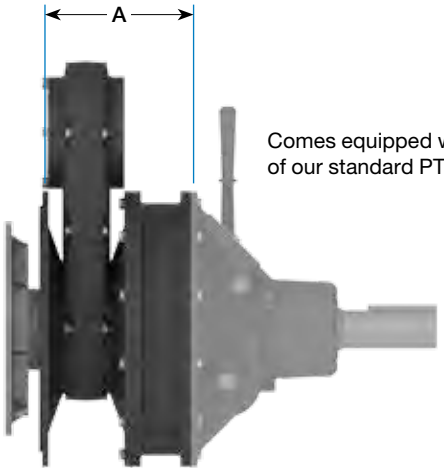
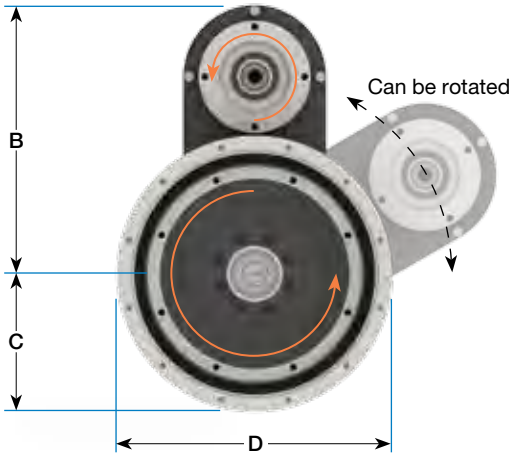
Pump Drive

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.



Comes equipped with any of our standard PTOs



View from the output end

WPD-03

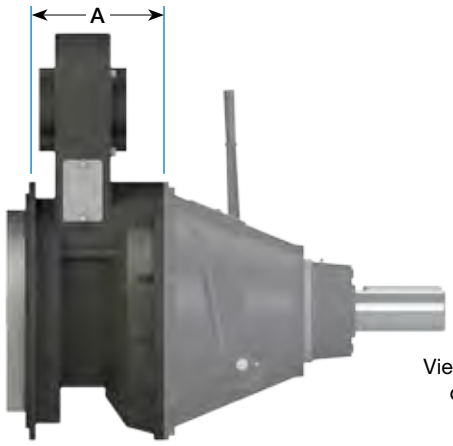
SAE Input	SAE Output	A	B	C	D
#5 - 7 1/2”	#4M - 10”	8 5/8 (218.5)	15 1/2 (393.0)	7 (178.0)	15 7/8 (404.0)
#4 - 10”				7 15/16 (202.0)	
#3 - 11 1/2”				8 7/8 (225.5)	

Available in SAE B (spline only)

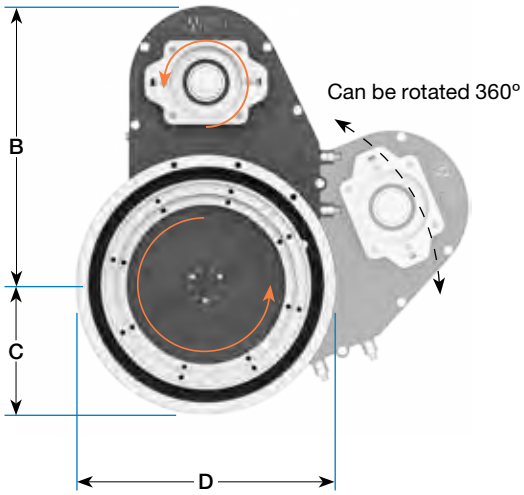
Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Head hp (kW)[1]	Head Ratio	Weight lb (kg)
3000	230 (310)	58 (43)	1 : 1	110 (50)
	413 (560)			
	413 (560)			

[1] Rated at maximum input speed.

Pump Drive



View from the output end



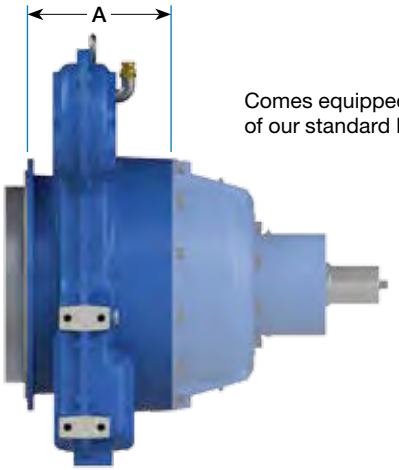
WPD-03 HD

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)

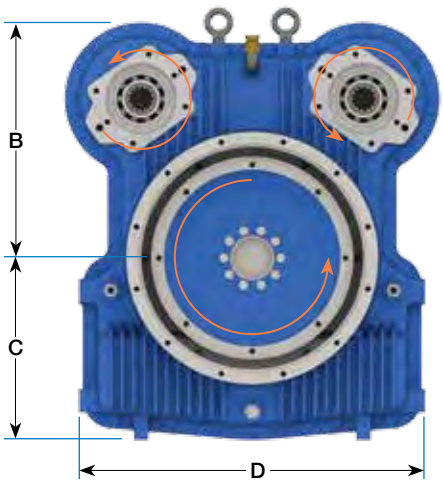
Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Head hp (kW)[1]	Head Ratio	Weight lb (kg)
2500	1475 (2000)	210 (157)	1 : 1	260 (117)

[1] Rated at maximum input speed.



Comes equipped with any of our standard PTOs

View from the output end



WPD-00

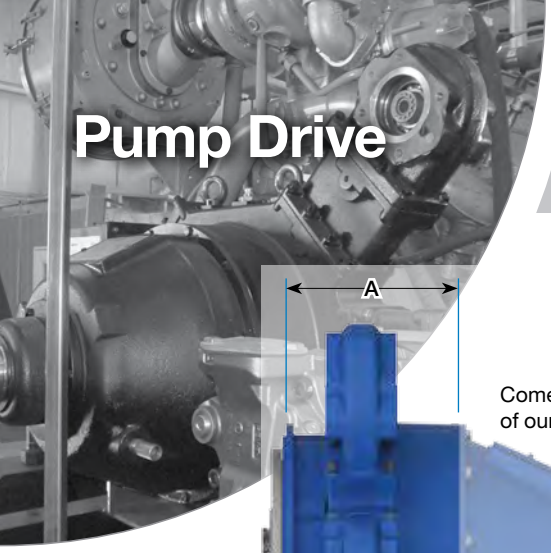
SAE Input	SAE Output	A	B	C	D
#3, 2# - 11 1/2”	#3M - 11 1/2”	10 1/8 (257.0)	16 5/8 (422.0)	12 13/16 (325.0)	24 7/16 (620.0)
#1 - 14”		11 1/8 (282.0)			

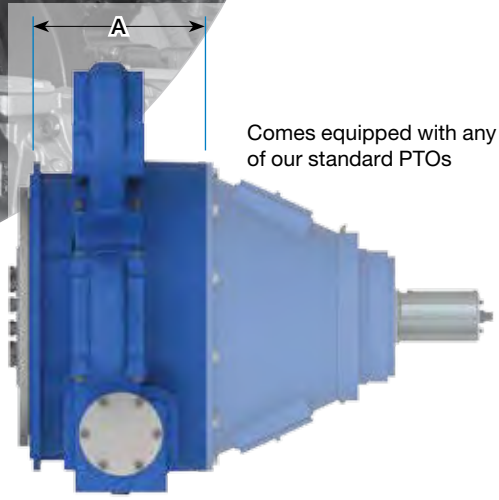
Available in SAE B, B-B, C, D, E (spline only)

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)

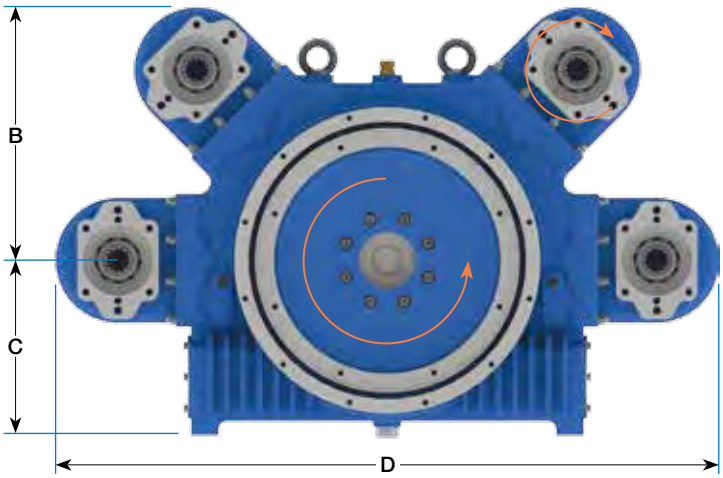
[1] Rated at maximum input speed.

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)

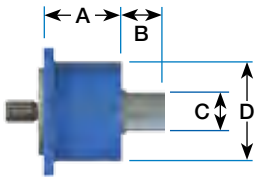
Maximum Input Speed r/min	Maximum Input Torque lbf·ft (N·m)	Total Head hp (kW)[1]	Single Head hp (kW)[1]	Head Ratio[2]	Weight lb (kg)
2100	4650 (6300)	535 (400)	235 (175)	1 : 0.95	1170 (530)

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

Accessories

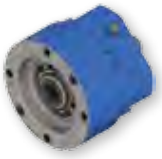
Head PTO

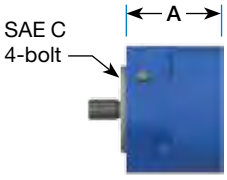
A	B	C	D	E	Maximum Side Load lbf (kgf)	Maximum Input Torque lbf·ft (Nm)
3.52 (89.5)	1.87 (47.5)	1.772 (45.00)	3.54 (90.0)	5.79 (147.0)	1620 (734)	370 (500)



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)

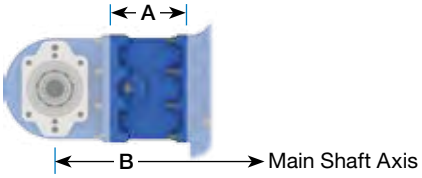




Head Extension

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.