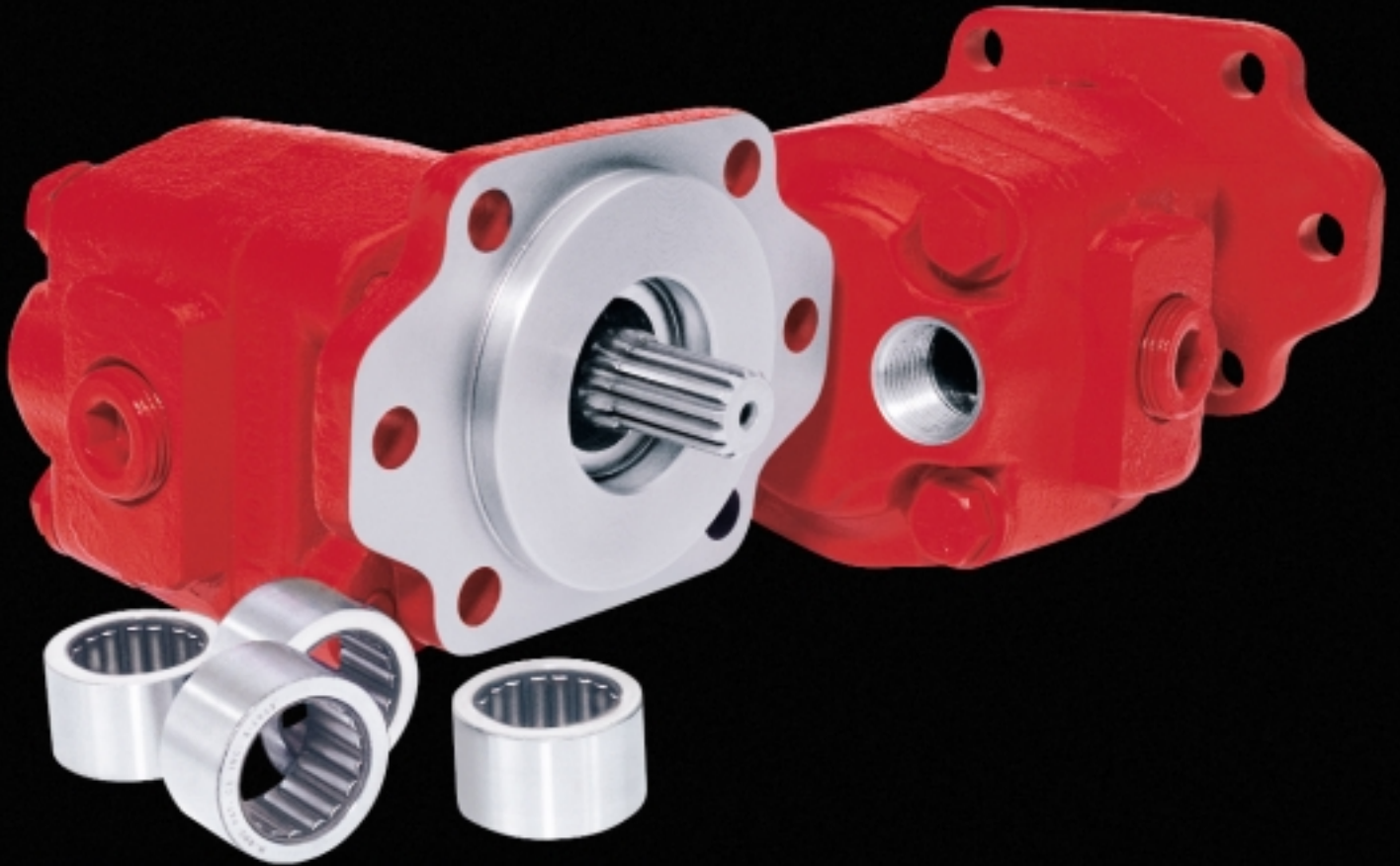




# K SERIES PUMP/MOTOR

SINGLE AND TANDEM MODELS



# K SERIES PUMP/MOTOR FEATURES

SEVEN PUMP SIZES — 4, 6, 8, 11, 13, 15, 17 GPM @ 1000 RPM (15, 23, 30, 42, 49, 57, 64 LPM @ 1000 RPM).

BI-ROTATIONAL PUMP/MOTOR — DESIGNED TO MEET BOTH APPLICATION NEEDS WITH A SINGLE UNIT. BI-ROTATIONAL FEATURE REDUCES INVENTORY REQUIREMENTS EVEN FURTHER.

HIGH GRADE CAST IRON — CASTINGS ARE POURED FROM HIGH GRADE IRON TO MEET THE HIGH PERFORMANCE REQUIREMENTS OF YOUR APPLICATION.

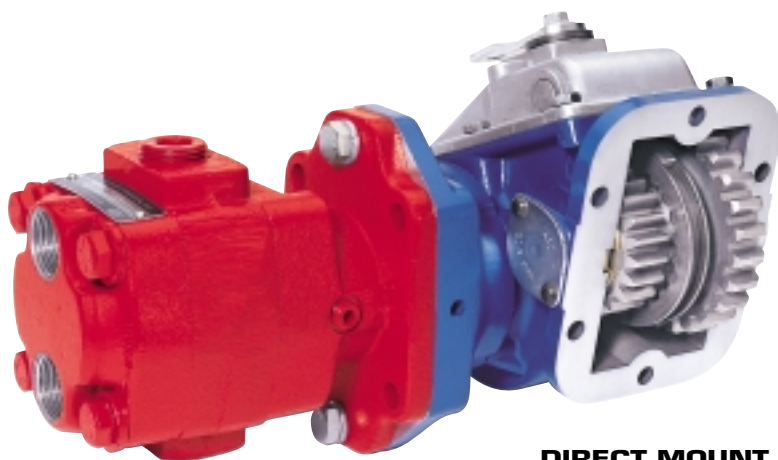
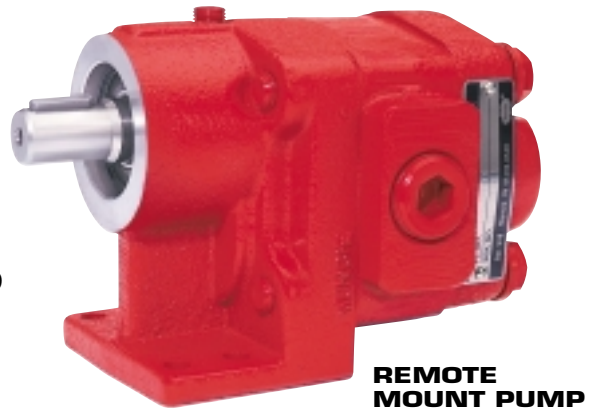
VERSATILE 4-PORT DESIGN — PORTING AT BOTH THE SIDE AND REAR GIVES YOU INSTALLATION FLEXIBILITY FOR THOSE TIGHT FITTING CHASSIS HOOK-UPS.

HIGH SPEEDS — HEAVY DUTY ROLLER BEARINGS PROVIDE FOR A BROAD RANGE OF SPEEDS FROM 600 – 3600 RPM TO MEET THE MOST SEVERE APPLICATION NEEDS, YET PROVIDE LONG PRODUCT LIFE.

HIGH PRESSURES — UP TO 3000 PSI (207 BAR) CAPABILITY FOR SEVERE REQUIREMENTS.

QUALITY CONTROL — ALL PUMPS ARE 100% TESTED BEFORE SHIPMENT. MANUFACTURING STATISTICAL PROCESS CONTROL (SPC) ENSURES THAT THE HIGHEST QUALITY COMPONENTS ARE USED.

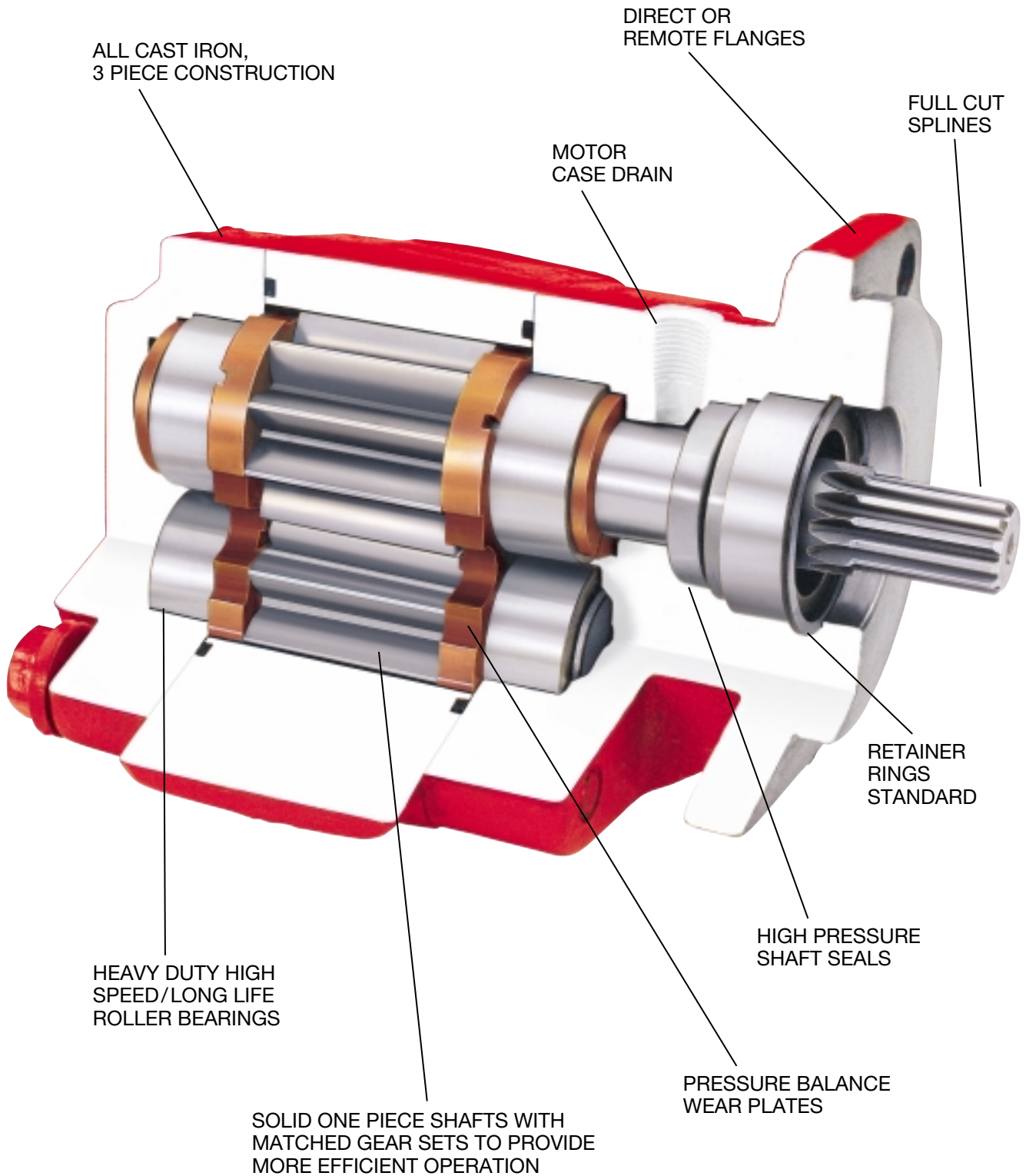
OPTIONS — FOUR DIFFERENT SHAFT TYPES AND FOUR DIFFERENT MOUNTING FLANGES PROVIDE OPTIMUM FLEXIBILITY IN CONNECTING TO YOUR POWER SOURCE.



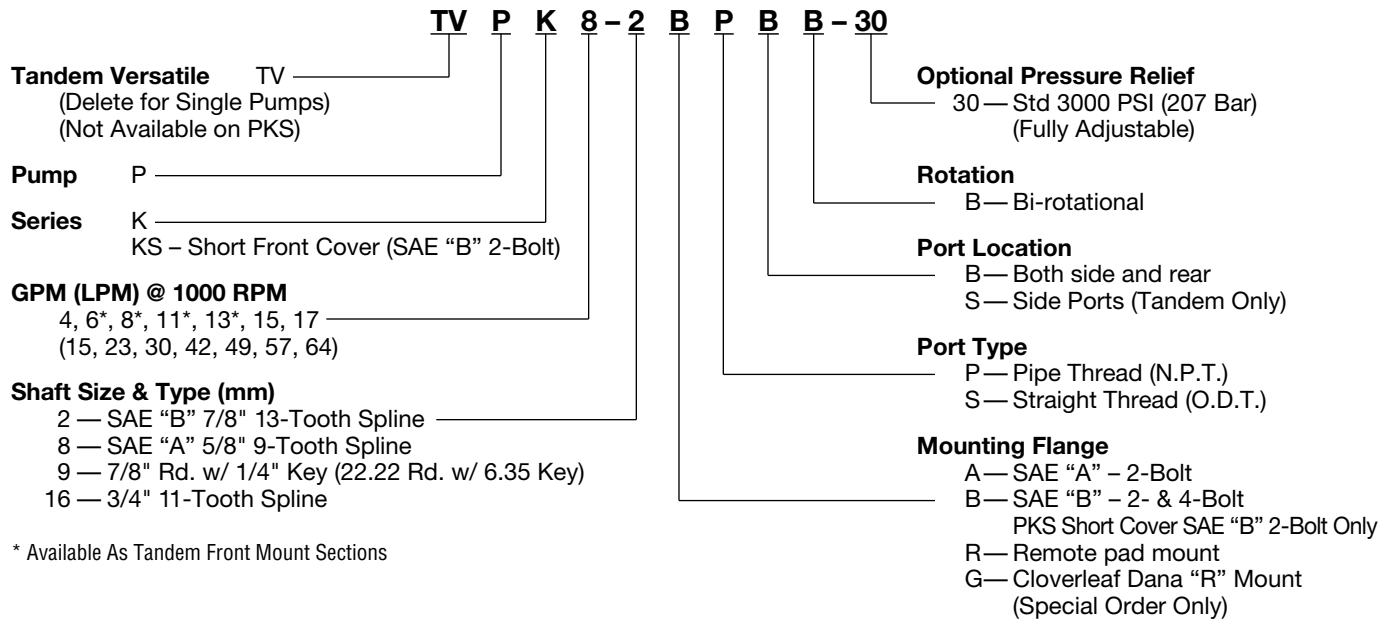
**DIRECT MOUNT PUMP  
WITH TG POWERFLEX PTO**

VARIETY OF APPLICATIONS — SNOW PLOWS, LIGHT DUTY EQUIPMENT, FARM BODIES, TOW TRUCKS, SMALL HOISTS, CHERRY PICKERS, LIFT GATES.

# PUMP CONSTRUCTION



# MODEL NUMBER CONSTRUCTION



## PUMP SPECIFICATIONS

MODEL NO.	DISPL. CU IN (CC)	MAX RPM	MIN RPM	MAX PSI (BAR)	N.P.T. SIDE PORTS	O.D.T. SIDE PORTS	N.P.T. REAR PORTS	O.D.T. REAR PORTS	MAX INLET VACUUM
PK4	0.98 (16)	3600	600	3000 (207)	1/2	5/8	1	1	5 In.Hg. (.17 BAR)
PK6	1.47 (24)	3600	600	3000 (207)	3/4	3/4	1	1	5 In.Hg. (.17 BAR)
PK8	1.97 (32)	3000	600	3000 (207)	1	1	1	1	5 In.Hg. (.17 BAR)
PK11	2.46 (40)	3000	600	3000 (207)	1	1	1	1	5 In.Hg. (.17 BAR)
PK13	2.96 (48)	2500	600	3000 (207)	1-1/4	1-1/4	1	1	5 In.Hg. (.17 BAR)
PK15	3.45 (57)	2500	600	2500 (172)	1-1/4	1-1/4	1	1	5 In.Hg. (.17 BAR)
PK17	3.94 (65)	2500	600	2500 (172)	1-1/4	1-1/4	1	1	5 In.Hg. (.17 BAR)

NOTE: Maximum oil temperature is 200°F (93°C). Never use Teflon Tape on pipe ports.

## MOTOR SPECIFICATIONS

MODEL NO.	DISPL. CU IN (CC)	MAX RPM	MIN RPM	MAX PSI (BAR)	N.P.T. SIDE PORTS	O.D.T. SIDE PORTS	N.P.T. REAR PORTS	O.D.T. REAR PORTS	MAX MOTOR* BACK PRES.
PK4	0.98 (16)	3600	600	3000 (207)	1/2	5/8	1	1	150 PSI (10 BAR)
PK6	1.47 (24)	3600	600	3000 (207)	3/4	3/4	1	1	150 PSI (10 BAR)
PK8	1.97 (32)	3600	600	2500 (172)	1	1	1	1	150 PSI (10 BAR)
PK11	2.46 (40)	3000	600	2500 (172)	1	1	1	1	150 PSI (10 BAR)
PK13	2.96 (48)	2500	600	2500 (172)	1-1/4	1-1/4	1	1	150 PSI (10 BAR)
PK15	3.45 (57)	2500	600	2500 (172)	1-1/4	1-1/4	1	1	150 PSI (10 BAR)
PK17	3.94 (65)	2500	600	2500 (172)	1-1/4	1-1/4	1	1	150 PSI (10 BAR)

NOTE: Maximum oil temperature is 200°F (93°C). Never use Teflon Tape on pipe ports.

\*Higher return line pressures or surges will require case drain to be plumbed and run directly back to the reservoir.

### Other Specifications:

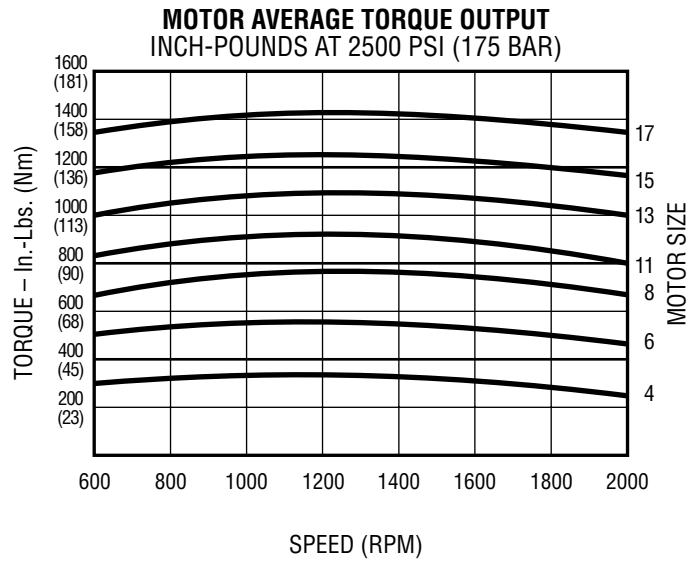
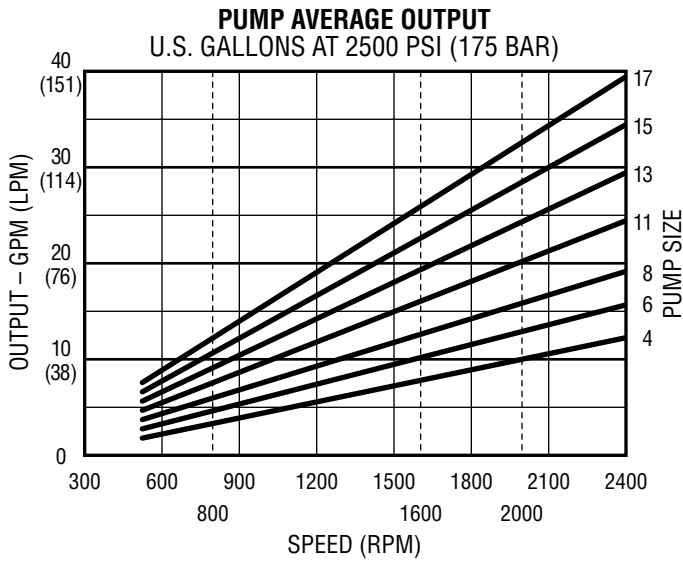
Maximum Temperature: 200°F (93°C)  
Recommended Filtration: 10 Micron  
Approximate Weights: 26–34 Lbs. (11.8–15.4 Kg)

Hydraulic Oil (See Page 7)  
For water based fluids derate pressure by 500 PSI (34 BAR). Maximum speed is 2000 RPM.



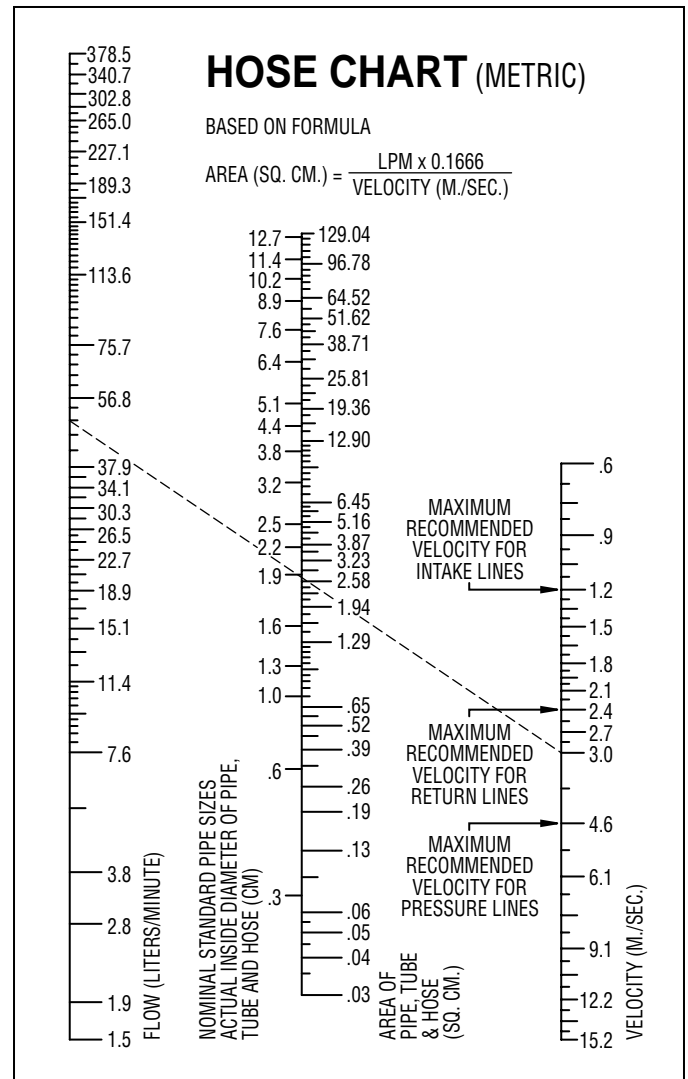
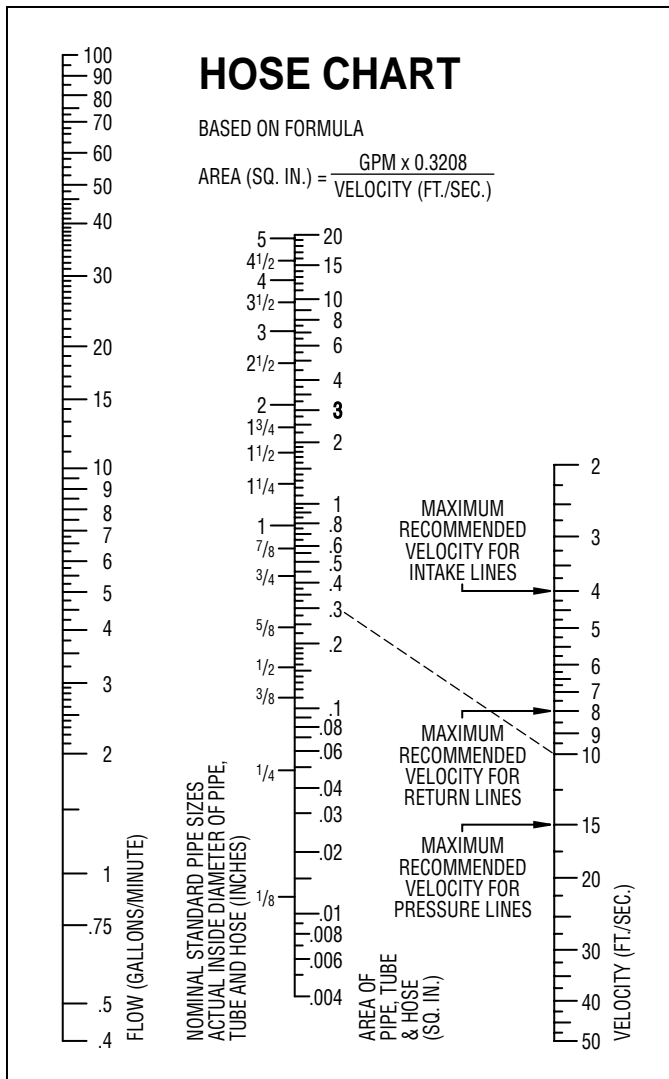


# PUMP/MOTOR OUTPUT



# FLOW CAPACITIES

For Pipe, Tube and Hose at Recommended Flow Capacities

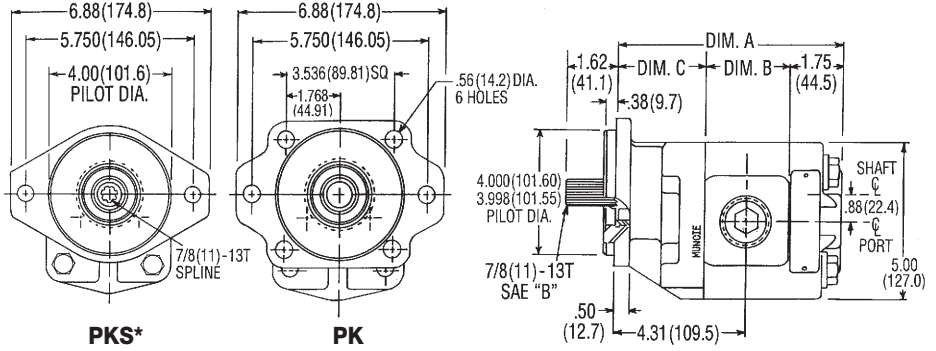


# INSTALLATION DIMENSIONS

## SINGLE PUMP "B" DIRECT MOUNT (SAE "B")

MODEL NO.	PK IN (MM)	PKS IN (MM)	DIM B IN (MM)
4	5.94 (150.9)	4.81 (122.2)	1.25 (31.8)
6	6.19 (157.2)	5.06 (128.5)	1.50 (38.1)
8	6.44 (163.6)	5.31 (134.9)	1.75 (44.5)
11	6.69 (169.9)	5.56 (141.2)	2.00 (50.8)
13	6.94 (176.3)	5.81 (147.6)	2.25 (57.2)
15	7.19 (182.6)	6.06 (153.9)	2.50 (63.5)
17	7.44 (189.0)	6.31 (160.3)	2.75 (69.9)

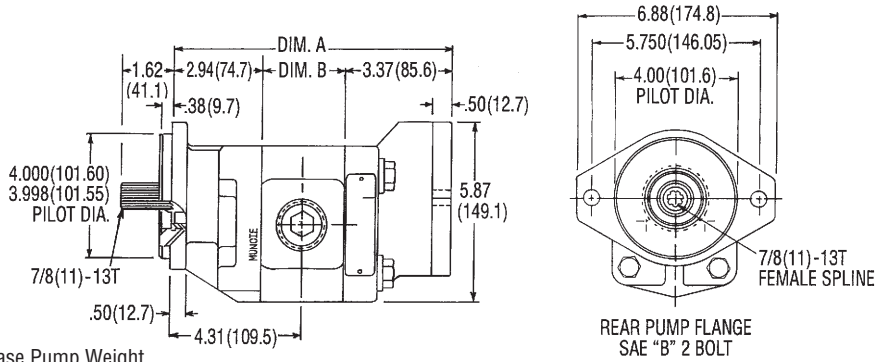
DIM C: PK 2.94 (74.7); PKS 1.81 (46.0)



\*Does Not Contain Case Drain, High Pressure Shaft Seal, Seal Retainer, or Snap Ring. Shafts Do Not Have Full Cut Spline.

## TANDEM VERSATILE (FRONT PUMP) SAE "B" SHOWN

MODEL NO.	DIM A IN (MM)	DIM B IN (MM)
6	7.81 (198.4)	1.50 (38.1)
8	8.06 (204.7)	1.75 (44.5)
11	8.21 (208.5)	2.00 (50.8)
13	8.56 (217.4)	2.25 (57.2)

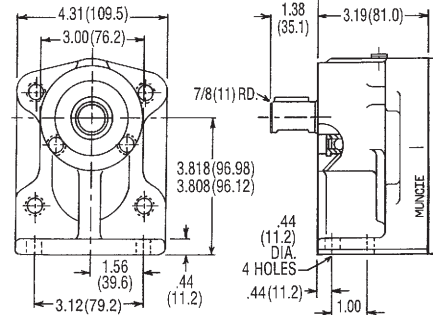
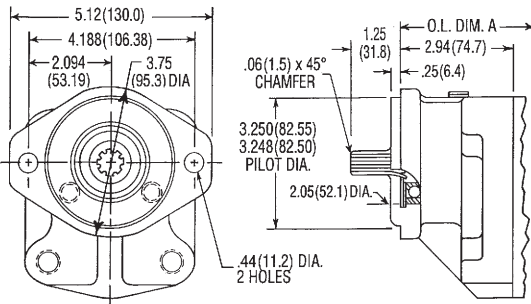


Notes: Not Available on PKS.  
Remote Mount Also Available. Add 3 lbs. (1.5 Kg) to Base Pump Weight.

## FRONT COVER OPTIONS

### "A" DIRECT MOUNT (SAE "A") IN (MM)

MODEL NO.	O.L. DIM A
4	5.94 (150.9)
6	6.19 (157.2)
8	6.44 (163.6)
11	6.69 (169.9)
13	6.94 (176.3)
15	7.19 (182.6)
17	7.44 (189.0)

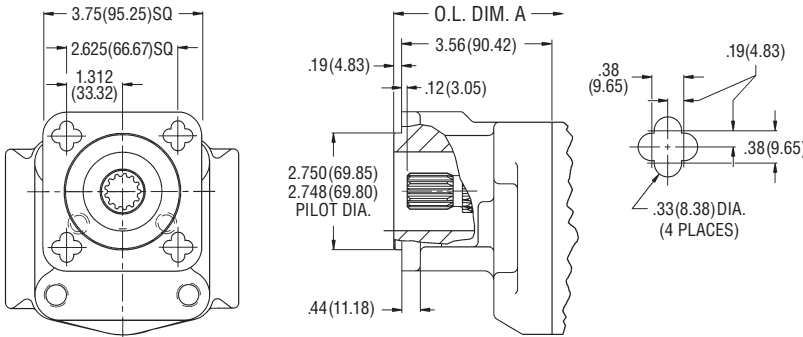


### "R" REMOTE MOUNT IN (MM)

MODEL NO.	O.L. DIM A
4	6.19 (157.2)
6	6.44 (163.6)
8	6.69 (169.9)
11	6.94 (176.3)
13	7.19 (182.6)
15	7.44 (189.0)
17	7.69 (195.3)

### "G" DIRECT MOUNT IN (MM)

MODEL NO.	O.L. DIM A
4	6.56 (166.6)
6	6.81 (172.9)
8	7.06 (179.3)
11	7.31 (185.6)
13	7.56 (192.0)
15	7.81 (198.4)
17	8.06 (201.7)



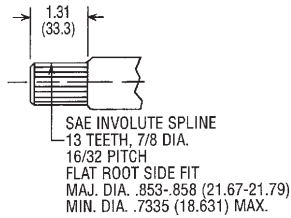
## Shaft Torque Limitations

The pump input shaft can withstand torques up to the designed shaft torque limitation (STL). This figure is based on multiplying the pump cu. in. displacement x the pump pressure (IE:  $D \times P \leq STL$ ). Tandem pumps are two pumps with individual calculated STLs added together not to exceed limitation figure.

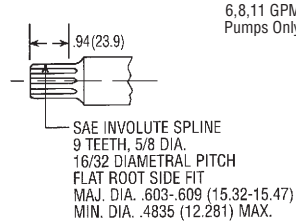


## SHAFT OPTIONS

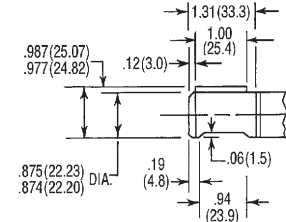
**Shaft Type #2** 7/8" 13T (SAE "B")  
STL ≤ 16,500



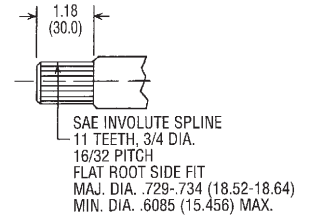
**Shaft Type #8** 5/8" 9T (SAE "A")  
STL ≤ 5,490



**Shaft Type #9** 7/8" Rd. w/ 1/4" Key  
STL ≤ 11,200



**Shaft Type #16** 3/4" 11T  
STL ≤ 10,114



## OIL RECOMMENDATIONS

Muncie does not promote specific manufacturers' brands of oil. Recommendations below are guidelines; consult oil manufacturer for exact application needs.

**Viscosity Range:**

Viscosity Minimum: 50-60 SUS (7.5-10.5 cST)  
Viscosity Optimum Continuous: 60-100 SUS (10.5-21.6 cST)  
Viscosity Maximum @ Startup: 7500 SUS (1600 cST)  
Viscosity Index: 90 Minimum

Aniline Point: 175 Minimum

Pour Point: 15°F (-10°C) Maximum  
Foam Resistance: Recommended  
Rust Resistance Inhibitors: Recommended  
Corrosion Resistance: Recommended  
Oxidation Stability: Recommended  
Anti-Wear Additive: .06% Zinc Minimum\*

**Note:** Cold weather operation requires special oil considerations. Viscosity should not exceed 7500 SUS (1600 cST) at lowest startup temperature. Continuous operation should range between 60-100 SUS (10.5-21.6 cST) for all temperature ranges. Never use diesel fuel or kerosene to thin oil.

\*Anti-Wear Additives are optional. Typical not required for gear pump or gear motor anti-wear, but some motor manufacturers may recommend.

## TROUBLESHOOTING GUIDE FOR HYDRAULICS

Hydraulic analysis and proper repair require the use of a vacuum gauge and pressure gauge for testing.

Possible Pump Trouble	Cause	Cure
<b>Aeration and cavitation: noisy pump</b>  Use vacuum gauge to isolate problem	Low oil supply. Heavy oil / cold oil / wrong oil. Dirty suction strainer. Suction line undersized. Restriction in suction line.	Fill to proper level. Change to proper oil. Clean and replace. Increase size. Remove and replace.
<b>Pump takes too long to respond or fails to respond</b>	Low oil supply. Insufficient relief valve pressure. Pump worn or damaged.	Fill to proper level. Use gauge to reset pressure. Repair or replace.
<b>Oil heating up</b>	Contamination in relief valve. Oil too light. Dirty oil. Oil level too low. Reservoir capacity too small. Insufficient relief valve pressure or pressure too high. Pump slippage.	Remove contaminants. Drain and refill with proper oil. Drain, flush, refill with clean oil. Fill to proper level. Install oil cooler. Use gauge to reset pressure. Repair or replace.
<b>Oil foaming</b>	Air leaking into suction line from tank to pump. Wrong kind of oil. Oil level too low. Improper tank or reservoir baffle. Return line above oil level. Damaged or worn shaft seal on pump.	Tighten all connections. Drain & refill w/non-foaming oil. Fill to proper level. Baffle correctly. Install below oil level. Replace shaft seal(s).
<b>Actuator slips</b>	Contamination damages control valve and allows check valve to leak. Cylinder or piston packing defective. Valve is cracked. Spool not centering. Incorrect oil. Load check stuck.	Clean out the system.  Repair or replace. Replace. Clean contaminants from valve or replace. Replace with correct oil. Open.



# ONE-YEAR PUMP WARRANTY

THE MUNCIE CAST IRON/ROLLER BEARING PUMP/MOTOR SERIES "K" IS WARRANTED AGAINST ANY DEFECT IN MATERIAL AND WORKMANSHIP WHICH EXISTED AT THE TIME OF SALE BY MUNCIE, ACCORDING TO THE FOLLOWING PROVISIONS, SUBJECT TO THE REQUIREMENTS THAT THE PUMP/MOTOR MUST BE USED ONLY IN ACCORDANCE WITH CATALOGUE AND PACKAGE INSTRUCTIONS, AND THE WARRANTY CARD MUST BE FILLED OUT AND RETURNED TO MUNCIE WITHIN TEN DAYS AFTER THE PUMP IS INSTALLED.

THE PUMP/MOTOR IS WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION. IF DURING THE WARRANTY PERIOD THE PUMP/MOTOR FAILS TO OPERATE TO MUNCIE'S SPECIFICATIONS DUE TO A DEFECT IN ANY PART IN MATERIAL OR WORKMANSHIP THAT EXISTED AT THE TIME OF SALE BY MUNCIE, THE DEFECTIVE PART WILL BE REPAIRED OR REPLACED, AT MUNCIE'S ELECTION, AT NO CHARGE, IF THE DEFECTIVE PART IS RETURNED TO MUNCIE WITH TRANSPORTATION PREPAID.



**WARNING.** THE ABOVE WARRANTY SHALL TERMINATE IF ANY ALTERATIONS OR REPAIRS ARE MADE TO THE PUMP/MOTOR OTHER THAN AT A SERVICE CENTER OWNED BY MUNCIE, OR IF THE PUMP/MOTOR IS USED ON ANY EQUIPMENT OTHER THAN THE EQUIPMENT UPON WHICH IT IS FIRST INSTALLED.

AS TO ANY CAST IRON/ROLLER BEARING PUMP/MOTOR SERIES "K" WHICH IS REBUILT AND RETESTED AT A SERVICE CENTER OWNED BY MUNCIE, THE PERIOD OF THE ABOVE WARRANTY IS EXTENDED FOR A PERIOD OF ONE ADDITIONAL YEAR FROM THE RETEST DATE.

**THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES, INCLUDING NEGLIGENCE AND ALL WARRANTIES OF MERCHANTABILITY AND SUITABILITY, EXPRESSED OR IMPLIED, AND STATE MUNCIE'S ENTIRE AND EXCLUSIVE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OF DAMAGES IN CONNECTION WITH THE SALE, REPAIR OR REPLACEMENT OF THE ABOVE GOODS, THEIR DESIGN, INSTALLATION OR OPERATION. MUNCIE WILL IN NO EVENT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND OUR LIABILITY UNDER NO CIRCUMSTANCES WILL EXCEED THE CONTRACT PRICE FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.**

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