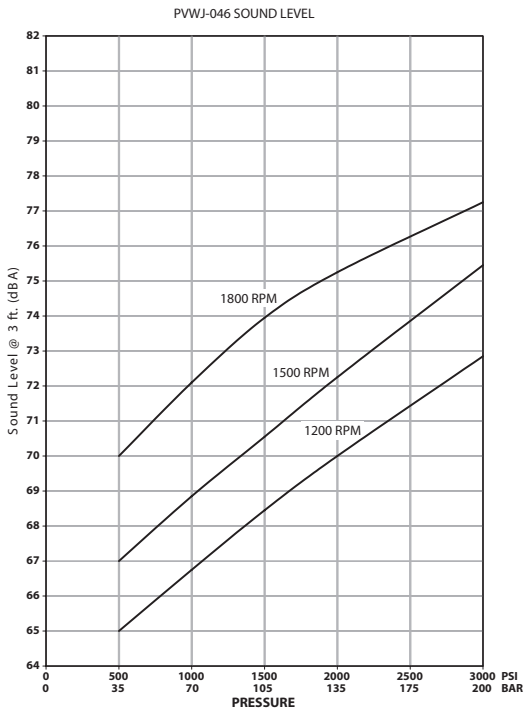
### ■ PVWJ-025—FULL STROKE



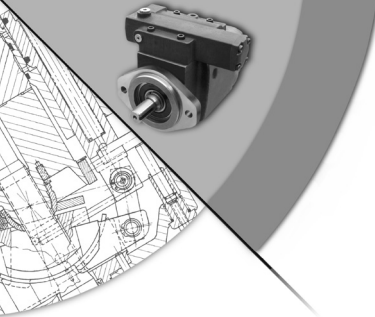
### ■ PVWJ-034—FULL STROKE



### ■ PVWJ-046—FULL STROKE



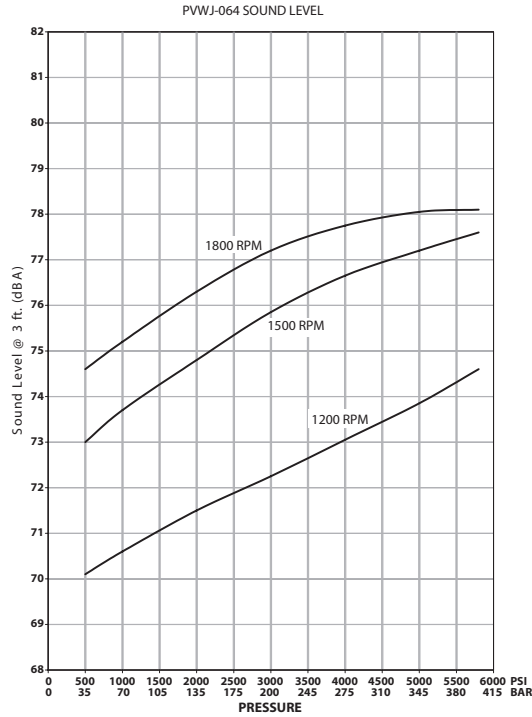
# Oilgear Sound Curves



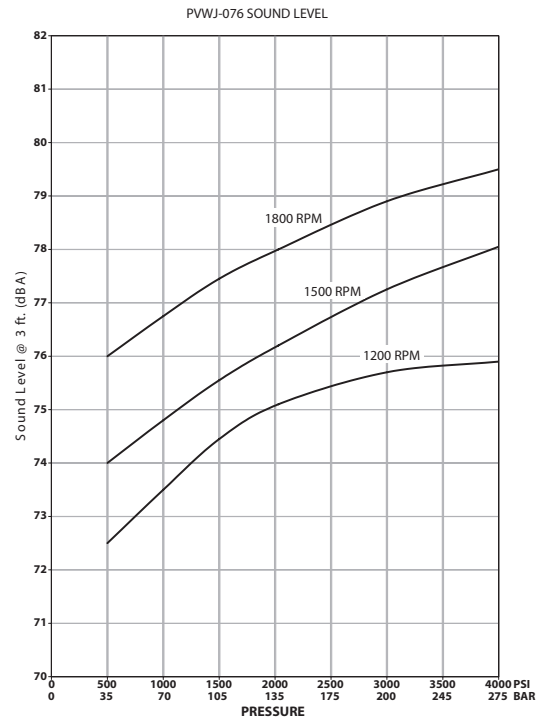
All of the following sound curves are based on the pump delivering full volume from port "A." Single microphone noise taken in semi-reverberant room at three feet from pump surface. Tolerance on curves is +3 dBA.

### Frame Size C

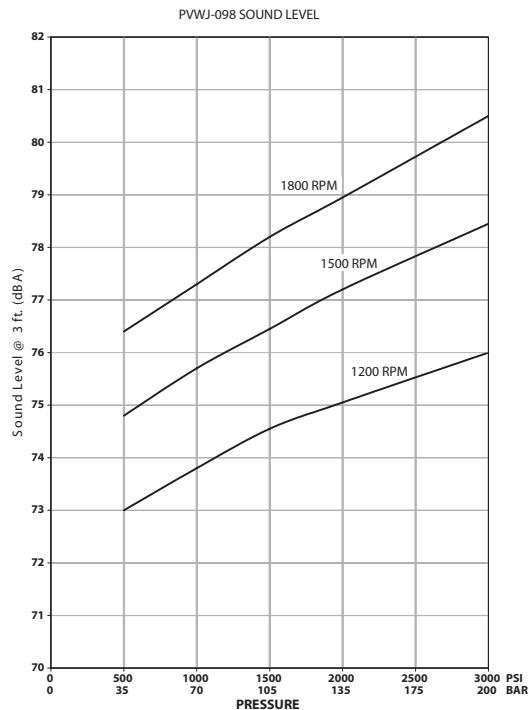
#### ■ PVWJ-064—FULL STROKE



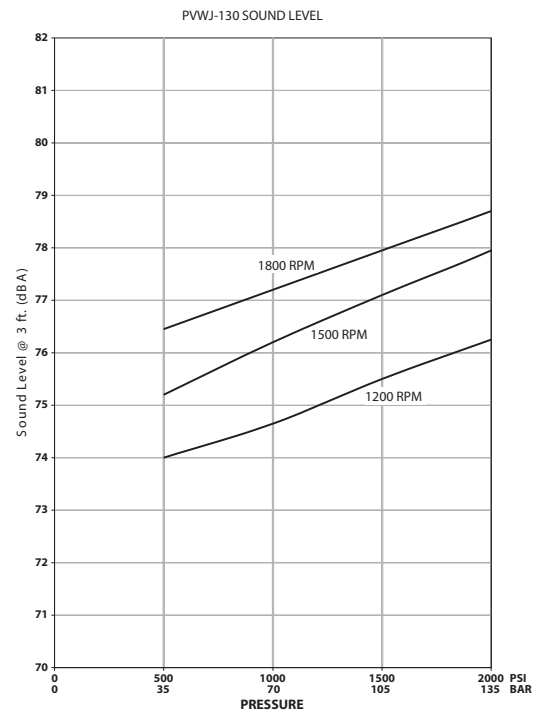
#### ■ PVWJ-076—FULL STROKE



#### ■ PVWJ-098—FULL STROKE



#### ■ PVWJ-130—FULL STROKE

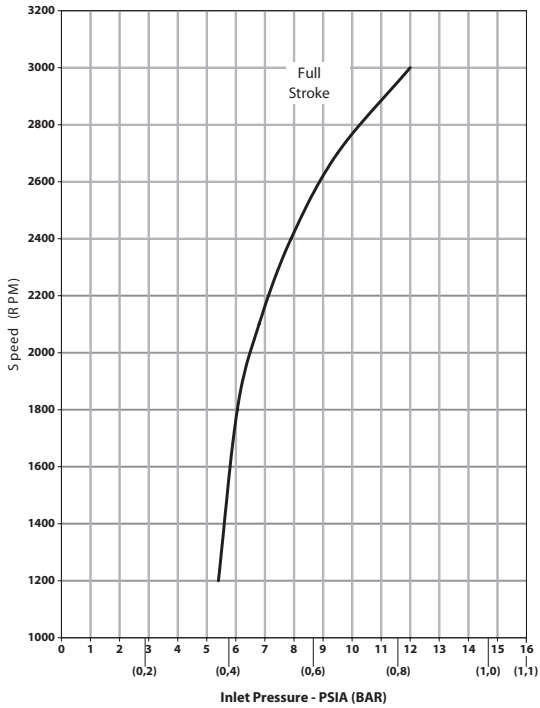


# INLET SUCTION CURVES

Frame Size A

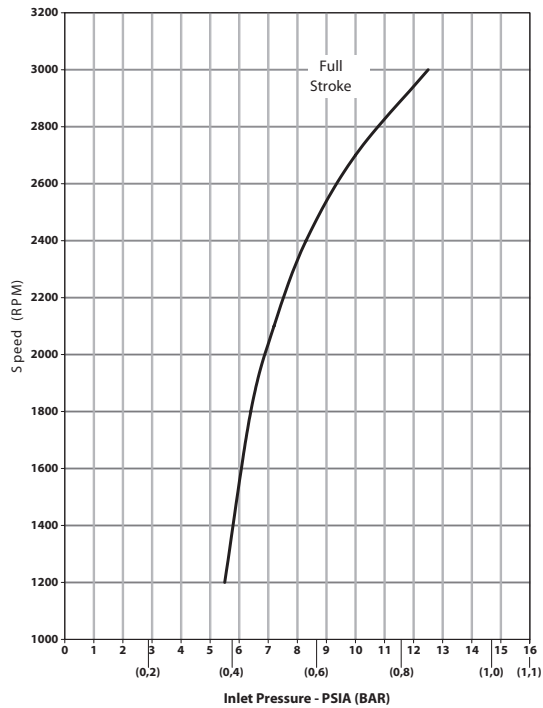
## ■ PVWJ-011

PVWJ-011 SUCTION CAPABILITY



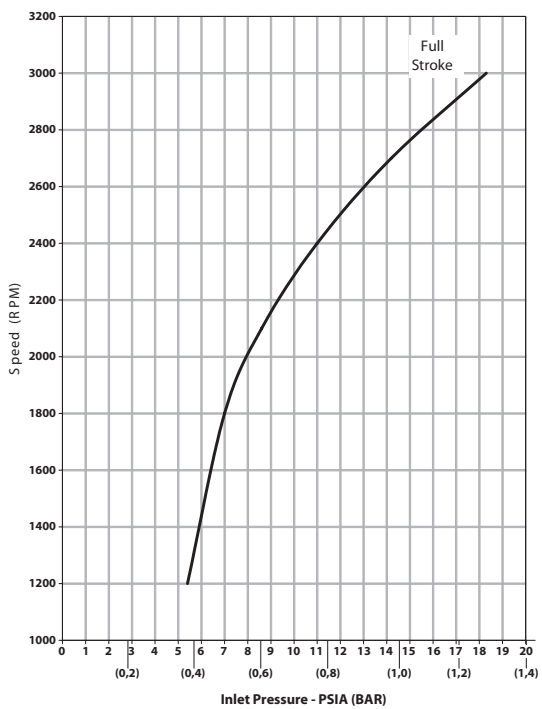
## ■ PVWJ-014

PVWJ-014 SUCTION CAPABILITY

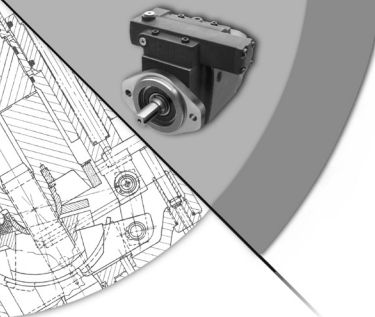


## ■ PVWJ-022

PVWJ-022 SUCTION CAPABILITY



# Oilgear Inlet Suction Curves

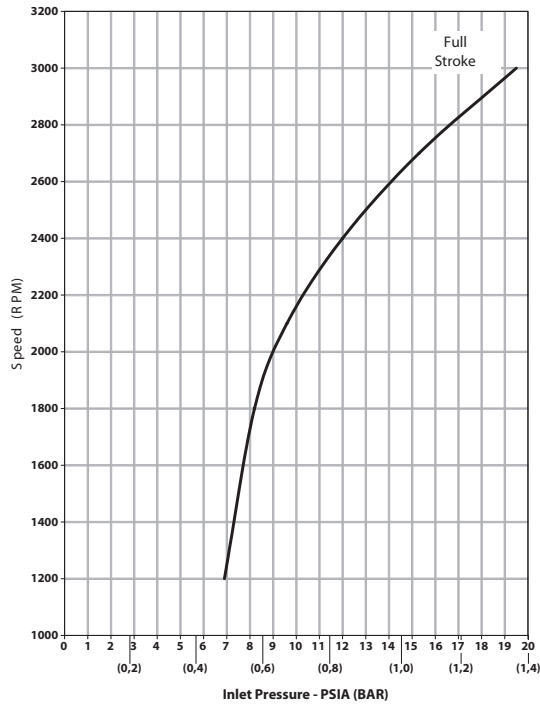


Frame Size B

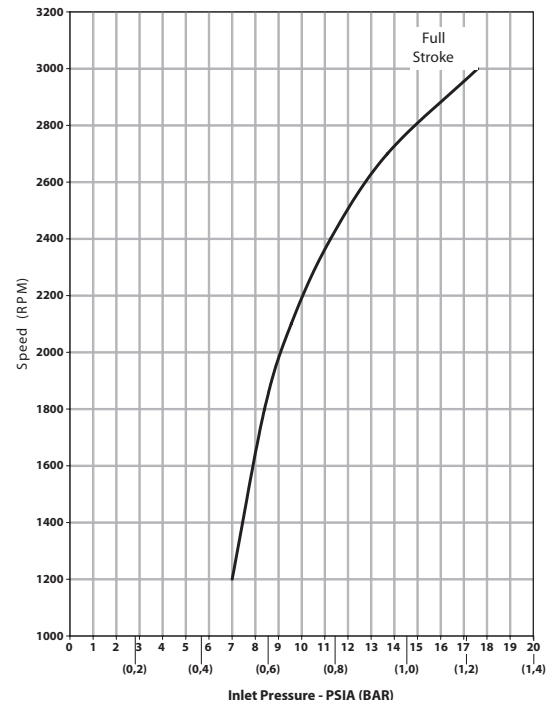
■ PVWJ-025

■ PVWJ-034

PVWJ-025 SUCTION CAPABILITY

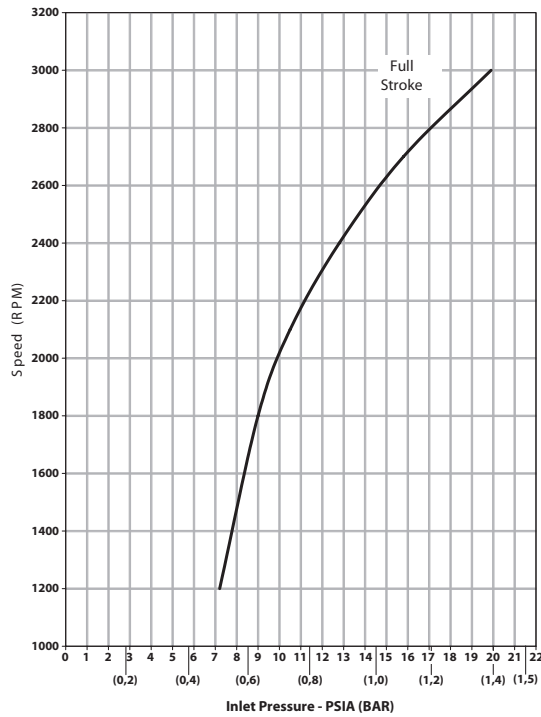


PVWJ-034 SUCTION CAPABILITY

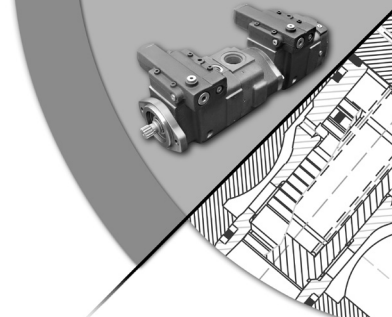


■ PVWJ-046

PVWJ-046 SUCTION CAPABILITY



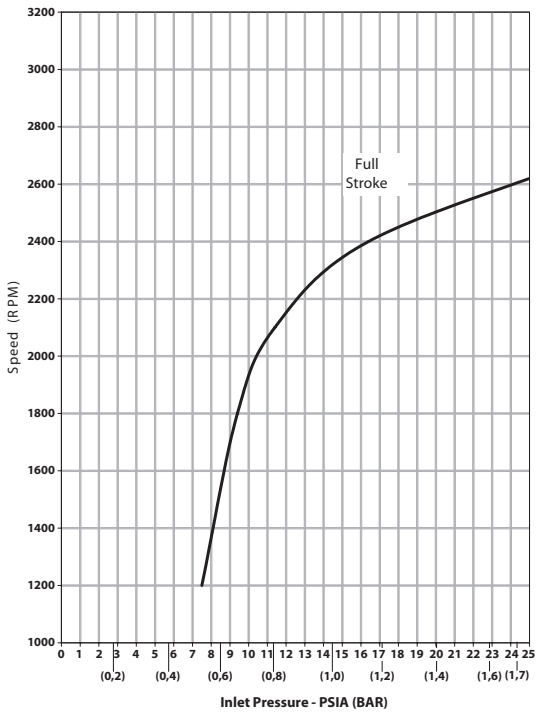
# Oilgear Inlet Suction Curves



## Frame Size C

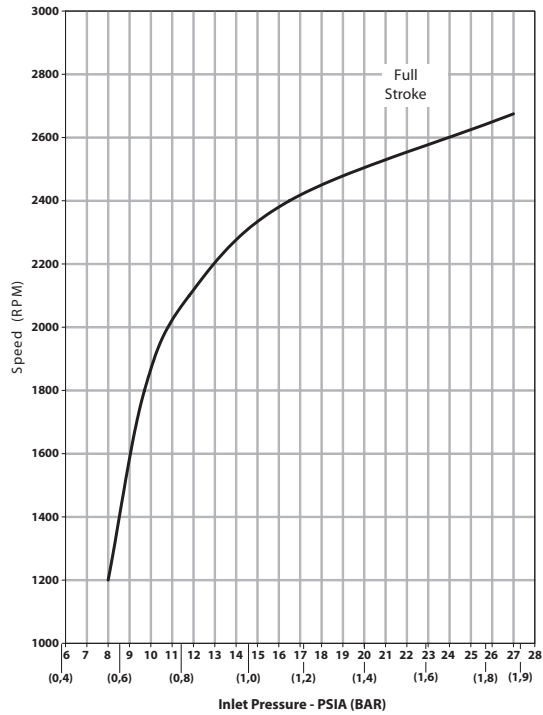
### ■ PVWJ-064

PVWJ-064 SUCTION CAPABILITY



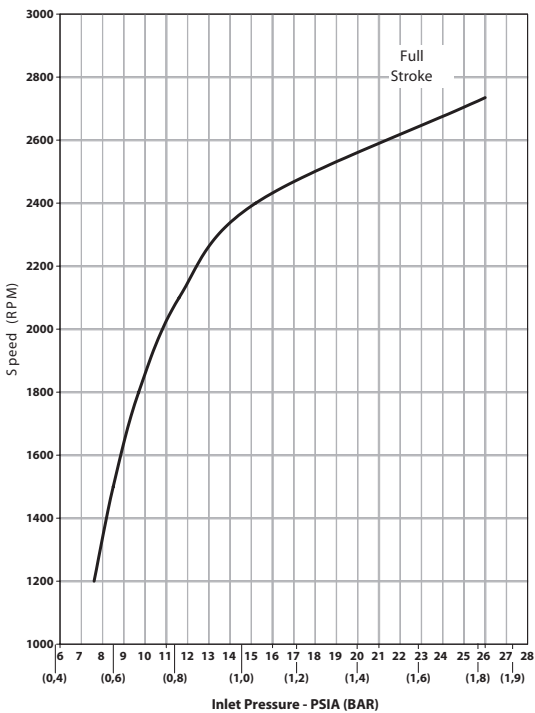
### ■ PVWJ-076

PVWJ-076 SUCTION CAPABILITY



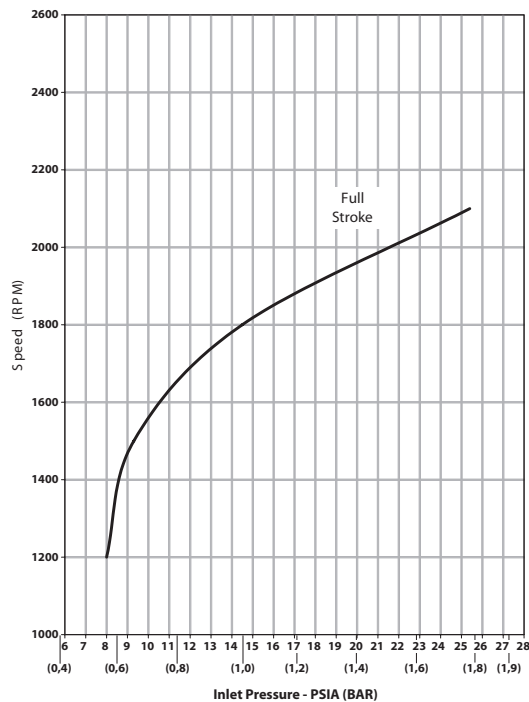
### ■ PVWJ-098

PVWJ-098 SUCTION CAPABILITY

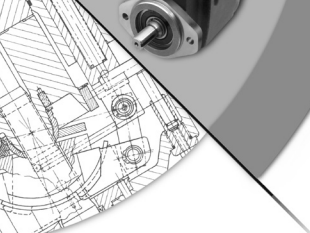


### ■ PVWJ-130

PVWJ-130 SUCTION CAPABILITY



# Oilgear Inlet Suction Curves



# HOW TO ORDER

BLOCK NUMBER EXPLANATION	1	2	3	-	4	-	5	6	7	-	8	9	10	11	-	12	-	13a	13b	13c	13d	14	-	15	/	16	-	17
PVWJ Model Code EXAMPLE	P	V	WJ	-	098	-	A1	U	V	-	L	D	F	Y	-	P	-	1	N	N	/F	SN	-	AN	/	10	-	XXX

- 1 = UNIT  
P = Pump
  - 2 = TYPE  
F = Fixed  
V = Variable
  - 3 = DESIGN TYPE  
WJ = Pump Series
  - 4 = UNIT SIZE
 

011 = 10.8 cc/rev (0.66 cipr) 014 = 14.1 cc/rev (0.86 cipr) 022 = 22.1 cc/rev (1.35 cipr)	A Frame
025 = 25.4 cc/rev (1.55 cipr) 034 = 33.8 cc/rev (2.06 cipr) 046 = 46.4 cc/rev (2.83 cipr)	B Frame
064 = 63.6 cc/rev (3.88 cipr) 076 = 76.5 cc/rev (4.67 cipr) 098 = 98.3 cc/rev (6.00 cipr) 130 = 130.2 cc/rev (7.94 cipr)	C Frame
  - 5 = DESIGN SERIES  
A1= Current for all displacements
  - 6 = DESIGN SERIES MODIFIER  
U = SAE Connections & Mounting
  - 7 = SHAFT & O-RING SEALS  
V = Viton  
P = EPR
  - 8 = ROTATION  
L = Left Hand (CCW)  
R = Right Hand (CW)
  - 9 = VALVE PLATE TYPE\*  
S = Rear Ported  
G = Side Ported  
D = Thru-Shaft w/Side-Ports  
T = Top/Bottom Ported
  - 10 = CONNECTION TYPE  
A = SAE Straight Port\*  
F = SAE Flange  
R = SAE Flange w/ Relief Valve
- \* All combinations of Valve Plate and Connection types not available. See Valve Plate Table below.

- 11 = SHAFT TYPE  
See Shaft Table below.
- 12 = CONTROL TYPE  
P = Pressure Compensating  
M = Manual Stroking  
F = Fixed
- 13a = CONTROL OPTIONS  
**Pressure Controls**  
1 = Single PC Setting (standard)  
2 = Dual PC Setting  
L = Low PC Setting  
A = Electronic Proportional PC N.O. ①  
B = Electronic Proportional PC N.C. ②  
C = Single PC w/Soft Start, NO  
K = Single PC w/Soft Start, NC  
H = High - Low PC  
①N.O. Electronic Proportional Pressure Compensator control is limited to 3500 psi (240 bar) or the rated pressure of the pump, whichever is less.  
②N.C. Electronic Proportional Pressure Compensator control is limited to 3000 psi (205 bar) or the rated pressure of the pump, whichever is less.
- Manual Controls**  
N\* = Pintle w/o Neutral Bypass  
S\* = Pintle w/ Neutral Bypass  
H = Handwheel w/ Neutral Bypass  
\* for A and B frame only
- 13b = SOLENOID VOLTAGE  
N for non-electrical control options  
0 = 115/60 - 110/50 VAC  
1 = 230/60 - 220/50 VAC  
2 = 12 VDC  
3 = 24 VDC
- 13c = CONNECTOR  
N = No Connector for non-electrical control options  
R = .500 NPT w/o Lite  
W = .500 NPT w/Lite  
S = PG-11 w/o Lite  
L = PG-11 w/Lite  
E = Integral Deutsch DT04-2P
- Fixed Control**
- 13b = STROKE  
100 = 100% Stroke

- 13d = CONTROL MODIFIER  
Blank unless required option  
/F = Fixed Load Sense 170 psi (11,7 bar)  
/J = Adjustable Load Sense 100 - 220 psi (7 - 15 bar)  
/K = Adjustable Load Sense 225 - 350 psi (15,5 - 24 bar)  
/H = Horsepower Limiter  
/G = Horsepower Limiter w/ Fixed Load Sense  
/C = Horsepower Limiter with Adjustable Load Sense 100 - 220 psi (7 - 15 bar)  
/D = Horsepower Limiter with Adjustable Load Sense 225 - 350 psi (15,5 - 24 bar)
- 13e = HORSEPOWER SETTING  
Blank unless required option  
Input Horsepower at 1800 rpm (i.e. 045 = 45 horsepower)  
To Calculate:  
(1800 rpm / Actual rpm) X Required Horsepower OR  
(1800 rpm / Actual rpm X (Required kW X 1.34))
- 14 = STROKE LIMITER OPTION  
NN = None  
SN = Adjustable Max. Volume Stop  
SA = Adjustable Min. Volume Stop  
SB = Adjustable Min. & Max. Volume Stops
- 15 = AUXILIARY ADAPTORS  
(required for all thru-shaft units, leave blank for all rear & side ported units.  
CP = Cover Plate  
AN = SAE A Adaptor & Coupling  
BN = SAE B Adaptor & Coupling  
CN = SAE C Adaptor & Coupling  
NN = No Adaptor or Coupling
- 16 = GEAR PUMPS  
Blank = None  
05 = 0.499 in<sup>3</sup>/rev ( 8,18 ml/rev)  
07 = 0.677 in<sup>3</sup>/rev (11,09 ml/rev)  
10 = 0.976 in<sup>3</sup>/rev (15,99 ml/rev)  
14 = 1.403 in<sup>3</sup>/rev (22,99 ml/rev)  
20 = 2.014 in<sup>3</sup>/rev (33,00 ml/rev)
- 17 = SPECIAL PUMP MODIFIER  
XXX = Special Pump Modifier (Factory Assigned)  
Blank = Standard Unit

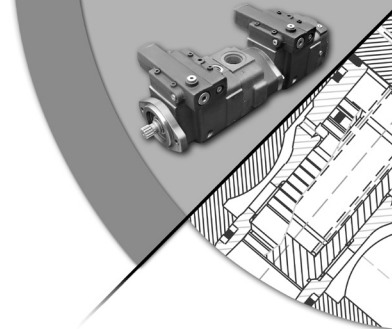
Valve Plate Table (X = Available)

	SA	GA	DA	SF	GF	DF	DR	TA
-011	X	X	X					X
-014	X	X	X					X
-022	X	X	X					X
-025	X						X	X
-034	X					X	X	
-046	X					X	X	
-064				X	X	X	X	
-076	X				X	X	X	
-098	X				X	X	X	
-130	X				X	X	X	

Shaft Table

Shaft Code	PVWJ-011/ -014-022	PVWJ-025/ -034-046	PVWJ-064/-076/ -098/-130
Y	.75" Keyed	.875" Keyed	1.25" Keyed
B	.875" Keyed	1.00" Keyed	—
S	SAE A Spline	SAE B Spline	SAE C Spline
C	SAE B Spline	SAE B-B Spline	—
D**	SAE A Spline	SAE B Spline	SAE C Spline

\*\*D shafts are "industrial" versions of S shafts



Installation Drawings	011, 014, 022	025, 034, 046	064, 076, 098, 130
<b>Pumps</b>			
Basic Pump Rear Ported	DS-47480	DS-47483	DS-47487
Basic Pump Side Ported (Top and Bottom)	DS-47481	DS-47484	DS-47489
Basic Pump Thru Shaft	DS-47482	DS-47485	DS-47489
Dual Pump Adapter	DS-47490		
<b>Controls</b>			
P-1NN,P-LNN Single Pressure Compensator	DS-47984	DS-47985	DS-47986
P-1NN,P-LNN /F, /J, /K Single Pressure Compensator w/Load Sense	DS-47987	DS-47988	DS-47989
P-1NN/H Single Pressure Compensator w/Horsepower Limiter		DS-48112	DS-48113
P-1NN/G,/C,/D Single Pressure Comp w/Horsepower Limiter w/Load Sense		DS-48115	DS-48116
P-A, P-B Electronic Proportional Pressure Compensator	DS-48108	DS-48109	DS-48110
P-C, P-K Single Pressure Soft Start	DS-47990	DS-47991	DS-47992
P-2 Dual Pressure Compensator	DS-48105	DS-48106	DS-48107
M-N, M-S Lever Operated	DS-47993		
M-H Handwheel	DS-47996	DS-47997	DS-47998

For additional technical information refer to the Application Guidelines bulletin 847015.

Information in this bulletin subject to change without notice. Current versions of the documents referenced in this bulletin may have a letter at the end to denote the revision level. The latest release of any of any document, including this one, can be found on the Oilgear website or by contacting your Oilgear representative.



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