

T & E PUMPS LTD.

CAN PATENT # 2309238
US PATENT # 6309199

PARTS CATALOGUE



INCLUDES PUMP & PUMP PARTS INFORMATION FOR

- **2100 series**
- **4000**
- **4000R series**
- **4100**
- **Oil lubrication system**

DATE: 01/04/06

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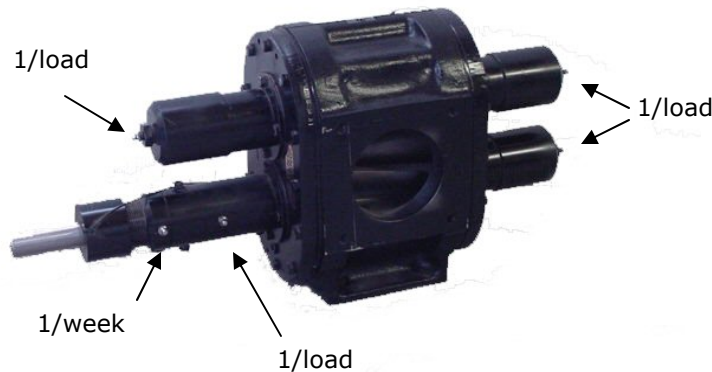
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GREASING PROCEEDURES

The following are specs for proper care of our pumps. In order for pumps to run at maximum efficiency and to ensure longevity please ensure you or your drivers do the following:

- 1) pumps with rubber gears should be run at 450-500 RPM (maximum)
- 2) pumps with steel gears should be run at 750 RPM (maximum)
- 3) there are a total of 5 grease nipples, grease pumps EVERY load, 2-3 shots per grease nipple (4 in all)

ATTN: the grease nipple closest to the packing nut should only be greased once per week. (see picture)



T&E Outboard Pumps and any T&E Pump complete with an Oil Lubricating System will only have the grease nipple closest to the packing nut and should be greased once per week (as above).

The T&E Oil Lubricating System requires oil reservoir to be filled with 50 synthetic transmission oil and should be checked periodically.

GENERAL PUMP INFO & DISPLACEMENT

PUMP CARE

- All pumps have a combo cap on the front end. The variation comes in on the rear endplate. Here you will find either bushing caps or combo caps.
- Be sure to carefully follow greasing procedures, or your warranty becomes invalid and you decrease the life of your pump.

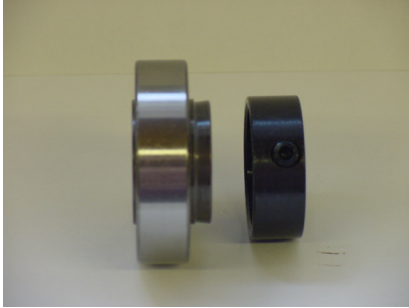
HORSE POWER REQUIREMENTS

4000 Series - hydraulic driven pumps can have up to 40 hp but are effective @ 23 - 25 hp

4100 Series - 40 - 60 hp required.

DISPLACEMENT

PUMP	GEAR SIZE	LIT/MIN	RPM	RECOMMENDED PUMP SPEED
4000R / 114RW-OBF	5.125 x 7.5	208.2	100	Recommended for use with 3" hose & fittings. pump should be run between 700—750 RPM (at the pump).
		1041.0	500	
		1249.2	600	
		1457.4	700	
		1561.5	750	
4000 / 110W-OBF	5.850 x 6	241.9	100	Recommended for use with 3" hose & fittings. Run pump around 500 RPM (at the pump) if using rubber gears, and Between 700 - 750 for steel gears.
		1209.5	500	
		1451.4	600	
		1814.2	750	
4100/4100R/215-OBF	5.850 x 7.25	292.3	100	Recommended for use with min 4" hose & fittings, can use 3" but volume decreases and MUST decrease pump speed.
		1253.8	500	
		1461.5	600	
		2192.2	750	
*max 50lbs pressure For maximum efficiency				Used for high volume displacement. Run pump at 700 - 750 RPM at the pump.
4200	5.850 x 9	362.8	100	Due to high volume, not recommended unless using gear reduction PTO or hydraulics. Optimum efficiency with this pump reached with 6" hose. 500 RPM with rubber gears Or 700 - 750 RPM with steel (at the pump).
		1814.0	500	
		2176.8	600	
		2721.0	750	



BEARINGS

Pictured Below

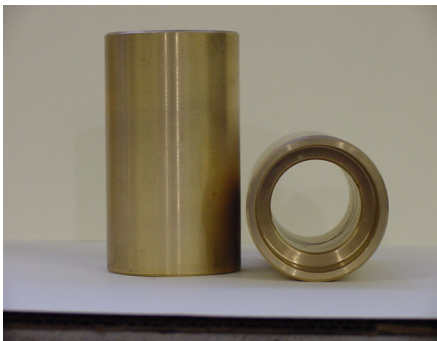
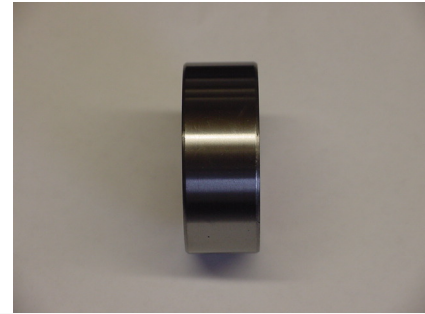
Part#: 52062RS11/8

Used in all input shaft assemblies.

Pictured above

Part#: NSKAELS206-102W3

Used in all input shaft assemblies.



BUSHINGS

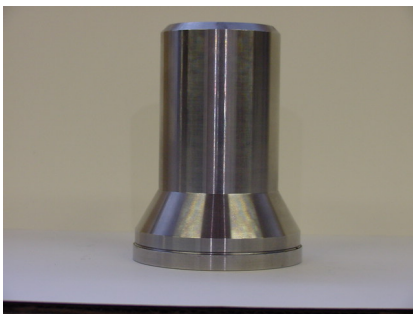
The bushing takes some load and vibration off of the bearings.

Part#: B25

Used in combo cap and bushing caps.

Part#: B15

Used in the packing nut holder.



BUSHING CAP

Used in 4000, 4000R, 4200, & 2100 series pumps.

Takes a 2.5" bronze bushing and 2 AR-1592-EO seals.

Used only on the back end of the pump.

Refund available when returned in good condition.

Part#: B001

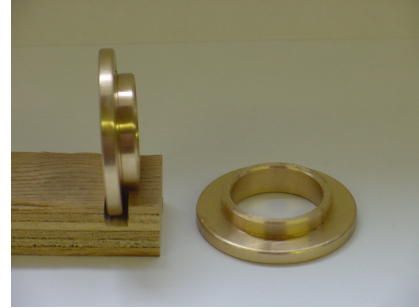


BUSHING-INNERPLATE & INSERTS

Part # B002

Used in all T&E series pumps.

Placed in the endplate insert.



COMBO CAP

Takes a 2.5" bushing, 2 AR-1592-EO seals and one bearing.
Refund available when returned in good condition.

Part#: CC001

Used in all T&E series pumps.

Used on the front end of the idler shaft in all T&E Pumps.

Used on the back end of the input and idler shafts on the 400R & 4100 series pumps. Can be used on the back of the 4000 series pumps, but is not necessary.

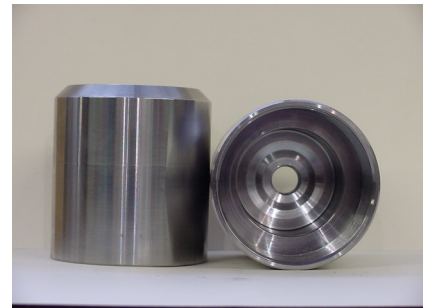


COMBO CAP END

Holds the grease nipple adaptor and grease nipple. Encloses the components of the combo cap. (bearing, bushing and seals)
Refund available when returned in good condition.

Part#: CC002

Used in all T&E series pumps in conjunction with the combo cap.





Insert is placed into the front side of the endplate, flat side out (right picture). The side with the rim (left picture) should face the innerplate bushing.

ENDPLATE INSERT

Part #: EP000

Used in the T&E 4000, 4000R, 4100, and 2100 pumps both regular and outboard.

Pump Part #

108W, 110W, 110WN, 110W-OBF
108R, 114RW, 114RW-OBF
216W, 216WN, 215W-OBF
513W, 513W-OBF

Please note this does not apply to the 4100R series pumps and endplates.



Left Picture: endplate without the insert in place.

Right Picture: endplate with the insert in place.

ENDPLATE W/ INSERT HOLE

Part #: EP001-I

Used in the T&E 4000, 4100, 4200, and 2100 pumps both regular and outboard.

Pump Part #

108W, 110W, 110WN, 110W-OBF
216W, 216WN, 215W-OBF
513W, 513W-OBF

Part#: EP002-I

Used in the T&E 4000R series pumps both bypass, regular and outboard.

Pump Part #

108R, 114RW, 114RW-OBF

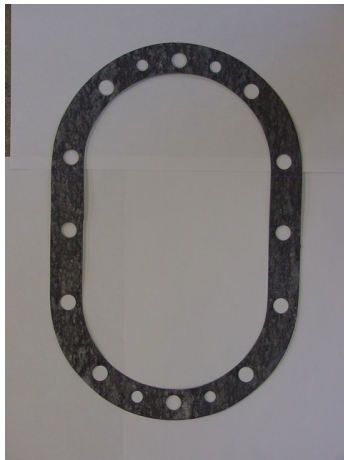


ENDPLATE

Part#: **EP003**

Used in 4100 R pumps

Refunds available when returned in good condition.



GASKET-ENDPLATE

Part#: **G002A-32 / G002A-64**

Small durabla used in 4000R pumps.
1/32 & 1/64 inch thickness.

Part#: **G002B-32 / G002B-64**

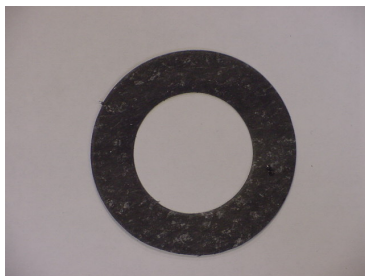
Medium durabla used in 4000, 4100 & 2100 pumps.
1/32 & 1/64 inch thickness.

Part#: **G002C-32 / G002C-64**

Large durabla used in 4100R pumps.
1/32 & 1/64 inch thickness.

Fits between the wearplate and the housing.

Used in both regular and outboard pumps.



GASKETS-ENDCAP

Part#: **G001-64**

Used in all T&E series pumps. 1/64 inch thickness.

Fits between the endplate and combo or bushing caps.



GASKET-WEARPLATE

Part #: G002BW-64

Used in 4000, 4100 and 2100 pumps. 1/64 inch thickness.

Fits between the wearplate and the endplate.



FLANGE GASKET

Part#: G009-4100

For use with 4100 & 4100R pumps.

Part#: G009-4000

For use with all 4000 & 4000R.



GREASE NIPPLE

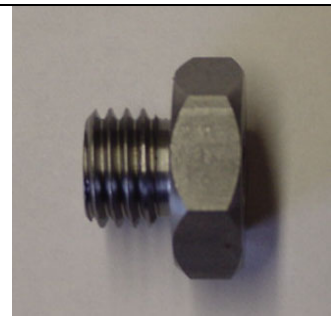
Part#: GN001

Used on all pumps, attach to grease nipple adaptor and to input holder.

GREASE NIPPLE ADAPTOR

Part#: GN002

5/8 inch, attaches to the combo caps and/or bushing caps. Used on all pumps.



GEARS-RUBBER

Part#: RG6

Used in 4000 series pumps.

4000R, 4100R not available with rubber gears.





GEARS-STEEL

Part#: SG4

Used in 2100 pump.

Part#: SG6

Used in 4000 series pumps.

Part#: SG7.25

Used in 4100 & 4100 R pumps.

Part#: SG7.5

Used in 4000R pumps

**All gears are liquid nitrided.
All gears sold as sets.**

HOLD DOWN RING

Pictured above right (H001)

Part#: H001

Used on 4000, 4100, 4100R, & 2100 pumps.

Pictured below right (H002)

Part#: H002

Used on 4000R pumps.

Refund available when returned in good condition.



HOLDER-INPUT

Part#: I001

Used on all T&E series pumps.

Holds the packing nut holder, NSK & 5206 bearings for the input shaft and the double seal holder.

Refund available when part returned in good condition.



HOUSINGS

Part#: HOU006C

T&E straight through cast iron housing, 4" inlet & outlet. Used for 4000 series pump.

Part#: HOU006CN

T&E straight through nitrided cast iron housing, 4" inlet & outlet. Used for 4000 series pump.

Part#: HOU00725C

T&E straight through cast iron housing, 4.5" inlet and outlet. Used for 4100 series pump.

Part#: HOU00725CN

T&E straight through nitrided cast iron housing, 4.5" inlet and outlet. Used for 4100 series pump

Part#: HOU004C5

T&E straight through cast iron housing, 2" inlet & outlet. Used for 2100 series pump.

Part#: HOU004C5N

T&E straight through nitrided cast iron housing, 2" inlet & outlet. Used for 2100 series pump.

Part#: HOU00750RC

4000R T & E Cast housing for 490 pump, 4" inlet and outlet. Used for 4000R series pump.

Part#: HOU00750RCN

4000R T & E nitrided Cast housing for 490 pump, 4" inlet and outlet. Used for 4000R series pump.

Refund will be issued only if Housing is in good condition and we are able to reuse.



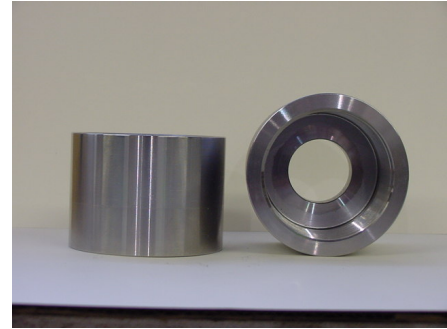
PACKING NUT

Part#: P001

Used on all T&E series pumps.

Used in conjunction with packing nut holder on front end of the input shaft. Takes 2 pieces Teflon packing (P003).

Refund available on part returned in good condition.



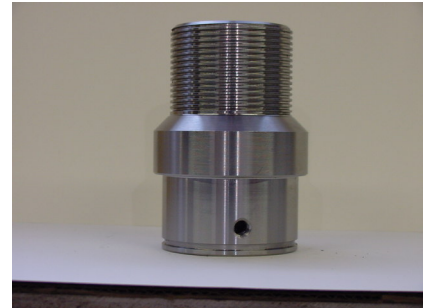
PACKING NUT HOLDER

Part#: P002

Used on all T&E series pumps.

Fits into the input holder. Takes a 1.5" bushing and 5 AR-1592-EO seals.

Refund available on part returned in good condition.

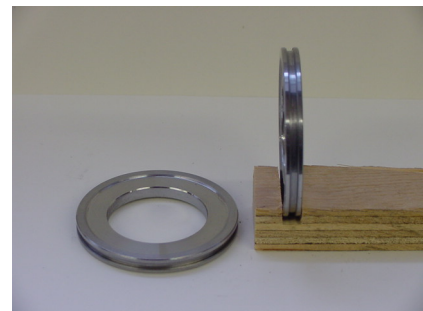


SEAL HOLDER

Part#: SH002

Double seal holder.

Holds AR-1592-EO seals, used in input holder.



Refund available for part returned in good condition.

SHAFTS

IDLER SHAFTS

All part #'s begin with I003, followed by length of the shaft,

Example: I003-12.5, 12.5" idler shaft

Part#	For use with
I003-13.25:	513W, 513W-OBF
I003-15.25:	108W, 110W, 110W-OBF
I003-16.75:	108R
I003-18.50:	114RW, 114RW-OBF, 213RW, 213RSW, 216W, 216W-OBF
I003-20:	313W

COMPLETE IDLER SHAFT ASSEMBLY

All part #'s begin with **I007**, followed by length of the shaft. Complete idler shaft assembly includes:

1	CC001	Combo Cap
1	CC002	Combo Cap End
1	H001	Hold Down Ring
1	B25	2 1/2" Bushing
2	AR-1592	Seals
1	OO-35	O Ring
1	NSK	Bearing
1	GN002	Grease Nipple Adaptor
1	W001	Aluminum Washer
1	I003 - ?	Idler Shaft - length as specified

I007-15.25 would be a complete idler shaft assembly with a 15.25" idler shaft for use in the following pumps: 108W, 110W, 110W-OBF. See chart above for corresponding shaft lengths.

SHAFT ASSEMBLIES

INPUT SHAFTS

All part #'s begin with I002, followed by length of the shaft.
Example: I002-22, 22" input shaft

Part#	For use with
I002-22:	513W, 513W-OBF
I002-24:	108W, 110W, 110W-OBF
I002-24.5:	108R
I002-26:	114RW, 114RW-OBF, 213RW, 213RSW, 215-OBF, 216W
I002-28:	313W

INPUT SHAFT ASSEMBLY

All part #'s begin with I005, followed by length of the shaft. Input assemblies include:

1- Input shaft	7- AR-1592 seals
2- NSK bearings	1 - B15 bushing
1- 5206 bearing	3- O-Rings
2- Packing	

Example: I005-22 is a regular input assembly for use with a 513W. See above for corresponding lengths and pumps.

Note: input assemblies are not used in outboard pumps.

COMPLETE INPUT SHAFT ASSEMBLY

All part #'s begin with I004, followed by length of the shaft. Complete input assemblies include:

1-input assembly	1-I001 input holder
1-P002 packing nut holder	1-P001 packing nut
1-H001 or H002 hold down ring	
1-SH002 seal holder	2-P003 packing
1-W002 steel washer	2-GN002 grease nipples

Example: I004-22 is a complete input assembly for use with a 513W. See above for corresponding lengths and pumps.

Note: complete assemblies are not used in outboard pumps.



WEAR PLATES

Part#: WP001

Used in conjunction with small endplates for 4000R pumps.

Part#: WP002

Used in conjunction with medium endplates, and medium wearplate gaskets for 4000, 4100, 2100 series pumps.

Part#: WP003

Used in conjunction with large endplates for 4100R pumps.

Fits between the endplate and the wearplate.



SEALS

Part#: AR-1592-EO

Used in all T&E series pumps.

PACKING

Part#: P003

2 pieces used in packing nut of all pump series.

O-RING

Used in all pump series.

Part#: OO35-7147

Used on combo caps and double seal holder of all regular pump series.

WASHERS

Part#: W001

Aluminum washer used with grease nipple adaptor, 5/8 inch.

Part#: W002

Metal washer, fits between the packing nut and the packing nut holder.

Used in all pump series.



DOWELL PINS & BOLTS

Part#: MCSH5C38-112

3/8 x 1-1/2" grade 5 bolt

Used for endplate attachment on 4000, 4100, 4200 & 2100 pumps.

Part#: MSCHC34-516

5/16 x 3/4" grade 8 bolt

Used for hold down ring attachment on all pump series.

Acid pumps will have stainless steel

Part#: MCSH5C12-112

1/2 x 1-1/2" grade 5 bolt

Used for endplate attachment of 4000R & 4100R pumps.

Part#" MDP516-114

5/16 x 1-1/4" dowel pin

Used for endplate alignment on 4000, 4100, 4200 & 2100 pumps.

Part#: MDP12-112

1/2 x 1-1/2" dowel pin

Used for endplate alignment on 4000R pump.

Part#: MDP58-112

5/8 x 1-1/2" dowel pin

Used for endplate alignment on 4100R pump.

MISCELLANEOUS PARTS

Part#: MDYE24ST06

3/8" plug, used on 4000, 4100, 4200 & 2100 pumps

Part#: M008

Keystock, used on all pumps, available in different lengths, please specify pump series when ordering



4000 SERIES PUMPS

4" T&E pump uses our own 6" housings.
Inlet & outlet on this pump is 4". Nitrided housing pumps are available for pumping acid.



Part#: 108W

T&E cast housing with 6" rubber gears and bushing caps.

Part#: 110W

T&E cast housing with 6" steel gears and bushing caps

Part#: 110WN

T&E nitrided cast iron housing with 6" steel gears & bushing caps

4000R SERIES 90DEGREE PUMP

4" T&E pump uses 7.5" steel gears and a cast iron T&E housing.
This is a 90 degree pump with 4" inlet & outlets. Nitrided housing pumps are available for pumping acid.



Part#: 114RW

T&E cast housing with 7.5" steel gears, combo cap on front and back

Part#: 114RWN

T&E nitrided cast housing with 7.5" steel gears, combo cap on front and back

Bypass is available on this pump by request only and only if customer can provide a bypass endplate.

4100 SERIES PUMP

4.5" T&E pump uses 7.25" steel gears and a 7.25" T&E housing. Inlet and outlet are 4.5". Pumps with a nitrided housing are available.



Part#: 216W

T&E cast iron housing with steel gears and combo caps on front and back.

Part#: 216WN

T&E nitrided cast housing with steel gears, combo caps front & back

2100 SERIES PUMP

2" T&E pumps uses 4" steel gears and a 4" T&E housing. Inlet and outlet are 2". Pumps with a nitrided housing are available.

Part#: 513w

T&E cast iron housing with steel gears and bushing caps on the back end.

Part#: 513WN

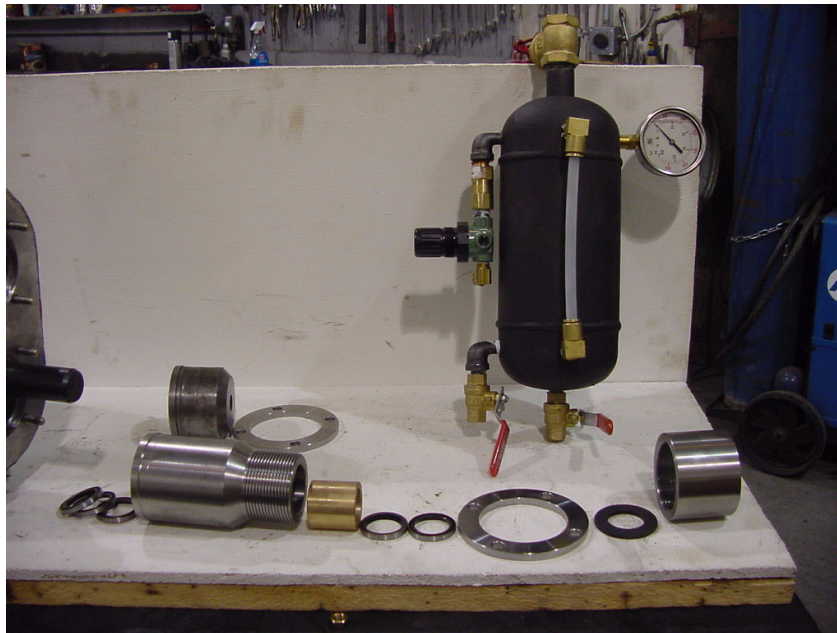
T&E nitrided cast housing with steel gears and bushing caps on the back end.



T&E OIL LUBRICATION SYSTEM

T&E Oil Lubrication System is included on all Outboard Pumps however is optional on all T&E Pumps. This eliminates greasing therefore reducing maintenance.

Part #: OL-001

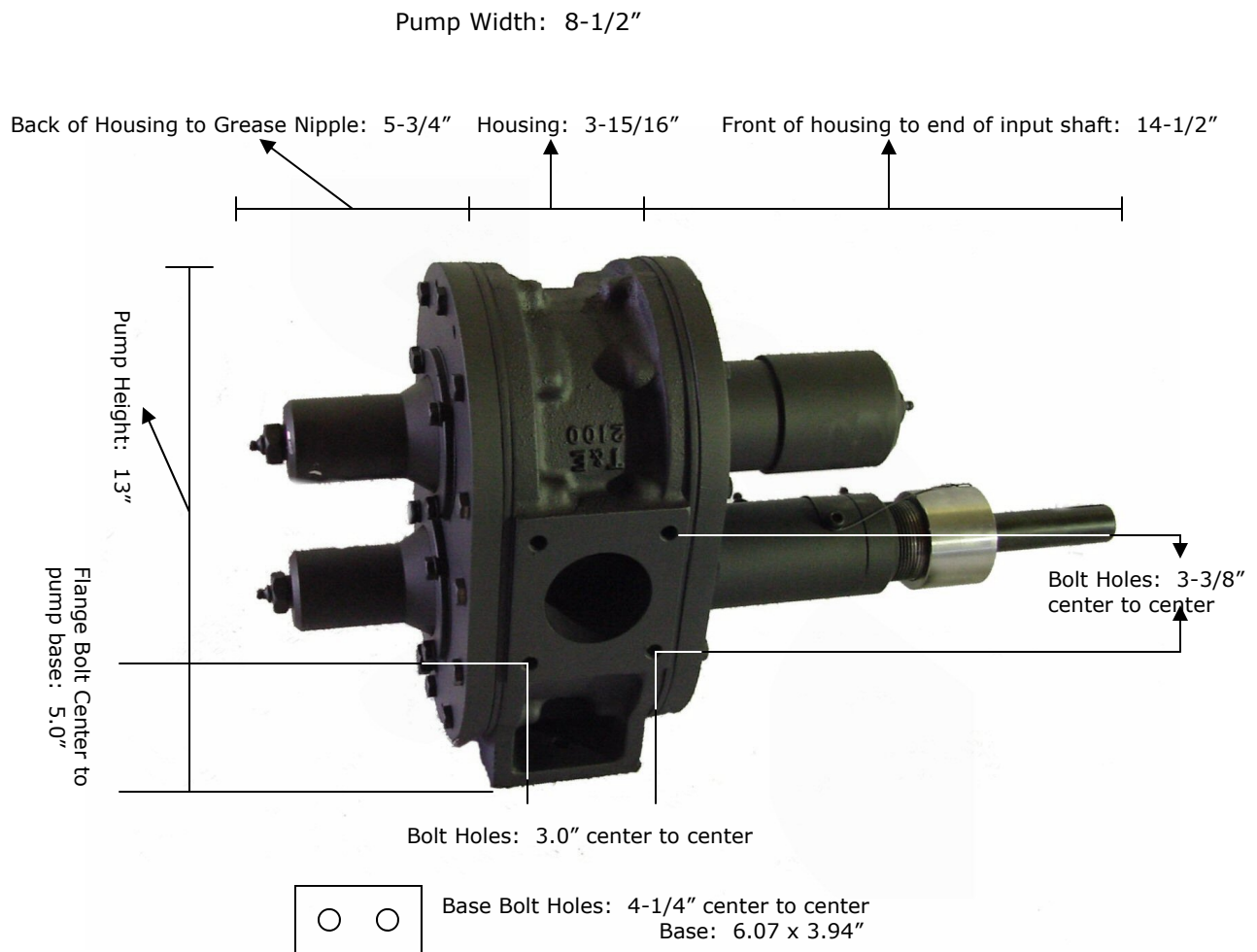


Installation and Operation of Oiler System

- 1) Hook up oil line from oil reservoir to pump
- 2) Hook up air line from truck to regulator
- 3) Fill oil reservoir with 50 synthetic transmission oil
- 4) Turn on air and adjust regulator to 80—90 psi and hold pressure for 10—15 minutes to purge air from bearing cap on pump
- 5) Shut off air and release pressure from reservoir. Note to see if air bubbles come back through lines from pump
- 6) Repeat steps 4) and 5) once more
- 7) Because of check valve in airline, relieve pressure through filler valve
- 8) Set pressure @ 20 - 25 psi.

Note: When filling oiler be sure you are always able to see oil limit in the sight glass.
After 3 weeks/or if oil is being used; turn pressure down to 15-20 PSI.
The oil system will likely use 1-1¹/₂ cups of oil monthly.

2100 SERIES PUMP MEASUREMENTS



2100 SERIES PUMP

2100 Series Pump Features

4" T&E cast housing w/ inlet & outlet bored to 2"
 4" Steel gears
 Nitrided housing available for pumping acid (please allow 3 - 4 weeks delivery)
 Also available with T&E Oil Lubricating System, and/or as an outboard pump

Part / Model Numbers

513W 2100 2" T&E Cast Housing/Steel Gears/Bushing Caps

513WN 2100 2" T&E Cast Nitrided Housing/Steel Gears/Bushing Caps

2100 Series Pump Specs

Flange Type: Steel Weld Flanges

Gear Type: 4" helical cut, nitrided gear cut from
 4140 HTSR steel

Horsepower Requirements:

Hydraulic Motor	Electric Motor
20 hp required	10 hp w/ 440 VFD



Maximum Pump Pressure: 125 PSI
Maximum RPM: 750 RPM at the pump
Maximum Temperature: 285 degrees F
Plumbing Requirements: 2" hose & fittings

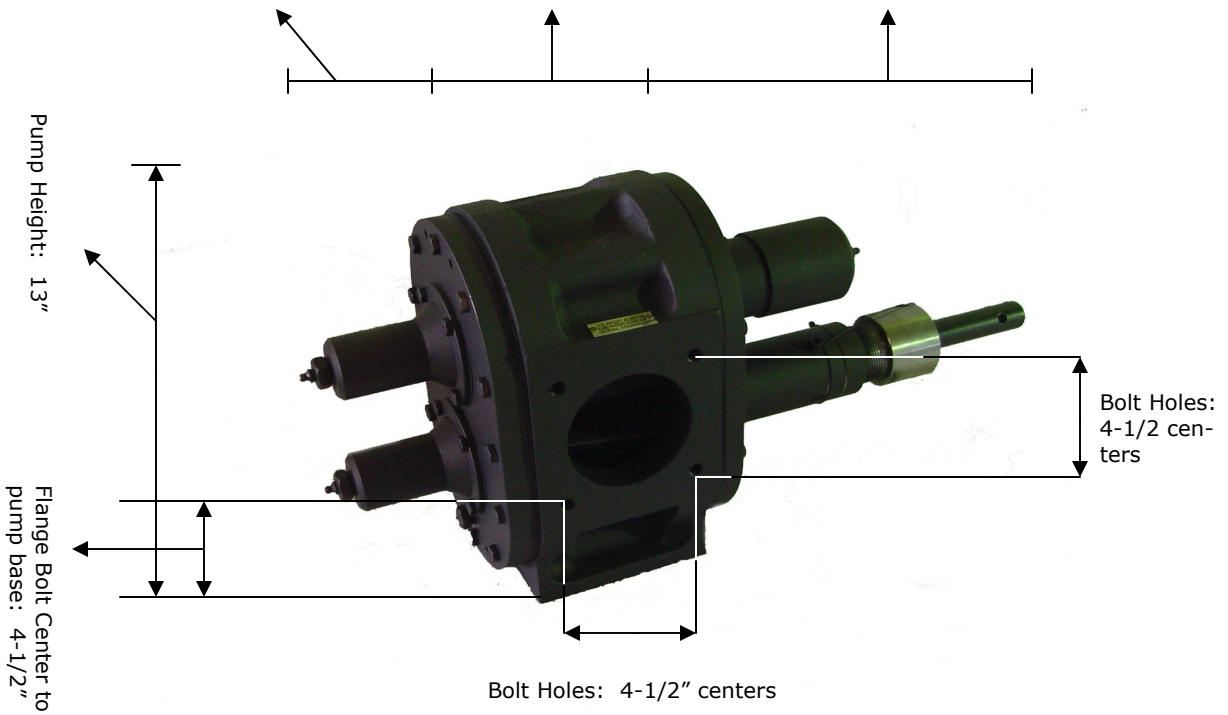
FLOW RATES

Pump Gear Size	Litres/Min	RPM
5.850" x 4"	162	100
	810	500
	972	600
* all RPM measurements are at the pump	1215	750

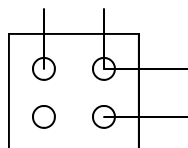
4000 SERIES PUMP MEASUREMENTS

Overall Pump Width: 8-1/2"

Back of Housing to Grease Nipple: 5-3/4" Housing: 5-15/16" Front of housing to end of input shaft: 14-5/8"



Base Bolt Holes: 3-5/8" centers



Base Bolt Holes: 4-3/8" center to cen-

4000 SERIES PUMP

4000 Series Pump Features:

6" T&E cast housing w/ inlet & outlet bored to 4"
 6" Rubber or Steel gears
 Nitrided housing available for pumping acid
 Also available with T&E Oil Lubricating System, and as an outboard pump (please note that rubber geared pumps are not available as outboard pumps)

Part Numbers

108W 6" T&E Cast Housing/Rubber Gears/Bushing Caps
110W 6" T&E Cast Housing/Steel Gears/Bushing Caps
110WN 6" T & E Cast Nitrided Housing/Steel Gears/Bushing Caps

4000 Series Pump Specs

Flange Type: Steel Weld Flanges
Gear Type: 6" helical cut, nitrided gear cut from
 4140 HTSR Steel

Horsepower Requirements:

Hydraulic Motor	Electric Motor
30 - 40 hp	15-20 hp w/ 440 VFD

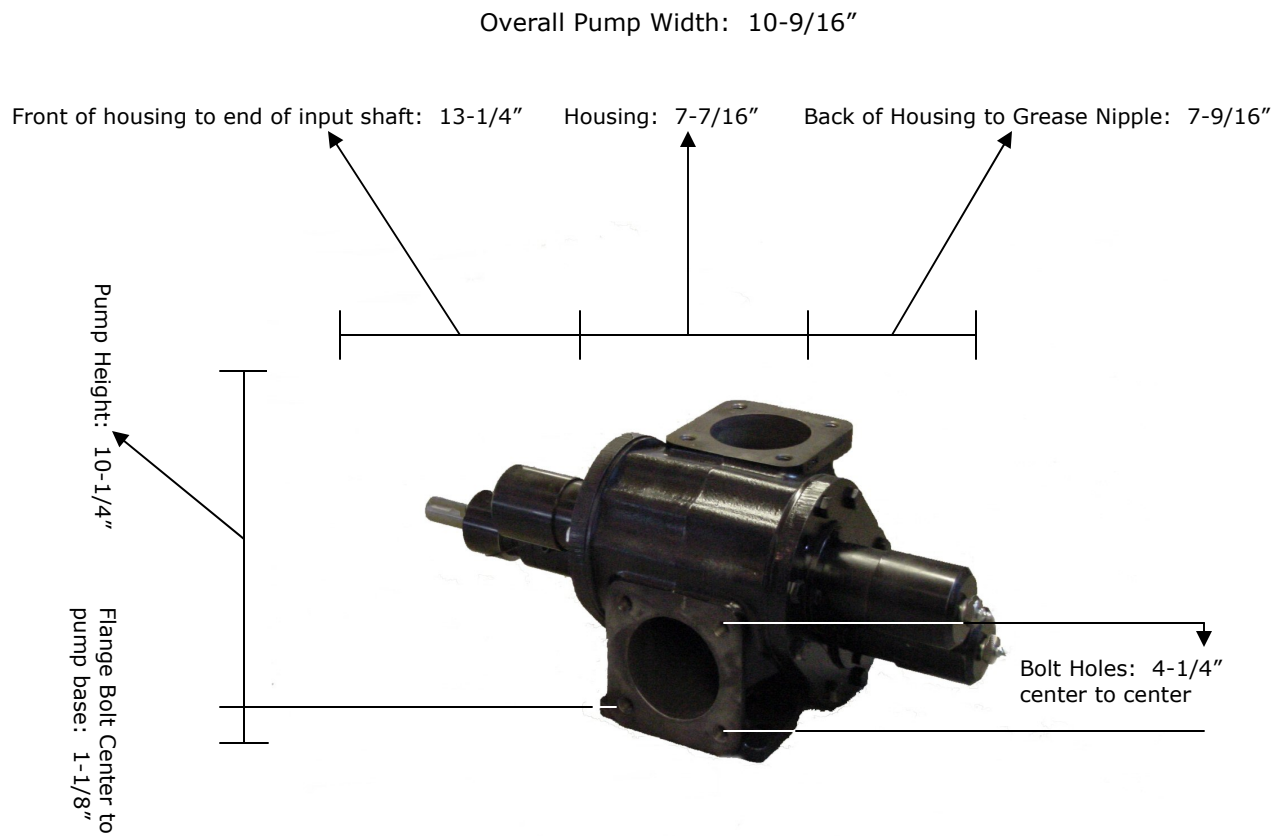


Maximum Pump Pressure: 125 PSI
Maximum RPM: 750 RPM for Steel Gears
 500 RPM for Rubber Gears
Maximum Temperature: 285 degrees F for Steel Gears
 40 degrees F for Rubber Gear
Plumbing Requirements: 3" hose & fittings

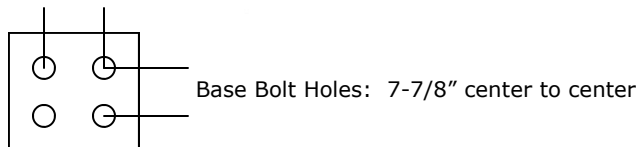
FLOW RATES

Pump Gear Size	Litres/Min	m ³ /hour	RPM
5.850" x 6" Steel	241.9	14.51	100
	1209.5	72.57	500
	1451.4	87.1	600
*all RPM measurements are at the pump	1814.2	108.8	750
6" Rubber Gears	900	54	500

4000R SERIES PUMP MEASUREMENTS



Base bolt Holes: 6" centers



4000R SERIES PUMP

4000R (490) Series Pump Features:

Small body right angle T&E cast housing w/ 4" inlet & outlet
Steel gear pump also available with a nitrided housing for pumping acid

Part Number

114RW 4" T&E Cast Housing/Steel gears/Combo Caps
114RWN 4" T&E Cast Nitrided Housing /Steel gears /Combo caps

Also available with T&E Oil Lubricating System, and/or as an outboard pump
Also available 108R uses modified roper bypass endplate on rear (customer must provide bypass to retrofit)

490 Series Pump Specs

Flange Type: Steel Weld Flange
Gear Type: 7.5" helical cut, nitrided gear cut
from 4140 HTSR steel

Horsepower Requirement:

Hydraulic Motor	Electric Motor
30 - 40 hp	15-20 hp w/ 440 VFD



Maximum Pump Pressure: 125 PSI
Maximum Temperature: 285 degrees F
Maximum RPM: 750 RPM at the pump
Plumbing Requirements: 3" hose & fittings

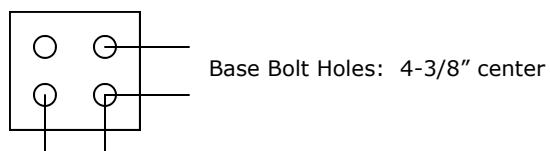
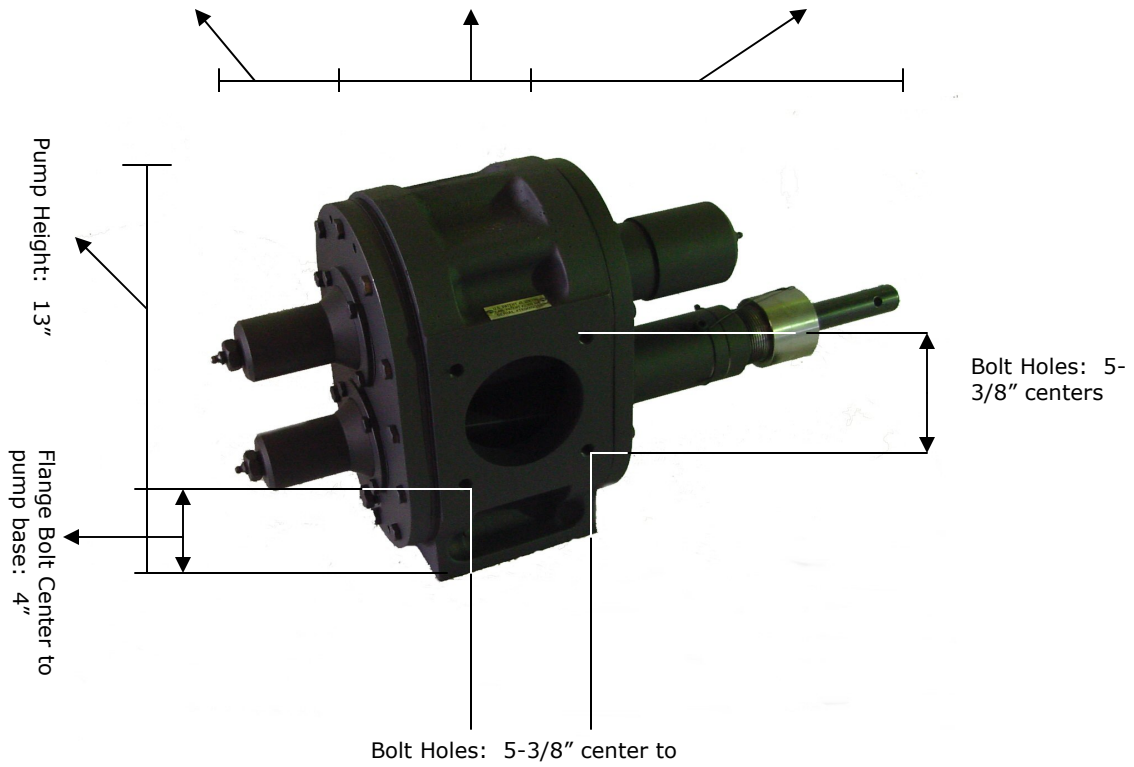
FLOWRATES

Pump Gear Size	Litres/Min	m ³ /hour	RPM
5.125" x 7.5"	208.2	12.5	100
	1041.0	62.5	500
	1249.2	75	600
* all RPM measurements are at the pump	1561.5	93.7	750

4100 SERIES PUMP MEASUREMENTS

Overall Pump Width: 8-1/2"

Back of Housing to Grease Nipple: 7-9/16" Housing: 7-3/16" Front of housing to end of input shaft: 13-1/4"



Base Bolt Holes: 3-5/8" center to

4100 SERIES PUMP

4100 Series Pump Features:

7.25" T&E cast housing w/ 4.5" inlet & outlet
 7.25" Steel Gears
 Nitrided housing available for pumping acid
 Also available with T&E Oil Lubricating System, and/or as an Outboard Pump

Part Numbers

216W 7.25" T&E Cast Housing/Steel Gears/Combo Caps
216WN 7.25" T&E Cast Nitrided Housing/Steel Gears/Combo Caps

4100 Series Pump Specs

Flange Type: Steel Weld Flanges
Gear Type: 7.25" helical cut, nitrided gears cut from 4140 HTSR steel

Horsepower Requirements:

Hydraulic Motor	Electric Motor
40-60 hp required	20 hp w/ 440 VFD



Maximum Pump Pressure: 125 PSI
Maximum RPM: 750 RPM at the pump
Maximum Temperature: 285 degrees F
Plumbing Requirements: 4" hose & fittings on trucks and 4.5" hose & fittings in facilities

FLOW RATES

Pump Gear Size	Litres/Min	m ³ /hour	RPM
5.850" x 7.25"	292.3	17.5	100
	1253.8	75.2	500
5.850" x 7.25"	1461.5	87.7	600
	2192.2	131.5	750

* all RPM measurements are at the pump