



PATRIOT

Low Speed High Torque Motors

PHDRE SERIES



Driven by Innovation
Power Precision Performance
734-479-9641 patriothyd.com



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PHDRE SERIES

PHDRE MOTOR CROSS REFERENCE GUIDE

Brand	Series
Eaton Char-Lynn	Delta (184-)
Danfoss	OMR, OMEW, OMRW, OMH
White	RE(505,520,530)
Parker	TF, TG, T1

Brand	Series
M+S	HW, RW
Ross	MP, MB, ME, MF, MJ

PHDRE

PHDRE MOTOR ORDERING CODE

1		2	3	4	5	6	7
PHDRE	—						

2	3	4	5	6	7
Disp	Shaft Options	Mounting Flange / Ports	Valve	Rotation	Special
125	P5 32MM Parallel key [10]x[8]x[45]	A6Y 6-[.53] Oval Flange, pilot [3.25"], Aligned Ports 6 1/2	T20 Standard	L Standard	OMIT Standard
160	P3 1" Parallel key [.25]x[.25]x[1.26]	A6Y5 6-[.53] Oval Flange, pilot [3.25"], Aligned Ports 7/8-14 UNF	T23 With Valve Cavity	OMIT Reversed	S99 Speed Sensor
200	P6 1.25" Parallel key [.31]x[.31]x[1.42]				S** Consult Factory
230	K1 1.25" Involute splined 14-DP12/24 a=30				
260	H3 1" 6B Splined SAE J499 Standard				
300	Z2 1.25" Tapered key [.39]x[.31]x[.98]				
350	P7 35MM Parallel key [10]x[8]x[45]				
375	K23 14 Tooth Splined Shaft				
475	K61 14 Tooth Splined Shaft Extended				
540					
630					
750					

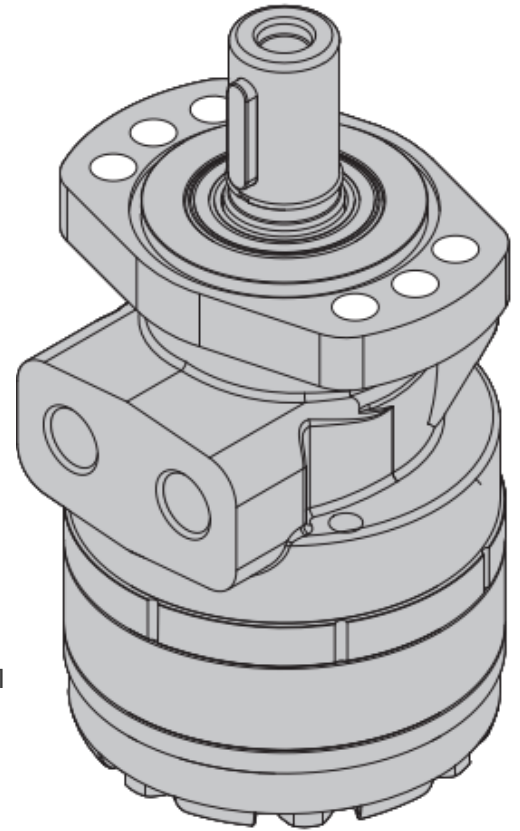




DESCRIPTION

PHDRE

The PHDRE series hydraulic motor is an efficient and versatile option for a wide range of industrial applications, designed with advanced Geroler gear technology. It enables highspeed distribution flow, high-pressure capabilities, and stability at low speeds, making it adaptable to meet specific application requirements. The motor's output shaft is equipped with needle roller bearings, enabling high axial and radial forces, and providing smooth operation during low-pressure start-up and high-pressure operation.



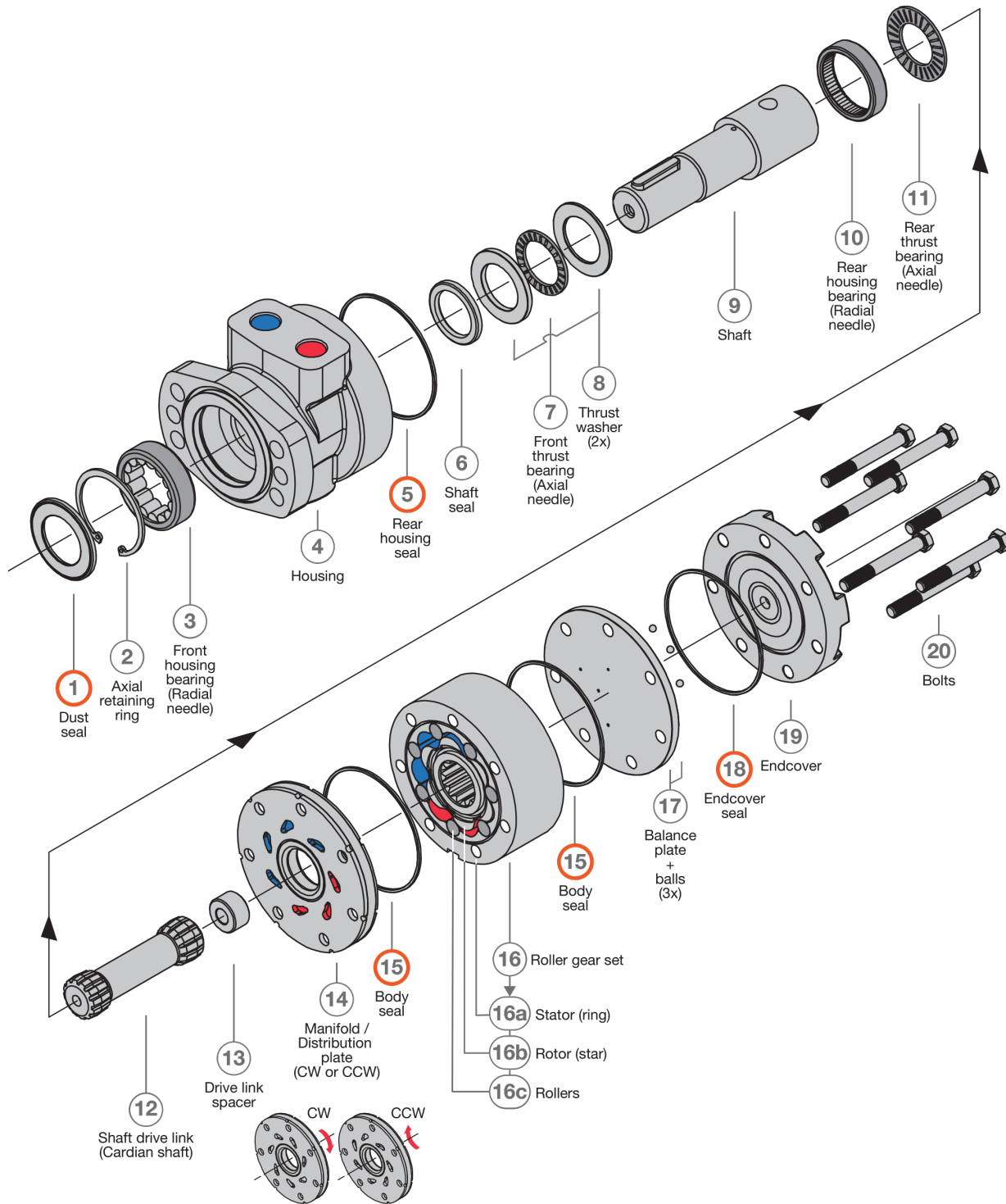
Applications

Industrial machinery, forklifts, scissor lifts, augers, winches, crane systems, mixers, aerial work platforms, material handling equipment, dump trucks, road construction machinery, salt spreaders, turf care and landscaping, harvesting equipment, pavers, feed rollers, swing drives, grapple heads, broom drives, forestry machinery, screening and crushing equipment, marine applications, construction vehicles, snowplows, trenchers, drilling rigs, and more.



PHDRE DIAGRAM

PHDRE





SPECIFICATIONS

The PHDRE series hydraulic motor is manufactured in accordance with ISO 9001-2000 quality system standards, ensuring reliability and consistency. Overall, it is an excellent choice for those looking for high-quality LSHT motors that can be customized to meet specific application requirements. Whether you need a motor with SAE A 6-bolt (Magneto) flange or a wheel mount, the PHDRE series hydraulic motor provides versatility and efficiency to meet the demands of a wide range of industrial applications.

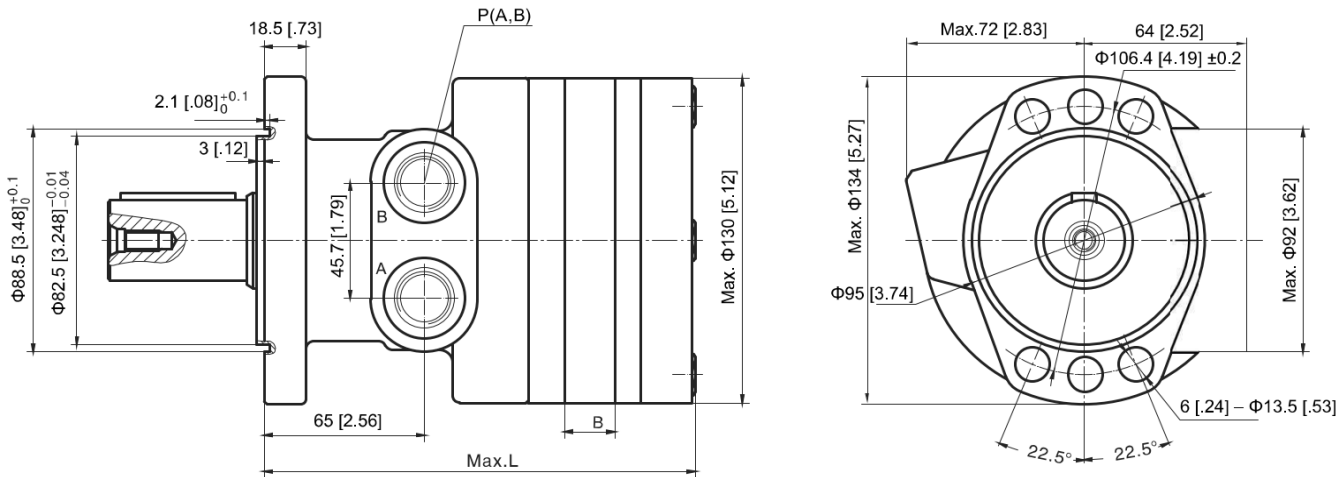
PHDRE

PHDRE		125	160	200	230	260	300	350	375	475	540	630	750
Displacement	CC	123.5	158.7	200	231.6	258.7	300	346.9	376.3	470.3	546.8	634.8	746.7
	[in ³ /rev]	[7.54]	[9.68]	[12.20]	[14.13]	[15.79]	[18.31]	[21.17]	[22.96]	[28.69]	[33.37]	[38.74]	[45.57]
Max Pressure Drop	cont. bar	200	200	200	200	200	200	200	200	170	130	120	100
	[PSI]	[2900]	[2900]	[2900]	[2900]	[2900]	[2900]	[2900]	[2900]	[2465]	[1885]	[1740]	[1450]
	int. bar	220	220	220	220	220	220	220	220	180	150	150	120
	[PSI]	[3190]	[3190]	[3190]	[3190]	[3190]	[3190]	[3190]	[3190]	[2610]	[2175]	[2175]	[1740]
	peak. bar	240	240	240	240	240	240	240	240	200	170	170	140
	[PSI]	[3480]	[3480]	[3480]	[3480]	[3480]	[3480]	[3480]	[3480]	[2900]	[2465]	[2465]	[2030]
Max Torque	cont. N.M	232	414	522	616	688	798	895	971	1063	945	923	993
	[Lb.in]	[2858]	[3664]	[4620]	[5452]	[6089]	[7062]	[7921]	[8594]	[9408]	[8363]	[8169]	[8788]
	int. N.M	348	448	564	653	720	857	948	1022	1126	1091	1175	1213
	[Lb.in]	[3080]	[3965]	[4991]	[5779]	[6372]	[7585]	[8390]	[9045]	[9965]	[9656]	[10399]	[10735]
Max Speed	cont. RPM	350	355	295	255	265	250	215	190	150	130	110	95
Max Flow	cont. LPM	45	60	65	65	75	80	80	75	75	75	75	75
	[GPM]	[11.88]	[15.85]	[17.17]	[17.17]	[19.81]	[21.13]	[21.13]	[19.81]	[19.81]	[19.81]	[19.81]	[19.81]
Max Output Power	cont. KW	12	14	15	15.5	16.5	17.5	17	16	14	12	10	9
	HP	[16.09]	[18.77]	[20.11]	[20.78]	[22.12]	[23.46]	[22.79]	[21.45]	[18.77]	[16.09]	[13.41]	[12.06]





PHDRE DIMENSIONS



PHDRE

	125	160	200	230	260	300	350	375	475	540	630	750
L mm	163	166	169.5	172	174.5	178	182	184.5	192.5	199	206.5	216
[In]	[6.41"]	[6.53]	[6.67]	[6.77]	[6.87]	[7.00]	[7.16]	[7.26]	[7.57]	[7.38]	[8.12]	[8.50]
B mm	10.5	13.5	17	19.7	22	25.5	29.5	32	40	46.5	54	63.5
[In]	[.41]	[.53]	[.66]	[.77]	[.86]	[1.00]	[1.16]	[1.25]	[1.57]	[1.83]	[2.12]	[2.5]
Weight kg	11.6	11.9	12.2	12.4	12.5	12.7	13	13.5	14	14.5	15.5	16
[Lbs]	[25.5]	[26.2]	[26.8]	[27.3]	[27.5]	[27.9]	[28.6]	[29.7]	[30.8]	[31.9]	[34.1]	[35.2]





SHAFTS

PHDRE

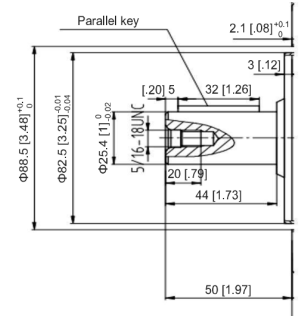
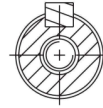
PHDRE SHAFT P3

1" Keyed Shaft

Parallel key [1/4][1/4][1.26]

25.4MM Keyed Shaft

Parallel key [6.35][6.35][32]



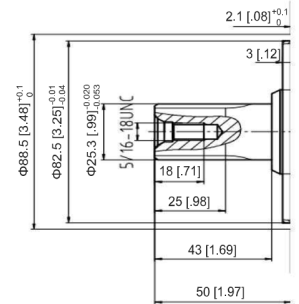
PHDRE SHAFT H3

1" 6B Splined Shaft

SAE J499 Standard

25.4 6B Splined Shaft

SAE J499 Standard



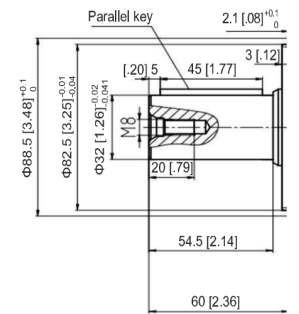
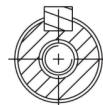
PHDRE SHAFT P5

32MM Keyed Shaft

Parallel key [10][8][45]

1.26" Keyed Shaft

Parallel key [.39][.31][1.77]



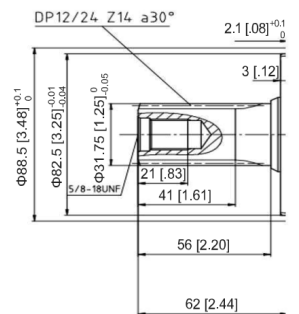
PHDRE SHAFT K1

1-1/4" Involute Splined Shaft

14-DP12/24 $\alpha=30^\circ$

31.75MM Involute Splined Shaft

14-DP12/24 $\alpha=30^\circ$



SHAFTS

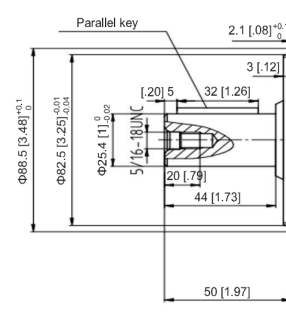
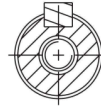
PHDRE SHAFT P6

1-1/4" Keyed Shaft

Parallel key [.31][.31][1.42]

31.75MM Keyed Shaft

Parallel key [7.96][7.96][36]



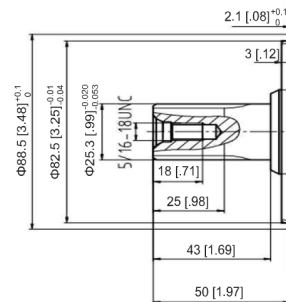
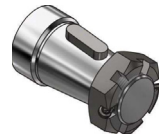
PHDRE SHAFT Z2

1-1/4" Tapered Shaft [1:8]

Parallel key [.31][.31][.98]

31.75MM Tapered Shaft [1:8]

Parallel key [7.96][7.96][25]



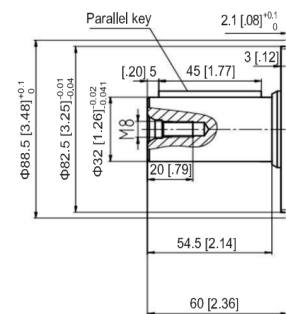
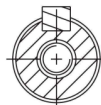
PHDRE SHAFT P7

35MM Keyed Shaft

Parallel key [.39][.31][1.77]

1.38" Keyed Shaft

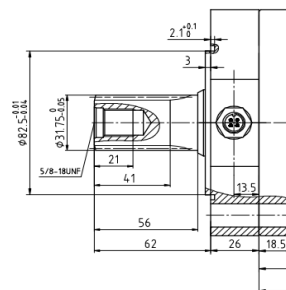
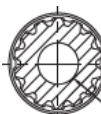
Parallel key [10][8][45]



PHDRE SHAFT K23

14 Tooth Splined Shaft

14 Tooth Splined Shaft



PHDRE



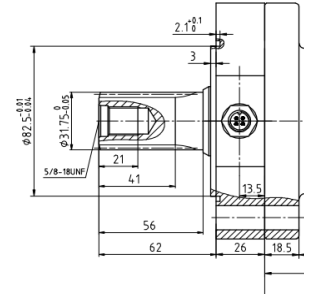


SHAFTS

PHDRE SHAFT K61

14 Tooth Splined Shaft Extended

14 Tooth Splined Shaft Extended



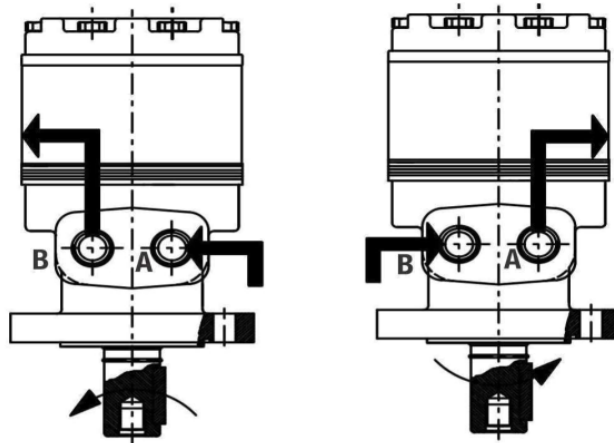
PHDRE



PHDRE ROTATION: REVERSED

When facing the shaft end of the motor, shaft is rotating:

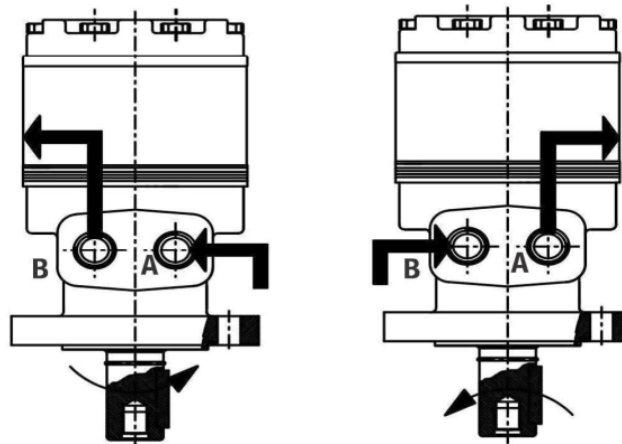
Clockwise when port B is pressurized. Counter-clockwise when port A is pressurized



PHDRE ROTATION: STANDARD

When facing the shaft end of the motor, shaft is rotating:

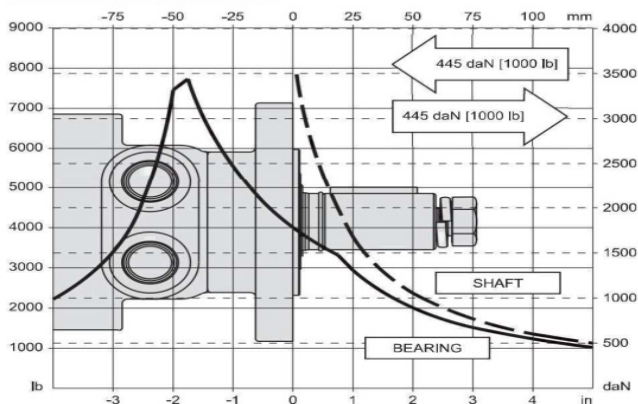
Clockwise when port A is pressurized. Counter-clockwise when port B is pressurized



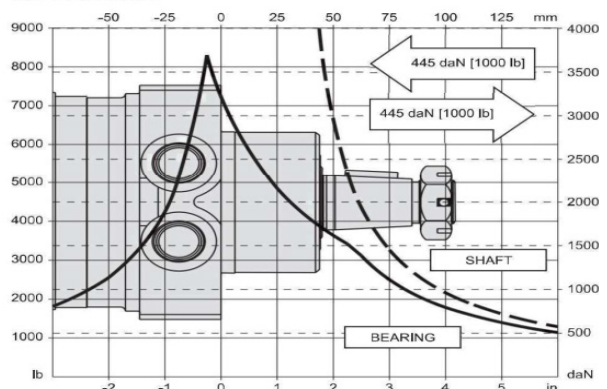
PHDRE

PERMISSIBLE SHAFT LOADS

MAGNETO & SAE A MOUNTS



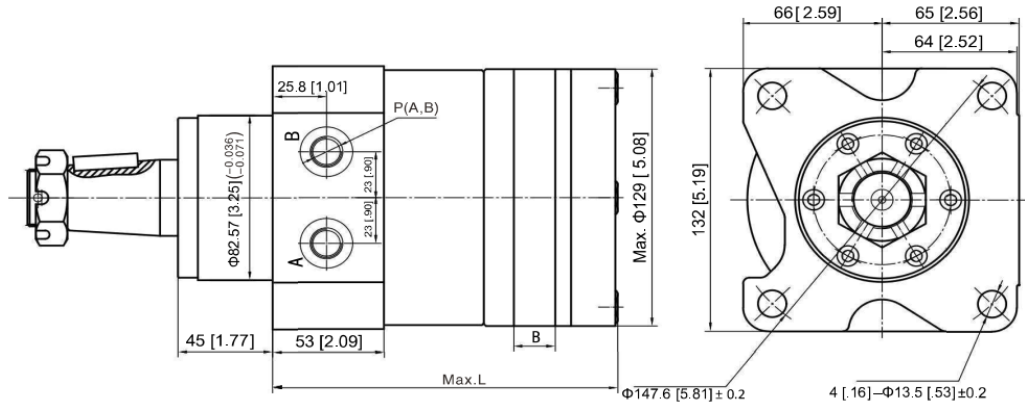
WHEEL MOUNTS





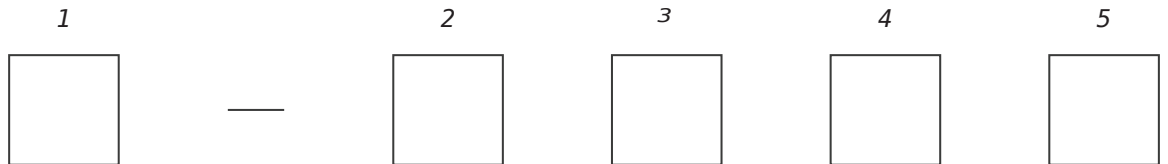
PHDREW DIMENSIONS

PHDREW



	125	160	200	230	260	300	350	375	475	540	630	750
L mm	158	161	164.5	167	169.5	173	177	179.5	187.5	194	201.5	211
[In]	[6.22]	[6.33]	[6.47]	[6.57]	[6.67]	[6.96]	[6.96]	[7.06]	[7.63]	[7.63]	[7.93]	[8.30]
B mm	10.5	13.5	17	19.7	22	25.5	29.5	32	40	46.5	54	63.5
[In]	[.41]	[.53]	[.66]	[.77]	[.86]	[1.00]	[1.16]	[1.25]	[1.57]	[1.83]	[2.12]	[2.5]

PHDREW



PHDREW	1	2	3	4	5
	Disp	Shaft Options	Mounting Flange	Ports A&B	Rotation
125	Z	1-1/2" Tapered Shaft 1:8 [.31][.27][1.26]	A	Y	L
160				G 1/2 (15)	Standard
200	K1	1-1/4" Involute Splined Shaft		Y5	R
230				7/8-14 UNF (15)	Reversed
260	P6	1-1/4" Parallel key [.31][.31][1.42]			
300	P11	1-1/2" Parallel key [.37][.37][1.65]			
350					
375	Z2	1-1/4" Tapered Keyed Shaft [.31][.31][.98]			
475					
540	H3	1" 6B Splined Shaft SAE J499 Standard			
630					
750					



PHDREW SHAFTS

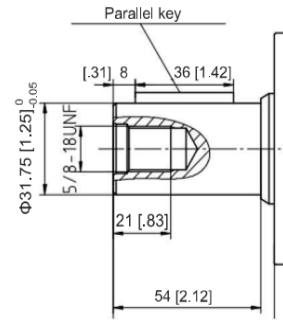
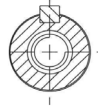
PHD SHAFT P6

1-1/4" Keyed shaft

Parallel key [.31][.31][1.42]

31.75MM Keyed shaft

Parallel key [7.96][7.96][36]



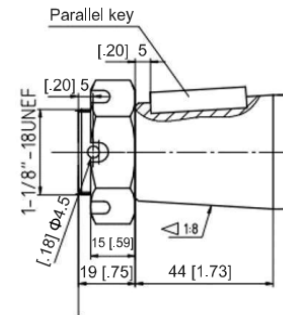
PHD SHAFT Z

1-1/2" Tapered shaft 1:8

Parallel key [.31][.27][1.26]

38.1MM Tapered shaft 1:8

Parallel key [8][7][32]



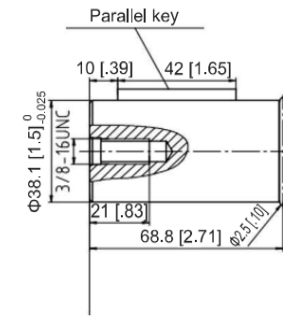
PHD SHAFT P11

1-1/2" Keyed shaft

Parallel key [.37][.37][1.65]

38.1MM Keyed shaft

Parallel key [9.525][9.525][42]



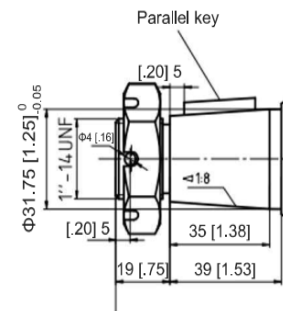
PHD SHAFT Z2

1-1/4" Tapered shaft 1:8

Parallel key [.31][.31][.98]

31.75MM Tapered shaft 1:8

Parallel key [7.96][7.96][25]



PHDREW





SHAFTS

PHDREW

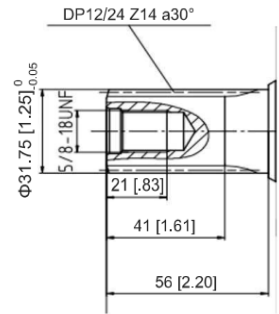
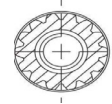
PHD SHAFT **K1**

1-1/4" Involute splined shaft

14-DP12/24 a=30°

31.75MM Involute splined shaft

14-DP12/24 a=30°



PHD SHAFT **H3**

1" 6B Splined shaft

SAE J499 Standard

25.4MM 6B Splined shaft

SAE J499 Standard

