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Quality products for Mechanical
& Fluid Power

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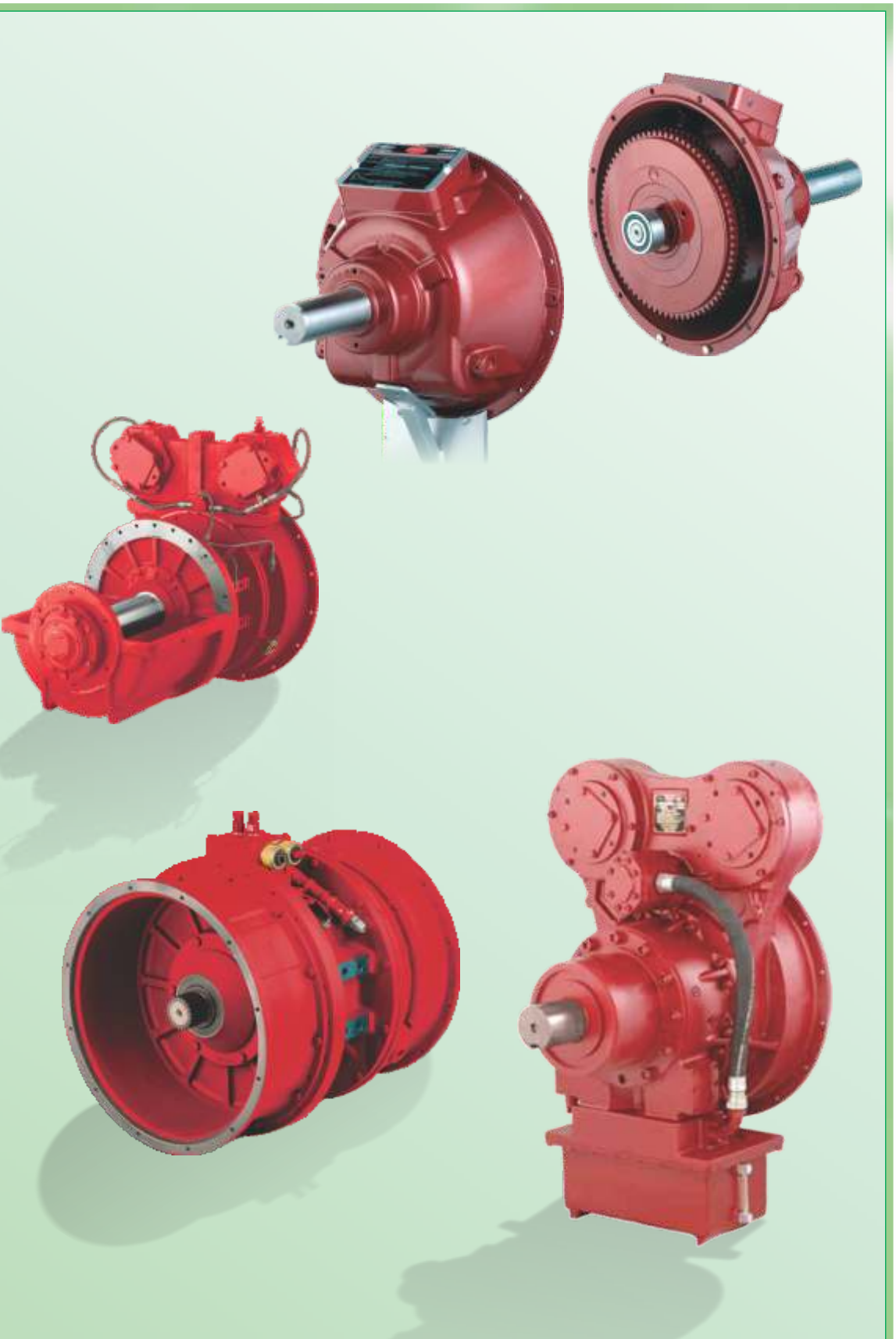

HYDRAULICALLY ACTUATED POWER TAKE OFF UNITS

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jbj TECHNIQUES LIMITED

an excellence in engineering

www.jbj.co.uk/mechanical-power-conversion.html

jbj Techniques integrate extensive product knowledge and specification ability with excellent machine shop services and comprehensive product stocks to provide the service needed to keep your machinery systems performing to the optimum.

Hydraulic Power Take-Off Units

Hydraulic power take-off units available in side-load straddle-bearing clutched models, in-line clutched models and non-clutched models.

Applications for hydraulic clutches are similar to those for the mechanical PTOs. Hydraulic clutches can be used wherever a disconnect is required between the driven equipment and the prime mover.

Typical applications include:

- Centrifugal Pumps
- Water jets
- Propellers
- Generators
- Hydraulic Pumps
- Agitators
- Piston Pumps
- Bow Thrusters
- Hammer Mills
- Winches
- Tub Grinders
- Horizontal Grinders
- Fans
- Blowers
- Compressors
- Conveyors
- Rock Crushers
- Mud Pumps

Hydraulic Wet Clutches

- **HP Series:** In-line or side-load applications to 783 kW (*1,050 hp*) @ 2,100 rpm.
- **HPTO Series:** In-line or side-load applications to 1119 kW (*1,500 hp*) @ 2,750 rpm.
- **PFI Series:** Pump mount or shaft output with integrated oil pump. Up to 380 kW (*510 hp*).

Hydraulic Dry Clutches

- **RC Series:** Remotely actuated via hydraulic circuit.
- **RO Series:** Remotely actuated via hydraulic/pneumatic circuit.

PTO line, up to 11389 Nm (*8,400 ft-lb*). Straddle bearing housing available.

for further info: www.jbj.co.uk/mechanical-power-conversion.html

#DriveLineHarmony stand 3E145 @ Offshore Europe 2017 5-8 SEPT 2017 ABERDEEN, UK

quality products for mechanical & fluid power

01737 767493 info@jbj.co.uk www.jbj.co.uk

jbj Techniques Limited is ISO certificated, committed to international coordination & unification of industrial standards.

- registered in England No: 1185469 -

A range of products ATEX certificated to directive 94/9/E requirements

Hydraulic Power Take-Off Units

Contents

TWIN DISC

The details contained within this catalogue are reproduced in accordance with the latest information at going to press ..... E & OE

Standard RC PTO, RC214 • RC314

The RC is a series of hydraulically actuated dry-clutch power take-off (PTO) units. Key design features of the RC PTO allow for installation in applications where the PTO may otherwise be difficult to operate or maintain. An advanced control system can be used for “soft-starting” large inertia loads.

Features & Benefits:

- Hydraulically actuated
- Self-adjusting clutch
- Oil lubricated tapered roller main bearings
- No pilot bearing required
- Advanced controls for high inertia loads
- Optional sintered iron or composite plates
- Suitable for side load and in-line applications

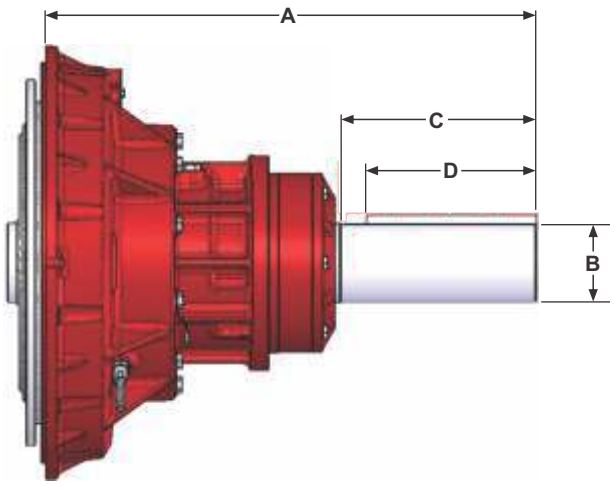
Specifications – RC214 & RC314

Model Number	SAE Housing	Max. Input Torque Nm (*lb-ft*) Class I		Clutch Maximum Power Rating kW (*hp*)			Maximum Safe Speed		Weight kg (*lbs*)
		Organic	Sintered	Class II light	Class III normal	Class IV heavy	Solid Plates Nodular Drive Ring	Split Plates Nodular Drive Ring	
RC214	1	2195 (*1620*)	2746 (*2025*)	281 (*376*)	187 (*251*)	140 (*188*)	3000	2750	179 (*395*)
RC314	1	3295 (*2430*)	4122 (*3040*)	421 (*564*)	281 (*376*)	210 (*282*)	3000	2700	198 (*437*)

Dimensions – RC214 & RC314

	RC214	RC314
SAE J617 Housing Size	1 & 0	
SAE J620 Clutch Size	14"	
A	595.4 (*23.44*)	624 (*24.56*)
B	100 (*3.94*)	
C	248 (*9.76*)	
D	215.9 (*8.50*)	

Dimensions in mm (*in*)



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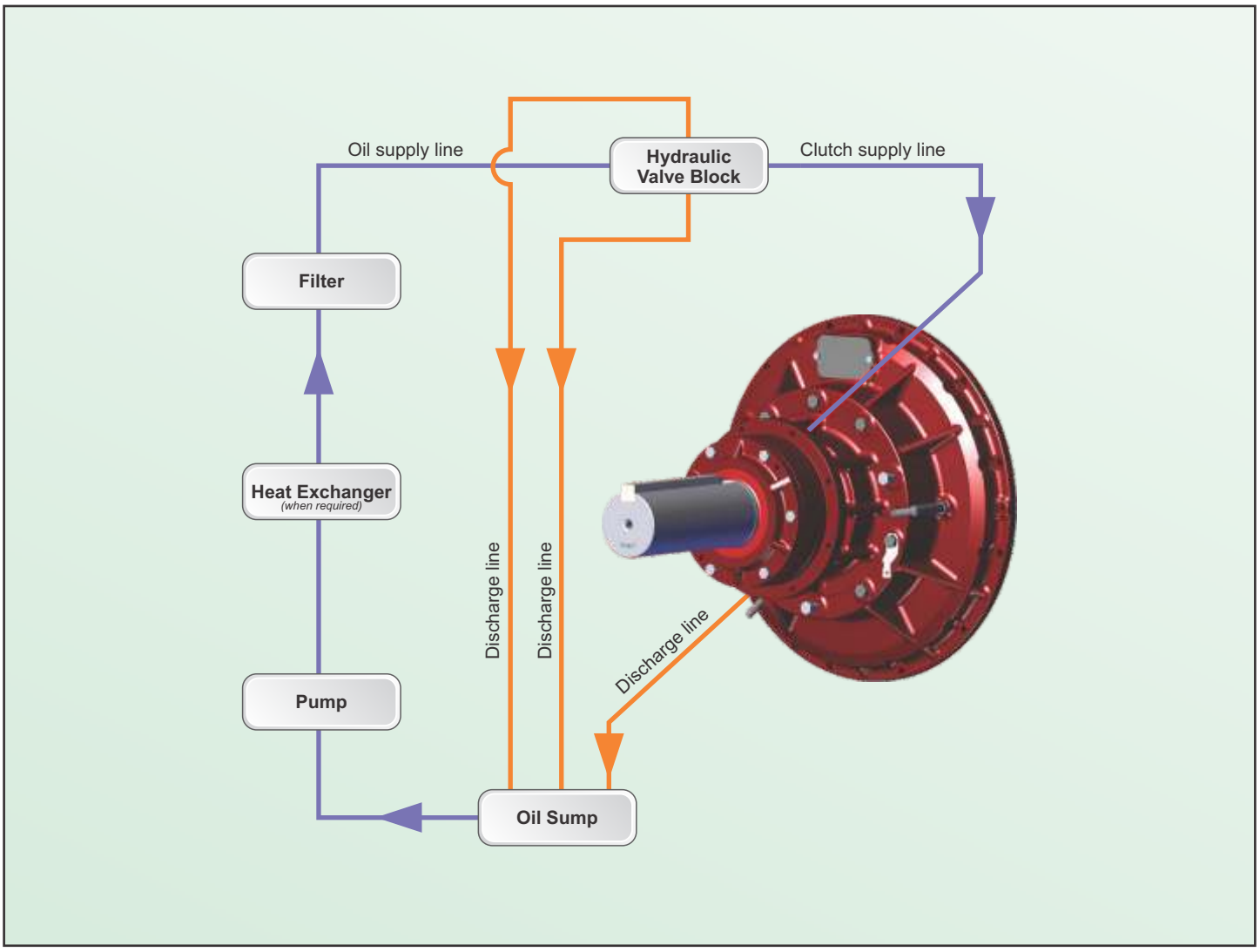
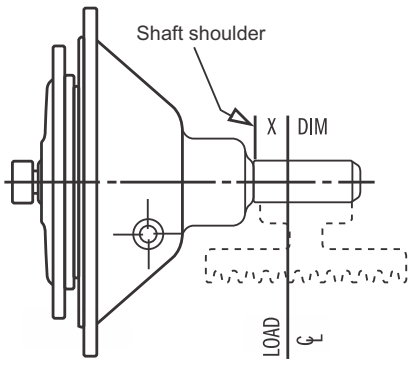


RC214 & RC314P - Allowable Side Load kg (*lbs*)

X Distance, mm (*in*) – see diagram									
RPM	25.4 (*1.0*)	50.8 (*2.0*)	76.2 (*3.0*)	101.6 (*4.0*)	127.0 (*5.0*)	152.4 (*6.0*)	177.8 (*7.0*)	203.2 (*8.0*)	228.6 (*9.0*)
1000	3755 (*8278*)	3397 (*7489*)	3102 (*6838*)	2846 (*6274*)	2575 (*5677*)	2351 (*5183*)	2163 (*4769*)	2003 (*4416*)	2003 (*4416*)
1500	3325 (*7330*)	3008 (*6632*)	2746 (*6055*)	2520 (*5555*)	2280 (*5026*)	2082 (*4590*)	1915 (*4223*)	1774 (*3910*)	1651 (*3640*)
2000	3050 (*6724*)	2759 (*6083*)	2519 (*5554*)	2311 (*5096*)	2091 (*4611*)	1910 (*4210*)	1757 (*3873*)	1627 (*3587*)	1515 (*3339*)
2200	2964 (*6534*)	2682 (*5912*)	2448 (*5397*)	2246 (*4952*)	2032 (*4481*)	1856 (*4091*)	1707 (*3764*)	1581 (*3486*)	1472 (*3245*)
	Allowable Side Load kg (*lbs*)								



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Standard RO PTO, RO111P • RO211P

The Standard RO PTO is a hydraulic or pneumatically-actuated mechanical clutch. The RO PTO allows users to engage remotely and has been developed with a number of unique features that offer reliability, productivity and power, including: greasable shaft bearings, a permanently sealed pilot bearing and field retrofit kit option. The RO PTO is suitable for a wide range of heavy-duty applications including crushers, grinders and mulchers.

Features & Benefits:

- Hydraulic or pneumatic actuation.
- 6.2 bar to 6.9 bar (*90 to 100 psi*) engagement pressure.
- Suitable for side load and in-line applications.
- Tapered roller main bearings.
- Optional sintered iron or composite plates.
- Standard ball, thrust bearing throw out collar.
- Field conversion kits available.

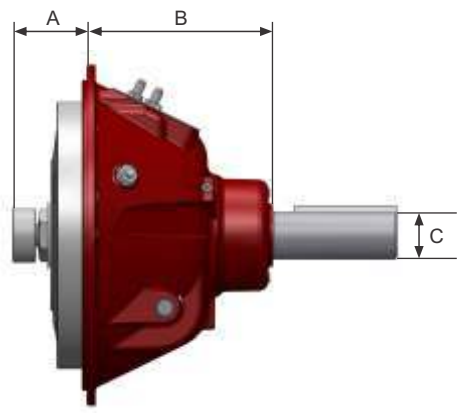
Specifications – RO111P & RO211P

Model Number	SAE Housing	Max. Input Torque Nm (*lb-ft*) Class I		Clutch Maximum Power Rating kW (*hp*)			Maximum Safe Speed		Weight kg (*lbs*)
		Organic	Sintered	Class II light	Class III normal	Class IV heavy	Solid Plates Nodular Drive Ring	Split Plates Nodular Drive Ring	
RO111P1	1	617 (*455*)	746 (*550*)	92 (*124*)	61 (*82*)	46 (*62*)	3600	3200	59 (*129*)
RO111P2	2								
RO111P3	3								
RO211P1	1	1234 (*910*)	1492 (*1100*)	184 (*247*)	123 (*165*)	92 (*124*)	3000	3000	79 (*175*)
RO211P2	2								
RO211P3	3								

Dimensions – RO111P & RO211P

	RO111P	RO211P
A	97.03 (*3.82*)	98.04 (*3.86*)
B	235.46 (9.27)	245.36 (*9.66*)
C	57.15 (*2.25*)	63.50 (*2.50*)

Dimensions in mm (*in*)



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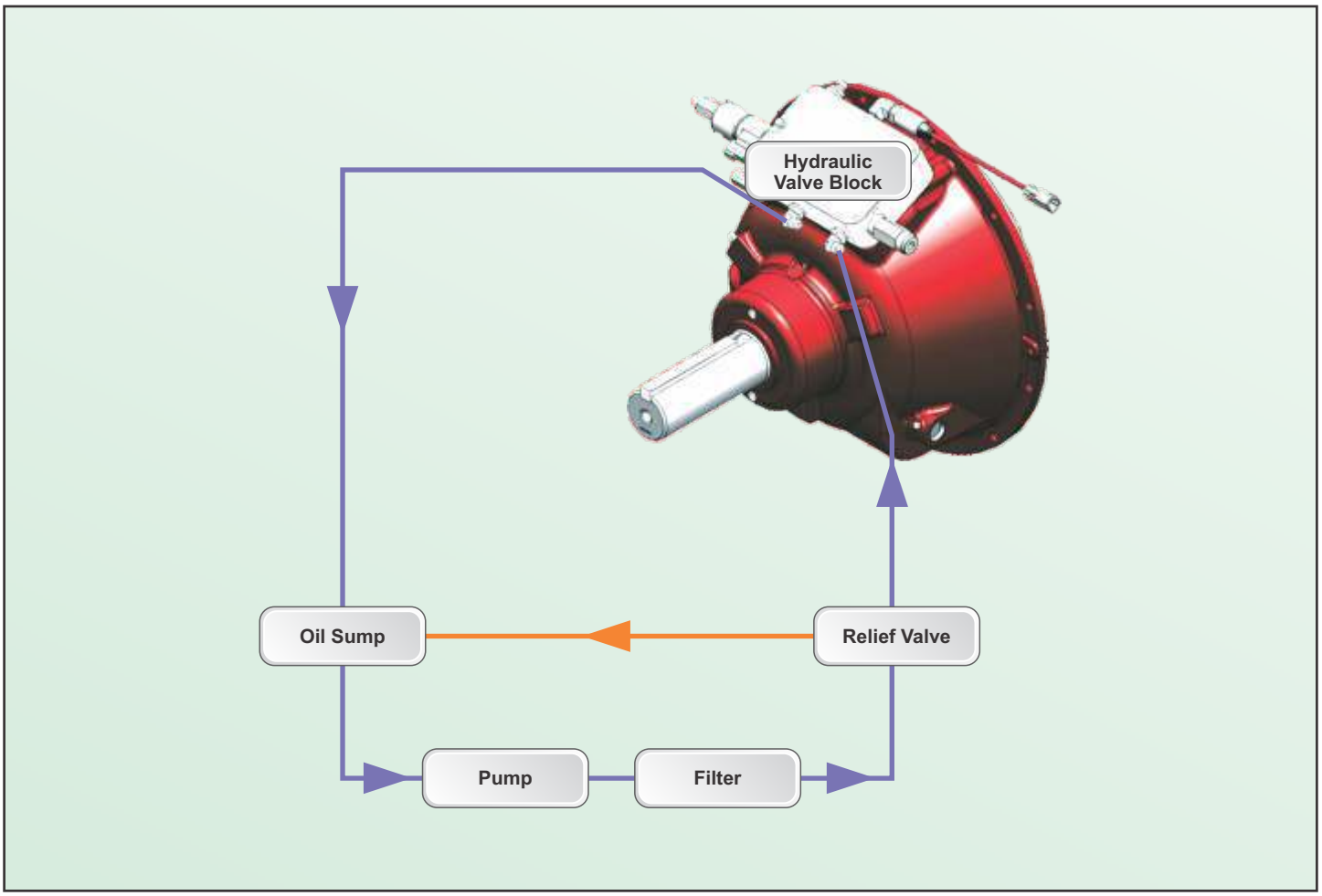
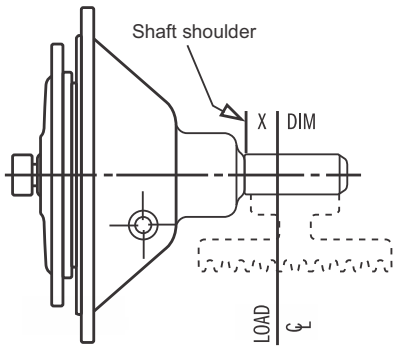


RO111P & RO211P - Allowable Side Load kg (*lbs*)

PTO MODEL	RPM	X DISTANCE, mm (*in*) 25.4 (*1.0*)	50.8 (*2.0*)	76.2 (*3.0*)	101.6 (*4.0*)	127.0 (*5.0*)	152.4 (*6.0*)
RO111P1 RO111P2 RO111P3	1000	1383 (*3050*)	1156 (*2550*)	907 (*2000*) 873 (*1925*)	748 (*1650*)	635 (*1400*)	N/A
	1200	1315 (*2900*)					
	1800	1161 (*2560*)	1075 (*2370*)				
	2400	1061 (*2340*)	984 (*2170*)				
	2800	1014 (*2235*)	938 (*2070*)				
RO211P1 RO211P2 RO211P3	1000	2059 (*4540*)	1540 (*3395*)	1229 (*2710*)	1159 (*2555*)	875 (*1930*)	766 (*1690*)
	1200	1982 (*4370*)					
	1800	1769 (*3900*)					
	2400	1610 (*3550*)	1510 (*3330*)				
	2800	1538 (*3390*)	1436 (*3165*)				

Allowable Side Load kg (*lbs*)



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Standard RO PTO, RO114P • RO214P

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Features & Benefits:

- Hydraulic or pneumatic actuation.
- 6.2 bar to 6.9 bar (*90 to 100 psi*) engagement pressure.
- Suitable for side load and in-line applications.
- Tapered roller main bearings.
- Optional sintered iron & composite plates.
- Standard ball bearing throw out collar.
- Field conversion kits available.

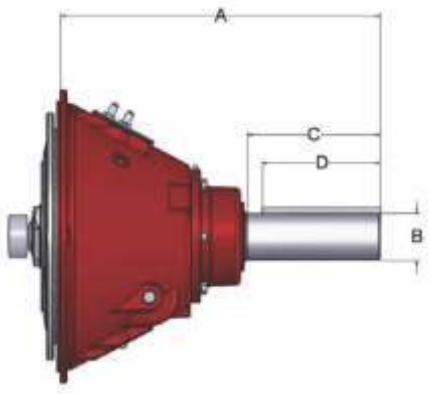
Specifications – RO114P • RO214P

Model Number	SAE Housing	Max. Input Torque Nm (*lb-ft*) Class I		Clutch Maximum Power Rating kW (*hp*)			Maximum Safe Speed		Weight kg (*lbs*)
		Organic	Sintered	Class II light	Class III normal	Class IV heavy	Solid Plates Nodular Drive Ring	Split Plates Nodular Drive Ring	
RO114P0	0	1098 (*810*)	1396 (*1030*)	140.3 (*188*)	93.3 (*125*)	70.1 (*94*)	3000	2750	60.8 (*134*)
RO114P1	1								
RO214P0	0	2182(*1610*)	2793 (*2060*)	280.6 (*376*)	187.3 (*251*)	140.3 (*188*)	3000	2750	85.3 (*188*)
RO214P1	1								

Dimensions – RO114P • RO214P

	RO114P	RO214P
A	524.00 (*20.63*)	603.25 (*23.75*)
ØB	76.20 (*3.00*)	88.90 (*3.50*)
C	215.14 (*8.47*)	254.00 (*10.00*)
D	184.15 (*7.25*)	222.25 (*8.75*)

Dimensions in mm (*in*)



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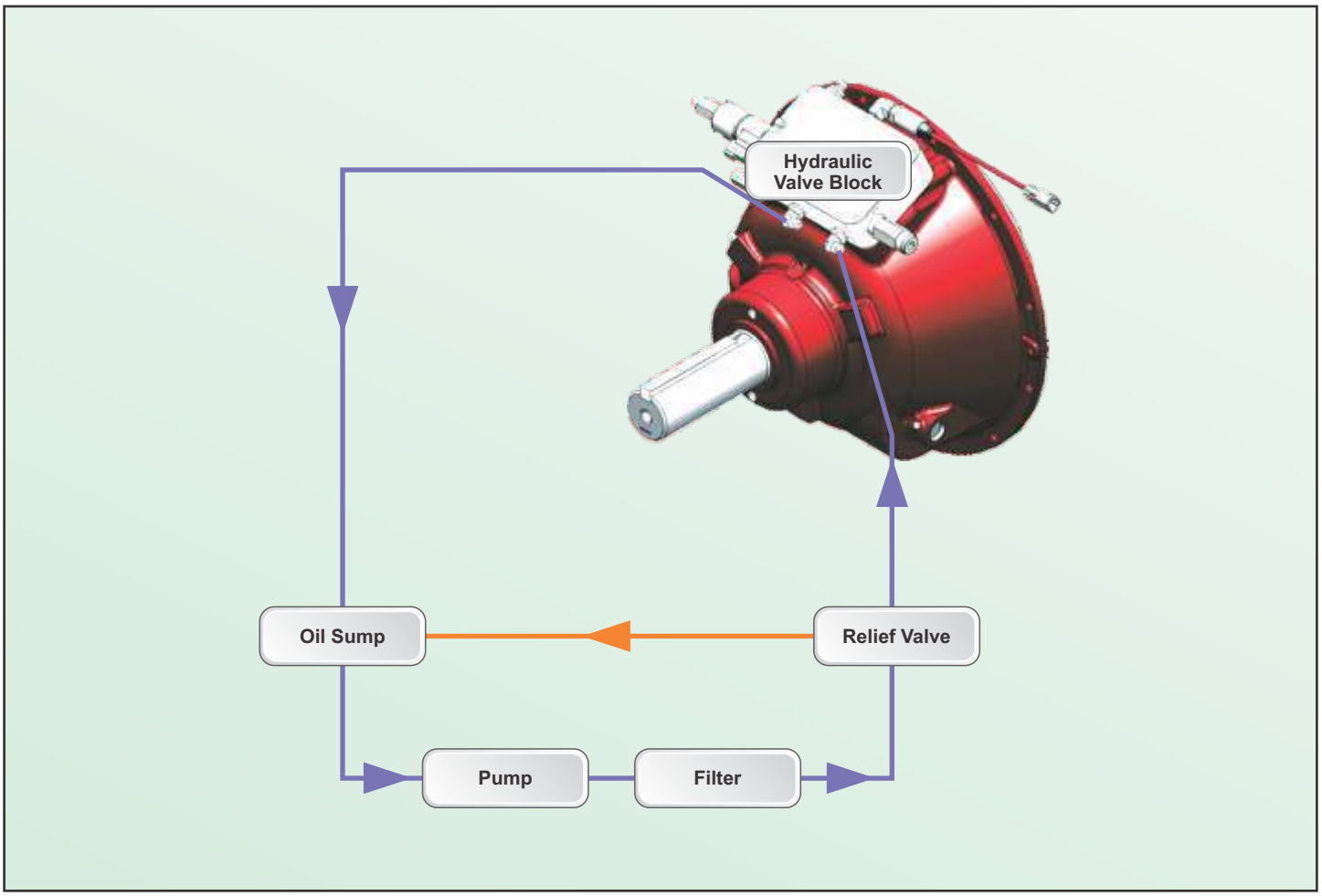
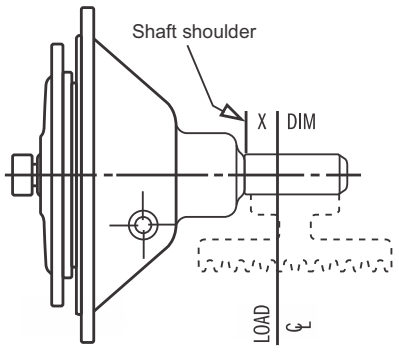


RO114P • RO214P - Allowable Side Load kg (*lbs*)

PTO MODEL	RPM	X DISTANCE, mm (*in*)							
		25.4 (*1.0*)	50.8 (*2.0*)	76.2 (*3.0*)	101.6 (*4.0*)	127.0 (*5.0*)	152.4 (*6.0*)	177.8 (*7.0*)	203.2 (*8.0*)
RO114P0 RO114P1	1000	3390 (*7474*)	2600 (*5732*)	2120 (*4674*)	1780 (*3924*)	1535 (*3384*)	1350 (*2976*)	1210 (*2668*)	1090 (*2403*)
	1500								
	2000								
	2200								
RO214P0 RO214P1	1000	5980 (*13184*)	4700 (*10362*)	3880 (*8554*)	3290 (*7253*)	2870 (*6327*)	2540 (*5600*)	2270 (*5004*)	2060 (*4542*)
	1500								
	2000								
	2200								
		Allowable Side Load kg (*lbs*)							



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SP Type Power Take-off

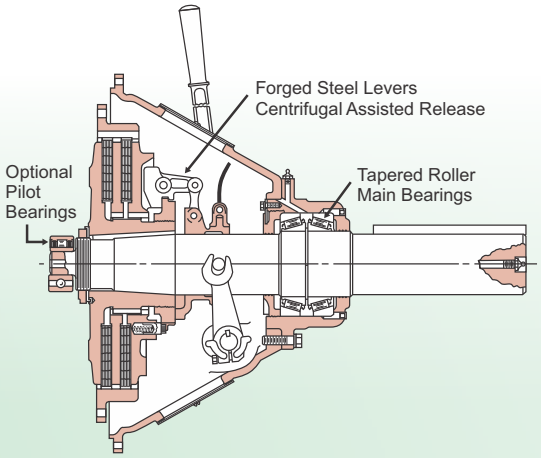
RO "Remote Over-Center" PTO

Based on the SP series mechanical PTO.

- SAE 11.5 to SAE 18.
- SAE 3 to SAE 0.
- Field retrofit is possible.
- Requires clutch adjustment.
- Pilot bearing.
- Main bearings require grease.
- Optional valve & controller.
- Requires hydraulics/pneumatics on demand.

RC "Remote Control" PTO

- Self adjusting clutch.
- SAE 11.5 to SAE 18.
- SAE 3 to SAE 0.
- No pilot bearing.
- Oil lubricated main bearings.
- "Soft start" for high inertia loads.
- Optional valve & controller.
- Requires live hydraulics.



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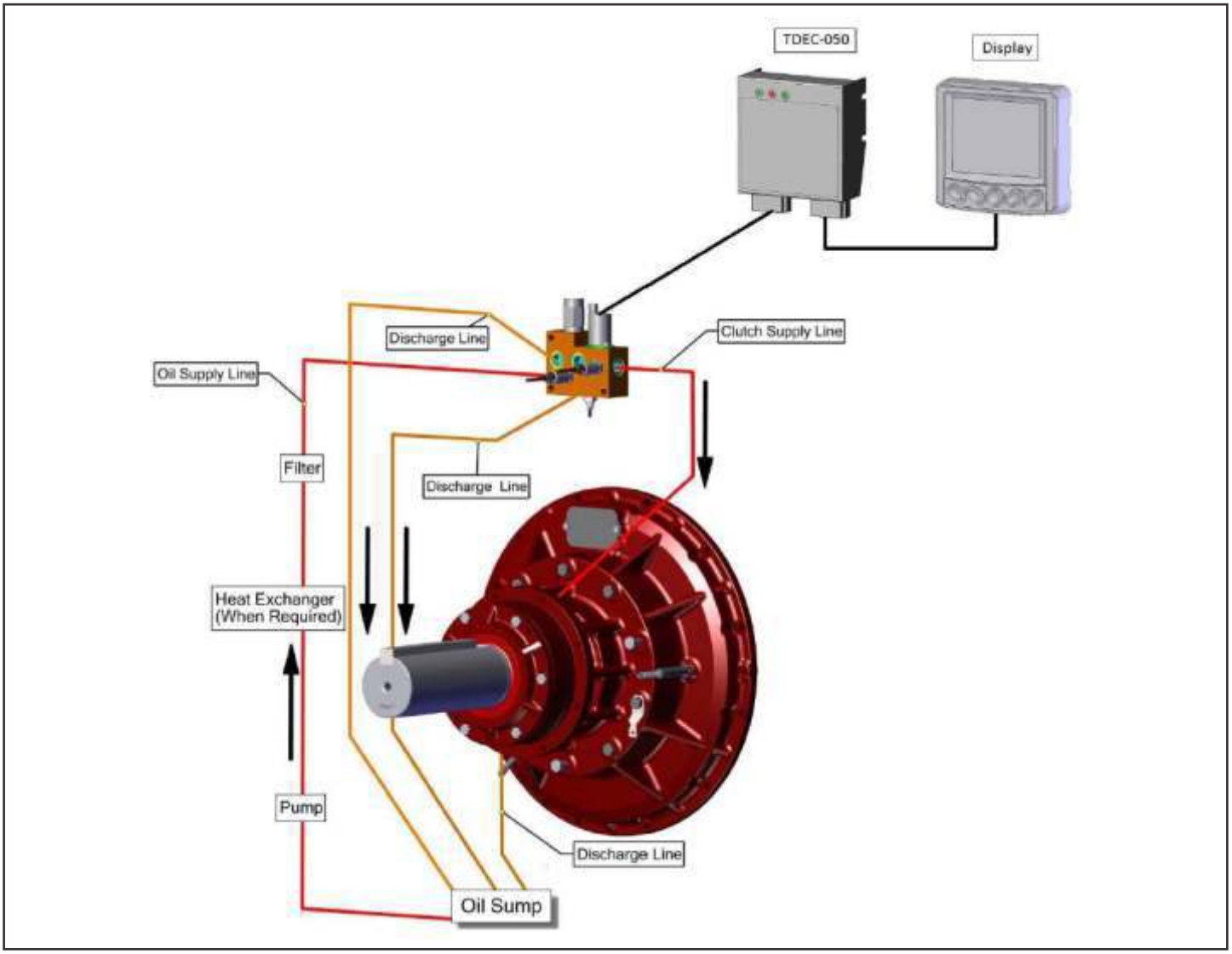
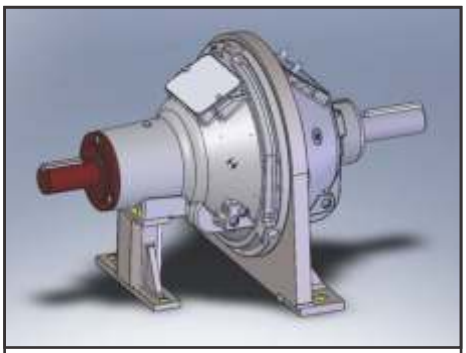
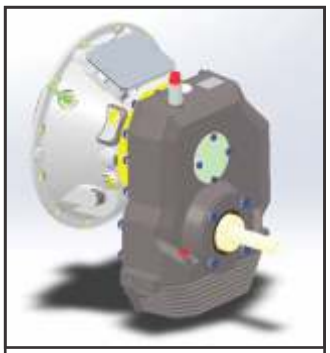


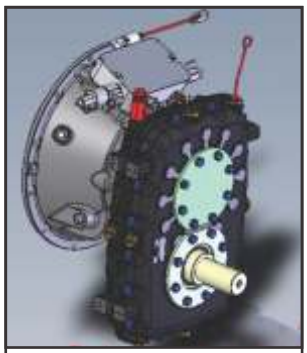
RO & RC Options



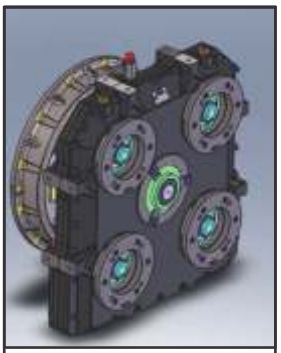
ROS211 Remote Mount



RO211 with AM110 Gearbox



RC211 with AM110 Gearbox



RC314 with AM450 Pump Drive

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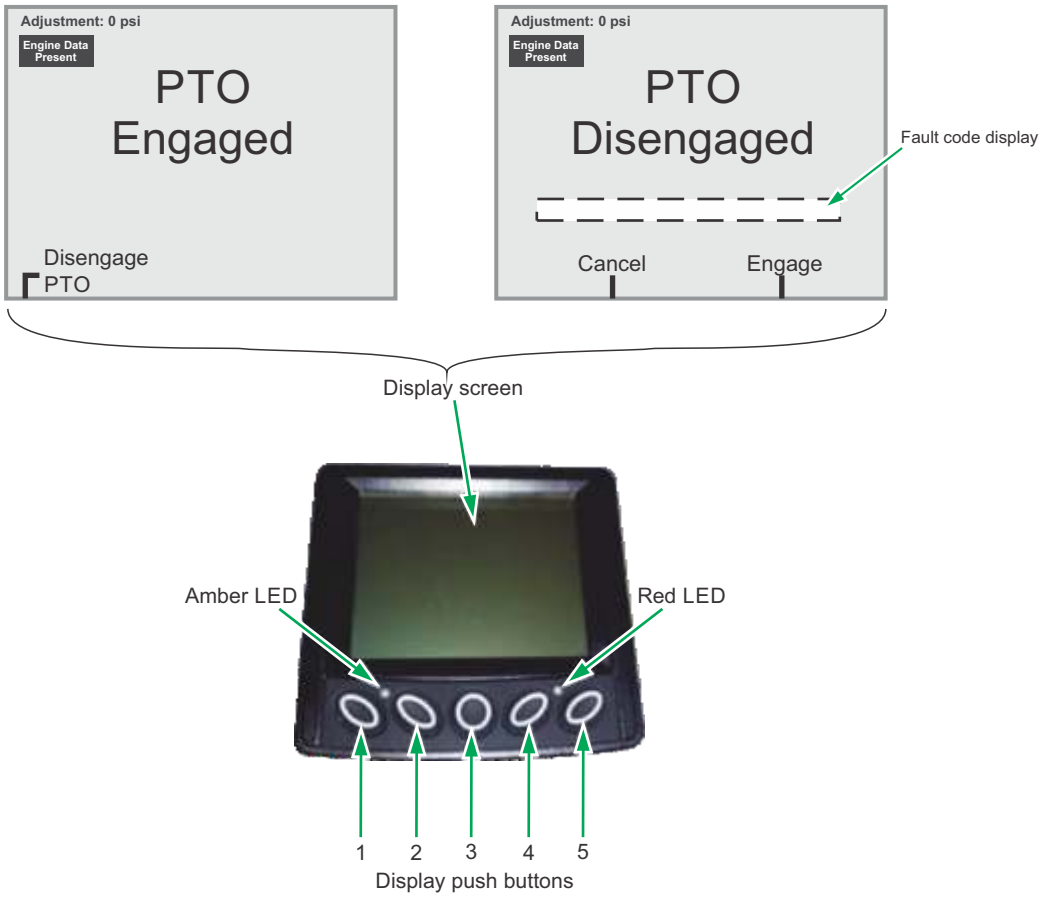
HED Control Module

- Microprocessor based
- 12/24VDC
- J1939 capable

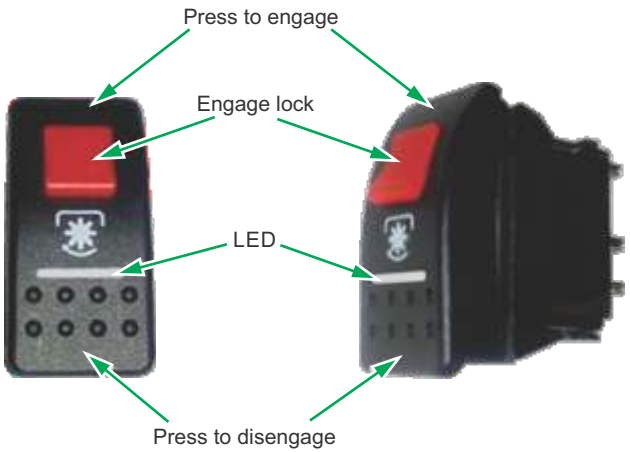
Monochromatic Display

- Startup
- Engaging
- Disengaging
- Engaged
- Disengaged
- Low voltage
- Adjust clutch (tighten)
- Adjust clutch (loosen)
- Engage coil fault
- Disengage coil fault
- Pressure sensor fault
- Engage timeout
- Disengage timeout
- No flow fault



Engage/Disengage Switch

- Allows for engagement/disengagement
- LED flashes system status
- Overridden if used in conjunction with display.



Features

» Display option for control and/or system monitoring.
» Option to wire clutch engagement commands as switch signals or J1939 messages.
» J1939 CANbus interface includes operating status messages from the TDEC050.
» Integrated brake control.
» LED indicators provide operational status and fault codes, including battery power monitoring.
» Warning relay output for fault conditions.
» Monitoring of engine speed to protect clutch during engagement process.
» Monitoring of engine speed and output speed for controlled engagement process to help ensure precise clutch engagement without overloading the engine or damaging the clutch.
» Monitoring of main and clutch oil pressures, temperature and filter if installed.

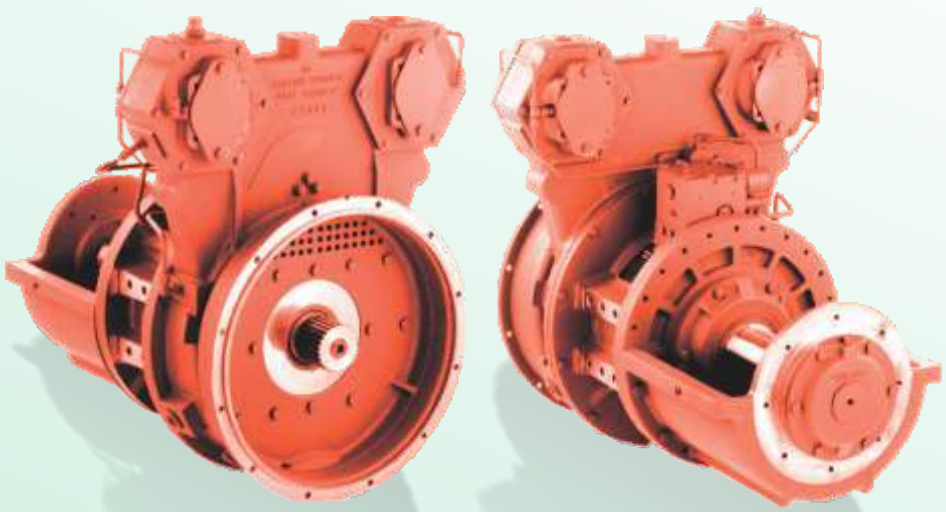
Specifications

» Operating power: 12 volts DC or 24 volts DC nominal.
» Operating temperature: -40° C to 70°C.
» IP rating: 67

HP 300 Hydraulic Power Take-off

Features & Benefits:

- Optional sintered iron plates.
- No pilot bearing.
- Hydraulically actuated.
- Straddle bearing design.
- Creates 25% higher torque capacity.
- Ease of installation.
- Remote actuation.
- Clutch adjustment not required.
- Allows for maximum side load capability.



Specifications – HP300

Model Number	Maximum Torque Rating Nm (lb-ft)	Maximum Safe Speed	Maximum Pulley Diameter mm (in)	Maximum Pulley Length mm (in) [Grooves]	Weight kg (lbs)
HP300S – Short	6101 (4500)	2200	355 (14)	320 (12.62) [10]	545 (1200)

Load Classifications based upon AGMA Load Charateristics

Prime Mover	Duration of Service	Driven Machine Load Classifications		
		Uniform	Moderate Shock	Heavy Shock
Electric motor	Up to 3 hours per day 3–10 hours per day Over 10 hours per day	1.00 1.00 1.25	1.25 1.25 1.50	1.50 1.75 2.00
Multi-cylinder internal combustion engine	Up to 3 hours per day 3–10 hours per day Over 10 hours per day	1.00 1.25 1.50	1.25 1.50 1.75	1.75 2.00 2.25
Multi-cylinder internal combustion engine with high torque rise	Up to 3 hours per day 3–10 hours per day Over 10 hours per day	1.50 1.75 2.00	1.75 2.00 2.25	2.25 2.50 2.75
Single cylinder internal combustion engine	Up to 3 hours per day 3–10 hours per day Over 10 hours per day	1.25 1.50 1.75	1.50 1.75 2.00	2.00 2.25 2.50

To calculate application torque:

$\frac{9550 \times kW}{\text{Engine RPM}}$ = Torque (Nm)

$\frac{5252 \times HP}{\text{Engine RPM}}$ = Torque (lb/ft)

Torque x Load Factor = Application Torque.

Use load factor from chart to the left.

All clutch engagements to be with prime mover below 1000 RPM. High inertia loads may require use of larger clutch.
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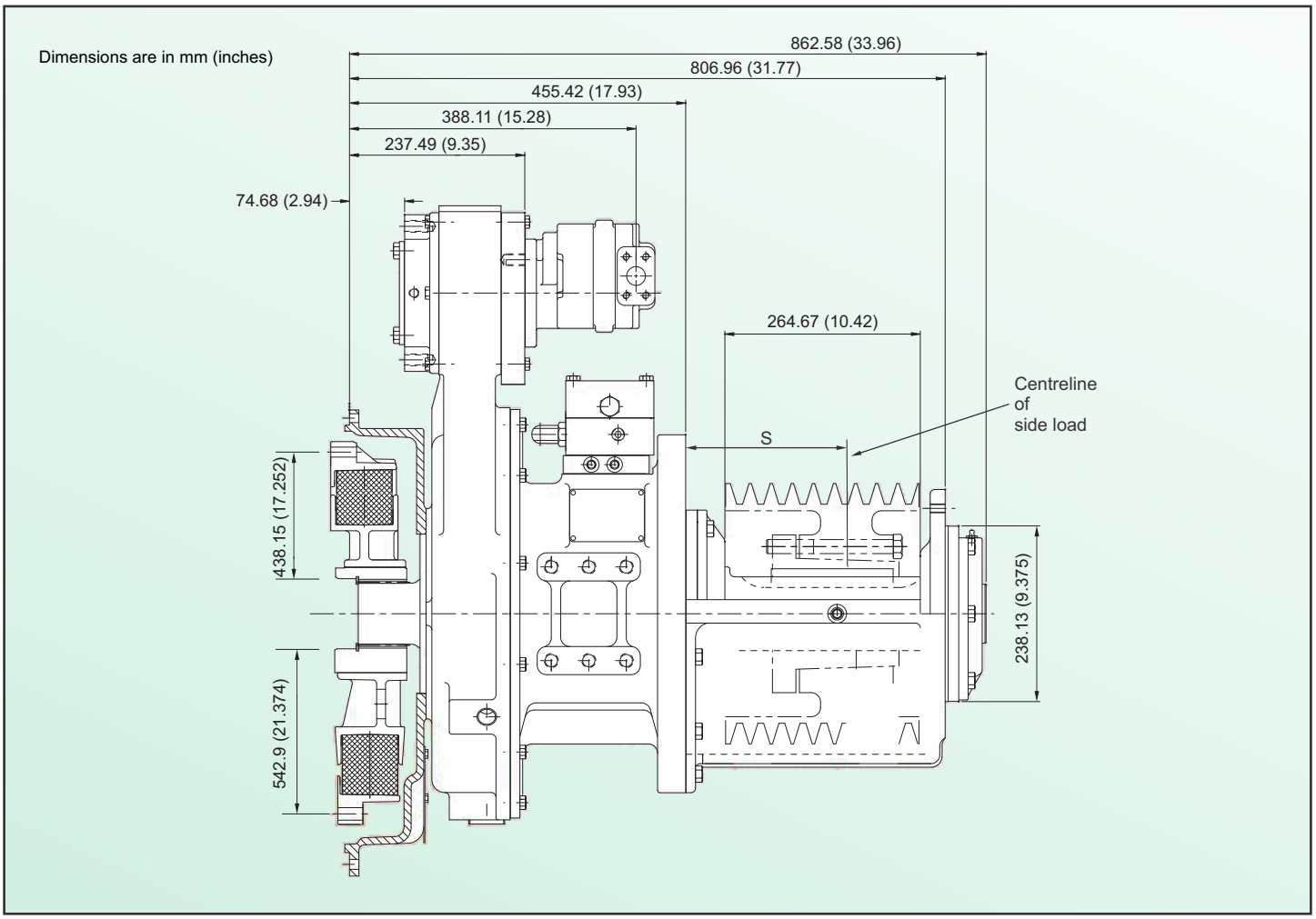


S Dimension mm (in)	2400 RPM Max. Load kgs (lbs)	2100 RPM Max. Load kgs (lbs)	1800 RPM Max. Load kgs (lbs)	1500 RPM Max. Load kgs (lbs)
127.0 (5.0)	4155 (09160)	4332 (9550)	4536 (10000)	4808 (10600)
152.4 (6.0)	4672 (10300)	4876 (10750)	5103 (11250)	5398 (11900)
177.8 (7.0)	5352 (11800)	5557 (12250)	5806 (12800)	6169 (13600)
203.2 (8.0)	5806 (12800)	6033 (13300)	6305 (13900)	6668 (14700)
228.6 (9.0)	5058 (11150)	5262 (11600)	5511 (12150)	5806 (12800)
254.0 (10.0)	4491 (9900)	4672 (10300)	4876 (10750)	5148 (11350)

The following general formula should be used for determining the actual applied load:

$$\text{(metric) } L = \frac{1945010 \times kW}{N \times D} \times F \times LF \qquad \text{(imperial) } L = \frac{126{,}000 \times HP}{N \times D} \times F \times LF$$

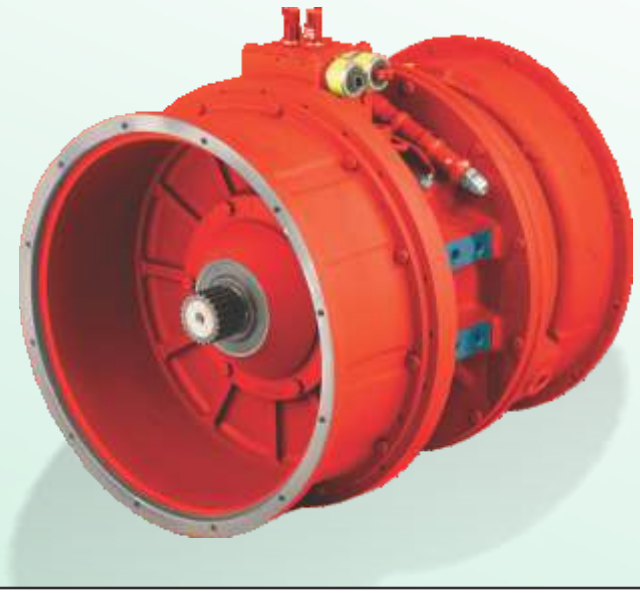
L = actual applied load kgs (lbs)
N = shaft speed (rpm)
D = pitch diameter mm (in) of pulley, etc.
F = load factor
1.0 for chain or gear drive, 1.5 for timing belts, 2.5 for all v belts, 3.5 for flat belts
LF = 2.1 for reciprocating compressors and other severe shock drives and 1.8 for large inertia type drives (i.e. crushers, chippers, planers, etc.)

Compound Drives and Power Engaged Power Take-Off applications must have written factory review.

HP 300I Hydraulic Power Take-off

Features & Benefits:

- Hydraulically actuated.
- Ease of installation.
- Remote actuation.
- Clutch adjustment not required.
- Modular design.
- Up to 784 kW (1050 hp)
- Torsional coupling input.
- SAE 1, 0.



Specifications – HP300I

Model Number	Maximum Torque Rating* Nm (lb-ft)	Maximum Safe Speed	Weight kg (lbs)
HP300I	4067 (3000)	2100	585 (1289)

* Actual rating depends on application, prime mover and shock loads.

Contact **jbj Techniques technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk** for load classification and assistance in the selection of the correct hydraulic PTO.

Specifications subject to change without prior notice in the interest of continual product improvement.
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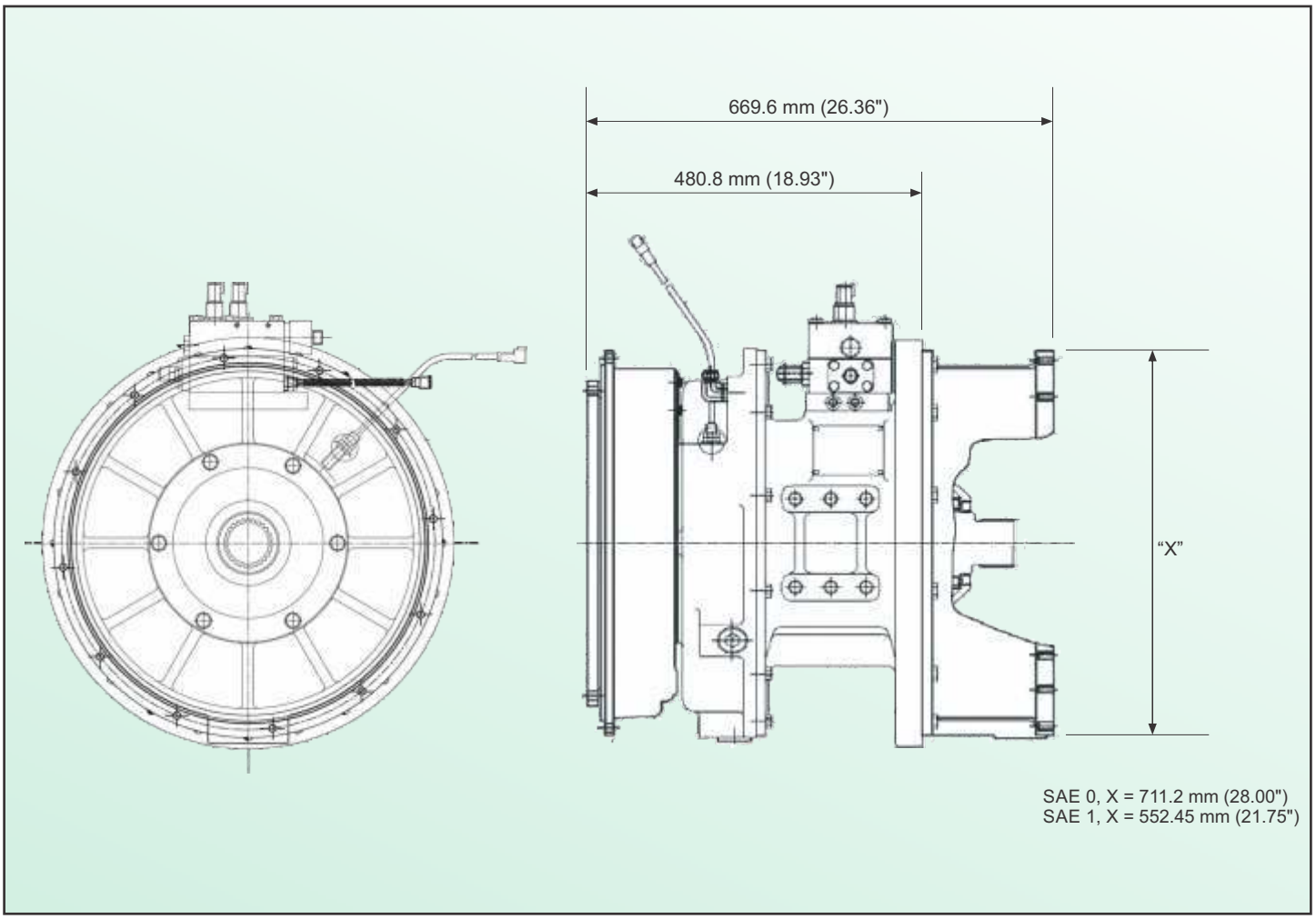

Torsional Vibration

Responsibility for ensuring that the torsional compatibility of the drive train is satisfactory rests with the assembler of the drive and driven equipment, regardless of whether jbj Techniques supplies the flexible input coupling or it is customer supplied. Torsional vibration analysis can be made by the engine builder, independent consultants or others. jbj Techniques is prepared to assist in finding solutions to potential torsional problems that relate to the jbj Techniques supplied equipment.

jbj Techniques reminds users of these products that their safe operation depends on use in compliance with engineering information provided in our catalogue. Users are also reminded that safe operation depends on proper installation, operation and routine maintenance and inspection under prevailing conditions. It is the responsibility of users (and not jbj Techniques Ltd) to provide and install guards or safety devices which may be required by recognized safety standards or by the Occupational Safety and Health Act of 1970 and its subsequent provisions.

HP500 hydraulic power take-off.

The HP500 is an oil-filled, multiple disc, hydraulically-actuated self-adjusting clutch. The HP500 has been developed with a number of unique features that offer reliability, productivity and power. The HP500 has been designed for a wide range of heavy-duty applications including crushers, grinders, mulchers, dredgers, heavy-duty drills and many others.

Introducing the new HP500

Features & Benefits:

- Hydraulically actuated and self-adjusting wet clutch.
- Suitable for in-line and side-load applications.
- Advanced control system for smooth engagement.
- Remote actuation via J1939 or switch input.
- No pilot bearing.
- High side load capability.
- Maximum power rating 373 kW (*500 hp*) @ 1800 rpm.
- Optional single tower (2-pads) or two tower (4-pads) auxiliary drive.
- 298 kW (*400 hp*) maximum capacity per tower.
- 336 kW (*450 hp*) maximum capacity for both towers.

Available pump pads:

- SAE "A" • SAE "B" • SAE "C" • SAE "D" • SAE "E" .
- Pump tower rotatable by 0°/45°/90° CW/CCW.
- 1:1 standard with optional 0.83:1 & 0.77:1 speed increase on pump tower.
- SAE 1, SAE 2 & SAE 3 input housing.
- SAE 14, SAE 11.5 & SAE 10 input coupling.

Specifications – HP500

Model Number	Maximum Power Rating			Maximum Speed (RPM)	Pump Tower Capacity		Weight kg (lbs)	
	@ 1200 RPM	@ 1800 RPM	@ 2200 RPM		1 Tower (2 Pads)	2 Tower (4 Pads)		
HP500	533 HP (398 kW)	800 HP (597 kW)	978 HP (730 kW)	2300	400 HP (298 kW)	450 HP (336 kW)	HP500D	536 kg (1181 lbs)
							HP500S	434 kg (957 lbs)

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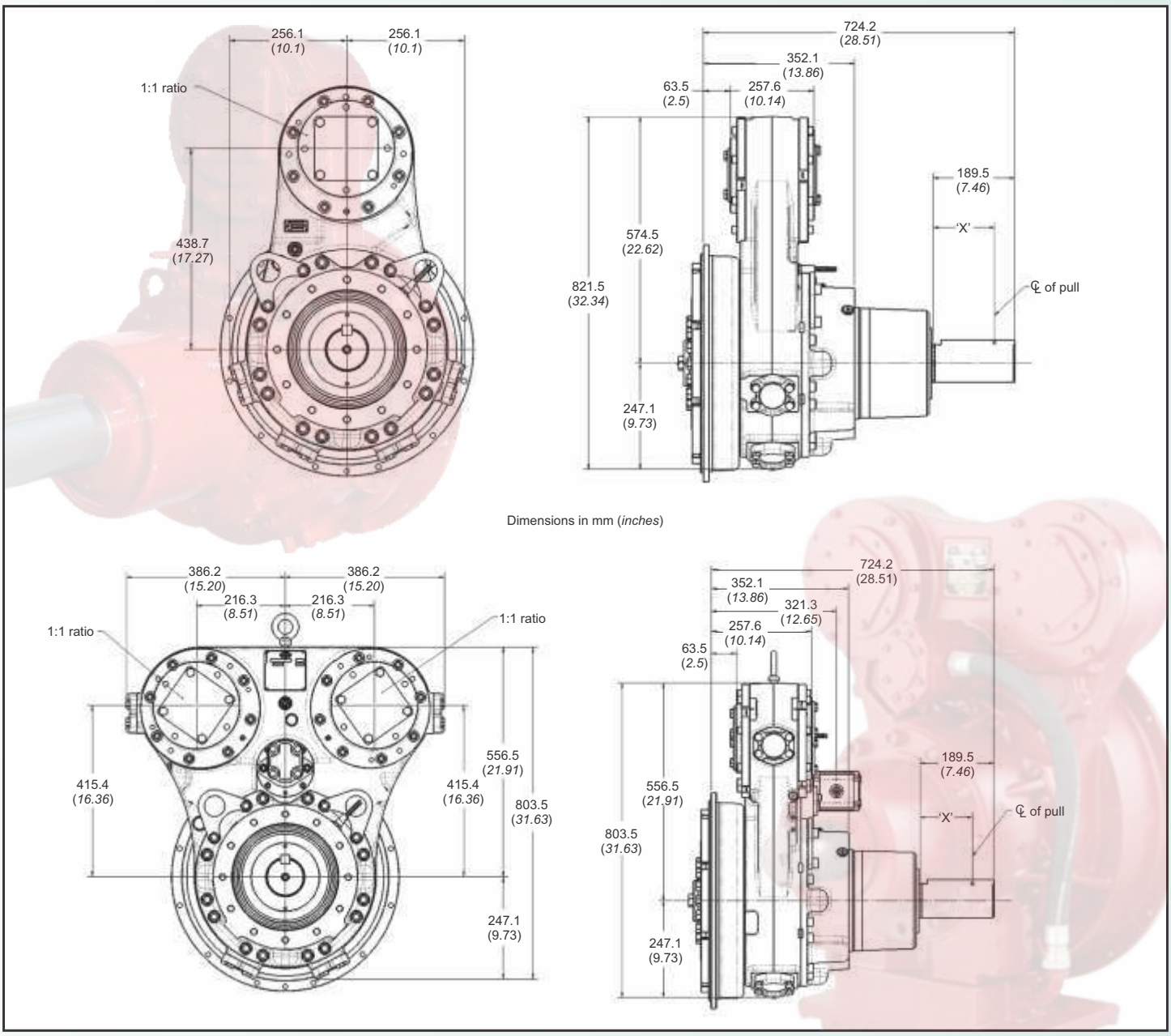
HP500 dimensions



HP500 side load capacity values

RPM	mm	-50.8	-25.4	0	25.4	50.8	76.2	101.6	127	152.4
	inches	-2	-1	0	1	2	3	4	5	6
1200	N	56,915	49,309	43,544	38,957	35,261	32,196	29,389	26,494	24,123
	Lbf.	12,795	11,085	9,789	8,758	7,927	7,238	6,607	5,956	5,423
1800	N	50,398	43,664	38,557	34,496	31,226	28,509	26,026	23,460	21,360
	Lbf.	11,330	9,816	8,668	7,755	7,020	6,409	5,851	5,274	4,802
2100	N	48,120	41,689	36,813	32,935	29,812	27,219	24,848	22,401	20,395
	Lbf.	10,818	9,372	8,276	7,404	6,702	6,119	5,586	5,036	4,585

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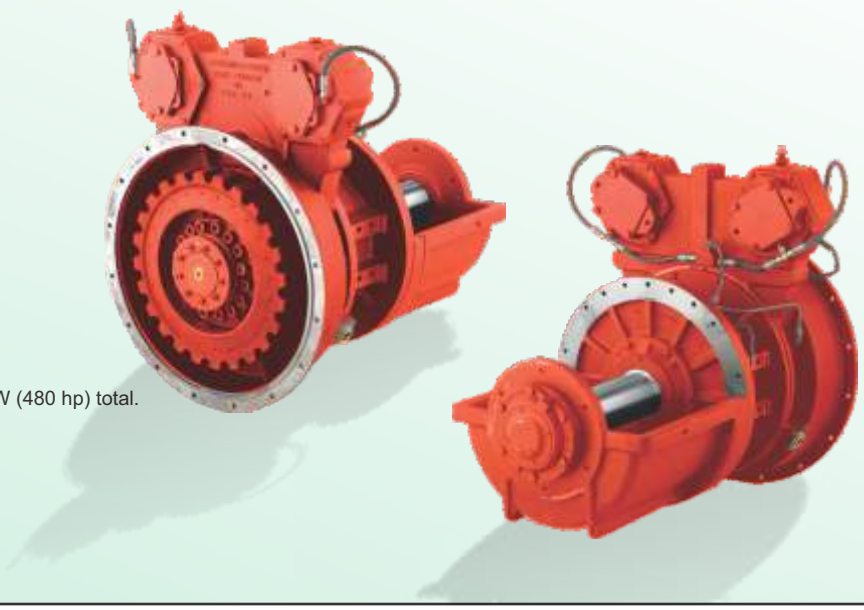
HP 610S Hydraulic Power Take-off

Features & Benefits:

- No pilot bearing.
- Hydraulically actuated.
- Straddle bearing design.
- ease of installation.
- remote actuation.
- clutch adjustment not required.
- Modular design.
- Up to 784 kW (1050 hp).
- Side load (shown).
- Four live pump pads – 224 kW (300 hp) each, 358 kW (480 hp) total.
- Torsional coupling input.
- SAE 1, 0.
- 457 mm (18″) diameter sheave housing rotates 360°
- Charge pump included



Specifications – HP610S

Model Number	Maximum Torque Rating* Nm (lb-ft)	Maximum Safe Speed rpm	Maximum Pulley Diameter mm (in)	Maximum Pulley Length mm (in) [Grooves]	Weight kg (lbs)
HP610S – Short	4067 (3000)	2100	457 (18)	320 (12.62) [10]	585 (1289)
HP610S – Long	4067 (3000)	2100	457 (18)	365 (14.38) [12]	630 (1390)

* Actual rating depends on application, prime mover and shock loads.

Contact **jbj Techniques technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk** for load classification and assistance in the selection of the correct hydraulic PTO.

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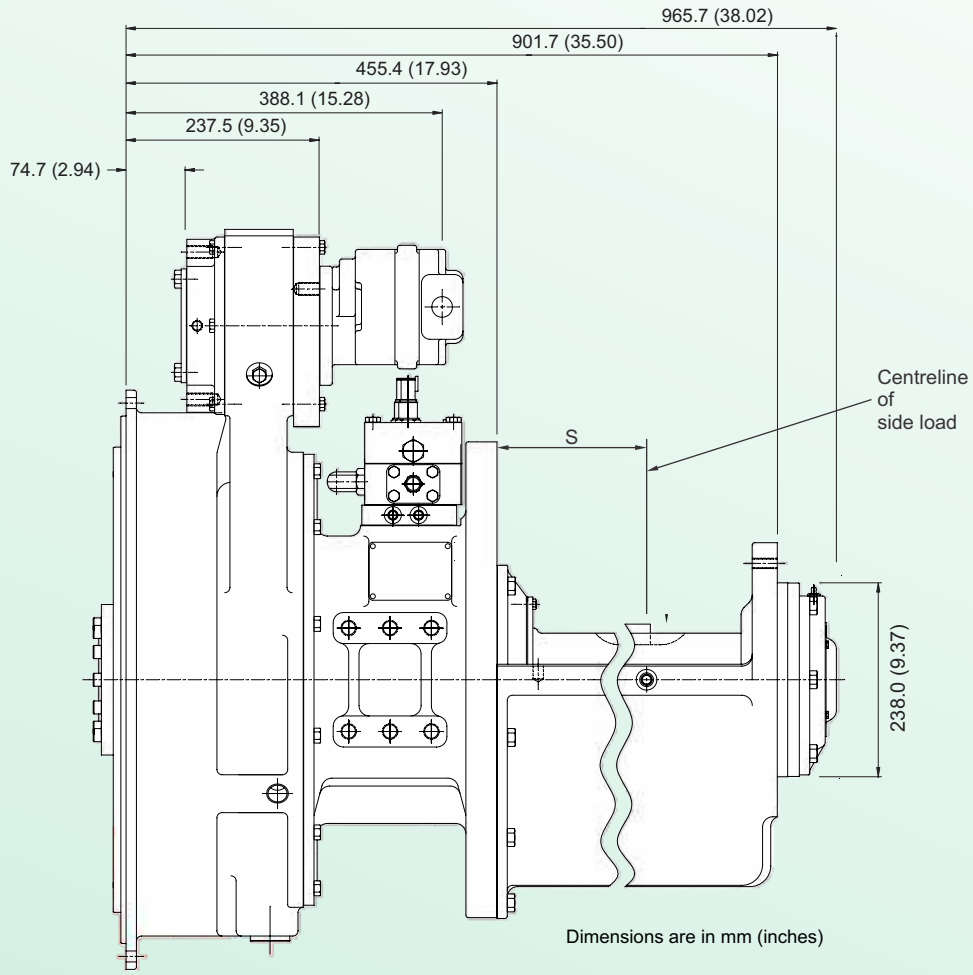

S Dimension mm (in)	2100 RPM Max. Load kg (lbs)	1800 RPM Max. Load kg (lbs)	1200 RPM Max. Load kg (lbs)
127.0 (5.0)	6849 (15100)	7167 (15800)	8119 (17900)
152.4 (6.0)	7530 (16600)	7893 (17400)	8890 (19600)
177.8 (7.0)	8346 (18400)	8754 (19300)	9888 (21800)
203.2 (8.0)	8528 (18800)	8936 (19700)	9979 (22000)
228.6 (9.0)	8029 (17700)	8391 (18500)	9389 (20700)
254.0 (10.0)	7212 (15900)	7530 (16600)	8414 (18550)
254.0 (10.0)	6532 (14400)	6864 (15000)	7620 (16800)

The following general formula should be used for determining the actual applied load:

$$\text{(metric) } L = \frac{1945010 \times kW}{N \times D} \times F \times LF \qquad \text{(imperial) } L = \frac{126{,}000 \times HP}{N \times D} \times F \times LF$$

L = actual applied load kgs (lbs)
N = shaft speed (rpm)
D = pitch diameter mm (in) of pulley, etc.
F = load factor
1.0 for chain or gear drive, 1.5 for timing belts, 2.5 for all v belts, 3.5 for flat belts
LF = 2.1 for reciprocating compressors and other severe shock drives and 1.8 for large inertia type drives (i.e. crushers, chippers, planers, etc.)

Compound Drives and Power Engaged Power Take-Off applications must have written factory review.

HP 1200 Hydraulic Power Take-off

The HP1200 is an oil-filled, multiple disc, hydraulically-actuated self-adjusting clutch. The HP1200 has been developed with a number of unique features that offer reliability, productivity and power, including: integral mechanical brake release, optional integrated reservoir and standard hydraulic gear pump. The HP1200 has been designed for a wide range of heavy-duty applications including crushers, grinders, mulchers, dredgers, heavy-duty drills and many others.

Features & Benefits:

- Hydraulically actuated and self-adjusting wet clutch
- Suitable for in-line and side-load applications
- Advanced control system for smooth engagement.
- Remote actuation via J1939 or switch input.
- No pilot bearing.
- High side load capability.
- Maximum power rating 928 kW (1243 hp) @ 1800 rpm.
- Two towers with two pump pads each .
- 299 kW (400 HP) maximum capacity per tower .
- 410 kW (550 HP) maximum capacity for both towers.

Available pump pads:

- SAE "A" • SAE "B" • SAE "C" • SAE "D" • SAE "E" .
- Pump tower rotatable by 0°/45°/90° CW/CCW.
- Optional 0.86:1 speed increase on pump tower.
- SAE 0 input housing.
- SAE 18 input coupling.
- Optional integrated reservoir.
- Standard charge/lube pump included.

Specifications – HP1200

Model Number	Maximum Power Rating			Maximum Speed (RPM)	Pump Tower Capacity		Weight kg (lbs)
	@ 1200 RPM	@ 1800 RPM	@ 2100 RPM		1 Tower (2 Pads)	2 Tower (4 Pads)	
HP1200P	618 kW (828 HP)	928 kW (1243 HP)	1081 kW (1448 HP)	2250	299 kW (400 HP)	410 kW (550 HP)	805 kg (1775 lbs)*
HP1200I				2250			770 kg (1697 lbs)*

* Includes optional reservoir and standard charge/lube pump.

Specifications subject to change without prior notice in the interest of continual product improvement.
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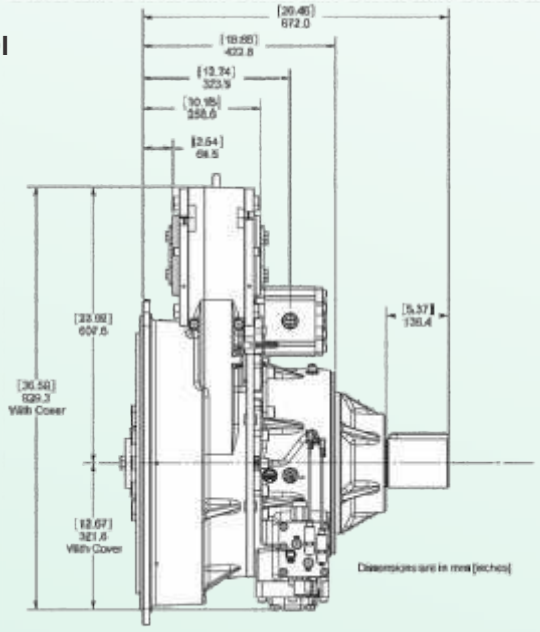
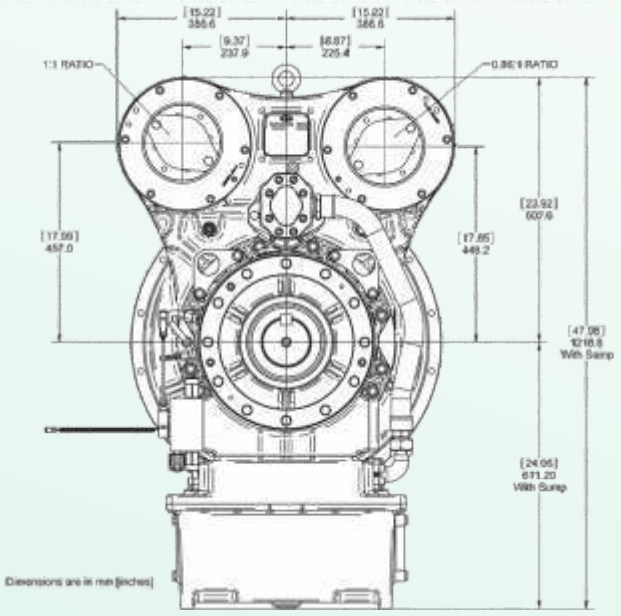
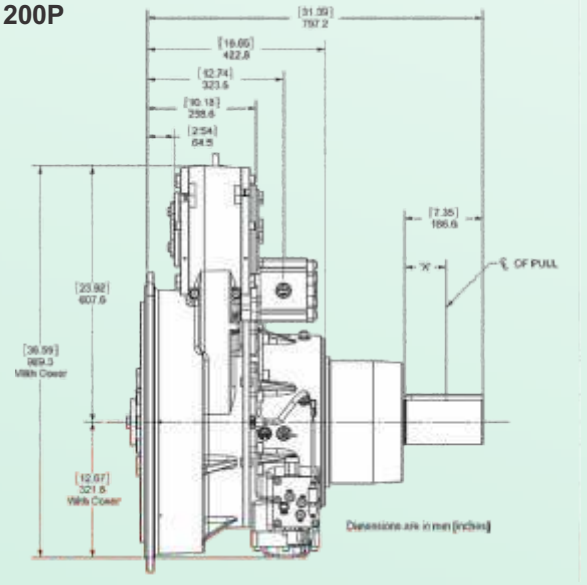
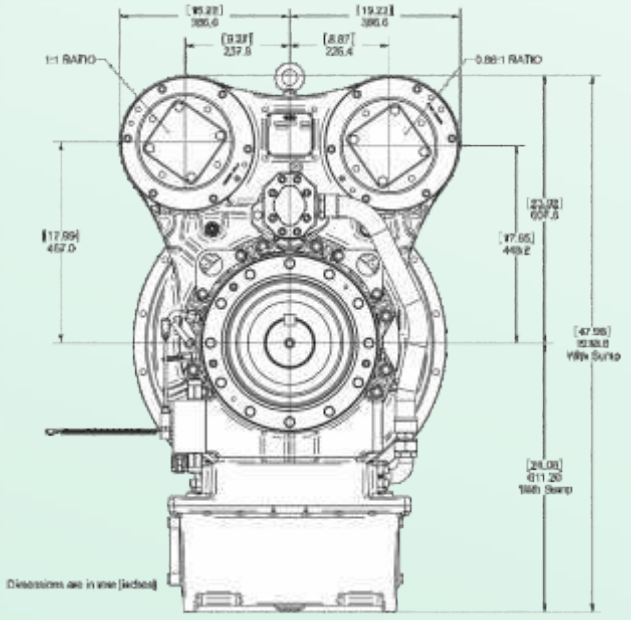
HP1200I





HP1200P

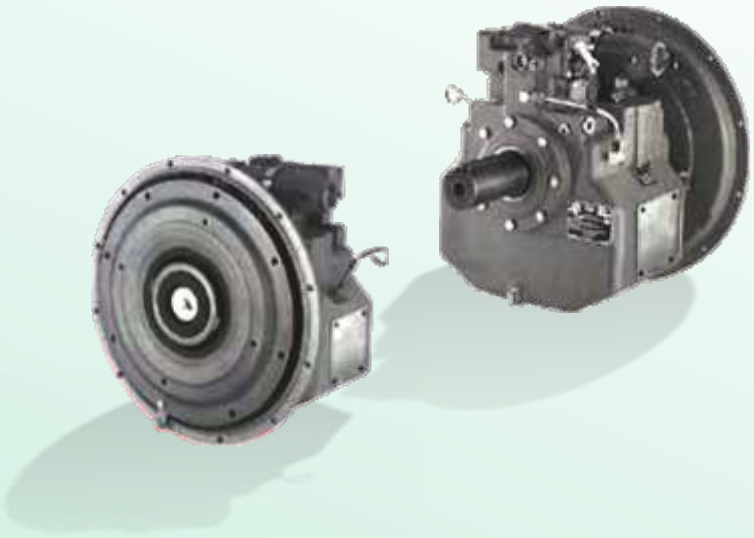




HP1200P Side Load Capacity Values

RPM	mm	-50.8	-25.4	0.0	25.4	50.8	76.2	101.6	127	152.4
	inches	-2.0	-1.0	0.0	1.0	2.0	3.0	4.0	5.0	6.0
1200	N	146716	131908	119946	109973	91900	75936	64695	56355	49918
	Lbf.	32938	29654	26965	24723	20660	17071	14544	12669	11222
1800	N	129737	116797	106206	97376	81376	67235	57284	49900	44198
	Lbf.	29166	26257	23876	21891	18294	15115	12878	11218	9936
2100	N	123874	111521	101406	92977	77697	64197	54695	47645	42200
	Lbf.	27848	25071	22797	20902	17467	14432	12296	10711	9487

Features a self-adjusting, hydraulically actuated clutch. The oil filled, multiple disc clutch provides extraordinary durability for long life and low maintenance. Oil pressure is generated by a built-in hydraulic pump rotating at engine speed. The hydraulic pump which is located on the primary shaft rotates as soon as the engine is running so maximising efficiency.



Specifications – HPTO140, HPTO244 and HPTO366

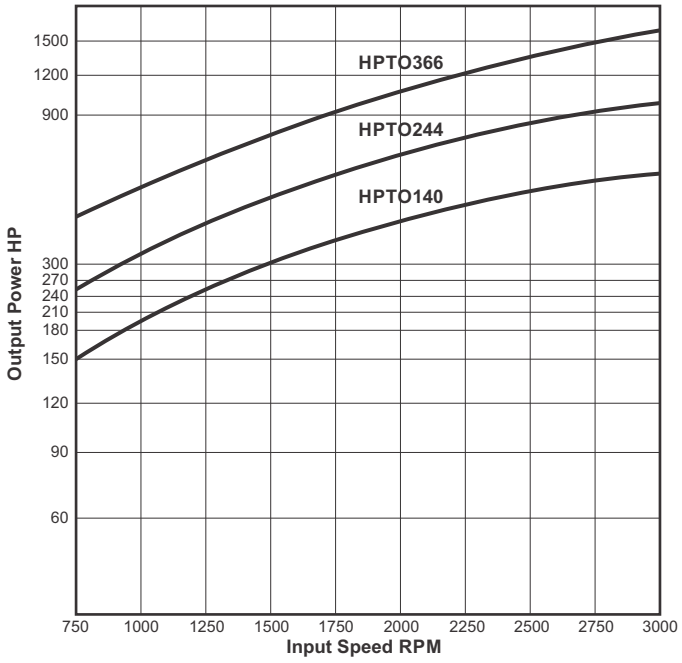
Model Number	Maximum Torque Rating Nm (lb-ft)	Maximum Safe Speed	Input Configuration	Clutch Operation	Oil Quantity Litres (Ga)	Cooling Water Flow @50°C L/min (Gal/min)	Weight kg (lbs)
HPTO140	1400 (1033)	3600	SAE 1, 2, 3 or free standing	24 Vdc or mechanical selector valve	11 (2.9)	80 (21)	135 (300)
HPTO244	2440 (1800)	3200	SAE 1, 2 or free standing		11 (2.9)	80 (21)	150 (330)
HPTO366	3660 (2700)	3000	SAE 1, 0 or free standing		15 (4)	80 (21)	188 (415)

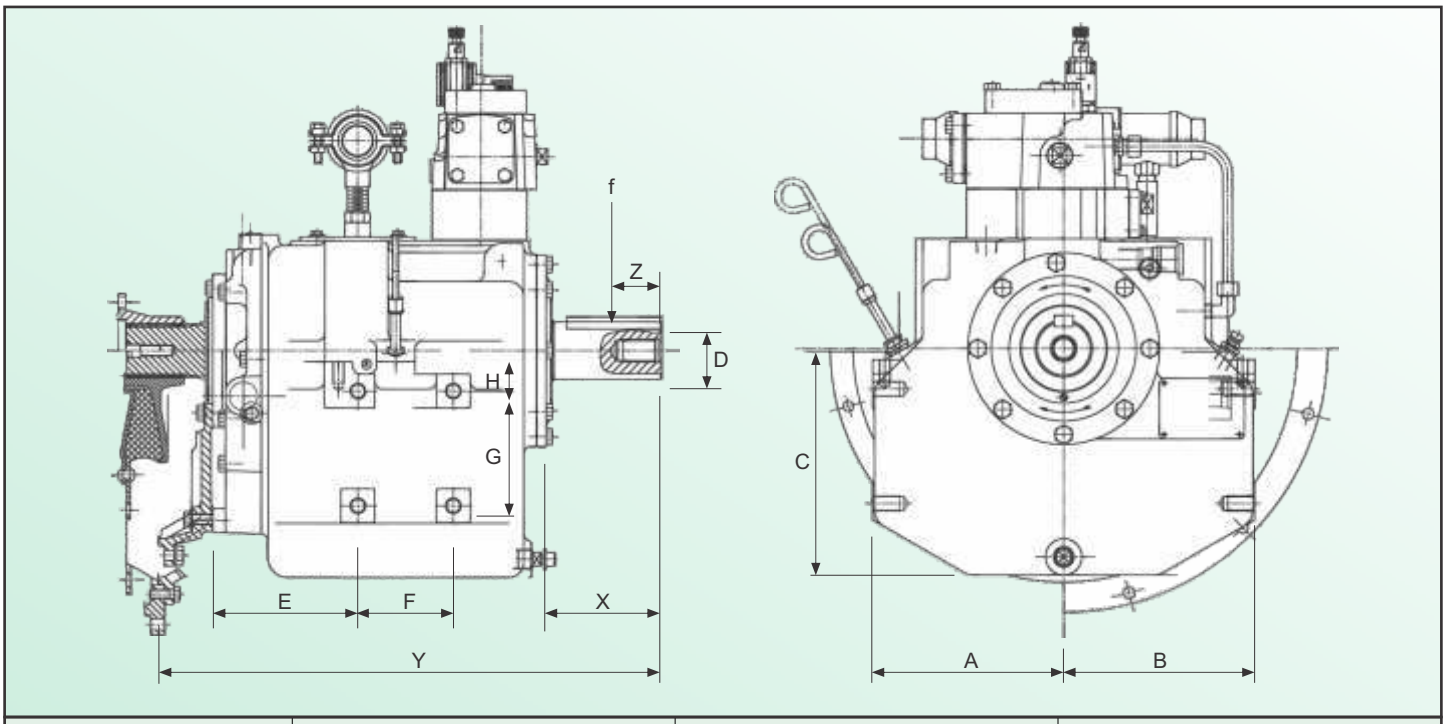
Direction of rotation must be specified. HPTOs can operate in either direction, however they are not reversible without internal modifications. Input coupling provided on SAE configured units. Size and style to suit application. Heat exchanger may be remote mounted.

Selection Process

First calculate the adjusted power by multiplying the net input power by the appropriate service factor. The intersection of the net input speed and the adjusted power must fall below the line on the graph (right).

Application	Service Factor
Centrifugal pumps, propellers, hydraulic pumps, water-jets, generators, agitators.	1.0
Elevators-buckets and machines with uniform loads.	1.2
Piston pumps, bow thrusters	1.5
Winches, fans, blowers, mixers, centrifugal compressors, conveyors.	1.5
Rock crushers, mud pumps, wood chippers, compressors.	2.0
Hammer mills, tub grinders	2.2





Dimension mm (in)	HPTO140 mm (in)	HPTO244 mm (in)	HPTO366 mm (in)
A	200.0 (7.88)	200.0 (7.88)	220.0 (8.66)
B	200.0 (7.88)	200.0 (7.88)	220.0 (8.66)
C	237.3 (9.34)	237.3 (9.34)	283.0 (11.14)
D	65 m6 (2.559)	70 m6 (2.755)	90 m6 (3.543)
E	151.9 (5.98)	151.9 (5.98)	68.0 (2.68)
F	100.0 (3.94)	100.0 (3.94)	180.0 (7.09)
G	120.0 (4.72)	120.0 (4.72)	180.0 (7.09)
H	42.3 (1.67)	42.3 (1.67)	98.0 (3.86)
I	151.6 (5.97)	151.6 (5.97)	120.3 (4.74)
X	113.2 (4.46)	145.0 (5.71)	145.0 (5.71)
Y (SAE0)			651.0 (25.63)
Y (SAE1)	535.5 (20.52)	550.7 (21.68)	651.0 (25.63)
Y (SAE2)	521.3 (20.52)	559.8 (22.04)	
Y (SAE3)	521.3 (20.52)		
Side Load @ Z Position			
f m (lb.ft)	13,350 (3000)	19,600 (4400)	26,750 (6000)
Z mm (in)	51.0 (2)	73.0 (2.875)	71.0 (2.8)

HPTO 140 / HPTO 244 / HPTO 366

This series of compact and lightweight power take-off (PTO) units incorporates a hydraulically-operated clutch. Advantages incl improved reliability, increased efficiency, longer lifespan and lower maintenance costs.

- Self adjustment (no more clutch adjustments).
- Remote control (electric or mechanical).
- Elimination of the pilot bearing.
- Soft and progressive starts of the load.

Designed For: Stone crushers, wood chippers, grinders, marine drives (main propulsion and auxiliaries) and various centrifugal pumps, fans and blowers.

PFI-60 / PFI-120

These power take offs contain an integral bi-directional oil pump, integral pressure relief valve and SAE pump mount or keyed shaft output.

PFI-60

- Maximum torque 600 Nm.
- 12 or 24 Volt DC solenoid.
- SAE 3, 2 and 1 pump pad configurations.
- 1000 kg side load capability.

PFI-120

- Maximum torque 1200 Nm.
- 12 or 24 Volt DC solenoid.
- SAE 3, 2 and 1 pump pad configurations.
- 1000 kg side load capability.

Designed For: Direct engine mounting or mounted to AM pump drive and compact applications.

HP610S

The HP610S eliminates the need for manual adjustment and high speed engagement, while eliminating jammed engagements.

- 783 kW (*1,050 hp*) @2,100 rpm.
- SAE 1 and SAE 0.
- SAE 14” and SAE 18”.
- Via torsional coupling.
- Wet hydraulic clutch.
- In-line or side load.
- Electronic control.
- Optional pump drive tower.
- 4 pads.
- To SAE D.
- 358 kW (*480 hp*) total / 224 kW (*300 hp*) each.
- 1:1 ratio.

Designed For: Heavy duty side load applications.

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HP300I

With features similar to the HP610S, the HP300I also eliminates the need for manual adjustment and high speed engagement, while eliminating jammed engagements.

- 783 kW (*1,050 hp*) @2,100 RPM
- SAE 1 and SAE 0
- SAE 14” and SAE 18”
- Via Torsional Coupling
- Wet Hydraulic Clutch
- In Line Applications
- Electronic Control
- Optional Pump Drive Tower
- 4 Pads
- To SAE D
- 358 kW (*480 hp*) total / 224 kW (*300 hp*) each
- 1:1 Ratio

Designed For: Heavy duty in line applications.

HP1200

The HP1200 is an oil-filled, multiple disc, hydraulically-actuated self-adjusting clutch. The HP1200 has been developed with a number of unique features that offer reliability, productivity and power, including the following listed below.

- Hydraulically actuated and self-adjusting wet clutch.
- Suitable for in-line and side-load applications.
- Advanced control system for smooth engagement.
- Remote actuation via J1939 or switch input.
- No pilot bearing.
- High side load capability.
- Maximum power rating 928 kW (*1243hp*) @ 1800 rpm.
- Two towers with two pump pads each.
- 298 kW (*400 hp*) maximum capacity per tower.
- 410 kW (*550 hp*) maximum capacity for both towers.

Available pump pads:

- SAE “A”, SAE “B”, SAE “C”, SAE “D”, SAE “E”.
- Pump tower rotatable by 0°/45°/90° CW/CCW.
- Optional 0.86:1 speed increase on pump tower.
- SAE 0 input housing.
- SAE 18” input coupling.
- Optional integrated reservoir.
- Standard charge/lube pump included.

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A range of products ATEX certificated to directive 94/9/EC requirements

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