

Chelsea® 280 Series

PowerShift Hydraulic 10-Bolt



Overview:

The **NEW 280 Series** is a new PTO design utilizing the best of our technology and innovations from our current Hot Shift PTO's. The 280 Series combines our 277 and 278 Series into one model of PTO. It will feature a **single continuous duty torque rating**. No more intermittent rating. Pump clearance issues have been improved with rotatable **cast iron** flanges and the Wet Spline Pump Flange option provides 7 to 10 times greater shaft life. Broader coverage of speed ranges expands from **5 ratios** to **9 ratios** and includes lower and higher speeds that were never available in the past. The standard output shaft features a new positive stop for Driveline outputs that eliminates the ability for shaft couplings to damage Oil Seals. Three option positions for the integrated solenoid valve. Plus a remote mounted option provides maximum clearance under the truck. The pressure / lube hose will be included with the **NEW 280 Series**. No need to order separately. Versatility, power, ease of maintenance and installation makes the new 280 Series the only choice for your vocational truck requirements.



- Fire and Rescue
- Refuse
- Aerial Devices

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Product Features and Benefits:

- It will feature a single continuous duty torque rating. No more intermittent rating.
- Torque capacity ratings have been increased.
- Pump clearance issues have been improved with rotatable cast iron flanges.
- New positive stop for driveline outputs; eliminates ability for shaft couplings to damage oil seals.
- Wet Spline Pump Flange option provides 7 to 10 times greater shaft life.
- Broader coverage of speed ranges expanding from 5 ratios to 9 ratios.
- Lower and higher speed now available.
- The pressure / lube hose will be included with the new 280 Series. No need to order separately.
- Three option positions for the integrated solenoid valve. Plus, a remote mounted option provides maximum clearance.



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280 SERIES POWER TAKE-OFF MODEL NUMBER DESIGNATOR & SPECIFICATIONS

2 8 0 G B F J P - B 5 X D

Basic Model
280

Mounting Option

G = Standard Mount, Metric Studs

Gear Ratio

[3 & 5 Arr.]

B = 22/50
C = 25/47
D = 28/44
G = 31/41
K = 33/39
M = 35/37
P = 37/35
S = 39/33
T = 41/31

[8 Arr.]

B = 22/53
C = 25/50
D = 28/47
G = 31/44
M = 35/40
P = 37/38
S = 39/36
T = 42/33

Input Option

FJ = Allison
KV = Caterpillar

Lube Option

P = Pressure Lube Only
R = Valve Cap Rotated 120°
S = Valve Cap Rotated 240°
W = Wet Spline
V = Valve Cap Rotated 120° with Wet Spline
Y = Valve Cap Rotated 240° with Wet Spline

Output Option

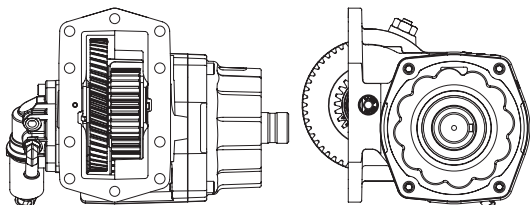
AB = DIN 120 Flange
AC = DIN 100 Flange
BA = 1-1/4" Round Shaft w/ Brake Automatic Transmission
BD = 1-1/4" Round Shaft w/ Brake Manual Transmission
UN = UNI 8953 3-Bolt Pump Flange - 6T
XD = Rd Standard Shaft (1-1/4" - 5/16" Key)
XV = 1410 Series Companion Flange
RF = Rotatable SAE "B" 2-Bolt Flange, SAE "BB" Shaft (1" - 15T)
RZ = Rotatable SAE "B" 2 or 4-Bolt Pump Flange, SAE "C" Shaft
RK = Rotatable SAE "B" 2 or 4-Bolt Pump Mount (7/8" - 13T)
RS = Rotatable SAE "C" 2 or 4-Bolt Pump Mount (1-1/4" - 14T)
RY = Rotatable DIN 5462 Pump Mounting

Assembly Arrangement

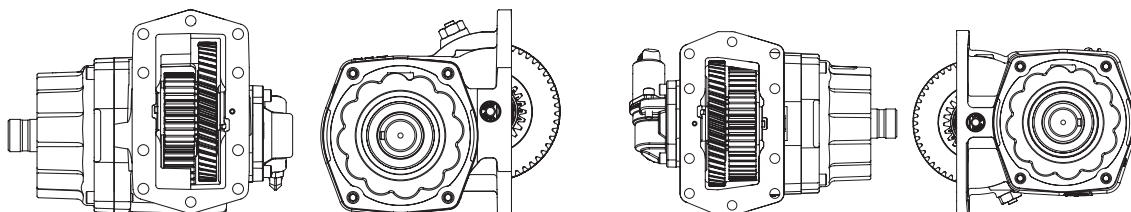
3 - Gear Forward, Shaft Rear, Bulge Up Left Side, Bulge Down Right Side
5 - Gear Forward, Shaft Rear, Bulge Up Right Side, Bulge Down Left Side
8 - Gear Forward, Shaft Rear

Shift Option

B = 12V Elec/Hyd
D = 24V Elec/Hyd
N = 24V Elec/Hyd w/o Installation Kit
K = 12V Elec/Hyd Remote Valve w/ EOC
L = 24V Elec/Hyd Remote Valve w/ EOC
G = 12V Elec/Hyd Remote Valve w/o EOC
H = 24V Elec/Hyd Remote Valve w/o EOC
M = Constant Mesh
S = Air Shift with PTO/Dump Pump Combo Valve
T = PTO & Pump Combo Valve w/o Kick Out & Neutral Spring Return



Assembly 3



Assembly 5

Assembly 8

Specifications Chart

	280*B	280*C	280*D	280*G	280*K	280*M	280*P	280*S	280*T
Standard Output Shaft Size	1-1/4" Round w/key								
Intermittent & Continuous Torque Rating (lbs-ft)	300	390	390	360	340	318	290	265	240
Intermittent & Continuous Torque Rating (Nm)	407	529	529	488	461	431	393	359	325
Horsepower Rating for Intermittent & Continuous Service									
At 500 RPM of Output Shaft (HP)	29	37	37	34	32	30	28	25	23
At 1000 RPM of Output Shaft (HP)	57	74	74	69	65	61	55	50	46
At 500 RPM of Output Shaft (Kw)	21	28	28	26	24	23	21	19	17
At 1000 RPM of Output Shaft (Kw)	43	56	56	51	48	45	41	38	34
Approximate Weight	49 lbs. [22 kg]								

Chelsea® Smart Start

For 280 Series PTOs

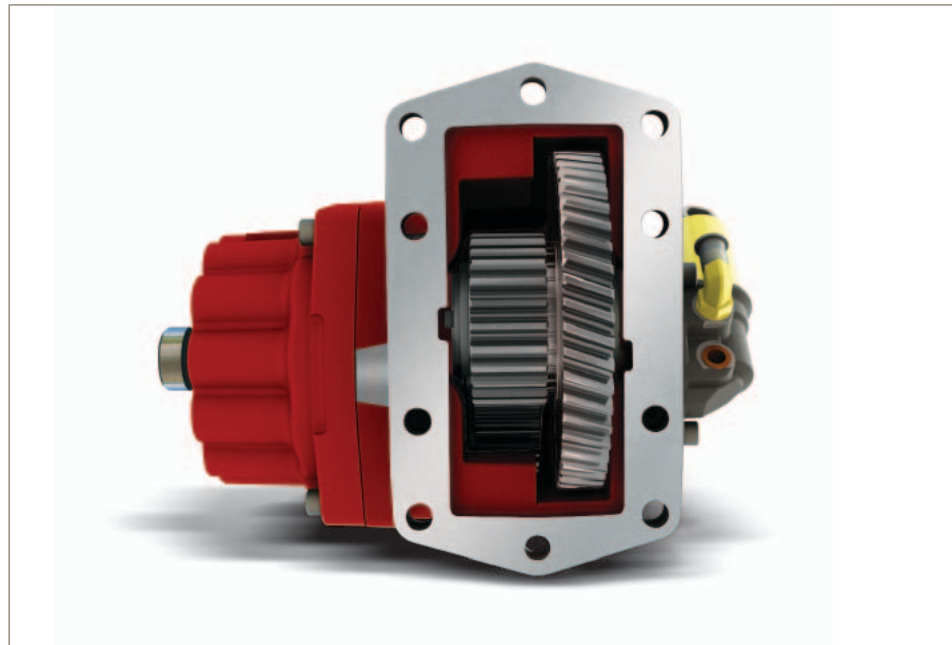


Overview:

Parker Chelsea has once again responded to the needs of the market by developing an innovative patent pending solution for high inertia start-up applications. Effective immediately, Smart Start can be ordered as an option on the 280 Series to reduce the impact of high-torque/inertia demands for applications such as compressors and product pumps.

Smart Start allows the PTO to come up to speed in a safe and efficient manner without sacrificing HP. It manages the system pressure that is used to engage the PTO's clutch pack, enabling it to absorb torque spikes and provide a smooth engagement. Therefore, it helps protect the transmission, PTO, and driven equipment from the potentially damaging shock loads found on certain types of applications.

- Tire Service Trucks
- Truck Mounted Air Compressors
- Bulk Transporter
- Fire and Emergency Trucks



Product Features and Benefits:

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- Smart Start absorbs torque spikes and provides a smooth engagement from the damaging shock loads found on certain types of applications.
- Features a single continuous duty torque rating. No more intermittent rating.
- Increase torque ratings.
- New positive stop for driveline outputs; eliminates ability for shaft couplings to damage oil seals.
- Broader coverage of speed ranges expanding from 5 ratios to 9 ratios.
- Lower and higher speeds now available.
- The pressure/lube hose will be included with the new 280 Series. No need to order separately.
- Three option positions for the integrated solenoid valve. Plus, a remote mounted option provides maximum clearance.



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280 SERIES POWER TAKE-OFF WITH SMART START

OUTPUT OPTIONS

Smart Start is available in two output options for the 280 Series:

Output Type	Standard Output Code	Smart Start Output Code	Field Conversion Kit
1-1/4" Rd Shaft w/ 5/16" Key	XD	SD	329160-77X
1410 Companion Flange	XV	SV	329160-78X

