

Chelsea® 249V Series

PowerShift Hydraulic 6-Bolt

Featuring the Patented
Chelsea Noise Suppression System



Overview:

Chelsea's 249V Series PTO fits both the 4 x 4 and 4 x 2 Ford Super Duty with the TorqueShift™ 6 Automatic Transmission. This unique design concept will provide a PTO that is best in class for pressure, flow, and noise reduction. The 249V provides flows up to 35 GPM at 3500 PSI continuous pressure. This PTO also features a Patented Noise Suppression System. The combination of the Chelsea 249 Series and the Parker Denison T6C vane pump will provide greater flows and pressures that are not available anywhere else.

- Aerial
- Tow & Recovery
- Fire & Rescue
- Water Drilling
- Truck Mounted Cranes



Contact Information: Product Features and Benefits:

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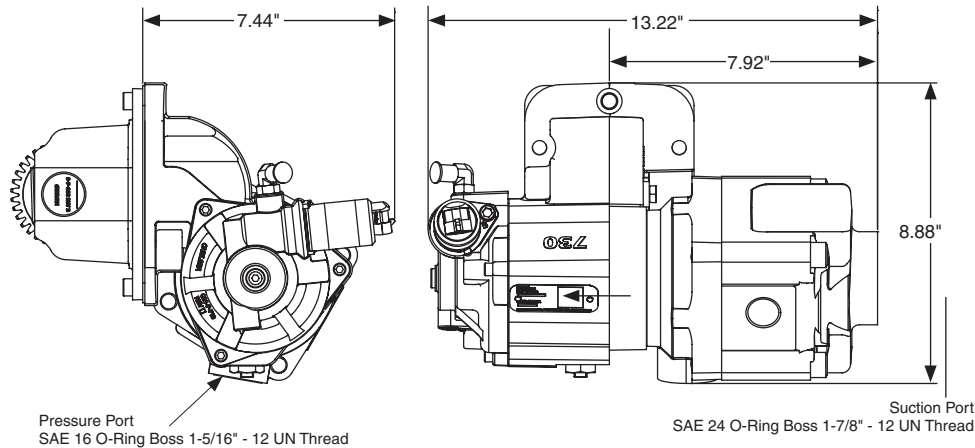


- **Pump flows up to 35 GPM at 3500 PSI** – Integrated design provides maximum power in a small package.
- **Simple** – PTO, pump, wiring harness and shift kits available under one part number and package.
- **Noise Suppression System** – Provides quiet PTO applications on Ford Super Duty Trucks.
(Patent #9,494,227 B2)
- **Smart Start Available** – Shock load dampening feature to protect driven equipment.
- **Installation** – Eliminates costs and saves time.
- **Single Hose Connection and Integrated Actuation Valve** – Single hose for the PTO simplifies installation and reduces installation time along with eliminating leak paths.
- **Intermittent Torque Rating of 200 lbs-ft** – 58 Horse Power @ 1200 Engine Speed.
- **Two Year Warranty** – Greater bearing capacity. Larger gear width and greater clutch engagement surface provide a robust design.

ENGINEERING YOUR SUCCESS.

249V SERIES POWER TAKE-OFF SPECIFICATIONS AND TECHNICAL DATA

| | | | | | | | | | | |
|---|--------------|----------|----------|-----------|----------|----------|----------|----------|------------|--|
| Basic Model | 2 4 9 | F | M | LL | X | - | B | V | 2 2 | Output Option |
| ⁵ 249 = Ford TorqShift® 6 Transmission | | | | | | | | | | 08 = B08 Cartridge @ 1.61 in³/rev 10 = B10 Cartridge @ 2.08 in³/rev 12 = B12 Cartridge @ 2.26 in³/rev 14 = B14 Cartridge @ 2.81 in³/rev 17 = B17 Cartridge @ 3.56 in³/rev 20 = B20 Cartridge @ 3.89 in³/rev 22 = B22 Cartridge @ 4.29 in³/rev 25 = B25 Cartridge @ 4.84 in³/rev |
| Mounting Option | | | | | | | | | | Assembly Arrangement |
| ⁴⁴ F = F350-F550 Diesel MY2011 & Later F650/F750 Diesel MY2016 & Later ⁶³ G = F650/F750 Gas 4 x 2 MY2013-MY2015 H = F650/F750 Gas MY2016 & Later F350-F550 Gas MY2017 & Later | | | | | | | | | | ⁵³ V = Integral Denison T6C Vane Pump |
| Gear Ratio | | | | | | | | | | Shift Option |
| M = 124% Engine Speed | | | | | | | | | | B = 12V Elec/Hyd K = 12V Elec/Hyd w/ EOC (Electronic Overspeed Control) |
| Input Option | | | | | | | | | | |
| LL = 35 Tooth, Spur | | | | | | | | | | |
| NOTE: For more details, see Application Catalog. | | | | | | | | | | |
| Lube Option | | | | | | | | | | |
| X = No Pressure Lube | | | | | | | | | | |



Chelsea 249V Integral Vane Pump Data for 4 x 2 or 4 x 4 Vehicles

| Option Code w/ PTO | Chelsea Pump Cartridge Number | Displacement in³/rev | GPM (D) | Pump (D) HP | Torque (D) Ft. Lbs. | Pressure PSI | | Pump Speed RPM | | Max Speed RPM Engine (B) |
|--------------------|-------------------------------|----------------------|---------|-------------|---------------------|--------------|------------|----------------|------|--------------------------|
| | | | | | | Intermittent | Continuous | Min. | Max | |
| 08 | 380418-08 | 1.61 | 9.33 | 19 | 67 | 4000 | 3500 | 400 | 2800 | 2015 |
| 10 | 380418-10 | 2.08 | 12.06 | 25 | 87 | 4000 | 3500 | 400 | 2800 | 2015 |
| 12 | 380418-12 | 2.26 | 13.10 | 27 | 94 | 4000 | 3500 | 400 | 2800 | 2015 |
| 14 | 380418-14 | 2.81 | 16.29 | 33 | 117 | 4000 | 3500 | 400 | 2800 | 2015 |
| 17 | 380418-17 | 3.56 | 20.64 | 42 | 149 | 4000 | 3500 | 400 | 2800 | 2015 |
| 20 | 380418-20 | 3.89 | 22.55 | 46 | 163 | 4000 | 3500 | 400 | 2800 | 2015 |
| 22 | 380418-22 | 4.29 | 24.87 | 51 | 179 | 4000 | 3500 | 400 | 2800 | 2015 |
| 25 | 380418-25 | 4.84 | 28.06 | 57 | 202 | 4000 | 3500 | 400 | 2800 | 2015 |

(A) GPM & Pump Input HP @ 1200 Engine RPM (1488 PTO Output RPM - 124% Ratio) & Continuous Pressure Rating with 90% efficiency rating considered.

(B) Max Engine Speed = (Max Pump Speed) / (1.24) for PTO Ratio Increase. Max Speed determined by Max PTO output speed of 2500.

(D) GPM & Pump Input HP @ 1200 Engine RPM (1488 PTO Output RPM - 124% Ratio) & 2000 PSI Continuous Pressure Rating.

See leakage chart for additional flow losses at other pressures.

CAUTION: 249V Pump Options: The PTO drive gear delivers up to 250 Lbs. ft. torque to the aftermarket PTO, and can manage the heat of 40 HP continuously. Higher horsepower can be delivered, but for shorter durations depending on the amount of power required. Ref: Ford Body Builders Manual; TorqShift Automatic Transmission.

NOTE: Refer to Chelsea Owner's Manual HY25-1FRD-M1/US for complete vane pump information.

FORMULAS:

GPM = Cu. In. x .004329 = G/Rev x 1488 RPMs x .90 efficiency

HP = (GPM x Max PSI) / 1714

Torque = (HP x 5252) / 1488 RPMs