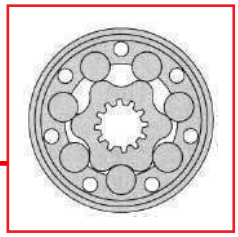


Model PHDRE

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 high-speed 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.

The PHDRE series hydraulic motor's mounting flange of SAE A 6-bolt (Magneto) and wheel mount make it versatile for various applications. It also has a low leakage rate, accurate timing methods, and a high precision commutator that reduce life-cycle costs and maintain high volume efficiencies. The advanced Geroler gear technology makes it an ideal option for Low-Speed High Torque (LSHT) applications, providing high torque and stability at low speeds.

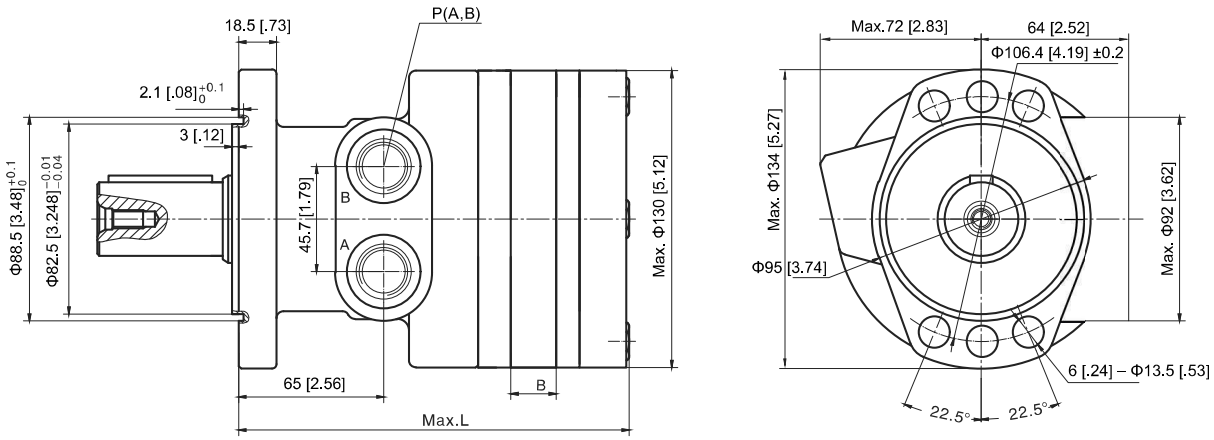
The PHDRE series hydraulic motor is manufactured in accordance with ISO 9001-2000 quality system standards, ensuring reliability and consistency. Overall, it is an excellent choice for those looking for high-quality LSHT motors that can be customized to meet specific application requirements. Whether 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.

MAIN SPECIFICATIONS

			PHDRE 125	PHDRE 160	PHDRE 200	PHDRE 230	PHDRE 260	PHDRE 300	PHDRE 350	PHDRE 375	PHDRE 475	PHDRE 540	PHDRE 630	PHDRE 750
Displacement		ml/r cc [in³./rev.]	123.5 [7.54]	158.7 [9.68]	200 [12.20]	231.6 [14.13]	258.7 [15.79]	300 [18.31]	346.9 [21.17]	376.3 [22.96]	470.3 [28.69]	546.8 [33.37]	634.8 [38.74]	746.7 [45.57]
Max.Pressure.Drop	cont.	bar [psi]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	170 [2465]	130 [1885]	120 [1740]	100 [1450]
	int.	bar [psi]	220 [3190]	220 [3190]	220 [3190]	220 [3190]	220 [3190]	220 [3190]	220 [3190]	220 [3190]	180 [2610]	150 [2175]	150 [2175]	120 [1740]
	peak.	bar [psi]	240 [3480]	240 [3480]	240 [3480]	240 [3480]	240 [3480]	240 [3480]	240 [3480]	240 [3480]	200 [2900]	170 [2465]	170 [2465]	140 [2030]
Max.Torque	cont.	n.m [Lb.in]	323 [2858]	414 [3664]	522 [4620]	616 [5452]	688 [6089]	798 [7062]	895 [7921]	971 [8594]	1063 [9408]	945 [8363]	923 [8169]	993 [8788]
	int.	n.m [Lb.in]	348 [3080]	448 [3965]	564 [4991]	653 [5779]	720 [6372]	857 [7585]	948 [8390]	1022 [9045]	1126 [9965]	1091 [9656]	1175 [10399]	1213 [10735]
Max.Speed	cont.	r/min	350	355	295	255	265	250	215	190	150	130	110	95
Max.Flow	cont.	L/min [G/min]	45 [11.88]	60 [15.85]	65 [17.17]	65 [17.17]	75 [19.81]	80 [21.13]	80 [21.13]	75 [19.81]	75 [19.81]	75 [19.81]	75 [19.81]	75 [19.81]
Max.Output.Power	cont.	kw [hp]	12 [16.09]	14 [18.77]	15 [20.11]	15.5 [20.78]	16.5 [22.12]	17.5 [23.46]	17 [22.79]	16 [21.45]	14 [18.77]	12 [16.09]	10 [13.41]	9 [12.06]

Note: Intermittent operation the permissible valves may occur for max 10% of every minute
Peak Load: the permissible valves may occur for max 1% of every minute

PHDRE DIMENSIONS AND MOUNTING



	PHDRE 125	PHDRE 160	PHDRE 200	PHDRE 230	PHDRE 260	PHDRE 300	PHDRE 350	PHDRE 375	PHDRE 475	PHDRE 540	PHDRE 630	PHDRE 750
L	163 [6.41"]	166 [6.53"]	169.5 [6.67"]	172 [6.77"]	174.5 [6.87"]	178 [7.00"]	182 [7.16"]	184.5 [7.26"]	192.5 [7.57"]	199 [7.83"]	206.5 [8.12"]	216 [8.50"]
B	10.5 [.41"]	13.5 [.53"]	17 [.66"]	19.7 [.77"]	22 [.86"]	25.5 [1.00"]	29.5 [1.16"]	32 [1.25"]	40 [1.57"]	46.5 [1.83"]	54 [2.12"]	63.5 [2.5"]
Weight kg [lbs]	11.6 [25.5]	11.9 [26.2]	12.2 [26.8]	12.4 [27.3]	12.5 [27.5]	12.7 [27.9]	13 [28.6]	13.5 [29.7]	14 [30.8]	14.5 [31.9]	15.5 [34.1]	16 [35.2]

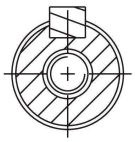
Port Codes	P (A,B)
Y	G1/2 (15)
Y5	7/8–14UNF (15)

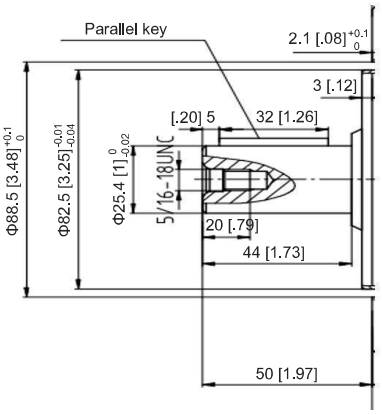
Measurements in brackets [ ] are in inches, while measurements without brackets are in milometers. Unless specified otherwise

PHDRE

Measurements in brackets [ ] are in inches, while measurements without brackets are in millimeters. Unless specified otherwise.

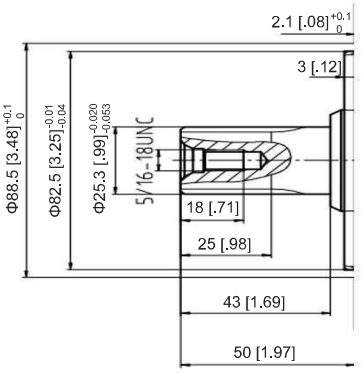
PHDRE DIMENSIONS AND MOUNTING





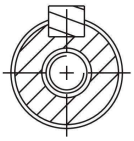
SHAFT P3:

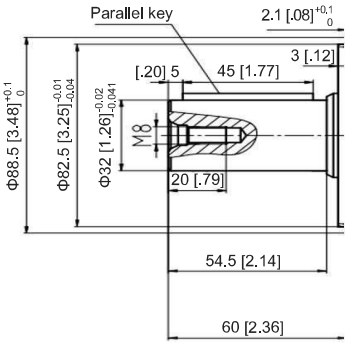
Φ[1] Cylindrical shaft, parallel key [.25] x [.25] x [1.26]
Φ25.4 Cylindrical shaft, parallel key 6.35 x 6.35 x 32



SHAFT H3:

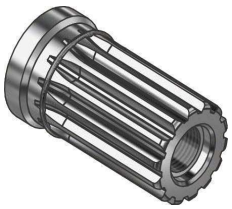
[1.00] 6B Spline SAE J499 Standard
25.4 6B Spline SAE J499 Standard

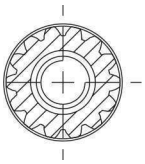


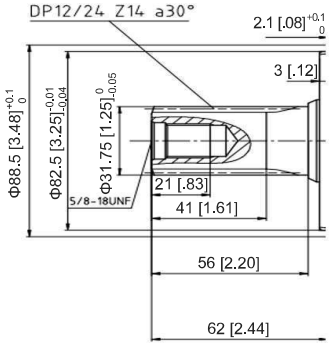


SHAFT P5:

Φ[1.26] Cylindrical shaft, parallel key [.39] x [.31] x [1.77]
Φ32 Cylindrical shaft, parallel key 10 x 8 x 45



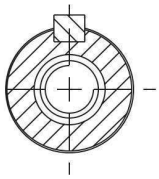


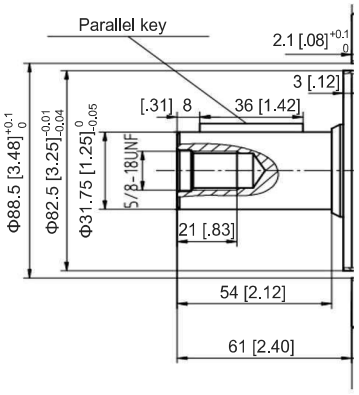


SHAFT K1:

Φ[1.25] Involute splined shaft,14—DP12/24 a=30°
Φ31.75 Involute splined shaft 14 — DP12/24 a=30°

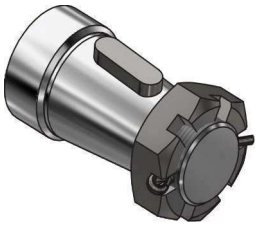
PHDRE DIMENSIONS AND MOUNTING

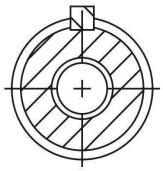


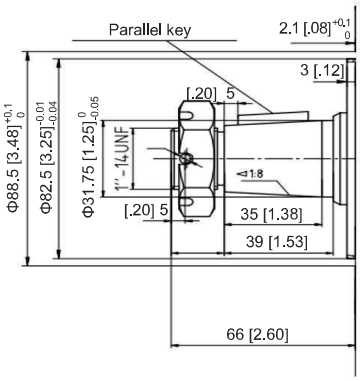


SHAFT P6:

Φ[1.25] Cylindrical shaft, parallel key [.31] x [.31] x [1.42]
Φ31.75 Cylindrical shaft, parallel key 7.96 x 7.96 x 36

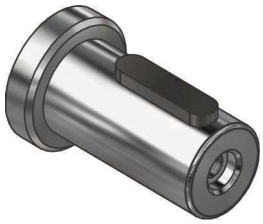


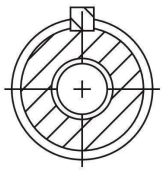


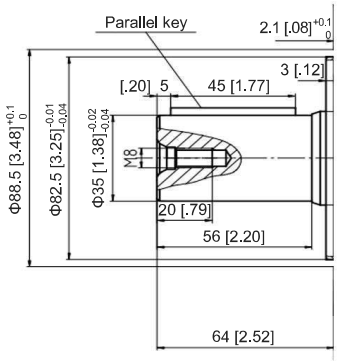


SHAFT Z2:

Φ[1.25] Tapered shaft 1:8, parallel key [.31] x [.31] x [.98]
Φ31.75 Tapered shaft 1:8, parallel key 7.96 x 7.96 x 25





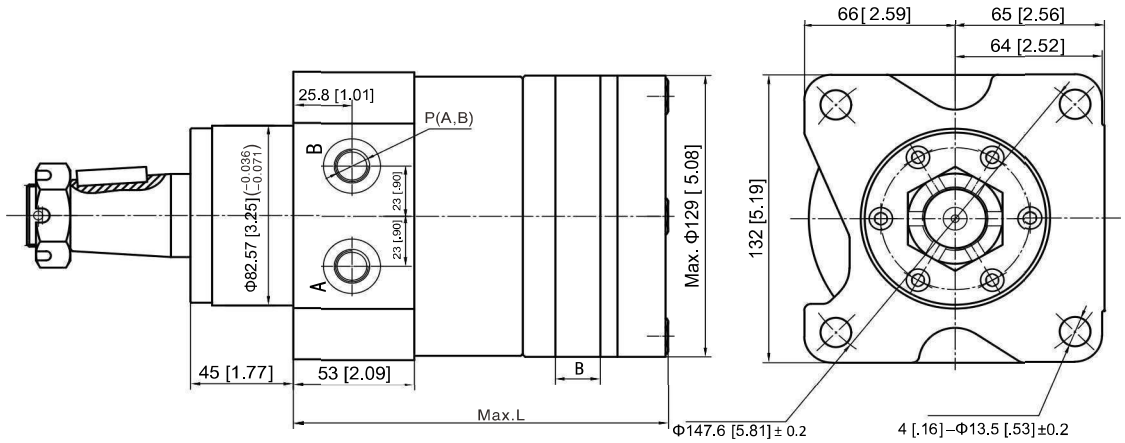


SHAFT P7:

Φ[1.38] Cylindrical shaft, parallel key [.39] x [.31] x [1.77]
Φ35 Cylindrical shaft, parallel key 10 x 8 x 45

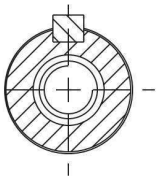
Measurements in brackets [ ] are in inches, while measurements without brackets are in millimeters. Unless specified otherwise.

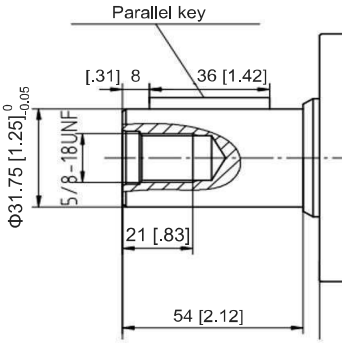
PHDREW DIMENSIONS AND MOUNTING



	PHDREW 125	PHDREW 160	PHDREW 200	PHDREW 230	PHDREW 260	PHDREW 300	PHDREW 350	PHDREW 375	PHDREW 475	PHDREW 540	PHDREW 630	PHDREW 750
L	158 [6.22]	161 [6.33]	164.5 [6.47]	167 [6.57]	169.5 [6.67]	173 [6.81]	177 [6.96]	179.5 [7.06]	187.5 [7.38]	194 [7.63]	201.5 [7.93]	211 [8.30]
B	10.5 [.41]	13.5 [.53]	17 [.66]	19.7 [.77]	22 [.86]	25.5 [1.00]	29.5 [1.16]	32 [1.25]	40 [1.57]	46.5 [1.83]	54 [2.12]	63.5 [2.5]

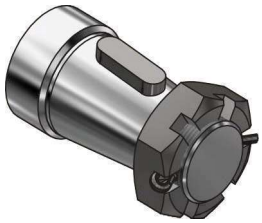
Port Codes	P (A,B)
Y	G1/2 (15)
Y9	9/16–14UNF (15)

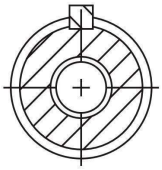


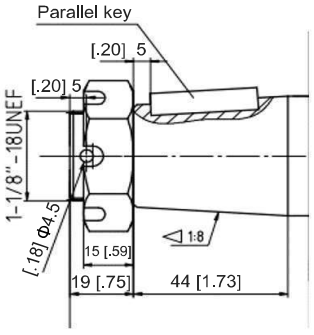


SHAFT P6:

Φ[1.25] Cylindrical shaft, parallel key [.31] x [.31] x [1.42]
Φ31.75 Cylindrical shaft, parallel key 7.96 x 7.96 x 36



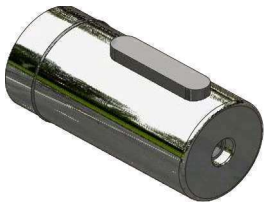


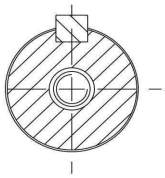


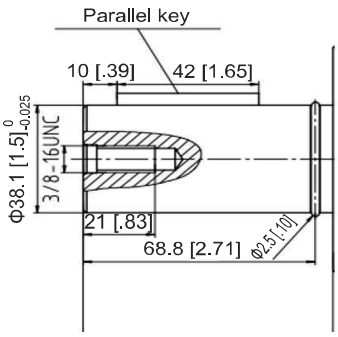
SHAFT Z:

Φ[1.5] Tapered shaft 1:8, parallel key [.31] x [.27] x [1.26]
Φ38.1 Tapered shaft 1:8, parallel key 8 x 7 x 32

PHDREW DIMENSIONS AND MOUNTING

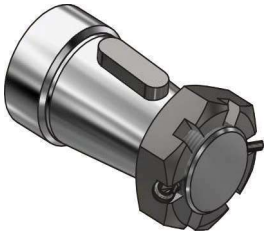


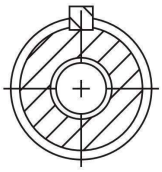


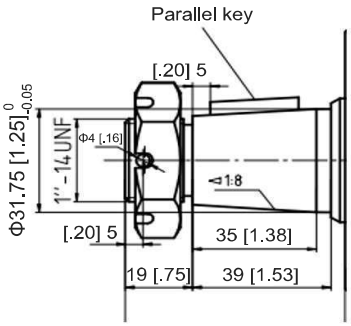


SHAFT P11:

Φ[1.50] Cylindrical shaft, parallel key [.37] x [.37] x [1.65]
Φ38.1 Cylindrical shaft, parallel key 9.525 x 9.525 x 42

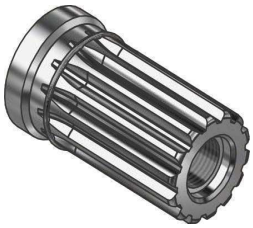


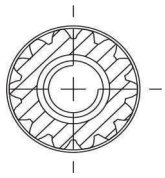


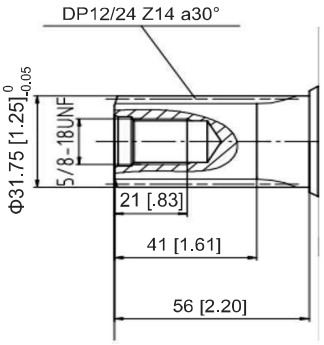


SHAFT Z2:

Φ[1.25] Tapered shaft, parallel key [.31] x [.31] x [.98]
Φ31.75 Tapered shaft, parallel key 7.96 x 7.96 x 25

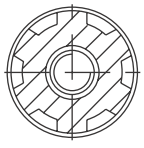


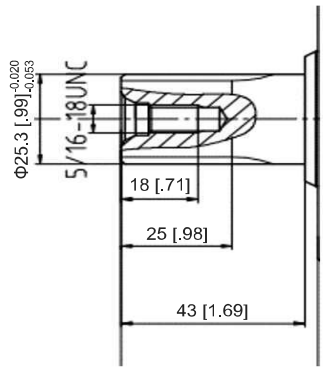




SHAFT K1:

Φ[1.25] Involute splined shaft,14—DP12/24 a=30°
Φ31.75 Involute splined shaft 14 — DP12/24 a=30°





SHAFT H3:

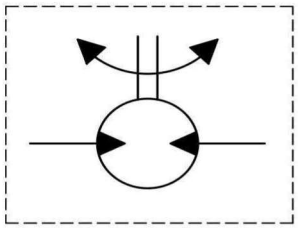
[1.00] 6B Spline SAE J499 Standard
25.4 6B Spline SAE J499 Standard

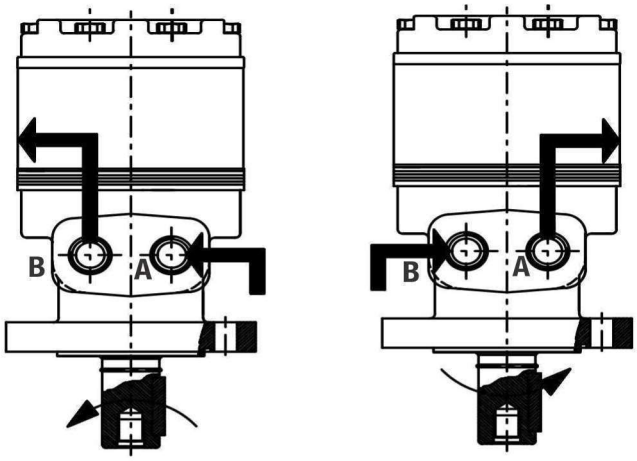
Measurements in brackets [ ] are in inches, while measurements without brackets are in millimeters. Unless specified otherwise.

PHDRE - DIRECTION OF SHAFT ROTATION : REVERSE TIMED

When facing shaft end of motor, shaft is rotating:

Clockwise when port “B” is pressurized.
Counter-Clockwise when port “A”
is pressurized.



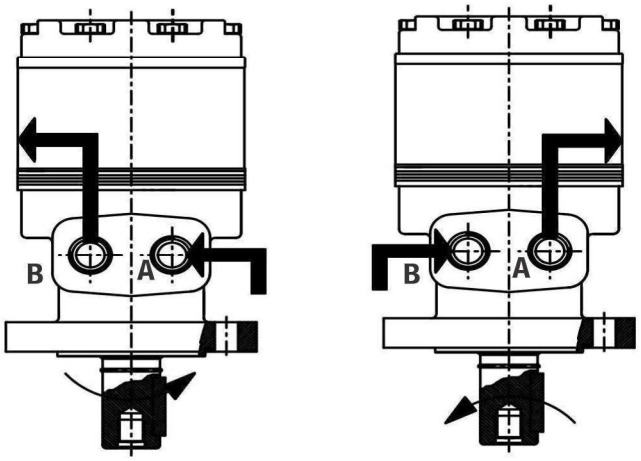


PHDRE - DIRECTION OF SHAFT ROTATION : STANDARD

Direction of shaft rotation: Standard

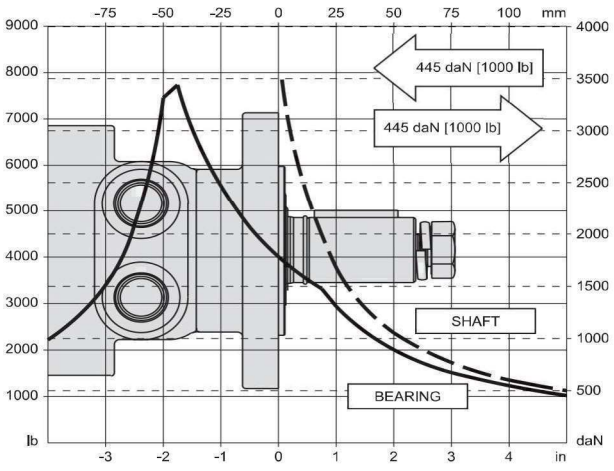
When facing shaft end of motor, shaft is rotating:

Clockwise when port “A” is pressurized.
Counter-Clockwise when port “B”
is pressurized.

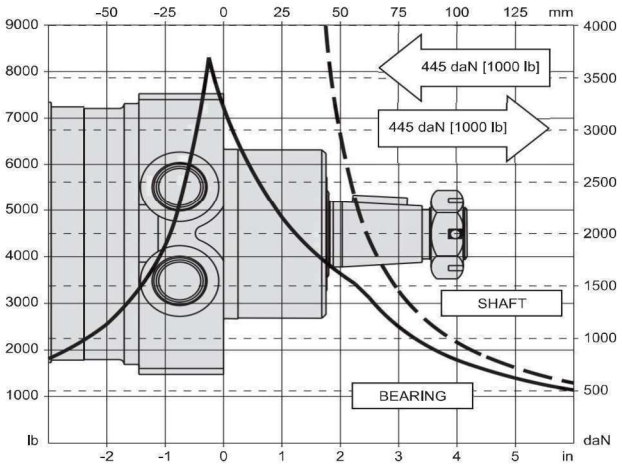


Permissible shaft loads

MAGNETO & SAE A MOUNTS



WHEEL MOUNTS



ORDERING INFORMATION

1		2	3	4	5		6		7
PHDRE	—					—		—	

Pos.1	2	3		4		5		6		7	
Series	Disp	Shaft Options		Mounting Flange		Code	Ports (A,B)	Special features		Rotation direction	
PHDRE	125 160	P5	Φ[1.26] Cylindrical shaft, parallel key [.39] x [.31] x [1.77] Φ32 Cylindrical shaft, parallel key 10 x 8 x 45	A6	6 –Φ[.53] Oval flange, pilot Φ[3.25] 6 – Φ13.5 Oval flange, pilot Φ82.5	Y Y5	G1/2(15) 7/8–14UNF(15)	Omit	Standard	Omit L	Standard Opposite
	200 230	P3	Φ[1] Cylindrical shaft, parallel key [.25] x [.25] x [1.26] Φ25.4 Cylindrical shaft, parallel key 6.35 x 6.35 x 32								
	260 300	P6	Φ[1.25] Cylindrical shaft, parallel key [.31] x [.31] x [1.42] Φ31.75 Cylindrical shaft, parallel key 7.96 x 7.96 x 36								
	350 375	K1	Φ[1.25] Involute splined shaft,14 — DP12/24 a=30° Φ31.75 Involute splined shaft 14 — DP12/24 a=30°								
	475 540	H3	[1.00] 6B Spline SAE J499 Standard 25.4 6B Spline SAE J499 Standard								
	630 750	Z2	Φ[1.25] Tapered shaft 1:8, parallel key [.31] x [.31] x [.98] Φ31.75 Tapered shaft 1:8, parallel key 7.96 x 7.96 x 25								
		P7	Φ[1.38] Cylindrical shaft, parallel key [.39] x [.31] x [1.77] Φ35 Cylindrical shaft, parallel key 10 x 8 x 45								

1		2	3	4	5		6		7
PHDREW	—					—		—	

Pos.1	2	3		4		5		6		7	
Series	Disp	Shaft Options		Mounting Flange		Code	Ports (A,B)	Special features		Rotation direction	
PHDREW	125 160	Z	Φ[1.5] Tapered shaft, taper 1:8, parallel key [.31] x [.27] x [1.26] Φ38.1 Tapered shaft, taper 1:8, parallel key 8 x 7 x 32	A	4 –Φ[.53] Square flange Φ[3.25] 4 – Φ13.5 Square flange Φ82.5	Y Y9	G1/2(15) 9/16–18UNF(15)	Omit	Standard	Omit L	Standard Opposite
	200 230	K1	Φ[1.25] Involute splined shaft,14 – DP12/24 a=30° Φ31.75 Involute splined shaft 14 – DP12/24 a=30°								
	260 300	P6	Φ[1.25] Cylindrical shaft, parallel key [.31] x [.31] x [1.42] Φ31.75 Cylindrical shaft, parallel key 7.96 x 7.96 x 36								
	350 375	P11	Φ[1.50] Cylindrical shaft, parallel key [.37] x [.37] x [1.65] Φ38.1 Cylindrical shaft, parallel key 9.525 x 9.525 x 42								
	475 540	Z2	Φ[1.25] Tapered shaft, parallel key [.31] x [.31] x [.98] Φ31.75 Tapered shaft, parallel key 7.96 x 7.96 x 25								
	630 750	H3	[1.00] 6B Spline SAE J499 Standard 25.4 6B Spline SAE J499 Standard								

Measurements in brackets [ ] are in inches, while measurements without brackets are in millimeters. Unless specified otherwise.