WPT®
POWER

Engine Driven Products

WPT® POWER 25TH ANNIVERSARY

Vision Statement

Our vision is to be the leader in every market we serve, to the benefit of our customers and our shareholders.

Mission Statement

Profitable growth through superior customer service, innovation, quality and commitment to customer satisfaction.

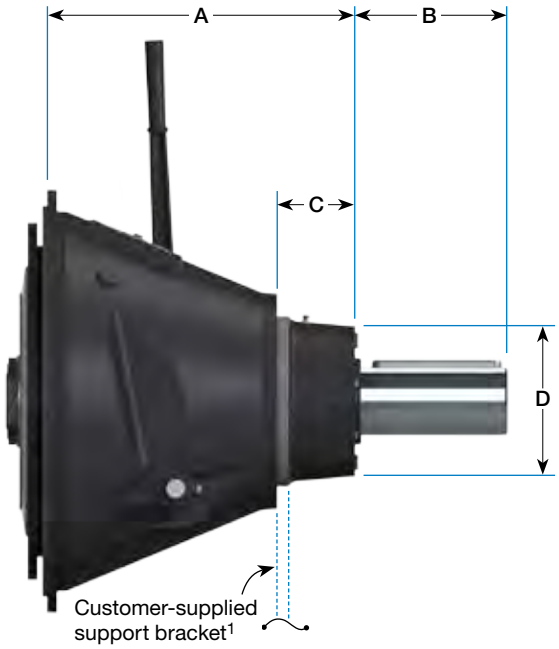
Core Values

1. We respect each other, our community and the environment.
2. We are ethical and honest in all of our business dealings.
3. We are diligent in protecting the safety of our people.
4. We are disciplined and personally accountable for our decisions, actions attitude and results.
5. We have an entrepreneur's mindset, driving innovation and striving for excellence in all we do.
6. We openly communicate among all levels of the company.
7. We believe in working as a team toward common objectives with a can-do attitude.

Contents

Pilotless Mechanical Power Take-off

Industrial engine applications are more demanding than ever. Customers need a solution rugged enough to meet those demands and WPT Power has engineered that solution with the *WPT Pilotless Mechanical Power Take-off*. This design eliminates the pilot bearing and increases side load capacity over previous generations of PTO products. The WPT Pilotless Mechanical Power Take-off will optimize your cost by reducing inventory, increasing uptime and engine life, and simplifying installation time.



- Dual spherical roller main bearing design.
- Time savings for assembly due to no pilot bearing alignment required.
- Most sizes fit within envelope of previous design.
- No direct loading to engine crankshaft increases life of engine bearings.
- No installation related engine thrust bearing damage.
- 100% equipped with ball-bearing engagement collars.
- Increased side load capacity

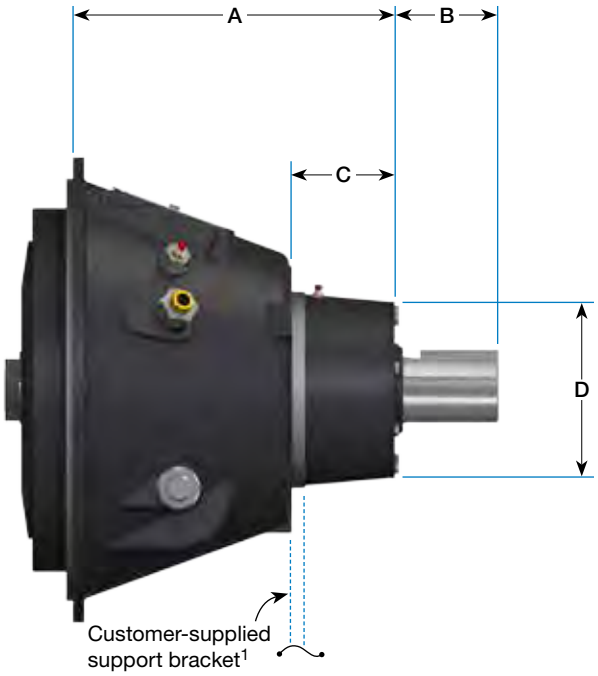
Model	SAE Housings	A	Output Shaft			C	D	Weight lb (kg)	# of Teeth
			B	Dia	Keyway				
WPL 106	5, 4	8.45 (214.6)	2.18 (55.4)	1.438 (36.53)	3/8 x 3/16 (9.5 x 4.8)	2.47 (62.7)	4.44 (112.8)	72 (33)	42
WPL 107	5, 4	8.45 (214.6)	2.18 (55.4)	1.438 (36.53)	3/8 x 3/16 (9.5 x 4.8)	2.47 (62.7)	4.44 (112.8)	75 (134)	47
WPL 108	4	8.4 (213.4)	4.66 (118.4)	1.750 (44.45)	1/2 x 1/4 (12.7 x 6.4)	3.02 (76.7)	4.84 (122.9)	88 (40)	51
WPL 110	4, 3	9.78 (248.4)	3.94 (100.1)	2.250 (57.15)	5/8 x 5/16 (15.9 x 7.9)	3.52 (89.4)	5.75 (146.1)	125 (57)	63
WPL 111	3	11.48 (291.7)	4.04 (102.6)	2.250 (57.15)	5/8 x 5/16 (15.9 x 7.9)	11.13 (282.7)	5.75 (146.1)	162 (73)	72
WPL 211	3, 2	12.60 (320.0)	3.64 (92.5)	2.500 (63.50)	5/8 x 5/16 (15.9 x 7.9)	4.25 (108.0)	6.75 (171.5)	218 (99)	72
WPL 311[1]	3, 2	15.78 (400.8)	8.03 (204.0)	3.500 (88.90)	7/8 x 7/16 (22.2 x 11.1)	3.71 (94.2)	7.75 (196.9)	343 (156)	72
WPL 114	1	13.63 (346.2)	5.14 (130.6)	3.000 (76.20)	3/4 x 3/8 (19.1 x 9.5)	3.75 (95.2)	6.75 (171.5)	275 (125)	59
WPL 214[1]	1, 0	16.20 (411.5)	7.55 (191.8)	3.500 (88.90)	7/8 x 7/16 (22.2 x 11.1)	4.34 (110.2)	7.75 (196.9)	407 (185)	59
WPL 314[1]	1, 0	17.05 (433.1)	7.50 (190.5)	3.938 (100.01)	1 x 1/2 (25.4 x 12.7)	3.92 (99.6)	8.25 (209.6)	470 (213)	59

[1] Support plate for 311, 214, 314 is required for sideload applications and recommended for inline applications.

Pilotless Over-the-Shaft Power Take-off

WPT Power's Pilotless OTS Power Take-off is engineered to meet the most demanding diesel engine applications. This design eliminates the pilot bearing while increasing side load capacity over competitive units. The OTS PTO is suitable for pneumatic or hydraulic actuation from the side of the housing and can be utilized for in-line or side load applications. The WPT Pilotless OTS Power Take-off will increase uptime, engine life, and simplifying installation time.

- Dual spherical roller main bearing design, increases side load capacity.
- Self-Adjusting clutch.
- No direct loading to engine crankshaft which increases life of engine bearings.
- Time savings for assembly since no pilot bearing alignment required.
- For in-line or side load applications.
- Hydraulic or pneumatic actuation.



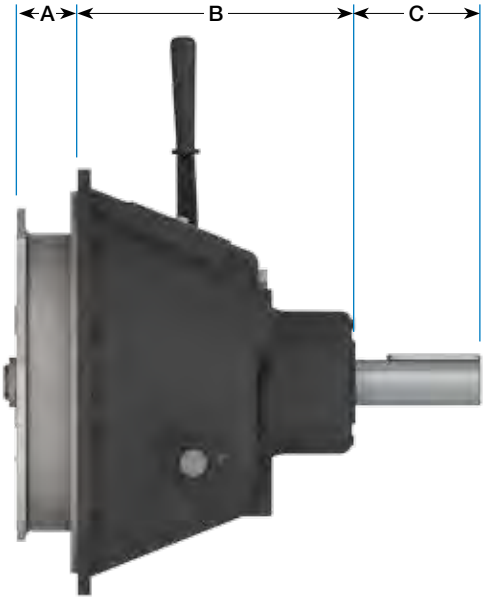
Model	SAE Housings	A	Output Shaft			C	D	Weight lb (kg)	# of Teeth
			B	Dia	Keyway				
OTS-PL 211	3, 2	12.60 (320.0)	4.04 (102.6)	2.500 (63.50)	5/8 x 5/16 (15.9 x 7.9)	4.25 (108.0)	6.75 (171.5)	218 (99)	72
OTS-PL 311[1]	3, 2	15.78 (400.8)	8.03 (204.0)	3.500 (88.90)	7/8 x 7/16 (22.2 x 11.1)	3.71 (94.2)	7.75 (196.9)	343 (156)	72
OTS-PL 214[1]	1, 0	16.20 (411.5)	7.55 (191.8)	3.500 (88.90)	7/8 x 7/16 (22.2 x 11.1)	4.34 (110.2)	7.75 (196.9)	407 (185)	59
OTS-PL 314[1]	1, 0	17.05 (433.1)	7.50 (190.5)	3.938 (100.01)	1 x 1/2 (25.4 x 12.7)	3.92 (99.6)	8.25 (209.6)	470 (213)	59

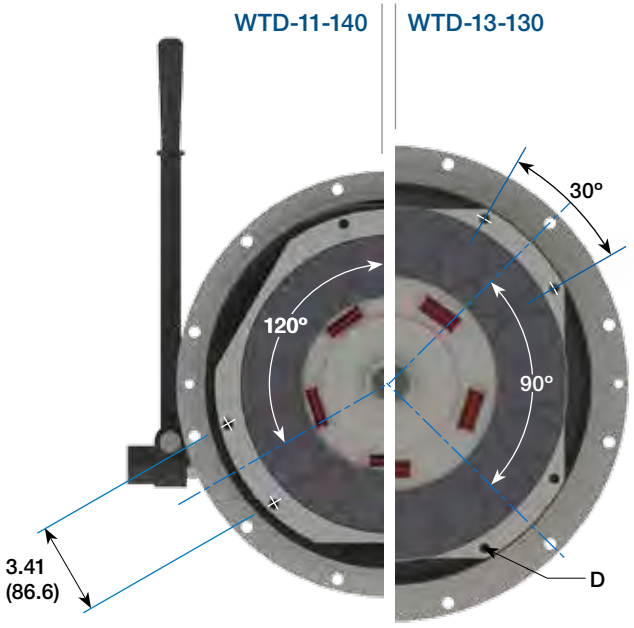
[1] Support plate for 311, 214, 314 is required for sideload applications and recommended for inline applications.

Automotive-Style

Loaded with features and virtually maintenance free, the rugged automotive-style PTO is used with flat-faced flywheels in marine, industrial, construction, brush chipper and irrigation applications.

- The troublesome pilot bearing has been eliminated to reduce failures and downtime.
- Main bearings are sealed and require no adjustments for the life of the bearing.
- Simple adjustments at the initial setup compensate for wear with a torsionally-dampened automotive-style spring-loaded clutch.
- Adjustments are quick and easy with an external ball stud and jam nut.
- The angular contact throwout bearing reduces heat buildup during long idle times.
- Engagement force is 1/3 of the force required to engage an equivalent over-center type PTO.

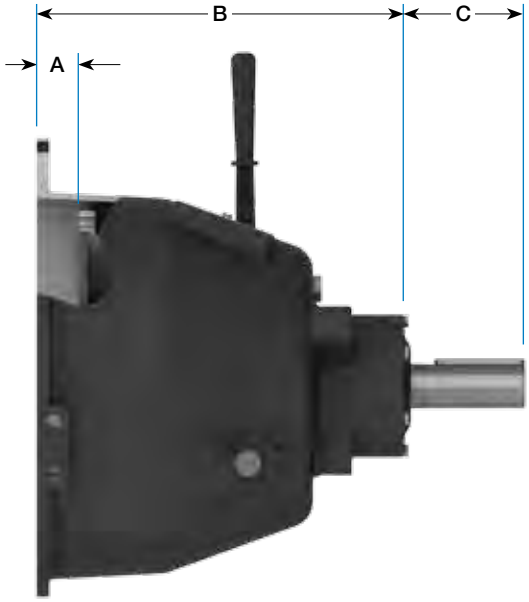


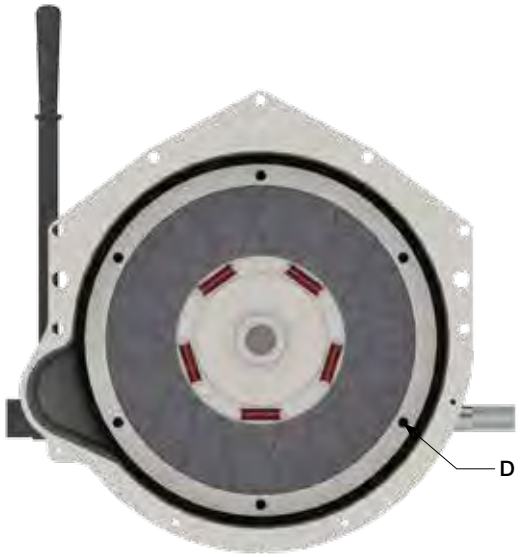


Model	SAE Housings	A	B	Output Shaft			D Hole			Weight lb (kg)
				C	Dia	Keyway	Bolt Circle	Qty	Dia	
WTD-11-140	4	2 1/4 (57.2)	10 5/16 (261.9)	4 5/8 (117.5)	1.750 (44.45)	3/8 x 3/16 (9.5 x 4.8)	12 3/8 (314.3)	6	3/8 (9.5)	123 (56)
WTD-13-130	3	2 9/16 (65.1)	9 1/8 (231.8)	2 15/16 (74.6)	1.750 (44.45)	3/8 x 3/16 (9.5 x 4.8)	14 1/8 (358.8)	8	3/8 (9.5)	149 (68)

GM®-Style

- GM®-style bellhousing mounts directly to 4.1, 5.7, 6.2, 7.4 & 8.1 liter engines.
- Solid ductile iron bellhousing is built for heavy-duty applications, keeping out weather and other contaminants.
- Heavy-duty adjustment ball screw with jam nut makes adjustments easy.
- Inline or sideload applications.
- Heavy-duty, precision components are made of steel and ductile iron.

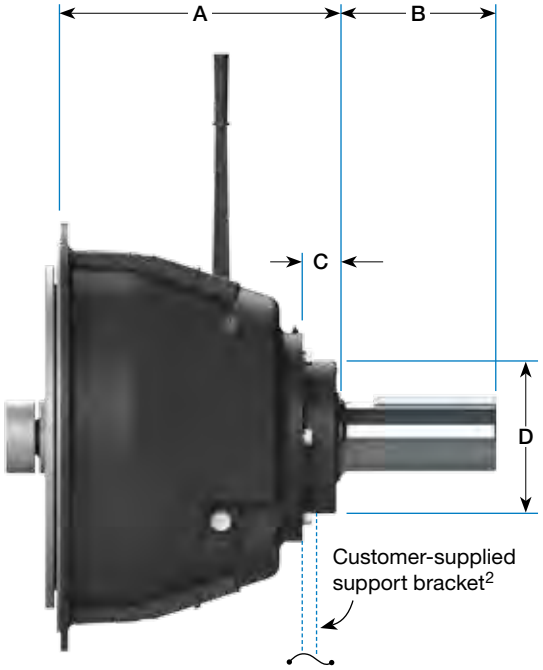




GM® is a registered trademark of the General Motors Company

Model	A	B	Output Shaft			D Hole			Weight lb (kg)
			C	Dia	Keyway	Bolt Circle	Qty	Dia	
GM® Style	1 11/16 (42.9)	14 7/16 (366.7)	4 7/16 (112.7)	1.750 (44.45)	3/8 x 3/16 (9.5 x 4.8)	12 5/8 (320.7)	6	3/8 (9.5)	160 (73)
GM® Style HD	1 11/16 (42.9)	14 7/16 (366.7)	4 7/16 (112.7)	2.250 (57.15)	1/2 x 1/4 (12.7 x 6.4)	12 5/8 (320.7)	6	3/8 (9.5)	160 (73)

Mechanical Power Take-off



The WPT® mechanical power take-off consists of a lever-actuated clutch with a shaft and bearings mounted in a rigid cast housing. The mechanical PTO is designed for inline and sideload applications on all internal combustion engines with standard SAE industrial flywheel/flywheel housing dimensions.

- Sealed-for-life pilot bearings eliminate lubrication problems.
- Ball bearing throwout collars are optional on 10", 11 ½", 14" and 18". Standard on the 311 PTO.
- All drive rings are ductile (nodular) iron or steel.

Model	SAE Housings	A	Output Shaft			C	D	Weight lb (kg)	# of Teeth
			B	Dia	Keyway				
C106[1] C107[1]	5, 4	7 1/8 (181.0)	3 1/2 (88.9)	1.438 (36.53)	3/8 x 3/16 (9.5 x 4.8)	2 1/8 (54.0)	4 5/8 (117.5)	65 (30)	42
C108	5, 4, 3	7 1/8 (181.0)	6 (152.4)	1.750 (44.45)	1/2 x 1/4 (12.7 x 6.4)	2 1/4 (57.2)	5 (127.0)	82 (37)	51
C110	4, 3	8 5/8 (219.1)	5 1/2 (139.7)	2.250 (57.15)	5/8 x 5/16 (15.9 x 7.9)	3 3/4 (95.3)	5 5/8 (142.9)	117 (53)	63
SP111	3, 2, 1	9 1/4 (235.0)	6 1/2 (165.1)	2.250 (57.15)	5/8 x 5/16 (15.9 x 7.9)	3 3/4 (95.3)	5 3/4 (146.1)	143 (65)	72
SP211	3, 2, 1	9 5/8 (244.5)	6 1/2 (165.1)	2.500 (63.50)	5/8 x 5/16 (15.9 x 7.9)	3 (76.2)	6 1/4 (158.8)	157 (71)	72
SP311[2]	3, 2	13 7/8 (352.4)	10 (254.0)	3.500 (88.90)	7/8 x 7/16 (22.2 x 11.1)	3 3/8 (85.7)	7 1/2 (190.5)	233 (106)	72
SP114	1	12 1/8 (308.0)	8 1/2 (215.9)	3.000 (76.20)	3/4 x 3/8 (19.1 x 9.5)	3 3/4 (95.3)	6 5/8 (168.3)	263 (119)	59
SP214[2]	1, 0	13 3/4 (349.3)	10 (254.0)	3.500 (88.90)	7/8 x 7/16 (22.2 x 11.1)	3 3/8 (85.7)	7 1/2 (190.5)	332 (151)	59
SP314[2]	1, 0	14 1/2 (368.3)	10 (254.0)	3.938 (100.01)	1 x 1/2 (25.4 x 12.7)	3 3/8 (85.7)	7 1/2 (190.5)	413 (187)	59
IBF314[2]	1, 0	16 3/4 (425.5)	10 (254.0)	3.938 (100.01)	1 x 1/2 (25.4 x 12.7)	3 5/8 (92.1)	12 1/2 (317.5)	595 (270)	59
SP318[2]	0	18 1/4 (463.6)	10 (254.0)	4.500 (114.30)	1 x 1/2 (25.4 x 12.7)	2 5/8 (66.7)	10 (254.0)	897 (407)	75

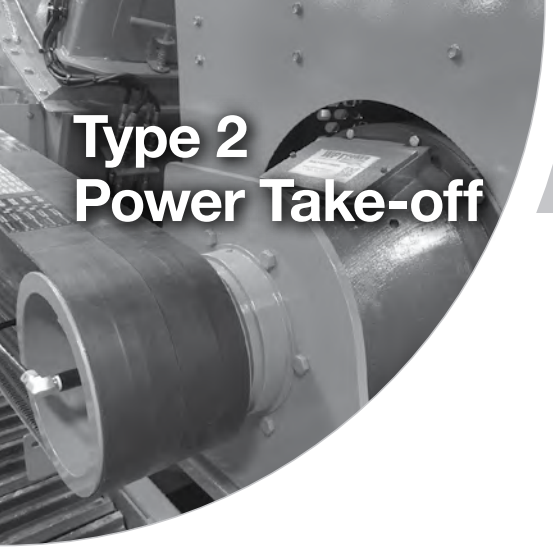
[1] Double main bearings

[2] Support plate for 311, 214, 314 is required for sideload applications and recommended for inline applications. Support plate for 318 is required for both sideload and inline applications.

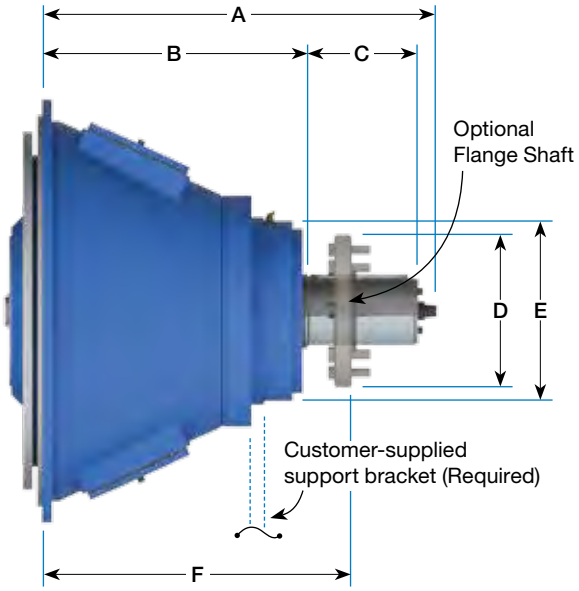
Custom Gearbox Solutions

WPT provides many clutch pack options for custom gearbox applications.

- Mechanical Clutch Pack Sizes Ranging from SAE 6 to SAE 18 inch
- Bellhousings from SAE #5 to SAE #0
- Pneumatic and Hydraulic Clutch Sizes Ranging from SAE 14 to SAE 21 inch
- Bell housing from SAE #3 to SAE #00



Type 2 Power Take-off



If you are looking for an innovative, high capacity power take-off, look no further than the WPT® Type 2.

With its versatile design, dry clutch and top-of-the-line spherical roller bearings, the Type 2 PTO has been field-proven in many sideload applications.

The benefits of the WPT Type 2 include the potential for remote engagement, maintenance free self-adjusting clutch, with air or hydraulic actuation. Heavy-duty gear tooth friction discs are standard on 14" and 18" models. Bearings are lubricated with either grease or oil.

Customers needing maximum capacity in a small package will find the Type 2 an outstanding PTO for their applications.

Model	SAE Housings	A	B	Output Shaft			Output Flange			D	E	F
				C	Dia	Keyway	Hole Circle	Qty	Thds			
211/311	3, 2	14 11/16 (373.1)	11 3/16 (284.2)	3 3/8 (85.7)	2.750 (69.85)	5/8 x 5/16 (15.9 x 7.9)	-	-	-	-	7 3/16 (182.6)	-
214/314H	1, 0	31 9/16 (801.7)	21 1/16 (535.0)	7 1/4 (184.2)	3.625 (92.08)	7/8 x 7/16 (22.3 x 11.1)	-	-	-	-	8 1/2 (215.9)	-
214/314H Compact	2, 1	20 7/16 (519.1)	13 5/8 (346.0)	5 9/16 (141.3)	3.543 (90.00)	.98 x .42 (25 x 10.7)	-	-	-	-	9 (228.6)	-
214/314H Flanged	1	26 1/2 (673.1)	-	-	-	-	4.75 (120.7)	6	5/8-18	6 1/2 (165.5)	8 1/2 (215.9)	21 7/8 (555.6)
218/318	0	31 7/16 (798.5)	21 7/16 (544.5)	7 1/4 (184.2)	3.625 (92.08)	7/8 x 7/16 (22.3 x 11.1)	-	-	-	-	8 1/2 (215.9)	-
218/318 Flanged	0	27 3/16 (690.6)	-	-	-	-	6.25 (158.8)	8	5/8-18	7 3/4 (196.9)	9 7/8 (250.8)	23 9/16 (598.5)
318 HD Flanged	0	23 3/4 (603.3)	-	-	-	-	8.75 (222.3)	16	3/4-10	10 1/2 (266.7)	12 (304.8)	21 1/8 (536.6)

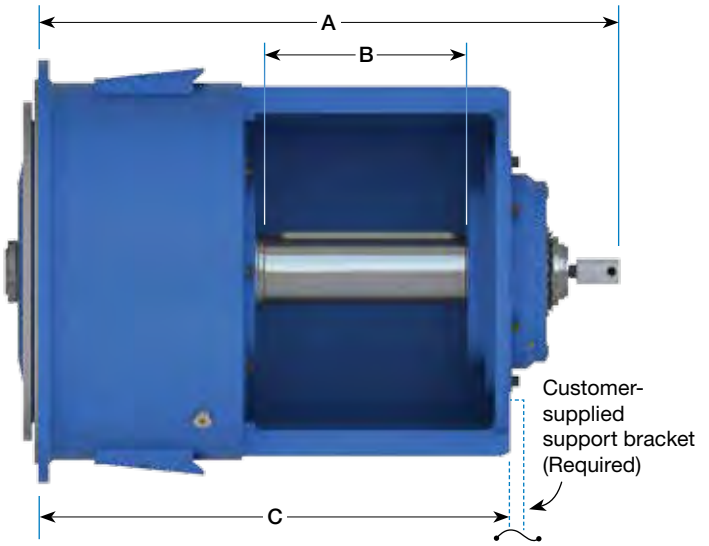
Type 1 Power Take-off

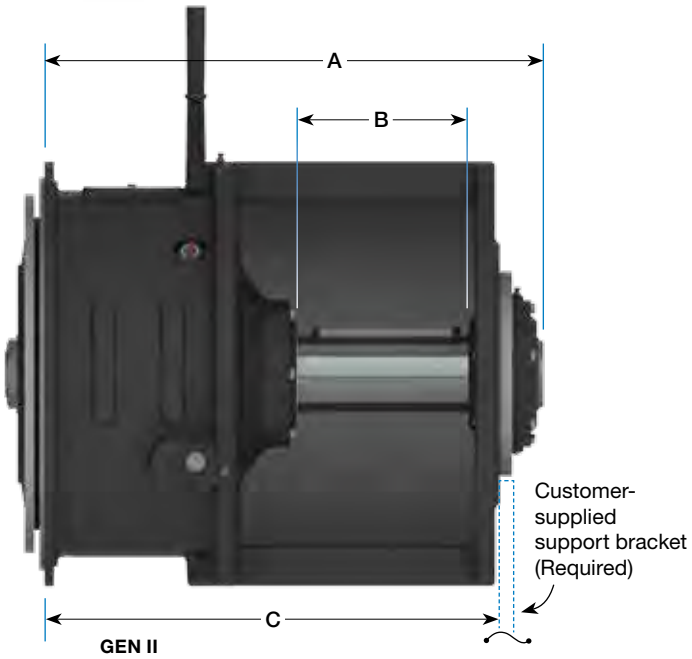
The Type 1 PTO is one of the most rugged, highest capacity products available on the market today. With sheaves between the bearings, these power take-offs are designed to attain the maximum potential of their massive spherical roller bearings.

Some benefits of the WPT® Type 1 include: Potential for remote engagement, maintenance-free self-adjusting clutch, air or hydraulic actuation, heavy-duty gear tooth friction discs and easy drive belt removal.

The Type 1 PTO is intended for customers with the most demanding of applications. Typical drive belt tension capacity of these PTOs can range from two to four times that of the Type 2 PTO.

Gen II Type 1 PTO's make it possible to house mechanical clutch packs. In addition, the sheave housing is designed with internal and external pilots, vastly improving the quality and ease of field repairs while increasing uptime.



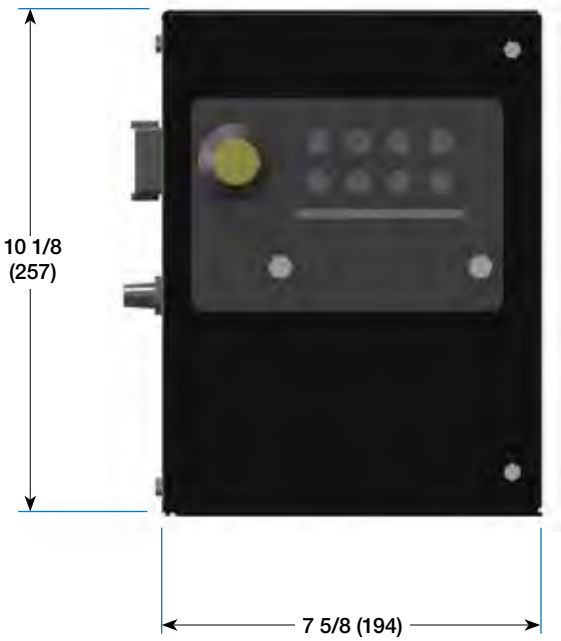


GEN II

Model	SAE Housings	A	Output Shaft			C	Sheave (Customer Supplied)	
			B	Dia	Keyway		Max Dia	Max Width[1]
314H (GEN II)	1, 0	29 1/2 (749.3)	9 1/2 (241.3)	3.938 (100.00)	1 x 1/2 (25.4 x 12.7)	23 7/8 (606.4)	17 (431.8)	12 7/8 (327.0)
318	0	38 3/4 (984.3)	13 5/16 (338.1)	4.500 (114.30)	1 x 1/2 (25.4 x 12.7)	31 1/2 (800.1)	18 (457.2)	15 5/16 (388.9)
318/Ext Version	0	44 3/4 (1136.7)	19 5/16 (490.5)	4.500 (114.30)	1 x 1/2 (25.4 x 12.7)	37 1/2 (952.5)	18 (457.2)	21 3/8 (542.9)
321	00	44 5/8 (1133.5)	19 15/16 (506.4)	4.750 (120.65)	1 1/4 x 5/8 (31.8 x 15.9)	39 3/4 (1009.7)	23 (584.2)	22 (558.8)
321/Short Version	00	35 5/8 (904.9)	11 (279.4)	4.750 (120.65)	1 1/4 x 5/8 (31.8 x 15.9)	30 3/4 (781.1)	23 (584.2)	13 (330.2)
321/Ext Version	00	47 5/8 (1209.7)	23 (584.2)	4.750 (120.65)	1 1/4 x 5/8 (31.8 x 15.9)	42 3/4 (1085.9)	23 (584.2)	25 (635.0)

[1] Maximum sheave width varies with sheave diameter. Tabulated value is at the maximum sheave diameter.

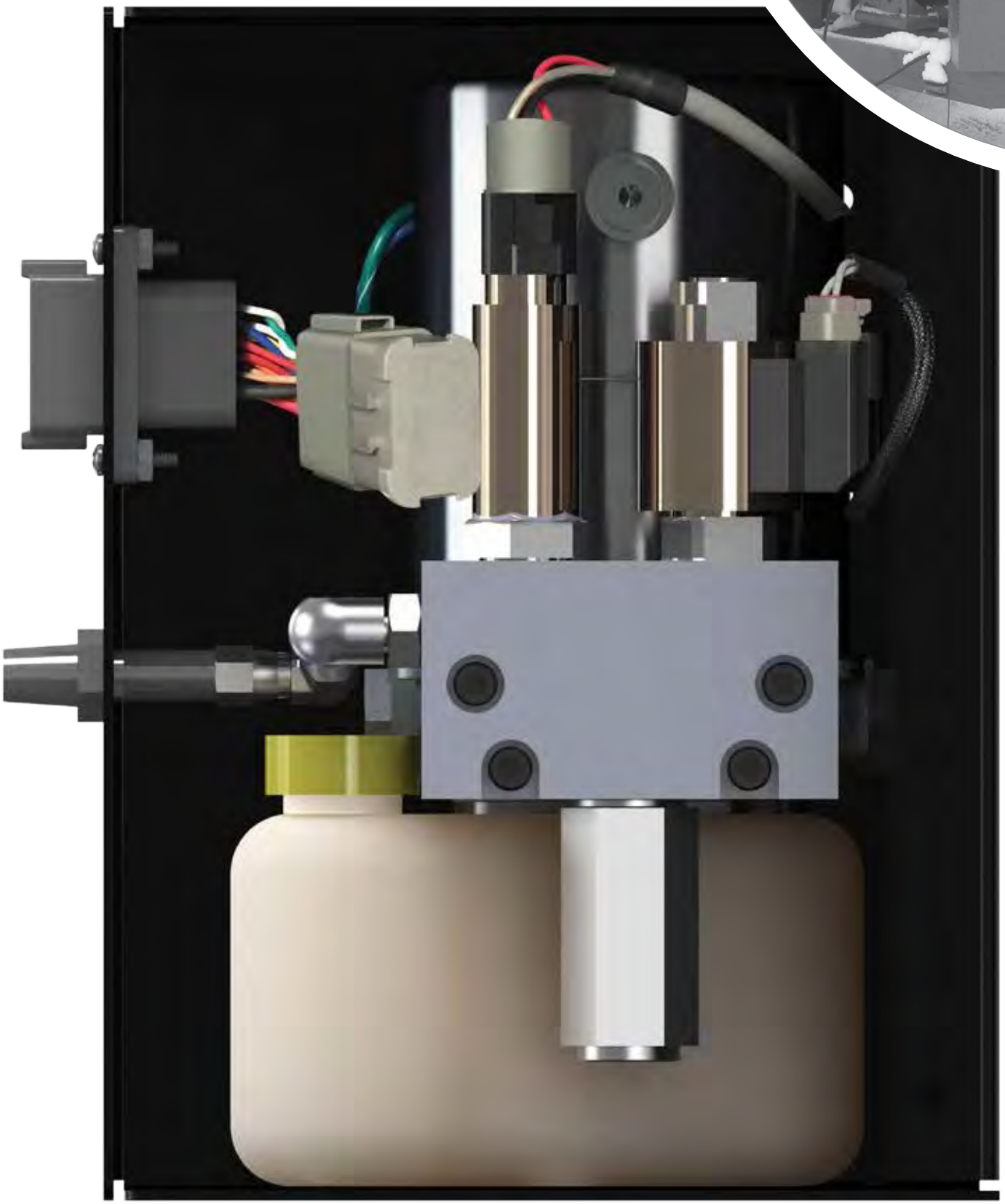
Hydraulic Soft Start



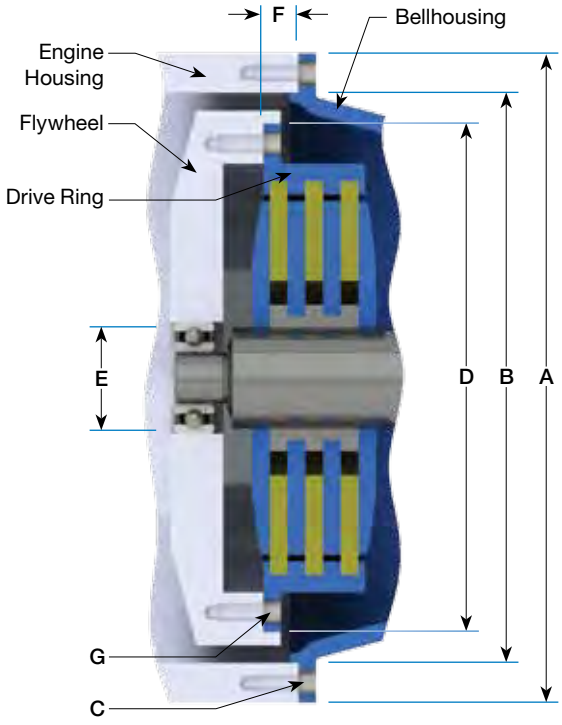
WPT Power's patented Hydraulic Soft Start is the perfect tool for any equipment whose engine struggles during machine startup. With the push of a button, our Soft Start will feather any WPT fluid-actuated clutch to accelerate the most demanding loads. It eliminates the need for bump starting heavy loads which can stall or damage the engine. This product was designed and tested alongside seasoned experts in the Off-Highway Equipment industry, and was specially engineered for applications with high inertia loads. WPT Power's patented Hydraulic Soft Start is perfect for the OEM as well as the end user.

- Eliminates operator-related engagement abuse
- Maximizes the clutch's wear component life
- Optimizes engine behavior for smooth operation
- Can be easily integrated into OEM control systems
- Designed & tested to operate in cold weather conditions
- Compatible with SAE J1939 engine connections
- Available in 12 or 24 volt

Hydraulic Soft Start



PTO Product Selection

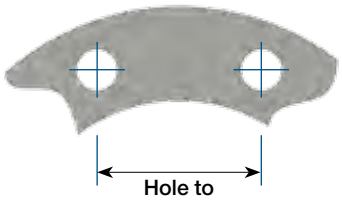


WPT SAE Housing Adapters Available

Part Number	From SAE Engine Housing	To SAE Bellhousing
WTD-00-000	2	4
WTD-00-001	1	2
WTD-00-002	1/2	1
WTD-00-003	0	1
WTD-00-004	00	0

WPT PTOs meet the mounting requirements of SAE J617 and SAE J620.

Dual or double-drilled flywheels may interfere with PTO. Contact us for assistance.



Housing

SAE Housing	A	B Pilot	C			
			Bolt Circle	Qty	Dia	Hole to Hole
6	12 1/8 (307.8)	10.500 (266.70)	11.25 (285.8)	8	13/32 (10.3)	4.31 (109.4)
5	14 (355.6)	12.375 (314.32)	13.13 (333.4)	8	13/32 (10.3)	5.02 (127.6)
4	15 7/8 (403.4)	14.250 (361.95)	15.00 (381.0)	12	13/32 (10.3)	3.88 (98.6)
3	17 3/4 (450.8)	16.125 (409.58)	16.88 (428.6)	12	13/32 (10.3)	4.37 (110.9)
2	19 1/4 (489.0)	17.625 (447.68)	18.38 (466.7)	12	13/32 (10.3)	4.76 (120.8)
1	21 3/4 (552.4)	20.125 (511.18)	20.88 (530.2)	12	15/32 (11.9)	5.40 (137.2)
1/2	25 1/2 (647.7)	23.000 (584.20)	24.38 (619.1)	12	17/32 (11.5)	6.31 (160.2)
0	28 (711.2)	25.500 (647.70)	26.75 (679.5)	16	17/32 (11.5)	5.22 (132.6)
00	34 3/4 (882.6)	31.000 (787.40)	33.50 (850.9)	16	17/32 (11.5)	6.54 (166.0)

Flywheel

WPT Clutch Size	D Pilot	E (mm)	F	G			
				Bolt Circle	Qty	Dia	Hole to Hole
6”	8.500 (215.90)	52	1 3/16 (30.2)	7.88 (200.0)	6	21/64 (8.3)	3.94 (100.0)
7”	9.500 (241.30)	52	1 3/16 (30.2)	8.75 (222.3)	8	21/64 (8.3)	3.35 (85.1)
8”	10.375 (263.52)	62	2 7/16 (62.0)	9.63 (244.5)	6	13/32 (10.3)	4.81 (122.2)
10”	12.375 (314.32)	62 72	2 1/8 (53.8)	11.63 (295.3)	8	13/32 (10.3)	4.45 (113.0)
11”	13.875 (352.42)	62 72 80	1 9/16 (39.6)	13.13 (333.4)	8	13/32 (10.3)	5.02 (127.6)
14”	18.375 (466.72)	72 80 100	1 (25.4)	17.25 (438.2)	8	17/32 (13.5)	6.60 (167.7)
18”	22.500 (571.50)	100 120	5/8 (15.7)	21.38 (542.9)	6	21/32 (16.7)	10.69 (271.5)
21”	26.500 (673.10)	-	0 (0)	25.25 (641.4)	12	21/32 (16.7)	6.54 (166.0)

PTO Product Selection

Step One

Application Service Factor Selection Guide			Service Factor (SF)			
	Duty Service Classification	Typical Applications	Single Cylinder Engine		Multi-Cylinder Engine	
			Up to 10 Hours/Day	Over 10 Hours/Day	Up to 10 Hours/Day	Over 10 Hours/Day
Uniform	Light loads with minimal slip	Centrifugal blowers, compressors, fans, rotary pumps	1.5	1.75	1.25	1.5
Moderate	Medium loads with maximum 3 second slip at engagement	Cone crushers, wood chippers, mine fans, reciprocating pumps, road milling machines and planers	2	2.25	1.75	2
Severe	Heavy loads requiring bump start sequence for engagement	Jaw crushers, tub grinders, dredge/mud pumps, hammer mills, reciprocating compressors, waste recyclers	2.25	2.5	2	2.25

Step Two

Maximum Input Torque

$$T = \frac{hp \times SF}{r/min} \times 5{,}252 = \_\_\_\_\_ \text{ lbf·ft}$$

$$T = \frac{kW \times SF}{r/min} \times 9{,}549 = \_\_\_\_\_ \text{ N·m}$$

T = Engine Torque [lbf·ft (N·m)] x SF

Conversions		
Multiply	By	To Obtain
lbf·ft	1.356	N·m
hp	0.746	kW
lbf	0.454	kgf
kg	9.807	N

Step Three

For in-line applications skip to Step Four.

Sideload

$$L = \frac{hp \times F \times SF}{r/min \times D\ (in)} \times 126{,}000 = \_\_\_\_\_ \text{ lbf}$$

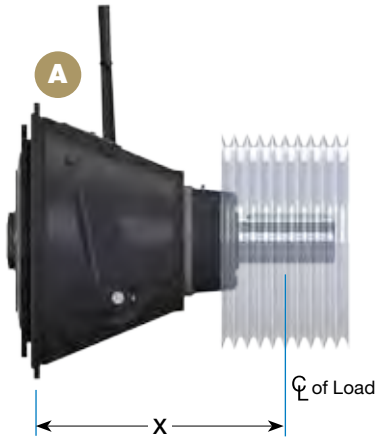
$$L = \frac{kW \times F \times SF}{r/min \times D\ (mm)} \times 1{,}947{,}000 = \_\_\_\_\_ \text{ kgf}$$

L = Actual Applied sideload
D = Sheave or Sprocket Diameter
F = Load Factor
- 1.0 for Chain Drive or Gear Belt
- 1.5 for Timing Belts
- 2.2 for All V-belts

Step Four

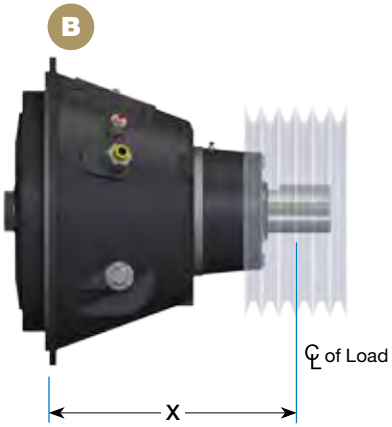
See Pages 14 and 15 for PTO Maximum Input Torque, r/min and Sideload ratings.

Pilotless/OTS/Automotive Sideload Rating



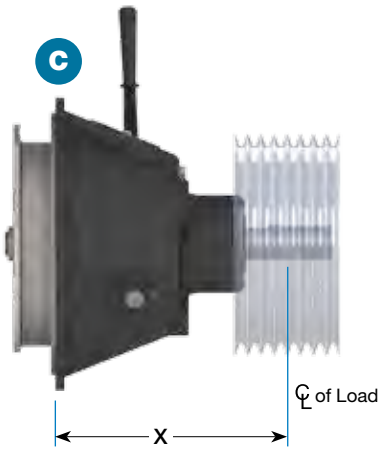
A Pilotless Sideload and Torque

"X" Distance Inches (mm) · Allowable Sideload[1] lbf (kgf)						Maximum Input Torque[1] lbf·ft (N·m)	Maximum Speed[1] r/min
Model	r/min	"X"	Sideload	"X"	Sideload		
WPL 106	1800 2500 3500	10 (254)	1,610 (730) 1,610 (730) 1,540 (700)	11 (279)	1,360 (610) 1,360 (610) 1,290 (590)	171 (232)	3500
WPL 107	1800 2500 3200	10 (254)	1,610 (730) 1,610 (730) 1,580 (720)	11 (279)	1,360 (610) 1,360 (610) 1,330 (600)	191 (259)	3200
WPL 108	2100 2400 3100	11 (279)	1,900 (860) 1,900 (860) 1,710 (780)	13 (330)	1,250 (570) 1,250 (560) 1,130 (510)	248 (336)	3100
WPL 110	2100 2300 2500	12 (305)	2,370 (1070) 2,310 (1050) 2,250 (1020)	14 (356)	1,810 (820) 1,780 (810) 1,740 (790)	354 (481)	2800
WPL 111	2100 2300 2500	13 (330)	3,100 (1410) 3,020 (1370) 2,940 (1340)	15 (381)	2,410 (1090) 2,350 (1060) 2,290 (1040)	487 (660)	2500
WPL 211	2100 2300 2500	14 (356)	4,750 (2160) 4,630 (2100) 4,510 (2050)	16 (406)	3,690 (1670) 3,590 (1630) 3,500 (1590)	974 (1321)	2500
WPL 311	2100 2300 2500	19 (483)	3,670 (1660) 3,570 (1620) 3,480 (1580)	23 (584)	2,500 (1130) 2,430 (1100) 2,370 (1080)	1746 (2367)	2500
WPL 114	1800 2100 2300	16 (406)	3,150 (1430) 3,000 (1360) 2,920 (1330)	18 (457)	2,490 (1130) 2,380 (1080) 2,310 (1050)	862 (1169)	2300
WPL 214	1800 2100 2300	20 (508)	3,890 (1770) 3,720 (1690) 3,620 (1640)	24 (610)	2,760 (1250) 2,640 (1200) 2,570 (1160)	1724 (2337)	2300
WPL 314	1800 2100 2300	22 (559)	4,040 (1830) 3,850 (1750) 3,750 (1700)	24 (610)	3,420 (1550) 3,270 (1480) 3,180 (1440)	2586 (3506)	2300



B Over-the-shaft Sideload and Torque

Model	"X" Distance Inches (mm) Allowable Sideload[1] lbf (kgf)			Maximum Input Torque lbf·ft (N·m) at 100 lbf/in² [7 bar]	Maximum Input Torque[1] lbf·ft (N·m) at 200 lbf/in² [14 bar]	Maximum Speed[1] r/min
	r/min	"X"	Sideload			
OTS-PL 211	1800 2200 2500	14 (356)	4,780 (2170) 4,690 (2130) 4,510 (2050)	930 (1260)	1400 (1900)	2500
OTS-PL 311	1800 2200 2500	19 (483)	3,840 (1740) 3,620 (1640) 3,480 (1570)	1400 (1900)	2100 (2850)	2500
OTS-PL 214	1800 2100 2300	20 (508)	3,890 (1770) 3,720 (1690) 3,620 (1640)	1240 (1680)	1860 (2525)	2300
OTS-PL 314	1800 2100 2300	22 (559)	4,040 (1830) 3,850 (1750) 3,750 (1700)	1850 (2510)	2780 (3770)	2300



C Automotive Sideload and Torque

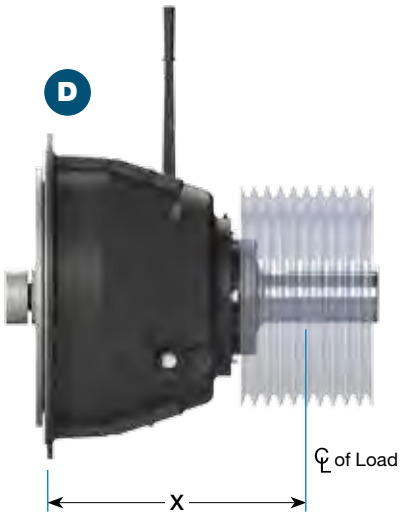
"X" Distance Inches (mm) · Allowable Sideload[1] lbf (kgf)						Maximum Input Torque[1] lbf·ft (N·m)	Maximum Speed[1] r/min
Model	r/min	"X"	Sideload	"X"	Sideload		
WTD-11-140 WTD-13-130	1000 2000 3000	10 (254)	1,300 (600) 1,000 (500) 900 (400)	13 (330)	900 (400) 700 (300) 600 (300)	412 (560)	3500 3000
GM® Style	1000 2000 3000	15 (381)	1,300 (600) 1,000 (500) 900 (400)	18 (457)	900 (400) 700 (300) 600 (300)	386 (523)	3400
GM® Style HD	1000 2000 3000	15 (381)	2,900 (1300) 2,900 (1300) 2,900 (1300)	18 (457)	2,000 (900) 2,000 (900) 2,000 (900)	386 (523)	3400

[1] Contact WPT Applications Engineering for assistance on higher capacity or speed rating questions.

Product Selection Ratings

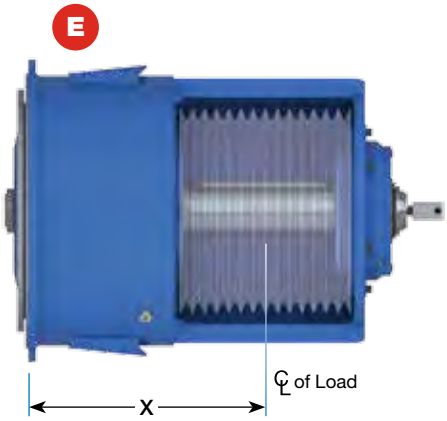
D Mechanical Sideload and Torque

"X" Distance Inches (mm) · Allowable Sideload[1] lbf (kgf)						Maximum Input Torque[1] lbf·ft (N·m)	Maximum Speed[1] r/min
Model	r/min	"X"	Sideload	"X"	Sideload		
C106 C107	1800 3500	8 (203)	600 (300) 500 (200)	9 (229)	500 (200) 400 (200)	171 (232) 191 (259)	3500 3200
(Double Main Bearings) C106 C107	1800 3500	9 (229)	1,000 (400) 800 (400)	10 (254)	800 (400) 600 (300)	171 (232) 191 (259)	3500 3200
C108	1800 3100	10 (254)	1,300 (600) 1,100 (500)	12 (305)	900 (400) 800 (400)	248 (336)	3100
C110	1800 2800	12 (305)	2,000 (900) 1,700 (800)	14 (356)	1,400 (600) 1,200 (600)	354 (481)	2800
SP111	1800 2500	12 (305)	2,100 (1000) 1,900 (900)	14 (356)	1,500 (700) 1,300 (600)	487 (660)	2500
SP211	1800 2500	13 (330)	2,100 (900) 1,900 (800)	15 (381)	1,500 (700) 1,300 (600)	974 (1321)	2500
SP311	1200 2300	18 (457)	1,900 (900) 1,900 (900)	22 (559)	1,200 (500) 1,200 (500)	1746 (2367)	2300
SP114	1200 2300	16 (406)	2,800 (1300) 2,200 (1000)	20 (508)	1,700 (800) 1,400 (600)	862 (1169)	2300
SP214	1200 2300	18 (457)	2,900 (1300) 2,300 (1000)	22 (559)	1,800 (800) 1,400 (700)	1724 (2337)	2300
SP314 (80 mm PB)	1200 2300	19 (483)	3,100 (1400) 2,500 (1100)	23 (584)	1,900 (800) 1,500 (700)	2586 (3506)	2300
SP314 (100mm PB)	1200 2300	19 (483)	4,700 (2100) 3,800 (1700)	23 (584)	2,900 (1300) 2,400 (1100)	2586 (3506)	2300
IBF314	1200 2300	22 (559)	5,400 (2400) 4,400 (2000)	27 (686)	4,500 (2000) 3,700 (1700)	2586 (3506)	2300
SP318	1200 2100	23 (584)	7,100 (3200) 5,900 (2700)	27 (686)	4,600 (2100) 3,800 (1700)	6465 (8765)	2100



E Type 1 Sideload

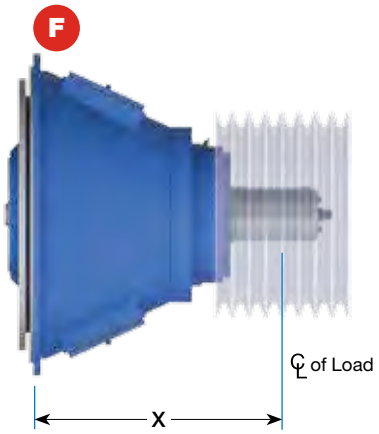
"X" Distance Inches (mm) · Allowable Sideload[1] lbf (kgf)						Maximum Input Torque[1] lbf·ft (N·m)	Maximum Speed[1] r/min
Model	RPM	"X"	Sideload	"X"	Sideload		
314H (GEN II)	1800 2300	17 (432)	15,100 (6900) 14,100 (6400)	19 (483)	12,400 (5600) 11,500 (5200)	3,800 (5100)	2500
318	1200 2100	22 (559)	31,400 (14300) 27,000 (12300)	26 (660)	23,900 (10800) 19,800 (9000)	7,100 (9600)	2100
321	1200 1800	28 (711)	31,700 (14400) 28,800 (13100)	32 (813)	24,400 (11100) 22,200 (10100)	13,500 (18300)	1800



F Type 2 Sideload

"X" Distance Inches (mm) · Allowable Sideload[1] lbf (kgf)						Maximum Input Torque[1] lbf·ft (N·m)	Maximum Speed[1] r/min
Model	r/min	"X"	Sideload	"X"	Sideload		
211	2100 2500	12 (305)	3,500 (1600) 3,300 (1500)	15 (381)	2,400 (1100) 2,300 (1000)	1,300 (1800)	2500
311	2100 2500	12 (305)	3,500 (1600) 3,300 (1500)	15 (381)	2,400 (1100) 2,300 (1000)	1,900 (2600)	2500
214H Compact	1800 2300	16 (406)	5,300 (2400) 5,300 (2400)	19 (483)	3,800 (1700) 3,500 (1600)	2,500 (3400)	2300
214H	1800 2300	23 (584)	8,000 (3600) 7,600 (3500)	29 (737)	5,500 (2500) 5,300 (2400)	2,500 (3400)	2300
314H Compact	1800 2300	16 (406)	5,300 (2400) 5,300 (2400)	19 (483)	3,800 (1700) 3,500 (1600)	3,800 (5100)	2300
314H	1800 2300	23 (584)	8,000 (3600) 7,600 (3500)	29 (737)	5,500 (2500) 5,300 (2400)	3,800 (5100)	2300
218	1800 2300	23 (584)	8,000 (3600) 7,600 (3500)	29 (737)	5,500 (2500) 5,300 (2400)	4,700 (6400)	2100
318	1800 2300	23 (584)	8,000 (3600) 7,600 (3500)	29 (737)	5,500 (2500) 5,300 (2400)	7,100 (9600)	2100
318 Heavy Duty	1200 2100	17 (432)	18,100 (8200) 15,300 (6900)	20 (508)	13,300 (6000) 11,200 (5100)	7,100 (9600)	2100

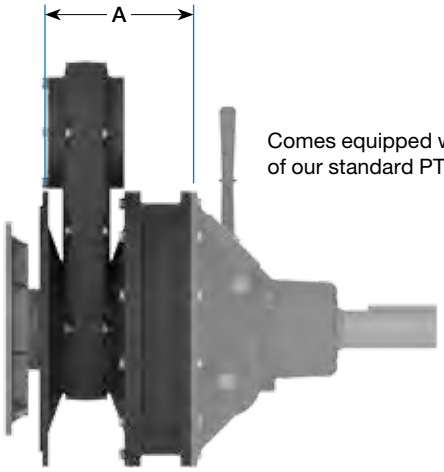
[1] Contact WPT Applications Engineering for assistance on higher capacity or speed rating questions.

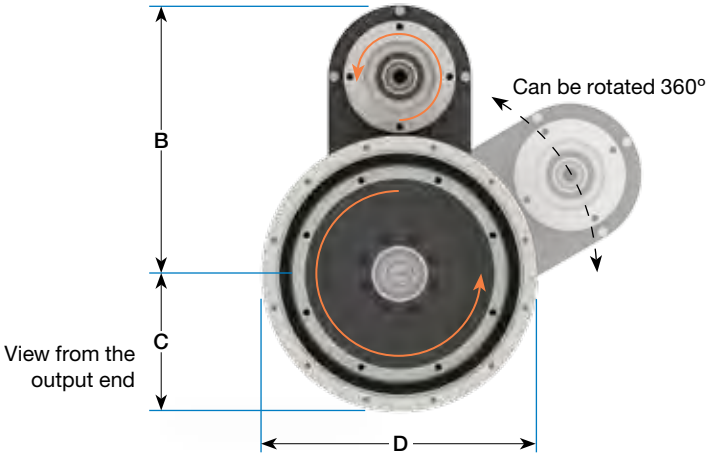


Pump Drive

Mounted between the power take-off and the engine, the WPT® Power Pump Drive (PPD) is a rugged and versatile unit providing for multiple live or clutched pumps. As the PPD is self-contained, no external lubrication is required. Flexible couplings on the input side dampen torsional vibrations and are standard on all WPT PPDs.

The Power Pump Drive can be provided with a variety of SAE engine housings, power take-off clutches, SAE pump drives and accessories. All units mount to standard SAE flywheel housings and provide up to 8 pump mounting faces. An internal heat exchanger can be added as required.





WPD-03

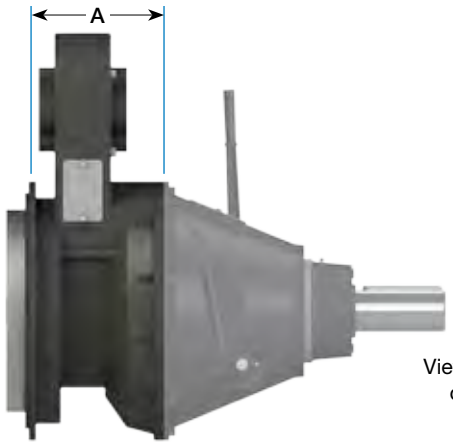
SAE Input	SAE Output	A	B	C	D
#5 - 7 1/2”	#4M - 10”	8 5/8 (218.5)	15 1/2 (393.0)	7 (178.0)	15 7/8 (404.0)
#4 - 10”				7 15/16 (202.0)	
#3 - 11 1/2”				8 7/8 (225.5)	

Available in SAE B (spline only)

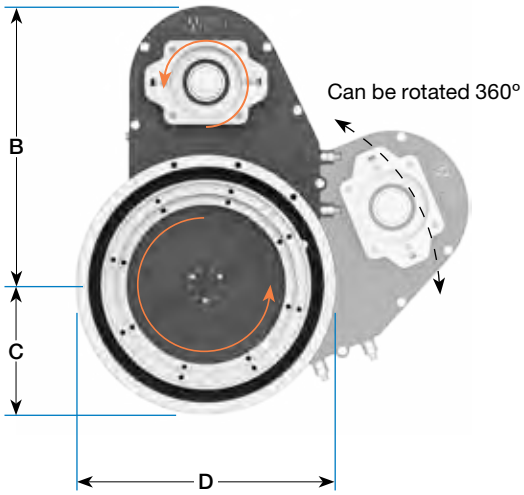
Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Head hp (kW)[1]	Head Ratio	Weight lb (kg)
3000	230 (310)	58 (43)	1 : 1	110 (50)
	413 (560)			
	413 (560)			

[1] Rated at maximum input speed.

Pump Drive



View from the output end



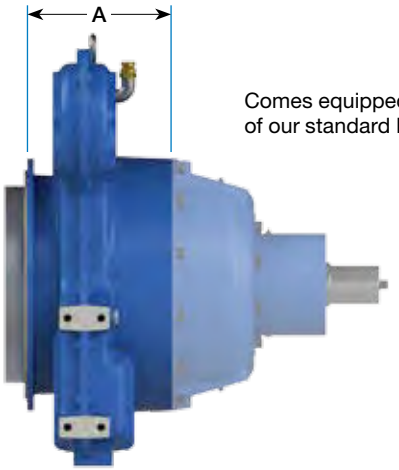
WPD-03 HD

SAE Input	SAE Output	A	B	C	D
#3 - 11 1/2”	#3M - 11 1/2”	9 1/4 (235.0)	19 (483.9)	8 7/8 (225.5)	17 3/4 (450.9)

Available in SAE B, B-B, C, D, E (spline only)

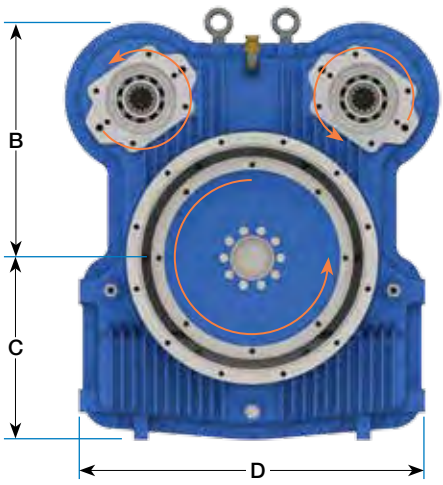
Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Head hp (kW)[1]	Head Ratio	Weight lb (kg)
2500	1475 (2000)	210 (157)	1 : 1	260 (117)

[1] Rated at maximum input speed.



Comes equipped with any of our standard PTOs

View from the output end



WPD-00

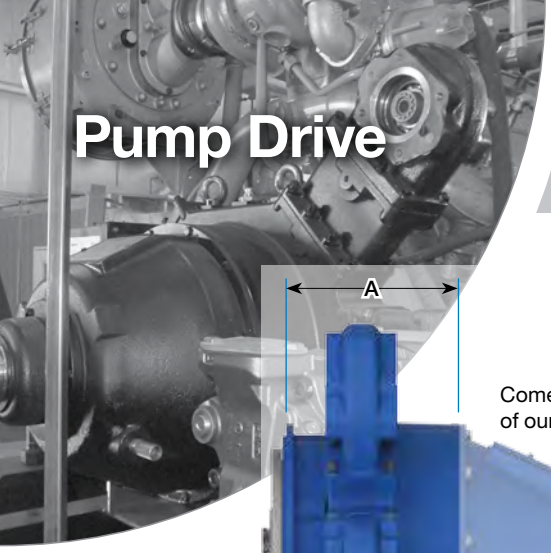
SAE Input	SAE Output	A	B	C	D
#3, 2# - 11 1/2”	#3M - 11 1/2”	10 1/8 (257.0)	16 5/8 (422.0)	12 13/16 (325.0)	24 7/16 (620.0)
#1 - 14”		11 1/8 (282.0)			

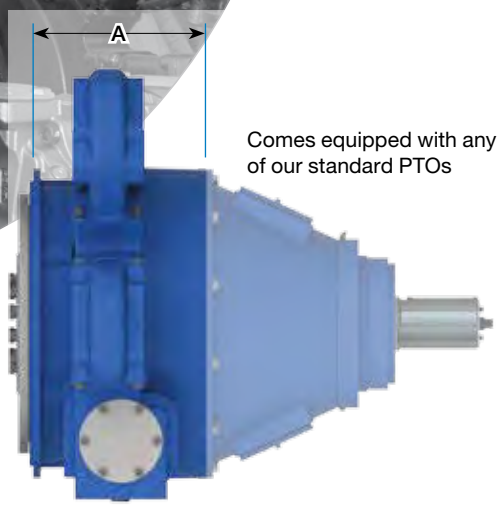
Available in SAE B, B-B, C, D, E (spline only)

Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Total Head hp (kW)[1]	Single Head hp (kW)[1]	Head Ratio	Weight lb (kg)
2600	1475 (2000)	235 (175)	160 (120)	1 : 1	430 (195)

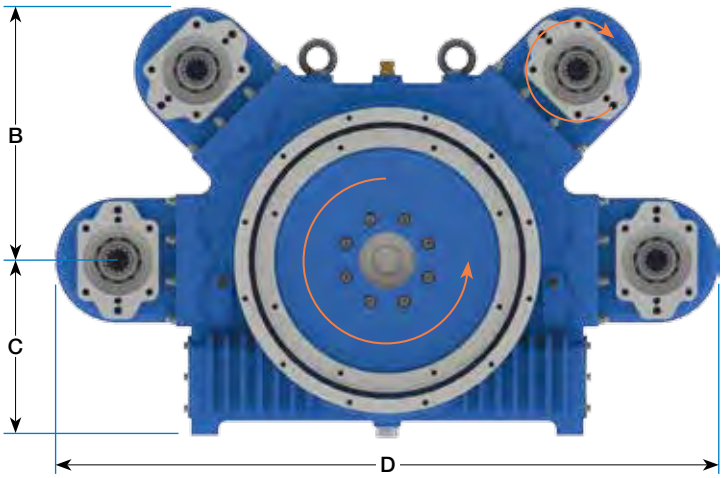
[1] Rated at maximum input speed.

Pump Drive





Comes equipped with any of our standard PTOs



View from the output end

WPD-01

SAE Input	SAE Output	A	B	C	D
#1 - 14”	#1M - 14”	12 3/16 (310.0)	18 (456.5)	12 7/16 (315.0)	47 1/8 (1197.0)

Available in SAE B, B-B, C, D, E (spline only)

Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Total Head hp (kW)[1]	Single Head hp (kW)[1]	Head Ratio[2]	Weight lb (kg)
2200	2470 (3350)	400 (300)	160 (120)	1 : 1	770 (350)
				1 : 0.88	

[1] Rated at maximum input speed.
[2] Head ratios other than 1:1 are speed increasing

WPD-02

SAE Input	SAE Output	A	B	C	D
#1 - 14”	#0M - 18”	14 3/4 (374.0)	19 3/4 (502.0)	16 3/8 (415.0)	52 3/16 (1326.0)
#0 - 18”		14 5/16 (363.0)			

Available in SAE B, B-B, C, D, E (spline only)

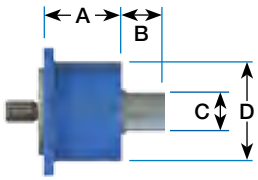
Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Total Head hp (kW)[1]	Single Head hp (kW)[1]	Head Ratio[2]	Weight lb (kg)
2100	4650 (6300)	535 (400)	235 (175)	1 : 0.95	1170 (530)

[1] Rated at maximum input speed.
[2] Head ratios other than 1:1 are speed increasing

Accessories

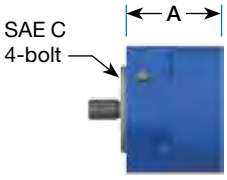
Head PTO

A	B	C	D	E	Maximum Side Load lbf (kgf)	Maximum Input Torque lbf·ft (Nm)
3.52 (89.5)	1.87 (47.5)	1.772 (45.00)	3.54 (90.0)	5.79 (147.0)	1620 (734)	370 (500)



Oil Actuated Clutch

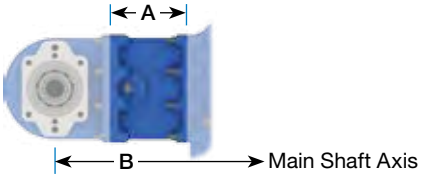
A	Operating Pressure lbf/in² (bar)	115 (8)	232 (16)
5.47 (139.0)	Torque lbf-ft (Nm)	196 (266)	392 (531)



Head Extension

Model	A	B
WPD-01	6.46 (164.0)	25.55 (649.2)
WPD-02	7.48 (190.0)	29.42 (740.0)

Attention! Head rotation direction is reversed when extension is used.



Pump Drive Product Selection Calculations

Step One

Maximum Input Torque

$$T = \frac{hp}{r/min} \times 5{,}252 = \_\_\_\_\_ \text{ lbf·ft}$$

$$T = \frac{kW}{r/min} \times 9{,}549 = \_\_\_\_\_ \text{ N·m}$$

$$T = \text{Engine Torque [lbf·ft (N·m)]} \times SF$$

Conversions

Multiply	By	To Obtain
lbf·ft	1.356	N·m
hp	0.746	kW
lbf	0.454	kgf
kg	9.807	N

Step Two

Hydraulic Pump Service Factor Guide

Pump Type	Service Factor (SF)
Piston Plunger	1.8
Vane Gear	1.5
Centrifugal	1.0

Step Three

Single Head Nº 1[1] = $P_1 \times SF_1 \times PU_1 + P_2 \times SF_2 \times PU_2 + \ldots + P_n \times SF_n \times PU_n$

Single Head Nº 2[1] = $P_1 \times SF_1 \times PU_1 + P_2 \times SF_2 \times PU_2 + \ldots + P_n \times SF_n \times PU_n$

Single Head Nº 3[1] = $P_1 \times SF_1 \times PU_1 + P_2 \times SF_2 \times PU_2 + \ldots + P_n \times SF_n \times PU_n$

Single Head Nº 4[1] = $P_1 \times SF_1 \times PU_1 + P_2 \times SF_2 \times PU_2 + \ldots + P_n \times SF_n \times PU_n$

Total Head[1] = Sum of All Heads from Step 3

Definitions:
P = Hydraulic Pump Absorbed Power
SF = Pump Service Factor
PU = Percent of Power Used by Pump
n = Number of Pumps on Head

Note 1:
Single and Total Head calculations may exceed rating for Pump Drive depending on duty cycles or pump modes. Please contact WPT Power Applications Engineering for details.

Step Four

See Pages 16, 17, 18 for Pump Drive Maximum Input Torque, r/min, and Head Ratings.

Additional Notes:
Power Pump Drive calculations are for reference only. For full warranty consideration, a data sheet must be turned into WPT Power and complete review performed by WPT Power Applications Engineering.

Power Pump Drive models WPD-01 and WPD-02 may require Cooling Package and Circulation Kit. Please contact WPT Power Applications Engineering for details.

Custom Units

▶ WTD-11-23J

Designed for very high tension and torque applications, this heavy-duty PTO will carry close to 3 times the belt tension of comparably sized PTOs.

▶ WTD Shaft-to-Shaft

Specifically designed for customers needing a mechanical disconnect clutch between shafts.

▶ W15-CG-325

Designed for proper sheave location while still having the capacity for very high belt tension.

▶ WTD-14-21D

Designed for customers running an SAE E hydraulic pump directly behind an engine. Features the ability to disengage the pump at any time.

Application Photos

Trailer Mounted Water Blaster

WPT 11” Mechanical Power Take-off.

Track Mounted Brush Chipper

WPT Single Head Pump Drive with 10” Pilotless Mechanical Power Take-off.

Self Contained Loader Mount Snow Blower

WPT 14” Mechanical Power Take-off or 14” Power Grip PO pneumatic Clutch.

Portable Horizontal Impact Plant

WPT 314 Hydraulic Power Take-off with patented Soft Start System.

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POWER

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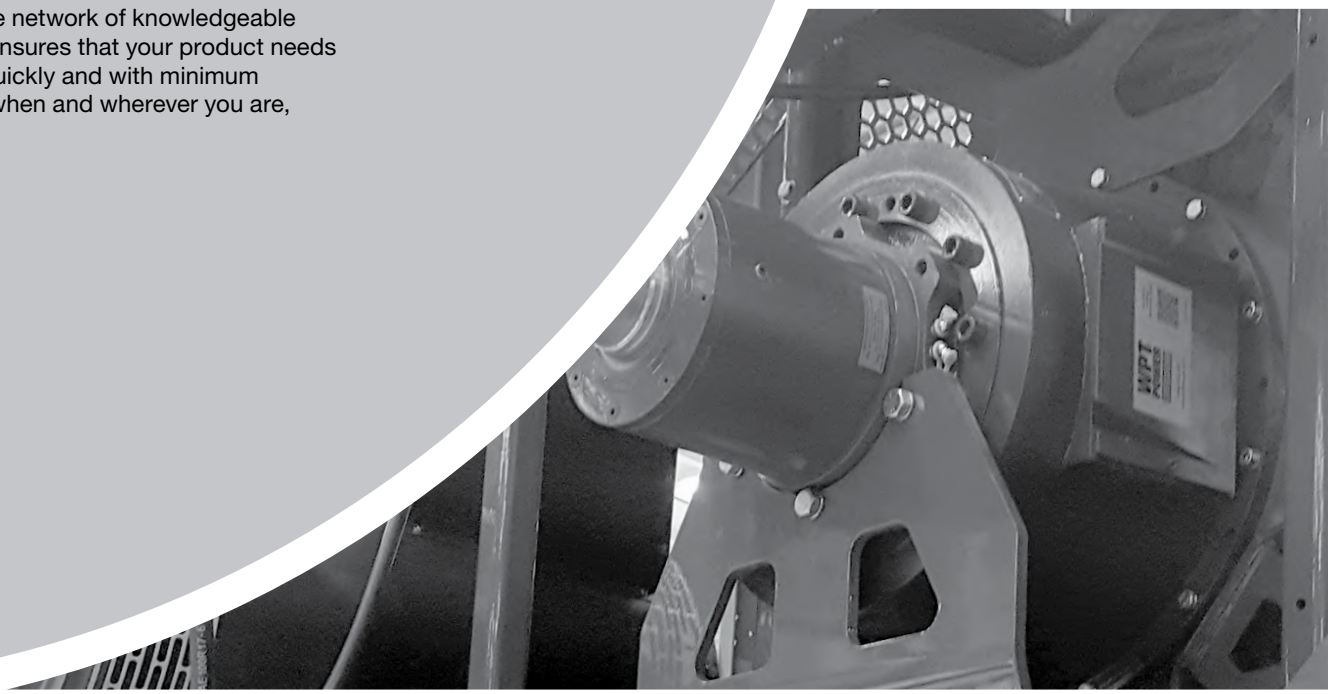

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