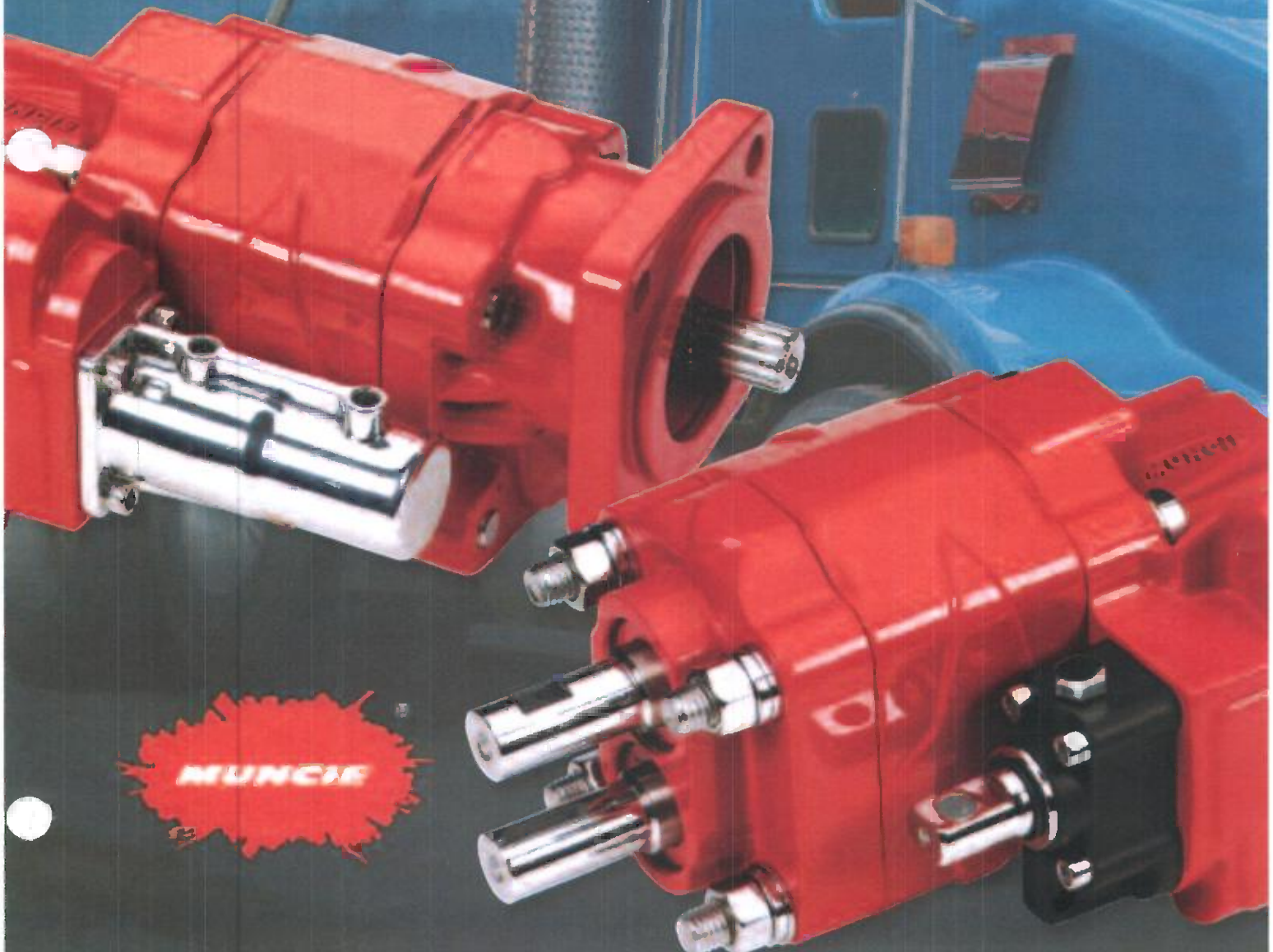


# E/EH SERIES

## DUMP PUMPS



# E/EH SERIES DUMP PUMPS

FOR DECADES, THE MUNCIE E SERIES DUMP PUMP DESIGN HAS BEEN THE STANDARD FOUND AS ORIGINAL EQUIPMENT ON NEARLY ALL DUMP BODIES AND END DUMP TRAILERS. THE DUMP PUMP, OR PUMP AND VALVE COMBINATION, HAS SUCCESSFULLY PROVIDED HYDRAULIC POWER FOR DUMP TRUCKS AND TRAILER DUMPS IN EVERY CONCEIVABLE APPLICATION.

THE EH SERIES PUMP HAS BEEN DESIGNED WITH MANY ENHANCED CAPABILITIES: LARGER INLET TO PROTECT THE PUMP AGAINST CAVITATION, LARGER RETURN PORT AND INTERNAL CORING PASSAGES TO REDUCE BACK PRESSURE IN 3-LINE INSTALLATIONS WHICH PROVIDES BETTER CYCLE TIME AND BETTER BEARING LIFE. IF YOU REQUIRE INCREASED FLOW RATES TO POWER LARGER EQUIPMENT WITH LARGER CYLINDERS, THEN THE EH SERIES HAS THE PROPER SIZE PUMP FOR YOU. ALL OF THESE FEATURES MAKE IT THE DUMP PUMP TO USE FOR THE 21ST CENTURY.

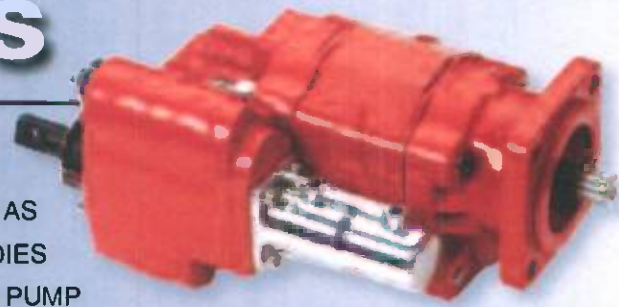
WHETHER IT'S FOR NEW EQUIPMENT OR TO GIVE NEW LIFE TO EXISTING EQUIPMENT, THE MUNCIE E/EH SERIES PUMPS WILL PROVIDE THE SOLID PERFORMANCE AND HYDRAULIC RELIABILITY NEEDED FOR YOUR FLEET.

## WHY USE A 3-LINE DUMP SYSTEM?

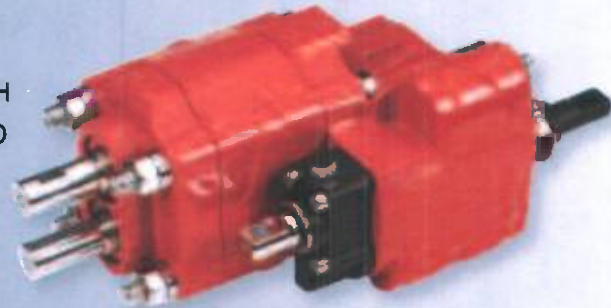
MANY DUMP BODIES FUNCTION QUITE ADEQUATELY WITH A 2-LINE DESIGN. HOWEVER, A 3-LINE SYSTEM INCLUDES A SEPARATE LINE TO RETURN HYDRAULIC OIL FROM THE CYLINDER DIRECTLY TO THE RESERVOIR INSTEAD OF PASSING OVER THE PUMP RELIEF.

THE SEPARATE LINE IS RECOMMENDED WHEN USED FOR ROAD BUILDING OR STOCKPILING MATERIAL BECAUSE THE 3-LINE PUMP ALLOWS FASTER DOWN CYCLES, PROVIDES AN EASIER METHOD OF FILTERING THE HYDRAULIC OIL, AND ULTIMATELY RUNS COOLER.

IN ADDITION TO YOUR CHOICE OF SIZES, THERE ARE SHIFT OPTIONS AND A CHOICE BETWEEN REMOTE MOUNT OR DIRECT MOUNT TO THE PTO DRIVE.



**DIRECT MOUNT**

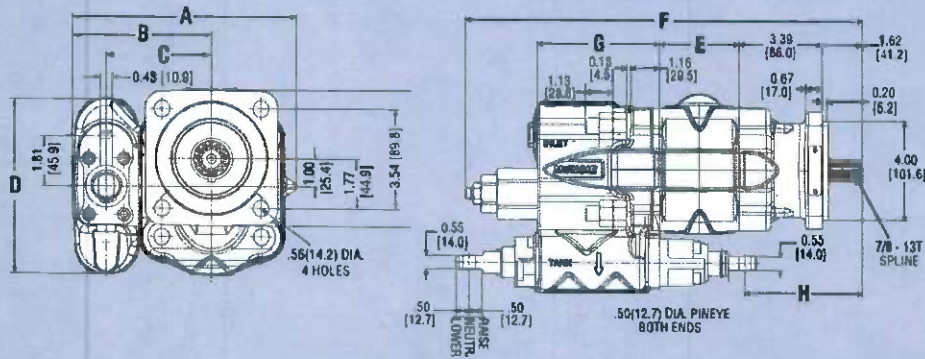


**REMOTE MOUNT**

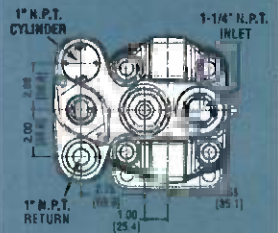


# E/EH SERIES MOUNTING DIMENSIONS IN INCHES (MM)

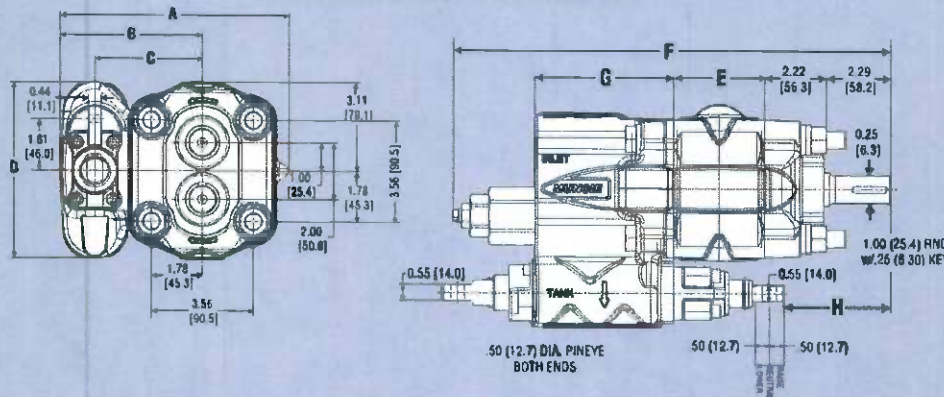
## DIRECT MOUNT



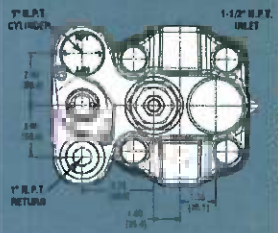
## E SERIES PORTS



## REMOTE MOUNT



## EH SERIES PORTS



## DIRECT MOUNT DIMENSIONS

SERIES/MODEL GPM (LITERS)	DIM A IN (MM)	DIM B IN (MM)	DIM C IN (MM)	DIM D IN (MM)	DIM E IN (MM)	DIM F IN (MM)	DIM G IN (MM)	DIM H IN (MM)
E /23 (87)	7.97 (202.4)	5.00 (127.0)	3.75 (95.3)	6.25 (158.8)	2.75 (69.9)	15.62 (396.7)	4.97 (126.2)	4.31 (109.5)
E /27 (102)	7.97 (202.4)	5.00 (127.0)	3.75 (95.3)	6.25 (158.8)	3.25 (82.6)	16.12 (409.4)	4.97 (126.2)	4.81 (122.2)
EH/23 (87)	8.34 (211.8)	5.38 (136.7)	3.95 (100.3)	6.69 (169.9)	2.75 (69.9)	15.64 (397.3)	5.41 (137.4)	3.81 (96.7)
EH/27 (102)	8.34 (211.8)	5.38 (136.7)	3.95 (100.3)	6.69 (169.9)	3.25 (82.6)	16.14 (409.9)	5.41 (137.4)	4.31 (109.5)

## REMOTE MOUNT DIMENSIONS

SERIES/MODEL GPM (LITERS)	DIM A IN (MM)	DIM B IN (MM)	DIM C IN (MM)	DIM D IN (MM)	DIM E IN (MM)	DIM F IN (MM)	DIM G IN (MM)	DIM H IN (MM)
E /23 (87)	7.97 (202.4)	5.00 (127.0)	3.75 (95.3)	6.25 (158.8)	2.75 (69.9)	15.12 (384.0)	4.97 (126.2)	3.81 (96.7)
E /27 (102)	7.97 (202.4)	5.00 (127.0)	3.75 (95.3)	6.25 (158.8)	3.25 (82.6)	15.62 (396.7)	4.97 (126.2)	4.31 (109.5)
EH/23 (87)	8.34 (211.8)	5.38 (136.7)	3.95 (100.3)	6.69 (169.9)	2.75 (69.9)	15.00 (381.0)	5.41 (137.4)	3.31 (84.1)
EH/27 (102)	8.34 (211.8)	5.38 (136.7)	3.95 (100.3)	6.69 (169.9)	3.25 (82.6)	15.63 (397.0)	5.41 (137.4)	3.81 (96.7)



# E/EH SERIES PUMP SPECIFICATIONS

## PUMP SPECIFICATIONS

SERIES/MODEL GPM (LITERS)	DISPLACEMENT CUBIC IN (CC)	WT.** LBS (KG)	MAX* RPM	MIN* RPM	MAX* PRES PSI (BAR)	INLET N.P.T. PORT	CYLINDER N.P.T. PORT	RETURN N.P.T. PORT
E /23 (87)	5.20 (85.23)	67 (30.4)	2500	800	2500 (173)	1-1/4	1	1
E /27 (102)	6.37 (104.40)	69 (31.3)	2500	800	2500 (173)	1-1/4	1	1
EH/23 (87)	4.95 (81.13)	68 (30.8)	2500	800	2500 (173)	1-1/2	1	1-1/4
EH/27 (102)	6.60 (106.00)	70 (31.7)	2500	800	2500 (173)	1-1/2	1	1-1/4

\* Intermittent duty cycles only. Not recommended for ejector, conveyor, or moving floor type equipment.

\*\* Weights listed are for remote mount pumps without brackets. For direct mount pumps add 2 lbs. (0.9 kg).

## PUMP OPTIONS

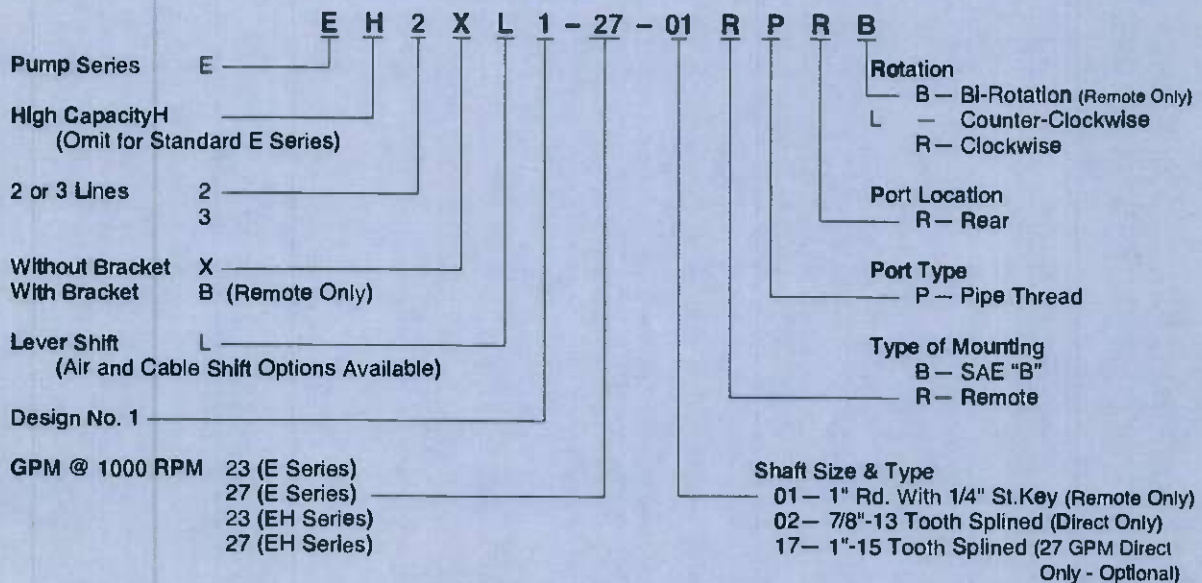
PUMP SERIES	CONVERSION SLEEVE	REMOTE MOUNT MOUNTING BRACKET	AIR CYLINDER ASSEMBLY*	LEVER TO CABLE* HOOK-UP (REMOTE MT)	LEVER TO CABLE* HOOK-UP (DIRECT MT)
E	AA-1257	B1235	ACM-300/302	EHK-R	EHK-DL/EHK-DR**
EH	AA-1257-2	B1235	ACM-300/302	EHK-R	EHK-DL/EHK-DR**

\* Kit includes attaching bolts. Kit does not include any consoles, cables, or air valves to make kit shift. Contact Muncie for complete console accessories.

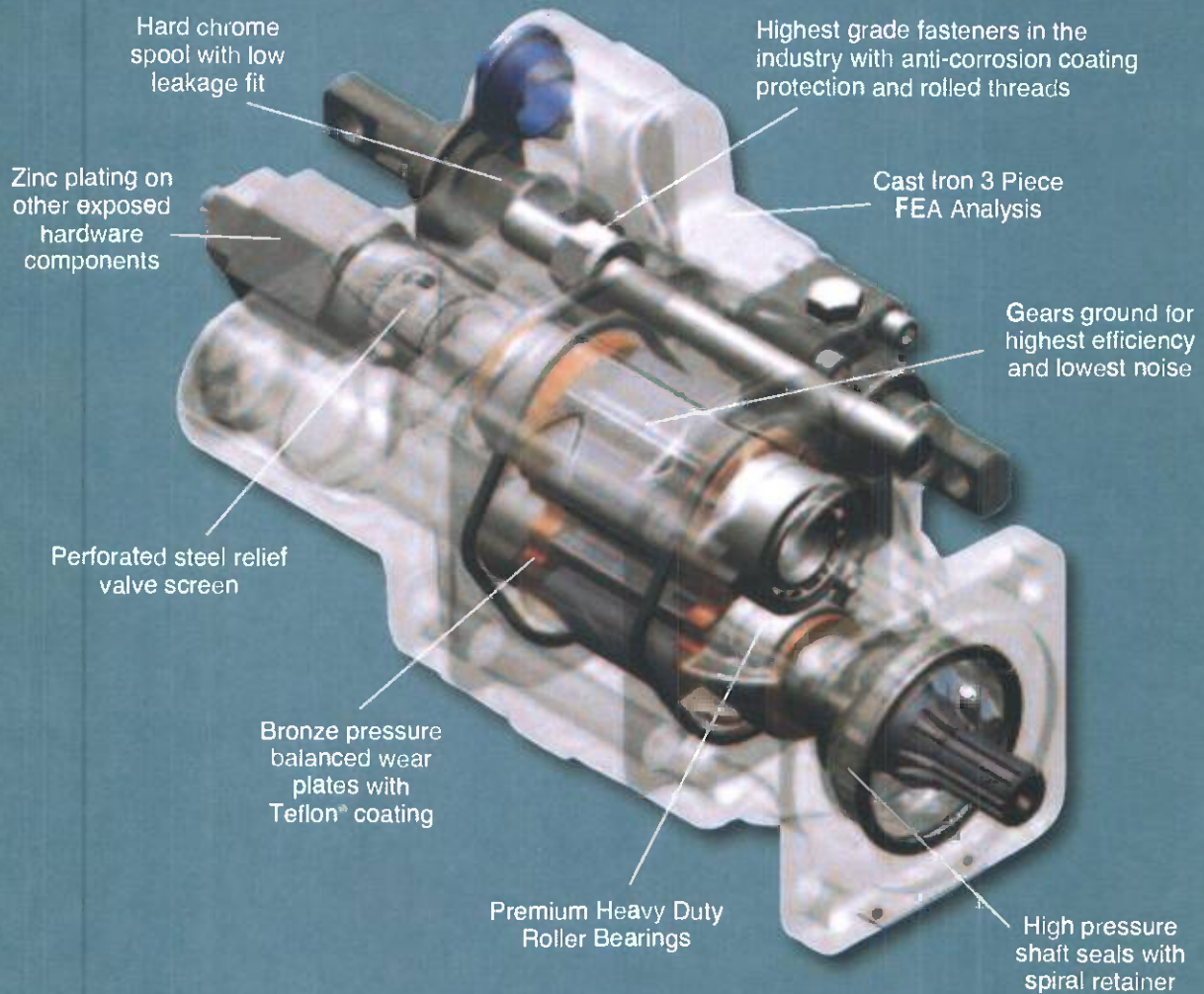
\*\* EHK-DL is for counter-clockwise rotation, and EHK-DR is for clockwise rotation.

- NOTES:**
- Maximum oil temperature is 200°F (93.5°C).
  - Never use Teflon tape on pipe ports.
  - Relief valve preset at 2000 psi (138 Bar)
  - Maximum inlet vacuum is 5 inches Hg (.17 Bar).
  - Third line (Return) must be below oil level at all times.
  - Always use suction hose (SAE-100R4) on pump inlet.

## MODEL NUMBER CONSTRUCTION



## PUMP FEATURES AND CONSTRUCTION E SERIES SHOWN



- 23 & 27 GPM SIZES • STANDARD AND HIGH FLOW "H" VERSIONS • PRESSURES TO 2500 PSI
- PTO DIRECT MOUNT OR TWIN SHAFT REMOTE • PORT I.O. CAP PLUGS AND CASTING STAMP
- OPTIONAL AIR OR CABLE SHIFTING • INTERCHANGES WITH PARKER, PERMCO, & OTHERS
- INTEGRAL VALVE FOR 2 OR 3 LINE SYSTEM • BUILT IN RELIEF VALVE WITH LOAD CHECK
- LONG ASSEMBLY STUDS FOR SUPPORT BRACKETS • ANTI PULL OUT SAFETY CAP
- SPEEDS TO 2500 RPM

\* INTERMITTENT DUTY CYCLES ONLY. NOT RECOMMENDED FOR EJECTOR, CONVEYOR, OR MOVING FLOOR TYPE EQUIPMENT.



# ONE YEAR PUMP WARRANTY

(3 YEAR WARRANTY OPTIONAL)



THE MUNCIE CAST IRON/ROLLER BEARING PUMP RED E/EH SERIES 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 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 IS WARRANTED FOR A PERIOD OF ONE YEAR FROM DATE OF INSTALLATION. IF DURING THE WARRANTY PERIOD THE PUMP 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.

**THREE YEAR WARRANTY.** BOTH THE MUNCIE E/EH SERIES DUMP PUMP AND CS/TG SERIES PTOs ARE WARRANTED FOR A FULL THREE YEARS WHEN COMBINED WITH THE COMPLETE MUNCIE TRACTOR WETLINE KIT WITH POLYETHYLENE HYDRAULIC RESERVOIR AND HOSES. ALL ADDITIONAL WARRANTY DETAILS DESCRIBED FOR THE POLYETHYLENE HYDRAULIC OIL RESERVOIR APPLIES.

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

AS TO ANY CAST IRON/ROLLER BEARING PUMP RED E/EH SERIES 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.

## PTO & DUMP PUMP SHIFTER OPTIONS

PTO/Pump  
Control Consoles  
DPC2-XXXX  
Brochure MP06-03



PTO/Pump  
Airshift  
Console  
ASC2  
Brochure  
MP04-01

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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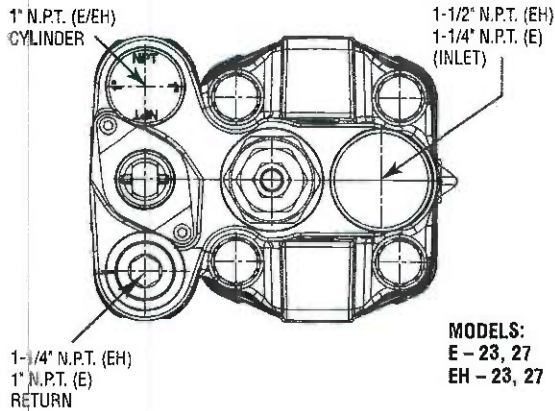
# E/EH SERIES DUMP PUMPS

## INSTALLATION INSTRUCTIONS

Product designed for dump body applications only.

**! DANGER:** Never work on a raised dump bed without proper body props and supports.

### PLUMBING INSTRUCTIONS



Do not use Teflon Tape as a thread sealant. The use of Teflon Tape will void all warranties expressed or implied for this product.

Always use suction hose (SAE-100R4) on pump inlet.

Three line hook-up requires conversion sleeve No. AA-1257 (AA-1257-2 for the EH) in inlet port. Always route third line so it is below the oil level at all times.

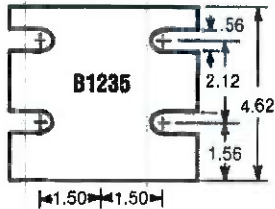
Two line hook-up has return port plugged and **NO** sleeve.

Port sizes are different between the E and EH. See drawing at left.

**SPECIAL NOTE:** For long term product life and improved pump performance always use a three line hook-up. The two line system will reduce product life. A two line system operated for extended running times will result in excessive heat build up and subsequent damage.

**! CAUTION:** The relief valve is pre-set at 2000 PSI  $\pm$  5% Adjustable to (but do not exceed) 2500 PSI

### MOUNTING INSTRUCTIONS – REMOTE MOUNT

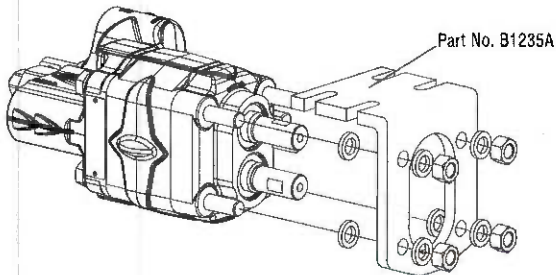


Twin shafted remote mount pumps require optional mounting bracket No. B1235.

Remove nuts and spacers. Slide bracket over bolts, replace washers and tighten nuts. This procedure does not open the pump.

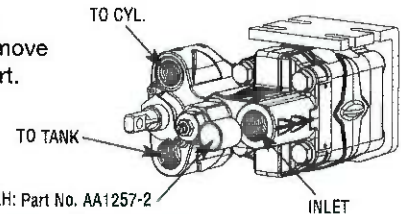
**! WARNING:** The rotating shaft between PTO and pump should be shielded with appropriate guard.

Driveline angles should not exceed 12°. Maximum speed for solid shafting is 1000 RPM. Consult driveline manufacturer for specifications. Pump and PTO shafts must be parallel within 1.5°.



### CONVERSION SLEEVE INSTALLATION

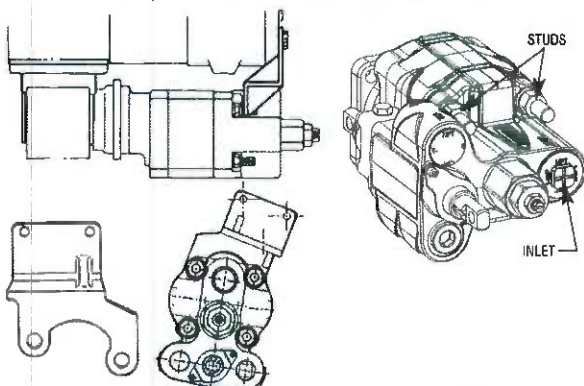
To convert to 3-line operation install sleeve in inlet port. Remove pipe plug from tank return port.



E: Part No. AA1257, EH: Part No. AA1257-2

### MOUNTING INSTRUCTIONS – DIRECT MOUNT

#### EXAMPLES OF BRACKET CONSTRUCTION

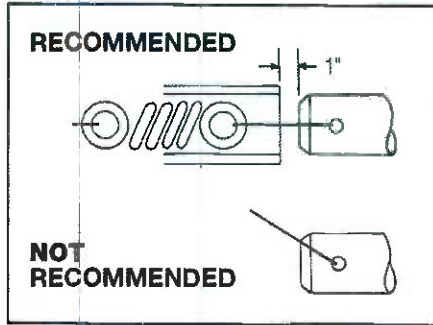


Direct mount pumps are provided with extended studs and extra nuts for support of pump. A bracket attached to two or more transmission bolts is required. The bracket design should assure that there is no stress or force exerted on the pump or PTO shaft. If vertical supports are greater than 20° off of perpendicular with the transmission main shaft then a reinforced "Z" bracket must be used. Reinforce horizontal members to prohibit flexing at bend or weld.

Attach the bracket at the pump bolt closest to the center of gravity of the pump. Consult Muncie PTO Owner's Manual for special recommendations.

Always apply anti-seize grease to shaft splines before installing into PTO if not done by the manufacturer. Reapply annually or sooner for severe use. PTOs with greasable shaft splines are available. Contact Muncie Power Products for additional information.

## PULL OUT CABLES (NEUTRAL SAFETY STOP)



This clevis hole is part of a neutral stop device and is provided for those applications using a "pull-out" cable. This device allows the cable to move the spool from the raise position to the neutral position, only. As shock loading is possible, it is essential that a spring be incorporated in the pull-out cable hook-up. Failure to do so could result in breakage of the neutral stop device and could lead to injury. We recommend that the cable be fully enclosed and directly in line with the valve spool. Use spring part No. PS-1233V.

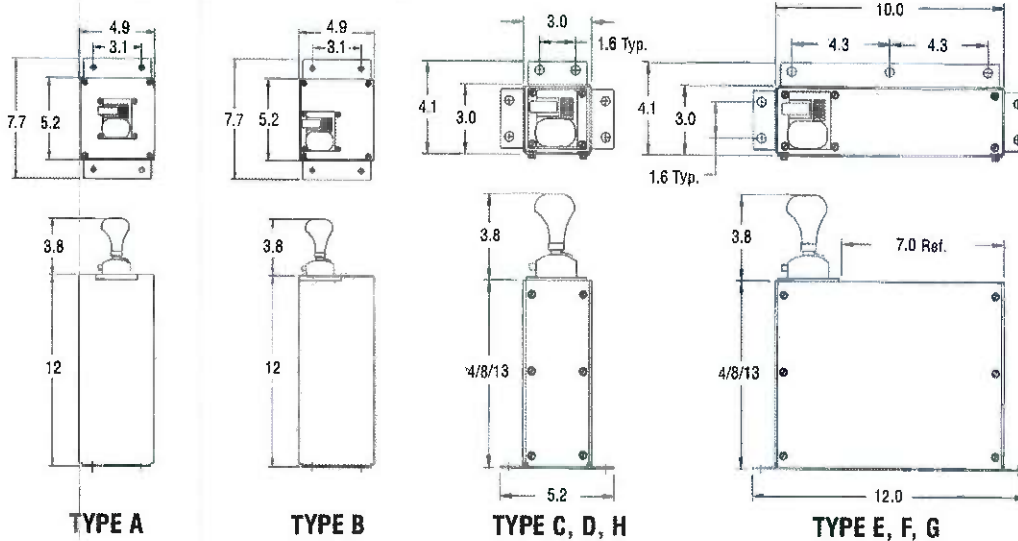
**NOTE:** Never use a pull-out cable on an air shift pump as exact spool position cannot be adequately controlled. Instead use 1436A-1 safety limit dump valve on raise side of air cylinder.

## LEVER CONTROLS

**WARNING:** If valve is to be shifted by lever and rod linkage type control, the installer is responsible for fitting the lever with a neutral locking device to prevent the accidental shifting of the valve spool and accidental raising of the dump body. Muncie offers a complete line of in-cab consoles and controls as listed below.

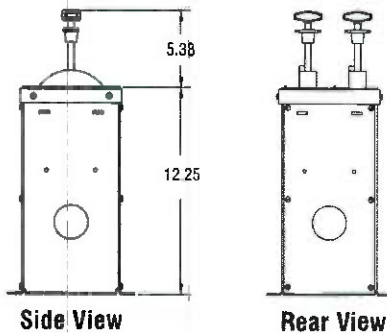
Lever control rods must be attached to the spool on the front side of pump. Lever control rods cannot be attached to the spool on the rear side due to the neutral safety stop components. On direct mount units, accessibility to the spool eye can be improved by ordering kit No. EHK-DR (Discard unused parts).

## OTHER CONTROLS DIMENSIONS IN INCHES



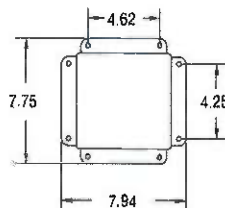
### ASC2-\*\*\*

Consoles offer within the industry the largest variety of dump body feathering controls (six models w/wo automatic PTO kick out and various detent positions) with multiple console choices for customizing with user accessories. See Muncie brochure number MP04-01 for complete details.



Side View

Rear View



Top View (of Base)

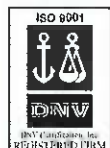
**DPC2\*\*\*** Heavy duty cable controls and consoles offer the feel of a lever while providing the installation convenience and features of heavy duty, vinyl coated cables. Air/Cable option available, Easy-grip T-handle design with increased leverage for low operator effort. Features include removable access panels, backlit labels, panel knockouts for routing wires or air lines. Optional accessory brackets also available. See Brochure MP06-03



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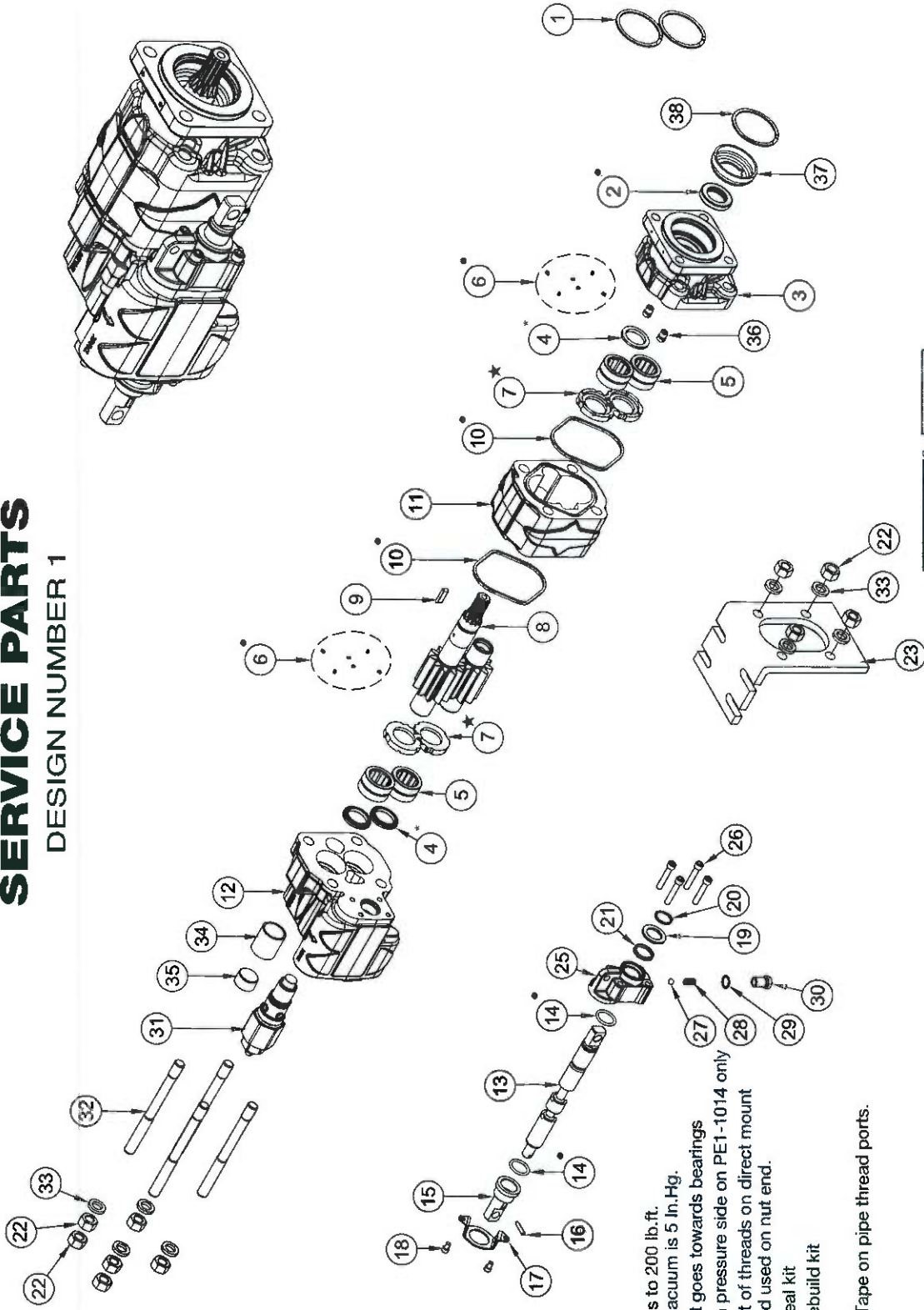
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# E/EH SERIES DUMP PUMP SERVICE PARTS

DESIGN NUMBER 1



- NOTE: Torque bolts to 200 lb.ft.  
 Maximum vacuum is 5 in.Hg.
- \* Ring seal slot goes towards bearings
  - \*\* Hole goes on pressure side on PE1-1014 only
  - \*\*\* "Coined" part of threads on direct mount extended stud used on nut end.
  - Included in seal kit
  - ★ Included in rebuild kit

Do not use Teflon Tape on pipe thread ports.



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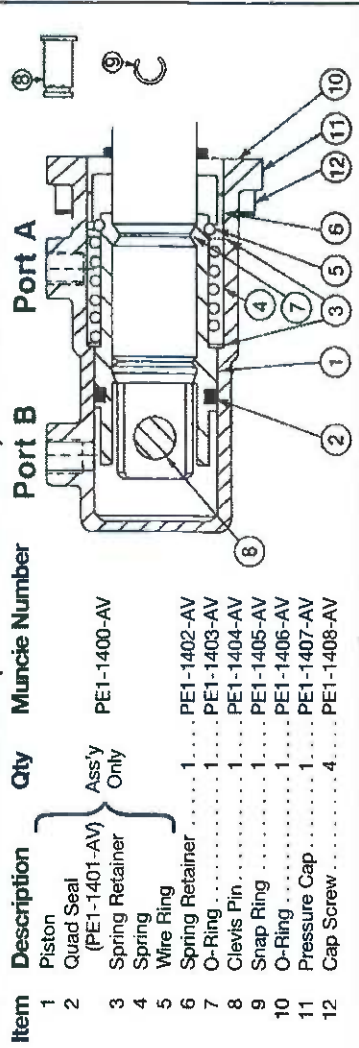
# E/EH SERIES DUMP PUMP SERVICE PARTS

Item	Description	Qty	Muncie Number
1	Snap Ring Remote Mount	2	PE1-1004
2	Shaft Seal Remote Mount	2	PE1-1005
3	Shaft Seal Direct Mount	1	PL1-1005
3	Front Cover Direct Mount	1	PE1-1007-KLXXX
4	Front Cover Remote Mount	1	PE1-1007-RSXXX
4	Ring Seal	3	PL1-1008
5	Bearings	4	PL1-1013
6	Pocket Seals (12 pieces)	1	PS1-1009-EK
7	Wear Plates Remote Mount	2	PE1-1014 *
7	Wear Plates Direct Mount	2	PL1-1014
8	Gear Set 1 Round 23GPM Remote Mount	1	PE1-1016-K01-23-2
8	Gear Set 1 Round 27GPM Remote Mount	1	PE1-1016-K01-27-2
8	Gear Set 7/8 - 13T 23GPM Direct Mount	1	PE1-1016-S02-23-2
8	Gear Set 7/8 - 13T 27GPM Direct Mount	1	PE1-1016-S02-27-2
9	Key Remote Mount (0.25x0.375x1.25)	2	PS1-1017
10	Body Seal Front Cover	2	PL1-1012
11	Body 23GPM	1	PE1-1025-23XX
11	Body 27GPM	1	PE1-1025-27XX
12	Rear Cover Direct Mount	1	NA
12	Rear Cover Remote Mount	1	NA
13	Valve Spool	1	NA
14	Spool O-Ring	2	PE1-1214-V
15	End Stop Cap	1	PE1-1206-V
16	Stop Pin	1	PS1-1216-V
17	Stop Spool Bracket	1	PE1-1207-V
18	Bracket Screws (1/4-20UNC x 3/8)	2	PS1-1218-V
19	Retainer Ring	1	PE1-1201-V
20	Snap Ring	1	PE1-1202-V
21	Retainer Wiper Seal Ring	1	PE1-1204-V
22	Nut (5/8-11 UNC)	4 or 6	PE1-1020
23	Remote Mounting Bracket	1	B1235, B1235A
25	Spool Cover	1	PE1-1203-V
26	Spool Cover Screws	4	PE1-1205-V
27	Detent Ball	1	PS1-1227-V
28	Detent Spring	1	PS1-1228-V
29	Detent Lockwasher	1	PS1-1229-V
30	Detent Retainer	1	PS1-1230-V
31	Relief Valve Assembly	1	PE1-1231-V
32	Capscrew 23GPM (5/8-11UNC x 7)	4	PE1-1028-23
32	Capscrew 27GPM (5/8-11UNC x 7-1/2)	4	PE1-1028-27
32	Stud 23GPM (5/8-11UNC x 7)	4	PE1-1028-23-S
32	Stud 27GPM (5/8-11UNC x 7-1/2)	4	PE1-1028-27-S
33	Washer	4 or 8	PE1-1230
34	Conversion Sleeve E	1	AA-1257
34	Conversion Sleeve EH	1	AA-1257-2
35	Pipe Plug (1")	1	HHPP-16Z
36	Check Valve Assembly (direct mount)	2	PS1-1010
37	Retainer/Spacer (direct mount)	1	PE1-1002-D
38	Snap Ring Direct Mount	1	PL1-1001

Item	Description	Qty	Muncie Number
1	N.S. Seal & O-Ring Kit Direct Mount E/EH 23/27 GPM	kit.	GSK-E-121
1	Seal & O-Ring Kit Remote Mount E/EH 23/27 GPM	kit.	GSK-E-122
1	Rebuild Kit Direct Mount E/EH 23/27 GPM	kit.	RBK-E-121
1	Rebuild Kit Remote Mount E/EH 23/27 GPM	kit.	RBK-E-122
1	Bearing Kit	kit.	PL1-1013-K
1	Relief Valve Seal Kit E/EH 23/27 GPM	kit.	GSK-E-12RV

\* Hole in wear plate goes on pressure side.  
Gears are only sold in sets and cannot be serviced individually.  
Rear cover and valve spool are not sold as service parts.

## AIR CYLINDER KIT: ACM302 (Fits both E/EH Series) Ports are 1/8" - 27 NPT



Item	Description	Qty	Muncie Number
1	Piston	1	PE1-1400-AV
2	Quad Seal (PE1-1401-AV)	1	PE1-1402-AV
3	Spring Retainer	1	PE1-1403-AV
4	Spring	1	PE1-1404-AV
5	Wire Ring	1	PE1-1405-AV
6	Spring Retainer	1	PE1-1406-AV
7	O-Ring	1	PE1-1407-AV
8	Clevis Pin	1	PE1-1408-AV
9	Snap Ring	1	PE1-1409-AV
10	O-Ring	1	PE1-1410-AV
11	Pressure Cap	1	PE1-1411-AV
12	Cap Screw	4	PE1-1412-AV



# Hydraulic Pump

## TROUBLESHOOTING GUIDE

Condition	Likely Cause	Correction
<b>No oil flow from pump.</b>	No oil in reservoir.	Fill reservoir with approved fluid.
	Closed shut-off valve.	Open valve.
	Air lock in pump inlet hose.	Use compressed air to pressurize reservoir while running pump or fill inlet hose with oil from the pump end.
	Pump is wrong rotation for application.	Replace or re-configure pump to correct rotation.
	Hoses are reversed.	Change inlet and pressure hose locations.
	PTO not engaged.	See "PTO Troubleshooting"
	Pump worn or damaged.	Repair or replace pump.
<b>Pump will not build/hold pressure.</b>	Relief valve improperly set.	Adjust relief valve to manufacturers specification.
	Relief valve stuck open.	Remove, clean, and re-set to specification.
	Pump worn or damaged.	Repair or replace pump.
<b>Pump is noisy.</b>	Aeration ( <i>air in system</i> ).	See "Oil foaming".
	Cavitation ( <i>Cavitation is caused by excessive vacuum at the pump inlet. Test with a vacuum gauge at the inlet port. Gauge should register under 5 Hg/in. at normal operating speed and temperature.</i> )	Increase inlet hose size. Re-route inlet hose. Check for kinked or collapsed inlet hose. Check for clogged reservoir breather or strainer.  Inlet hose should be S.A.E. type 100R4 hose only.
<b>PUMP LEAKS:</b> <b>At shaft seal.</b>  <b>At body section.</b>  <b>At pump port.</b> ( <i>DO NOT use Teflon tape on pipe thread fittings!</i> )	Dirt under seal.	Replace seal. Examine pump shaft for scoring.
	Damaged seal or pump body.	Replace seal or body section.
	Improperly fitted seal.	Replace seal.
	Damaged o'ring or body.	Replace o'ring or body section.
	Improper torquing of bolts.	Torque to specification.
	Loose fitting.	Tighten fitting.
	Damaged fitting.	Replace fitting.
	Damaged pump body.	Replace body section.
	<b>Pump is hot.</b> ( <i>Oil temperature should not exceed 140° F (60° C)</i> )	Low oil level.
Reservoir too small.		Increase reservoir size.
Dirty oil.		Replace oil and filter.
Relief valve stuck open.		Remove, clean, and re-set.



# Hydraulic Pump

TROUBLESHOOTING GUIDE - PAGE 2

Condition	Likely Cause	Correction
<b>Pump is hot</b> <i>(continued)</i>	Relief valve improperly set.	Adjust relief valve to manufacturer's specification.
	Pump too large for application.	Review application. Replace with correct model.
	Undersized system component.	Review application. Replace with correct model.
	Improper weight oil.	Replace with correct oil.
	Low oil level.	Fill reservoir.
<b>Oil foaming</b>	Loose inlet fitting.	Tighten fitting.
	Damaged shaft seal.	Replace seal.
	Leak in inlet hose.	Replace hose.
	Improper tank baffle.	Install baffle or diffuser.



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