

Chelsea® 871 Series

Hydraulic PowerShift 10-Bolt PTO for
Allison 3000/4000 Family Transmissions



Overview:

Chelsea's 871 Series is a small but mighty, 10-bolt Power Take-Off. Its compact housing eliminates possible clearance issues and multiple assembly arrangements maximize your installation possibilities. High capacity bearings and superior gear designs provide impressive torque ratings up to 670 ft-lb. There is no need to derate the PTO for continuous duty applications. Chelsea's 871 Series features a ductile iron bearing cap which is 117% stronger than its predecessor, and an o-ring sealing configuration between the housing and bearing cap to improve clamp load. All of these improvements are focused on reducing the damaging vibrational effects caused by today's and future engine designs. Multiple gear ratios provide a wide variety of speeds to meet all of your application requirements. The 871 Series is a unique PTO in that it is the only Chelsea PTO to offer all three of Chelsea's high-demand solutions: Wet Spline, SmartStart, and Quiet Gear™ options.

Applications:

- Fire & Rescue
- Oil & Gas
- Refuse
- Snow & Ice
- Vacuum

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Product Features and Benefits:

- Ductile Iron bearing cap – 117% stronger than gray iron.
- Improved Seal – O-ring sealing configuration to reduce vibrational effects and improve clamp load.
- Power – Torque capacity up to 670 lb-ft / 908 N-m.
- Compact – Housing height reduces clearance issues.
- Quiet – Quiet Gear™ input option available.
- SmartStart – Option available to reduce shock load at start-up for certain applications.
- Insurance – Electronic Overspeed Control (EOC) protects driven equipment.
- Speeds – Nine speed ratios including low and high speeds.
- Outputs – Thirteen output options.
- Protection – Wet Spline pump flange extends PTO and pump shaft life.

ENGINEERING YOUR SUCCESS.

871 SERIES POWER TAKE-OFF SPECIFICATIONS AND TECHNICAL DATA

<p>Basic Model 871</p> <p>Mounting Option X = Standard 10-Bolt Mount w/ Metric Studs</p> <p>Gear Ratio (Internal) A = 24/40 B = 25/39 C = 26/38 D = 27/37 E = 29/35 F = 31/33 G = 33/31 H = 34/30 J = 35/29</p> <p>Input Option FJ = Allison QT = Quiet Gear™ KV = Caterpillar NOTE: For more details, see Application Catalog (Transmission model number required)</p> <p>Lube Option Pressure P = Pressure Lube R = Valve Cap Rotated 120° S = Valve Cap Rotated 240° Wet Spline ⁵W = Wet Spline ⁵V = Valve Cap Rotated 120° w/ Wet Spline ⁵Y = Valve Cap Rotated 240° w/ Wet Spline</p>	<p>Output Option Driveline Output AB = DIN 120 Flange AC = DIN 100 Flange XV = 1410 Series Companion Flange BB = Drag Brake - DIN 120 Flange BC = Drag Brake - DIN 100 Flange BV = Drag Brake - 1410 Flange SB = SmartStart - DIN 120 Flange SC = SmartStart - DIN 100 Flange SV = SmartStart - 1410 Flange</p> <p>Pump Mount ⁴⁷RK = Rotatable SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8", 13T) ⁴⁷RF = Rotatable SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1", 15T) ⁴⁷RZ = Rotatable SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4", 14T) ⁴⁷RS = Rotatable SAE C 2 or 4-Bolt Flange, SAE C Shaft (1-1/4", 14T) ⁴⁷RY = Rotatable DIN 5462 Pump Mount, DIN 5462 Shaft (8Tx32x36)</p> <p>Assembly Arrangement 3 = Gear forward, Shaft rear, Left Side bulge up, Right Side bulge down 5 = Gear forward, Shaft rear, Left Side bulge down, Right Side bulge up</p> <p>Shift Option ⁴⁶B = 12VDC Elec/Hyd ⁴⁶D = 24VDC Elec/Hyd ⁴⁶E = 12VDC Elec/Hyd w/o Installation Kit ⁴⁶N = 24VDC Elec/Hyd w/o Installation Kit ⁴⁶K = 12VDC Elec/Hyd w/ EOC ⁴⁶L = 24VDC Elec/Hyd w/ EOC ¹⁵G = Remote 12VDC Elec/Hyd Valve w/o EOC ¹⁵H = Remote 24VDC Elec/Hyd Valve w/o EOC</p>
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⁵ Automatically pressure lubed

¹⁵ The remote mount solenoid option can not utilize the EOC option

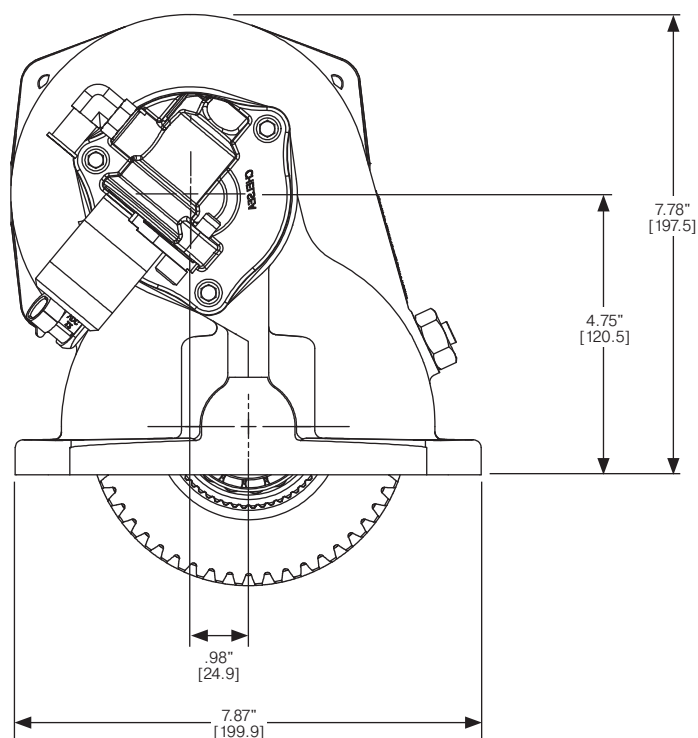
⁴⁵ Available on Shift Options B, D, E, N, K & L

⁴⁶ Available with Rotated Valve

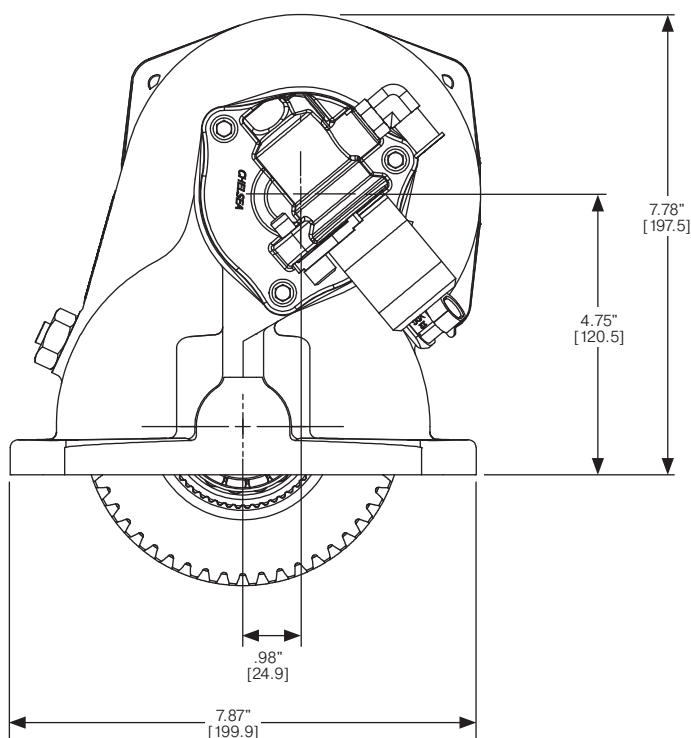
⁴⁷ Available with Wet Spline

871 SERIES POWER TAKE-OFF SPECIFICATIONS AND TECHNICAL DATA

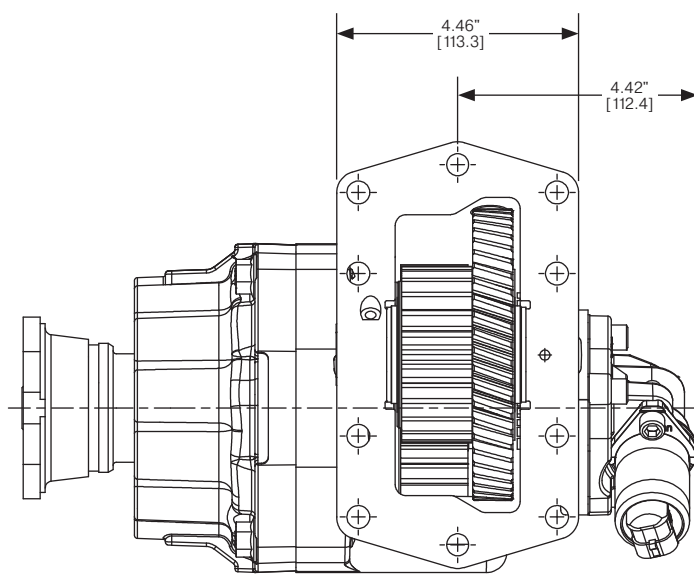
Dimensions – For PTO output information see application catalog



Assembly 3



Assembly 5



Specifications Chart

Approximate Weight: 57 lbs. [26 kg]

	871*A	871*B	871*C	871*D	871*E	871*F	871*G	871*H	871*J
Continuous Torque Rating (lb-ft) [N-m]	670 [909]	630 [854]	590 [800]	550 [746]	485 [658]	430 [583]	380 [515]	355 [481]	335 [454]
HP Rating for Continuous Duty									
At 500 RPM of Output Shaft (HP) [kW]	64 [48]	60 [45]	56 [42]	52 [39]	46 [34]	41 [31]	36 [27]	34 [25]	32 [24]
At 1000 RPM of Output Shaft (HP) [kW]	128 [95]	120 [89]	112 [84]	105 [78]	92 [69]	82 [61]	72 [54]	68 [50]	64 [48]

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HY25-0210-B1/US December 2023