Bezares

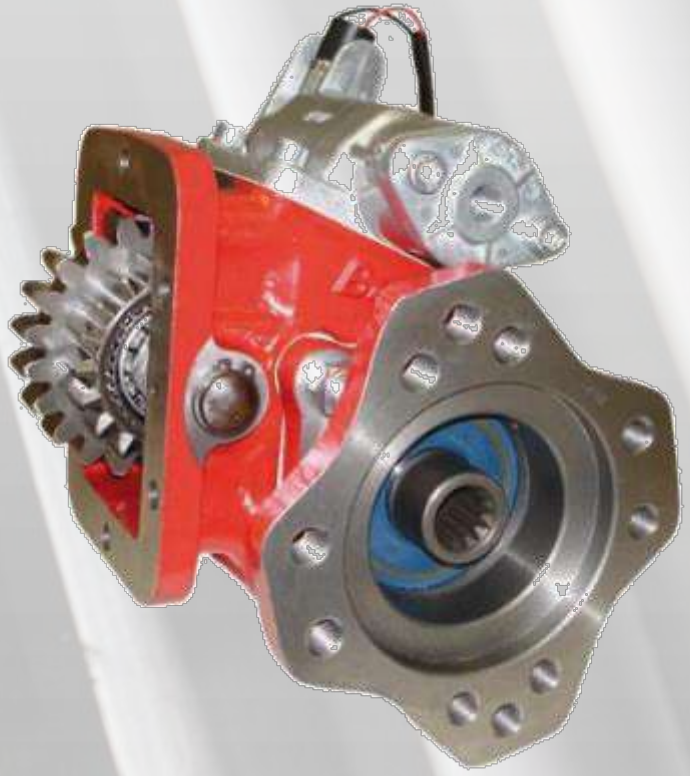
- Oversize Pump flange bolts (Superior flange stability)
- TIMKEN/SKF/NTN and other(High Quality) Bearings
- Tapered Roller Bearings (Better side thrust capabilities)
- Viton Seals & O'rings (Less impervious to chemicals)
- Cast Iron Housings (Quieter/Stronger than aluminum)
- Garlock gaskets (Very high quality= chemical/oil resistant)
- Hot shift models have all necessary hoses and fittings standard
- DIN Output Options + Adapters (Versatility)
- HEAVY DUTY UNITS = Smooth engagement
- Engineering Support

1000 Series Triple Gear

- The 1000 series has been engineered to work with existing transmissions. It is a durable with a wide range of input gears shifters, speed ratios and output shafts.

- Competitive with the
  - TG6 Muncie
  - 442 Chelsea

- Torque rating up to 250 lb. ft.



1000 X J N 01 1 RA

SERIES:

1000 Standard Mounting, 6 bolt
1010 Deep mount, 6 bolt

VERSIONS:

X Standard
G Greaseable Output Shaft
P Oil pressure lube idler Shaft

INTERNAL RATIOS:

1:0.55 (B)	→	801034
1:0.73 (C)	→	800534
1:0.8 (E)	→	800634
1:0.95 (J)	→	800734
1:1.25 (O)	→	800834
1:1.50 (S)	→	801434
1:1.65 (T)	→	800934

SHIFTER TYPE:

C Cable
W Wire with 10' Cable
F Electric 24V
M Constant Mesh
N Air without 101 Air Kit

{ **902099** POS 1/4, **903599** POS 2/3 }

{ **902099** POS 1/4, **903599** POS 2/3 }

INPUT GEAR:

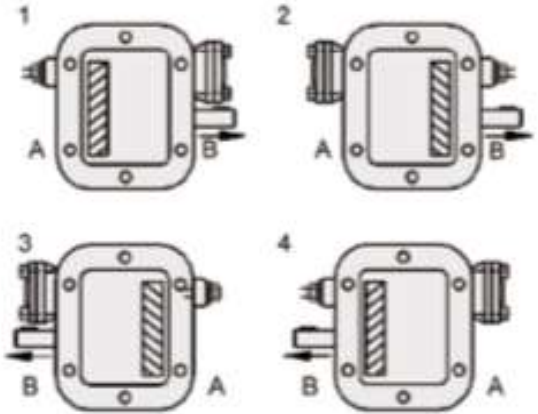
01 Fuller series (R/675)
02 Universal (R/683))
03 Spicer (R/736)
05 Spicer (R/677)
06 Fuller (TREMEC) (R/679)
07 Navistar (R/693)
08 Spicer (R/682)
27 Eaton / Fuller (R/692)
28 Fuller (R/771)
30 Eaton / Fuller (R/698)
33 Spicer (R/697)
34 Spicer (R/696)
36 New Process (R/739)
39 Warner (R/741)

OUTPUT TYPE:

DA ISO 4 bolt
IA Flange SAE 1100
IB Flange SAE 1300
IC Flange SAE 1400
SE SAE Type 1 1/4" round shaft
SF SAE "A" 2 bolt 9T
SH SAE "AA" 2 bolt 11T
RA SAE "B" 2/4 bolt 13T. rotatable
RB SAE "BB" 2/4 bolt 15T. rotatable
TP Tyron pump (Chelsea type)
UN UNI 3 bolts 6T

ASSEMBLY ARRANGEMENTS:

1 Right, Forward
2 Right, Rear
3 Left, Forward
4 Left, Rear

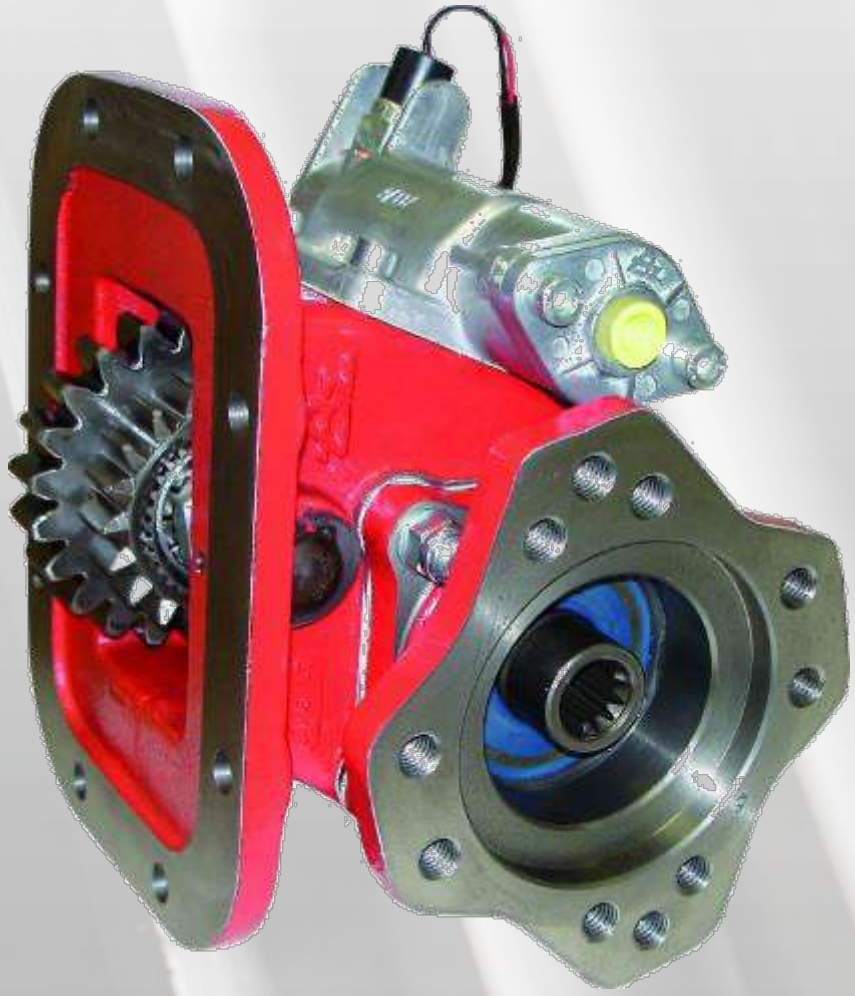


2000 Series Triple Gear

- The 2000 Series PTO works with most of the existing transmissions. It is extremely durable with a wide range of input gears, shifters, speed ratios and output

- Competitive with
  - TG8 Muncie and
  - 489 Chelsea

- Torque rating up to 250 lb. ft.



3000 Series 6 bolt Hot Shift

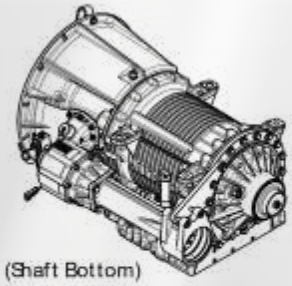
- Hot Shift Power Take-Off
- Pneumatic & Hydraulic shifting
- Designed for ease of installation on older AT500, MT600, HT700 series 6 bolt Allison
- Low profile housing
- 310 lb-ft rating
- Competitive with
  - 271 Chelsea
  - CS6 Muncie

3131 Series 10 Bolt Hot Shift PTO

- Allison MD/HD/ 3000/4000 Series Hot Shift 10 bolt PTO
- High Torque 500 lb. ft.
- Ratios from 70% to 200% of engine RPM
- Competitive with
  - 859 Chelsea
  - CS10 Muncie “Better Profile”

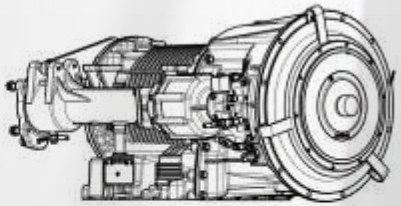
3131RP 10-Bolt Standard Output Types & Brackets

3000 (MH /RDS/TRV) P/N. 9070799

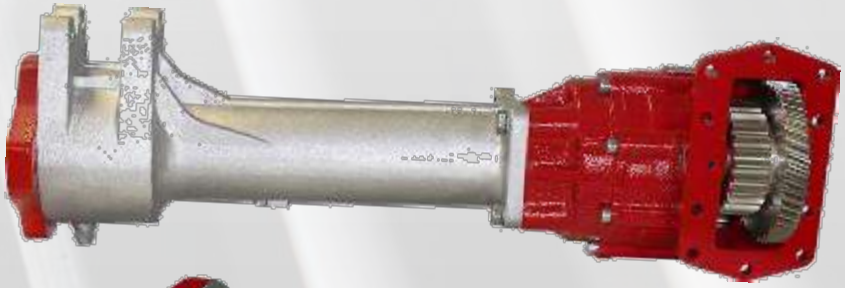


(Shaft Bottom)

3000 (MH /RDS/TRV) P/N. 9076999

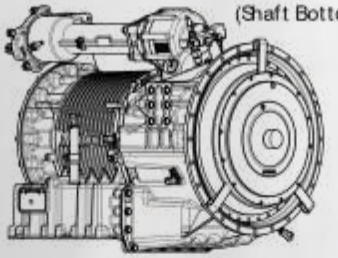


(Shaft Up)



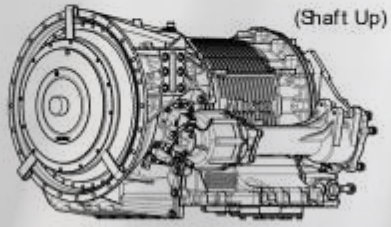
4000 (EVS/MH /RDS/TRV) 4500 (EVS/RDS) P/N. 9075999

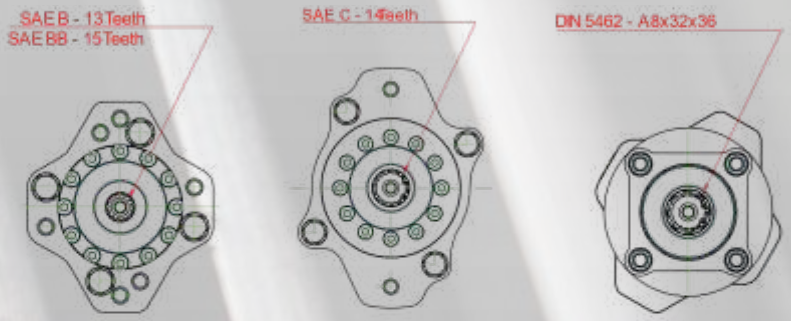
(Shaft Bottom)



4000 (EVS/MH /RDS/TRV) 4500(EVS/RDS) + Retarder P/N. 9076699

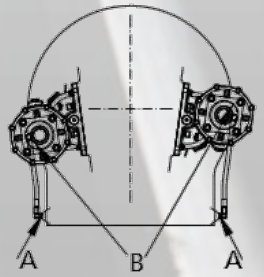
(Shaft Up)



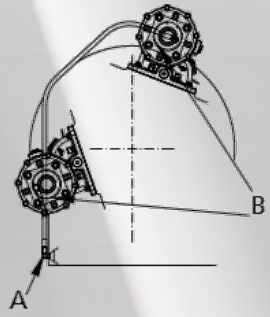


3151 Series 10 Bolt Constant Mesh

- Allison MD/HD/3000/4000 series constant mesh PTO
- SAE “C”, ISO 4 bolt (Din 5462), SAE 1300/1400
- 73% to 160% of engine RPM
- Torque rating to 500 lb. ft.
- Competitive with
  - CD40 Muncie
  - 877 Chelsea



SERIES MD
Rear view



SERIES HD
Rear view

3200/3300 6 bolt Hot Shift PTO

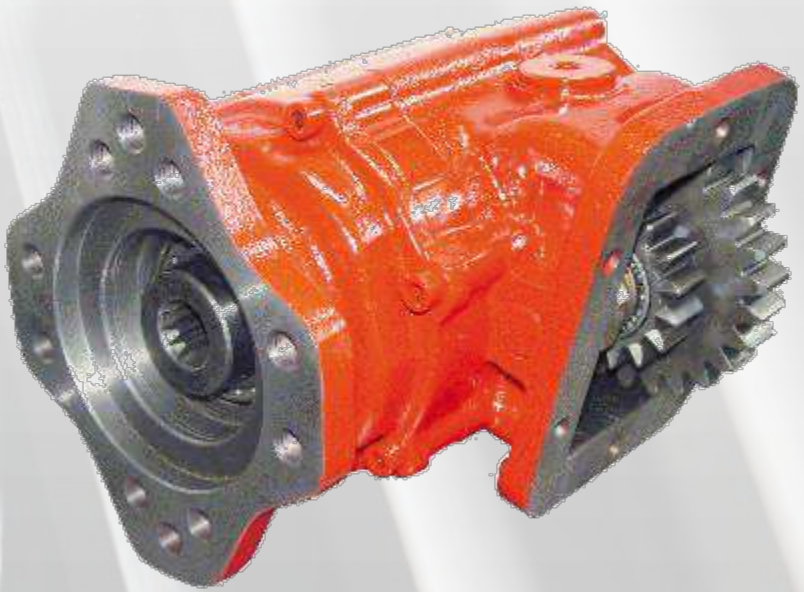
- Hot shift 6 bolt PTO with multiple transmission applications
- Allison 1000/2000
- Aisin (Dodge)
- Eaton/Fuller

- Pneumatic & Hydraulic shifting

- All input gears from 1000/2000

- Ratios from 99% to 205%

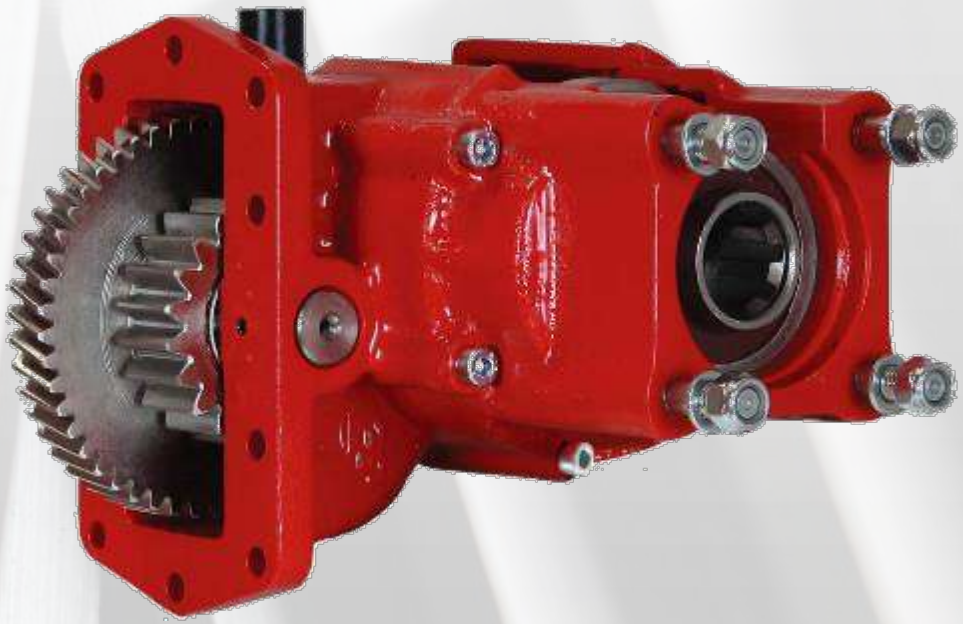
- Competitive with
  - 270/271 Chelsea
  - CS6 Muncie



Note: The 3300 Series makes it possible to work with shaft-top or shaft bottom on either side, right or left location.

3252 Hot Shift 10 Bolt PTO

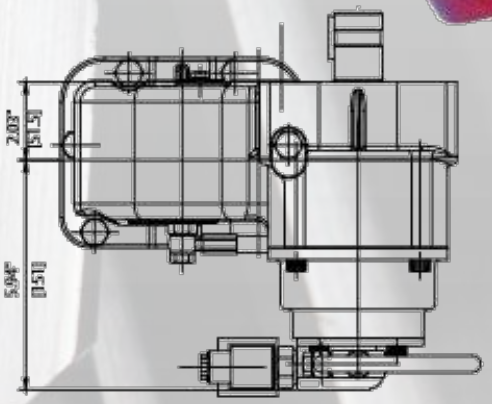
- Allison MD/HD/ 3000/4000 series 10 bolt PTO
- Low profile design competes with Chelsea 280
- Torque ratings 410 lb. ft. max
- Ratios from 55% to 220%
- Internal lubrication eliminates external hose line
- SAE “B”, ”BB”, DIN 5462, 1 ¼ inch round keyed shaft, 1100, 1300, 1400 Companion flange



Clutch type PTOs are commonly used on refuse, utility, and emergency equipment—garbage trucks, aerial bucket trucks, and fire/ rescue vehicles.

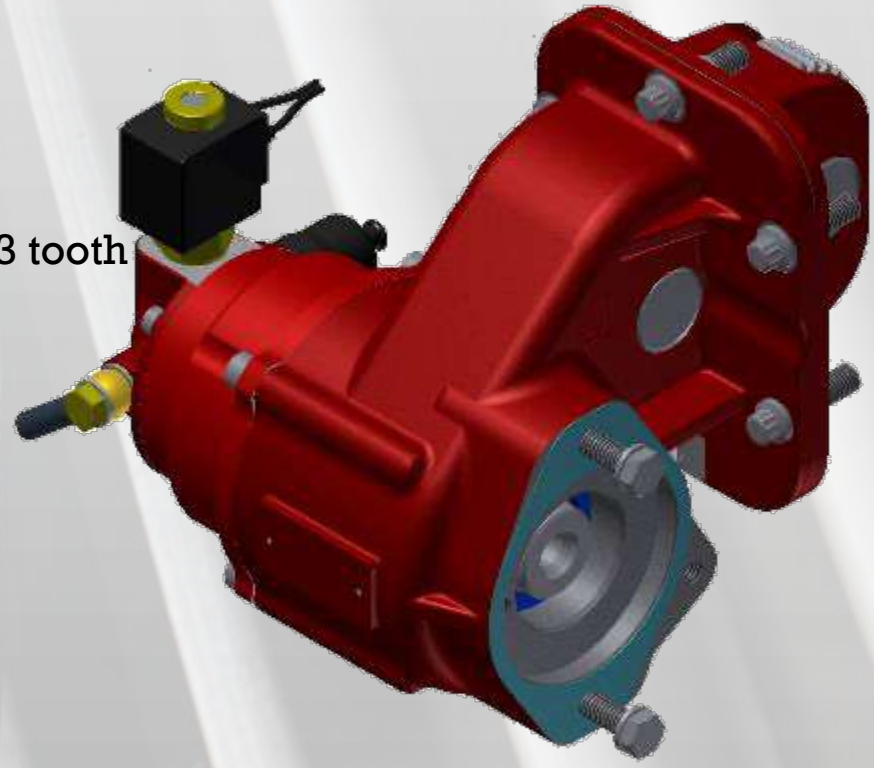
3900 Series 6 bolt Hot Shift PTO

- Hot shift PTO for Ford 5R110 with “GAS” engine
- 148% of engine RPM
- 120 lb. ft. torque
- SF = SAE “A” 5/8th 9 spline hydraulic mount/shaft with two clocking positions (SE= SAE 1 ¼ shaft)
- SAE 1 ¼ inch keyed round shaft
- Competitive with
  - 245/246 Chelsea
  - FR64/67 Muncie



3920 Series 6 bolt Hot Shift PTO

- Hot shift 6 bolt PTO for the Ford "TorqueShift" 6R140 6 speed
- 134% of engine RPM
- 200 lb. ft. torque
- Output same as 3900 plus SI = SAE A 13 tooth
- SAE 1 ¼ inch keyed round shaft
- Uses two piece mounting for ease of installation
- Competitive with
  - 248/249 Chelsea
  - FR66 Muncie



NEW 3940 Series 10 bolt Hot Shift PTO

FORD:

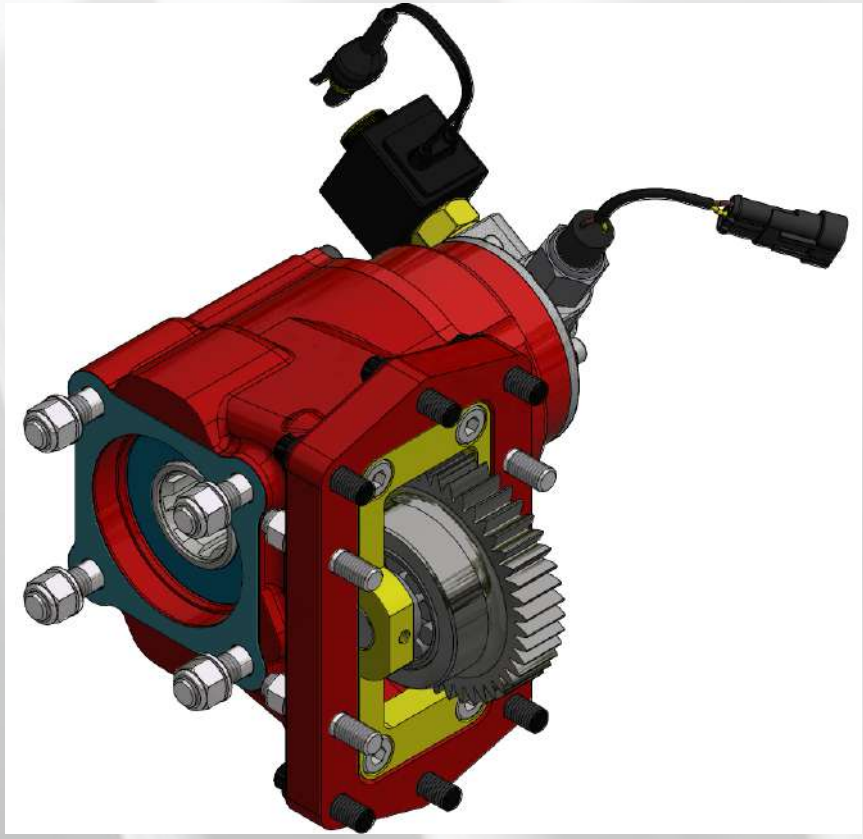
Hot shift 10 bolt PTO for the Ford 10R140 in MY 2020

Outputs:

- SAE A 13 tooth
- SAE 1 ¼ keyed round shaft
- DIN

Competitive with:

- 210 Chelsea
- F20 Muncie



MAIN DATA	
INTERMITENT TORQUE	Up to 230 lb.ft
PTO INTERNAL RATIO	118%
TOTAL RATIO ENGINE–PTO	130%
Output:	DIN / SAE A

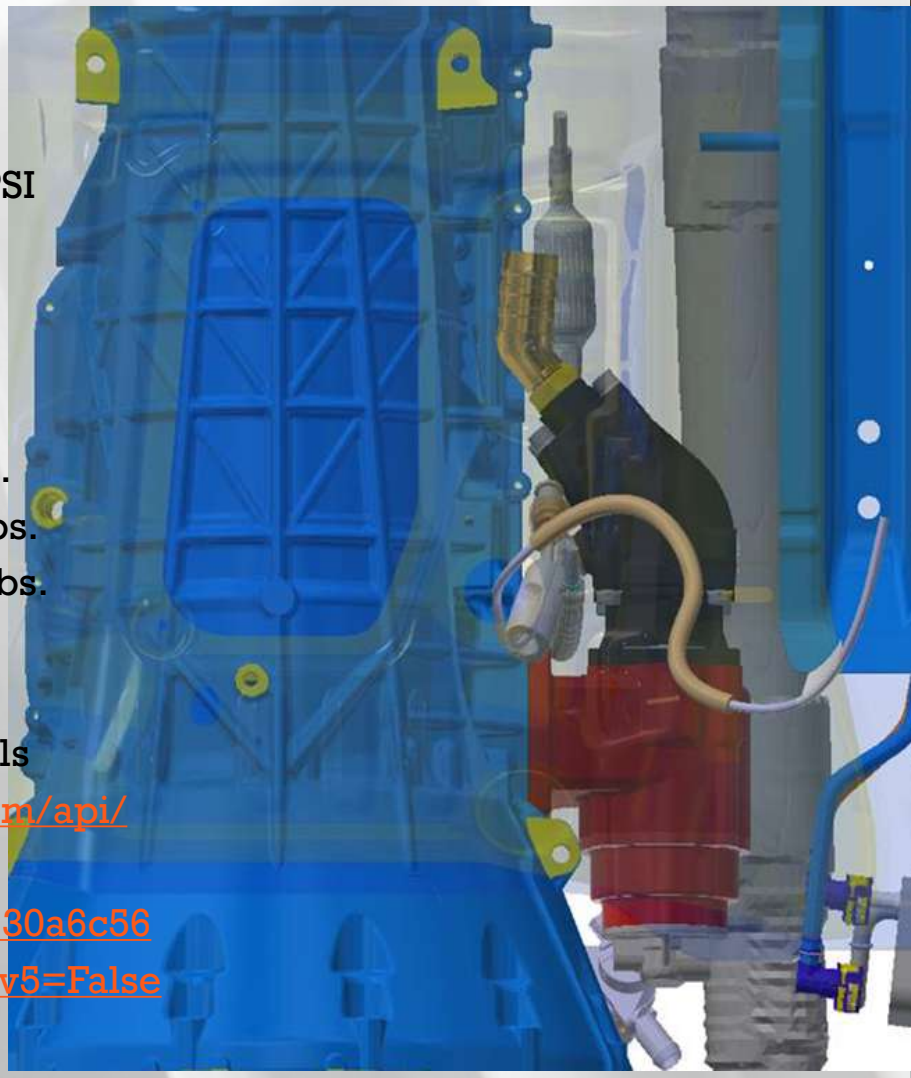
NEW 3940 Series 10 bolt Hot Shift PTO

Notes & Specs:

- Reuse the gasket on tranny.
- Tap into line pressure port on drivers' side, 200 PSI
- 60 HP Diesel Stationary.
- 40 Hp Gas Stationary.
- Diesel Stationary = 300 ft-lbs.
- Diesel Mobile 750-900 engine rpm = 150 ft-lbs.
- Diesel Mobile above 900 engine rpm = 200 ft-lbs.
- Gas 7.3L Stationary =250 ft-lbs. Mobile = 150 ft-lbs.
- Gas 6.2L Stationary =250 ft-lbs. Mobile = 115 ft-lbs.

- Consult Ford Body Builders Layout Book for details

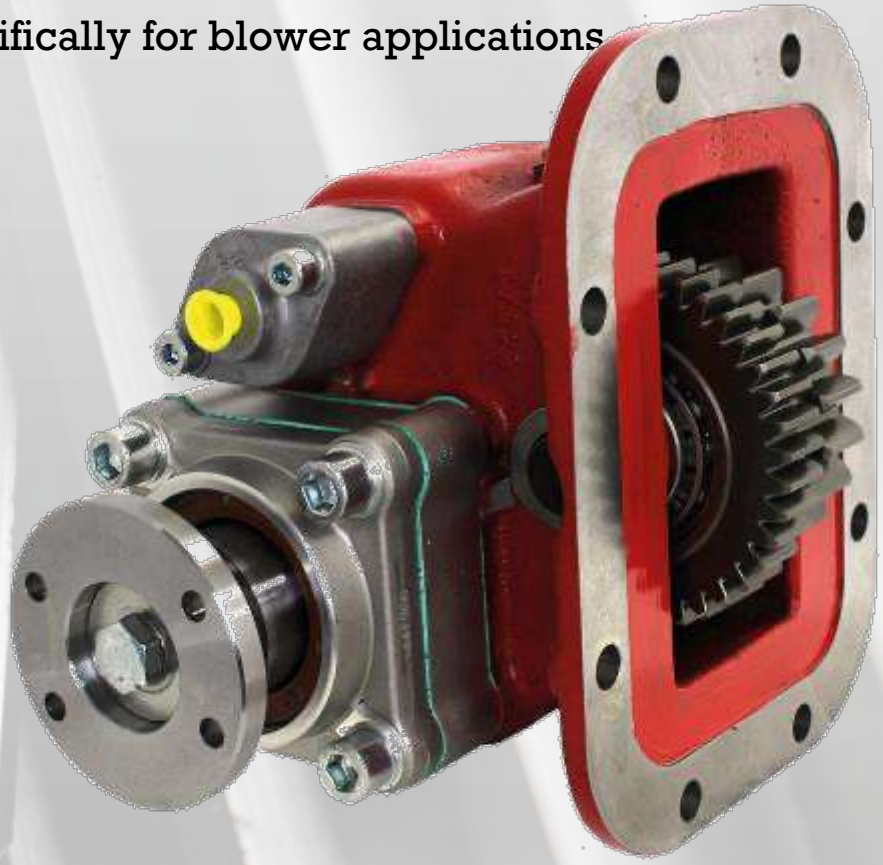
https://madocumentupload.marketingassociates.com/api/Document/GetFile?v1=5097845&v2=102519094303&v3=60&v4=41a86130a6c56dfa568f0ba186826ea3025ceb4d74679df335a0a035&v5=False



4x4 Ford vehicle 2020

4100 Series 8 bolt mechanical PTO

- Eaton-Fuller/ Rockwell-Meritor/ Spicer/ Mack
- Heavy duty 8 bolt PTO designed specifically for blower applications
- Up to 470 lb. ft. torque/ 90 HP
- Up to 191% of engine RPM ratios
- Low profile design & lighter (35lbs)
- Air Shift (pneumatic)
- Cost effective compared to
  - Chelsea 880
  - Muncie 828



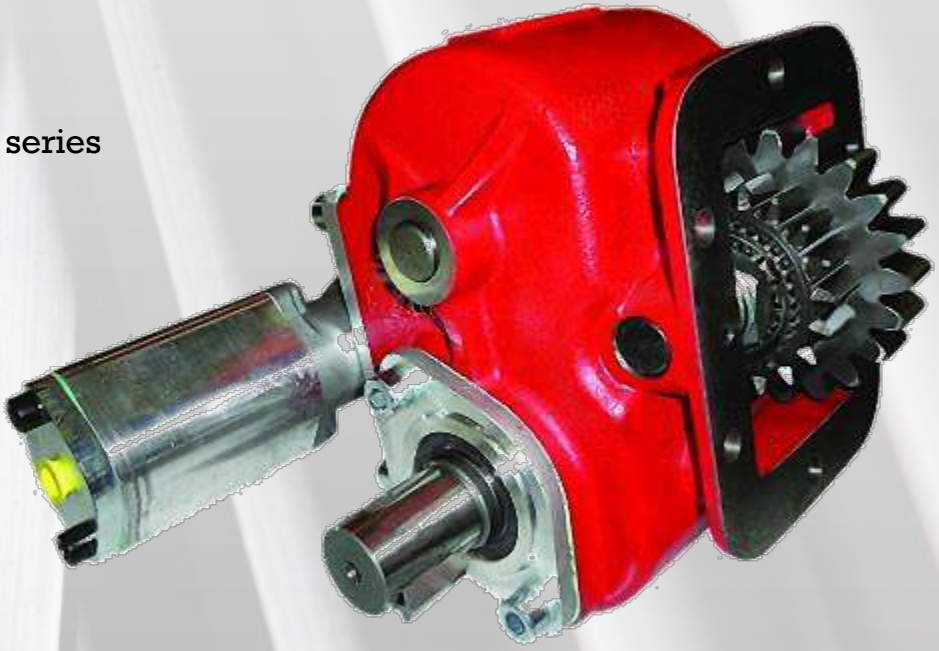
4200/4250 Series

8 bolt mechanical PTO with Dual "Independent" Outputs

- MANUAL PTO'S: Eaton-Fuller/ Rockwell-Meritor/Spicer/ Mack
- Eliminates the need for an additional 6 bolt PTO with adapter **on** Eaton/Fuller
- Ideal for blower driveline on output # 1 & end dump/ walking floor trailer on output # 2
- 500 lb. ft./ 90 HP
- SAE "B", "BB", "C" ,"Din 5462, 1 ¼ inch keyed round shaft, 1300/1400 companion flange

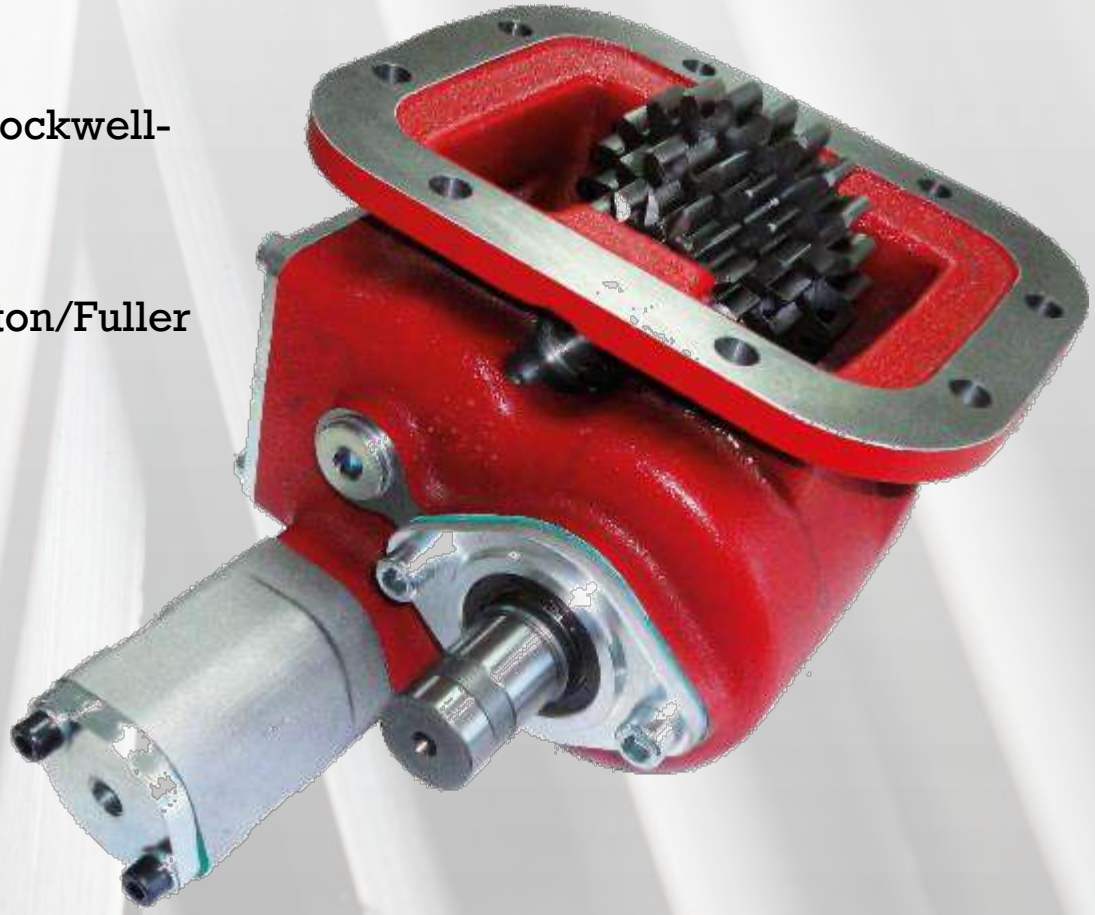
6000 Series 6 bolt "Reversible"

- MANUAL PTO'S: Eaton-Fuller/ Rockwell-Meritor/Spicer/ Mack
- Forward & Reverse output with 1 ¼ inch keyed round shaft
- 210 lb. ft. torque/ 30 HP
- Air shift or lever shift
- Uses the same input gears as the 1000/2000 series
- Competitive with
  - 340 Chelsea
  - RL6 Muncie



6800 Series 8 Bolt "Reversible"

- Low speed-forward and reverse
- MANUAL PTO'S: Eaton-Fuller/ Rockwell-Meritor/Spicer/ Mack
- Average 80% engine RPM on Eaton/Fuller
- Air shift is Standard
- 210 Lb. Ft./30 HP
- 1 ¼ inch keyed round shaft
- Competitive with
  - 340 Chelsea
  - RL6 Muncie



8000 Series 8 bolt "Reversible"

- Heavy Duty Forward and Reverse
- MANUAL PTO'S: Eaton-Fuller/ Rockwell-Meritor/Spicer/Mack
- Designed for high torque winches
- 500 lb. ft. torque/95 HP
- SAE 1 ½ & 1 ¼ inch keyed round shaft, 1400 companion flange, DIN 5462
- The 8000 series is the only reversible PTO in the market that comes standard with air shift

8500 Series Heavy Duty 8 bolt

- 8500 designed for maximum torque & HP
- MANUAL PTO'S: Eaton-Fuller/ Rockwell-Meritor/Spicer/Mack
- Up to 500 lb. ft. torque/ 95HP
- Comes standard with air shift
- Same smooth shift design as our 4100
- At 60 lbs. it is the lightest Heavy Duty PTO
- More economical than the 880 Chelsea or the 828 Mun
- SAE"BB","C", DIN5462, 1400 companion flange

Mack "M drive" / Volvo "I shift"

Base PTO 1196K03, 116504 Quill Shaft

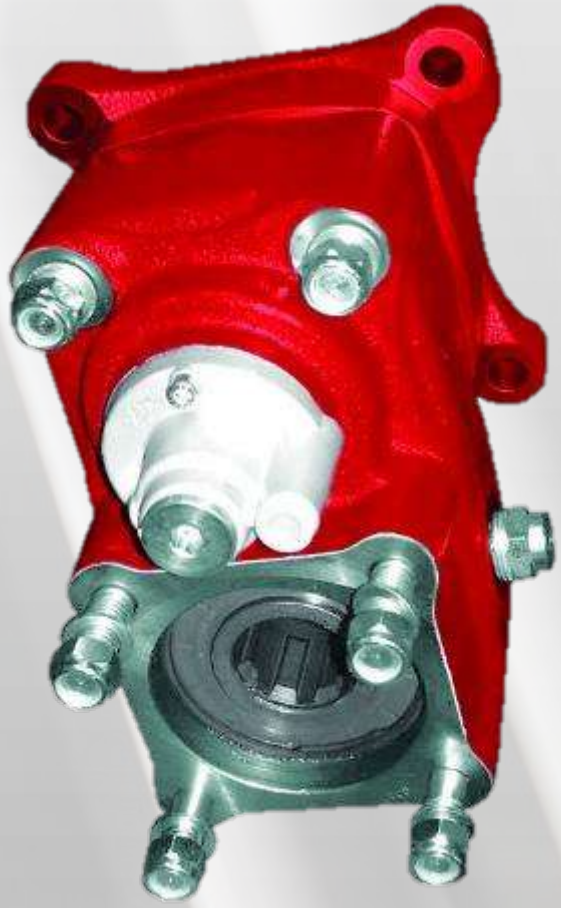
- Pneumatic Shift
- Max. Torque: 600 Lb.ft
- Max. Power: 84 HP
- Optional lube line 9070599
- 116504 Quill Shaft

Optional Adapter Shaft

Mack "M drive" / Volvo "I shift"

Base PTO 1198K03

- Two gear
- Pneumatic Shift
- Max. Torque: 310 Lb.ft
- Max. Power: 42 HP
- 116504 Quill Shaft



Mack "M drive" / Volvo "I shift"

Base PTO 11113K03

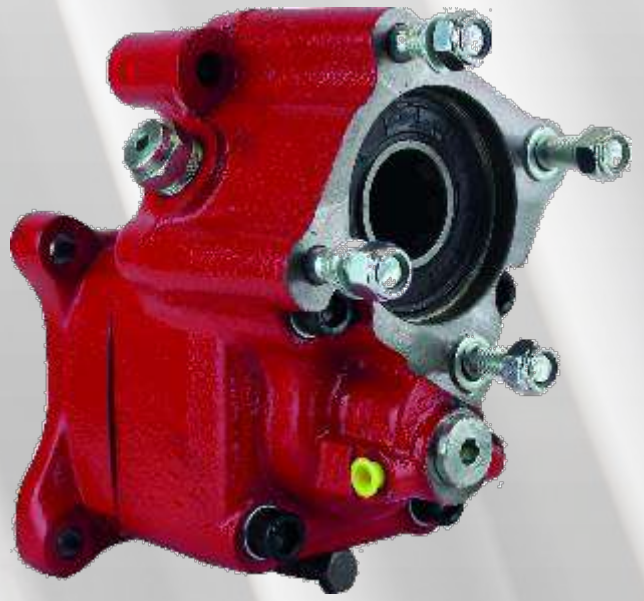
- Two gear – Offset Housing
- Heavy Duty
- Pneumatic Shift
- Max. Torque: 465 Lb.ft
- Max. Power: 64 HP

Base PTO 11112K03

- Two gear – Offset Housing
- Heavy Duty
- Pneumatic Shift
- Max. Torque: 410 Lb.ft
- Max. Power: 57 HP

Base PTO 11111K03

- Two gear – Offset Housing
- Heavy Duty
- Pneumatic Shifting
- Max. Torque: 360 Lb.ft
- Max. Power: 50 HP



Optional Adapter Shaft

R1000, SR1700, … (L=267 mm)	R1000, … Retarder (L=302 mm)	DT-2412C, V2412, …. (L=229 mm)
110104	110304	116504

Mack "M drive" / Volvo "I shift"

Base PTO 11107K---

- Three Independent Outputs
- Heavy Duty
- Pneumatic Shift
- Max. Torque: 370 Lb.ft
- Max. Power: 71 HP (*)
- 116704 Quill Shaft

Outputs 1, 2 & 3 can be combined among: Pump, Drive Flange or Null Output

Mack "M drive" / Volvo "I shift"

P/N: 7022904

- **REPTO (Rear Engine PTO)**
- Volvo Engines D13 & D16 Series
- Various Mack Engines
- Continuous Duty/Non-Shiftable
- DIN 5462 Output
- Max. Torque: 400 Lb.ft
- Max. Power: 64 HP

Endurant Tranny

Part Number Breakdown Codificación PTO

Series Serie	Shaft Type Tipo de eje	Internal Ratio Relación interna	Transmission Maker Marca / Modelo	Output Type Tipo de Salida
95	**X**	**13**	**E**	**IB**
	X – Estándar -Standard	**10** – 100% **13** – 130% **15** – 150%	**E –** Endurant	**SA** – SAE B 13T. **SB** – SAE BB 15T. **DA** – ISO 4 -DIN 5462 **IB** – Flange SAE 1300 **IC** – Flange SAE 1400

NOTE! PTO must have indicator switch part **# 9024999** for Endurant circuit feedback.

DT 12 Tranny

Part Number Breakdown Codificación PTO

Series Serie	Shaft Type Tipo de eje	Internal Ratio Relación interna	Transmission Maker Marca / Modelo	Output Type Tipo de Salida
120	**X**	**13**	**D**	**SB**
	X – Standard **R** – Retarder **A** – Aquatarder	**13** – 130%	**D** – Daimler	**SB** – SAE BB 15T. **DA** – ISO 4 **IB** – Flange SAE 1300 **IC** – Flange SAE 1400

bezaresusa

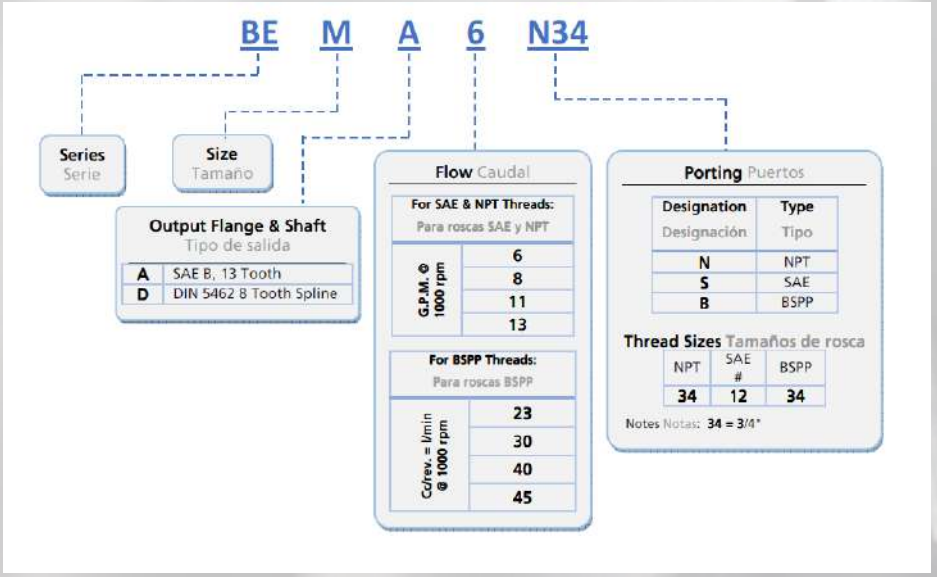
Pumps

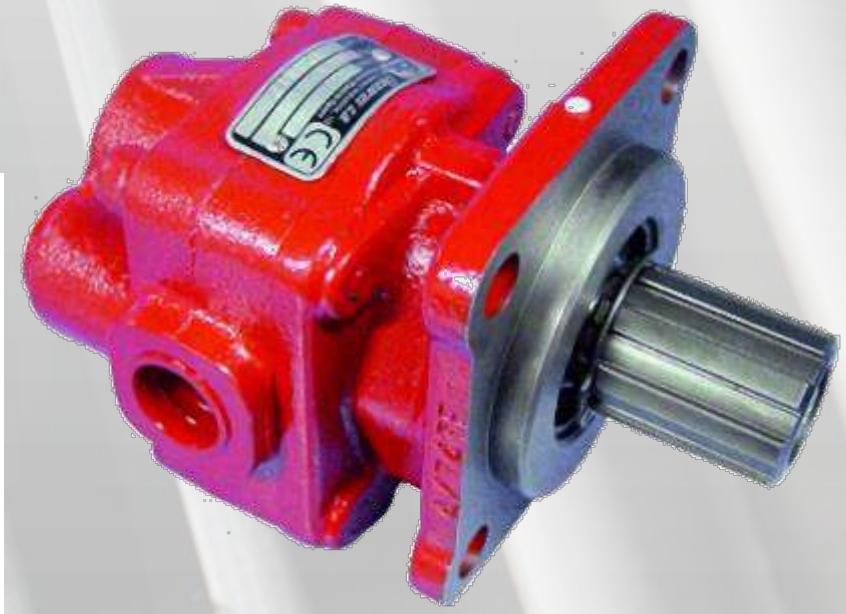
BEZARES USA LTD.

BEM Series Gear Pump

- Bi-Rotational
- Side and Rear Ports
- Bushing Style Pump
- Wide Range Of Flows
- High Pressure Gear Pump

BE	M	A	6	N34
Series	Size	Output	Flow	Porting

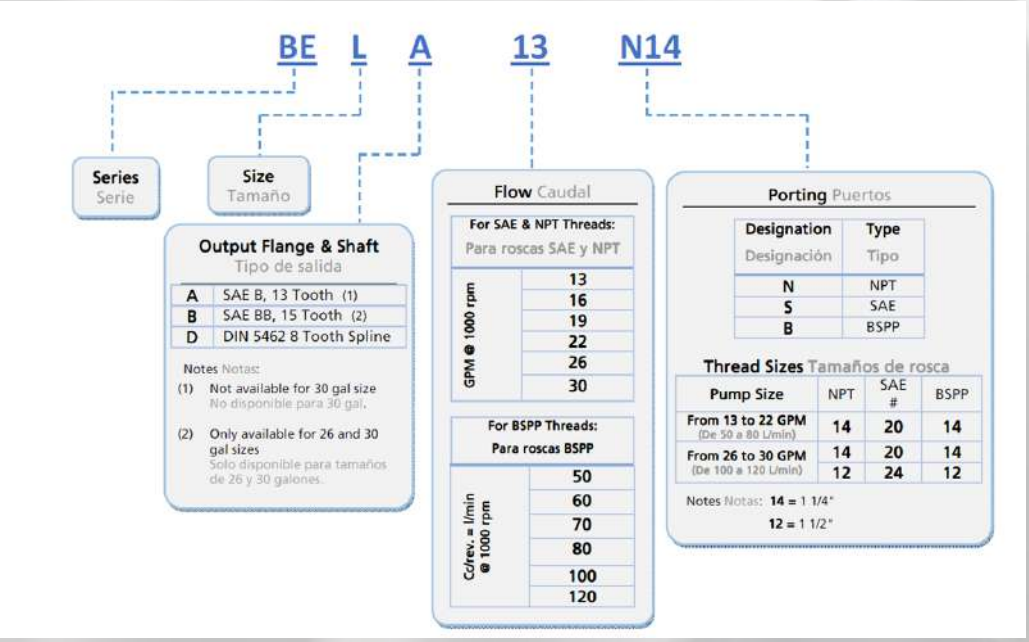


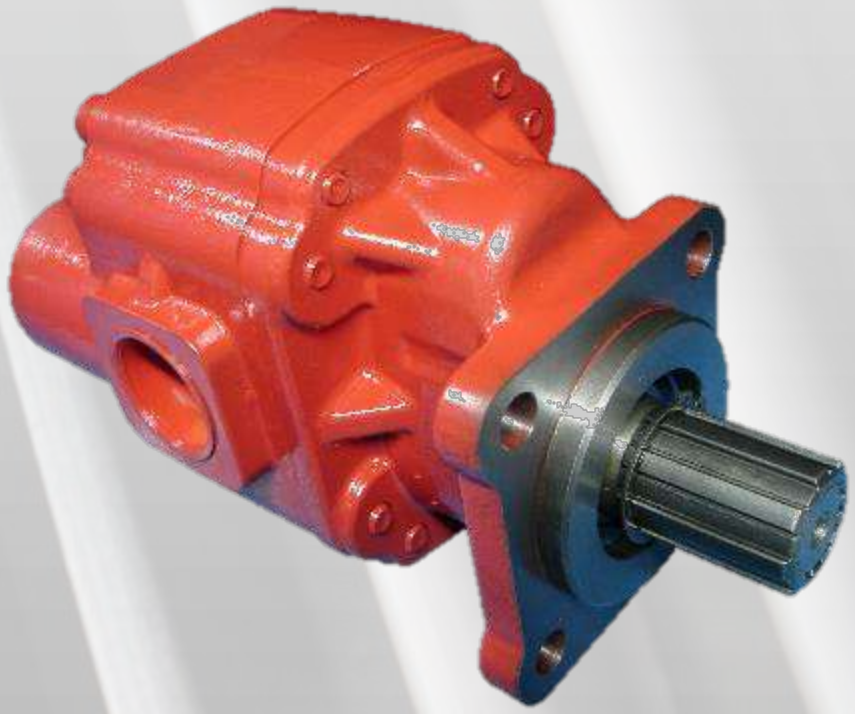


BEL Series Gear Pump

- **BEL Series Gear Pump**
- Bi-Rotational
- Side and Rear Ports
- Bushing Style Pump
- Wide Range Of Flows
- High Pressure Gear Pump

BE	L	A	13	N14
Series	Size	Output	Flow	Porting





BZ Series Dump Pump

BZ Series Dump Pump

- All in one Pump
- Direct or Remote Shafts
- Built-In Pressure Relief Valve
- Flows From 16-39 GPM
- Max. Pressure: 2500 PSI (*)
- Bearing Style pump

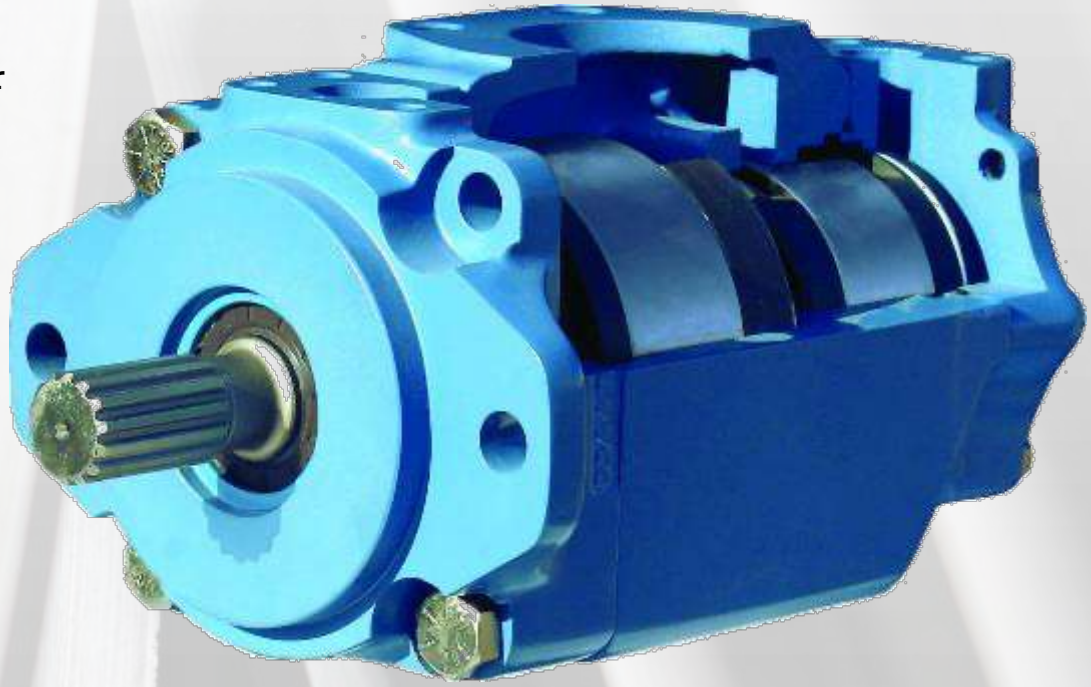
BZ	102	L	AS	25
Series	Type	Rotation	Control	Displacement

FR Series

- Spherical Head Pistons
- Long Life Span
- High Efficiency and Compact
- Max. Displacement: 6.71 cu in. (*)
- Max. Pressure: 4500 PSI (*)

TDZ vane pumps are characterized by their small size in relation to the power output, quiet operation, flexibility of the positions of oil input and output/s and low maintenance costs.

The construction of the pump offers a replaceable cartridge containing all moving parts this ensures low maintenance costs.



.18 to 16.47 CUI.
Applications: Garbage trucks, Aluminum injection machine, Agricultural applications, etc.

TDZ
Bezares Group

bezaresusa

Valves

BEZARES USA LTD.

BZD 180 Series Tipper Valve

Tipping Valve BZD 180 Series

- Single or Dual Pressure Relief
- Piston Check Valve
- Max. Flow: 47.5 GPM
- Max. Pressure: 5100 PSI

3Way Pneumatic Flow Diverter

- Pneumatic Shift
- Max. Flow: 66 GPM
- Max. Pressure: 5075 PSI (*)