

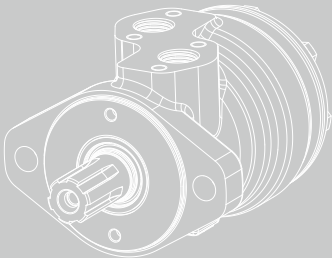
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HRD series

Orbital hydraulic motor

HRD series orbital hydraulic motor, it is a spool distribution motor, adopts needle tooth ring and star design, low start-up pressure, high efficiency and smooth running.



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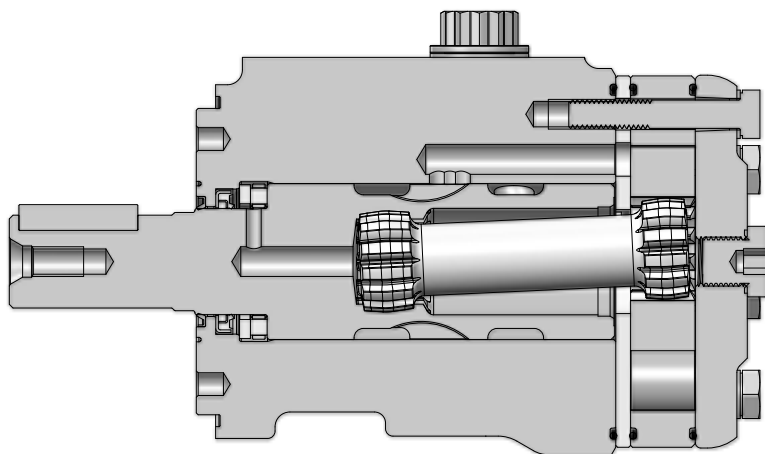
Overview

HRD series orbital hydraulic motor, it is a spool distribution motor, adopts needle tooth ring and star design, low start-up pressure, high efficiency and smooth running. Check valves are used as standard options, so the HRD series hydraulic motors can withstand high back pressure without the use of case drain ports, and have excellent use option performance in series circuits that require synchronous drive.

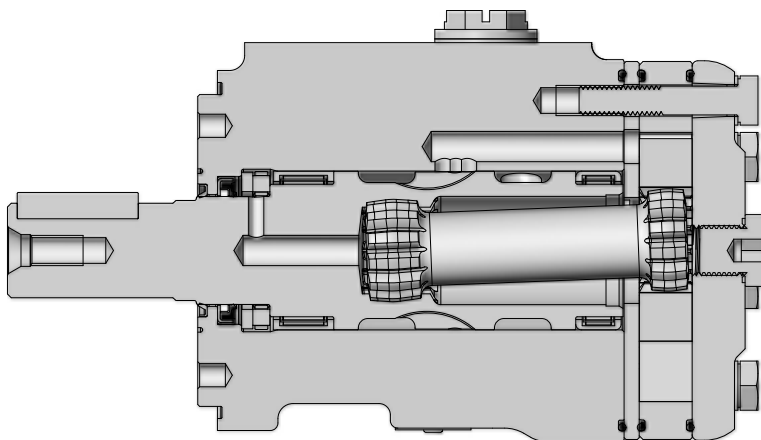
Advantages

- It adopts spool distribution structure, small size and light weight.
- It adopts advanced rotary stator parameter design, low starting pressure, high efficiency, and smooth running.
- Multiple displacements and mounting sizes are available.

Standard structure



P-0061



P-0364

Front Bearing Section

Specification

Type		50	80	100	125	160	200	250	315	375
Displacement (cm³/rev.)		51.6	80.3	99.8	124.1	155.4	198.2	248.1	310.1	363.5
Max.speed (rpm)	Continuous	748	743	598	473	380	302	239	192	164
	Intermittent	942	921	739	595	476	374	302	240	206
Max.torque (N·m)	Continuous	111	226	273	338	382	399	411	417	389
	Intermittent	129	252	303	370	431	498	545	556	523
Max.output (kW)	Continuous	7.0	14.0	14.0	14.0	12.6	10.5	8.8	7.0	5.6
	Intermittent	8.8	15.8	17.5	17.5	15.8	13.1	10.5	8.9	7.8
Max. differential pressure (bar)	Continuous	150	200	200	200	180	150	125	100	80
	Intermittent	175	225	225	225	215	195	170	140	115
Max.flow (L/min)	Continuous	40	60	60	60	60	60	60	60	60
	Intermittent	50	75	75	75	75	75	75	75	75
Max.no-load starting pressure (bar)		10	10	10	10	10	10	7	7	7
Min.starting torque (N·m)	Max.continuous differential pressure	107	162	267	288	308	354	381	408	366
	Max.Intermittent differential pressure	124	189	298	319	371	456	500	537	504
Weight (kg)		7.1	7.3	7.7	7.9	8	8.5	8.9	9.3	9.7

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- Intermittent working condition: The working time should be less than 6 seconds per minute under the intermittent working condition.
- It is not recommended for the motor to work at simultaneous maximum torque and maximum speed.
- The filtration standard of ISO 4406 cleaning standard 20/18/15 is recommended.
- High quality anti-wear hydraulic fluids are recommended.
- When the temperature is 50° C , the minimum viscosity of the oil is recommended to be 20mm²/s.
- The recommended maximum operating temperature is 82°C .
- To assure best motor life, run motor 10-15 minutes in low speed high torque mode at approximately 50% of continuous pressure and 50% of continuous flow.

Ordering information

HRD	050	A23	S2	A	N	A
①	②	③	④	⑤	⑥	⑦

Orbital Hydraulic Series

①	Orbital Hydraulic Motor	HRD
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Type

②	Type	050	080	100	125	160	200	250	315	375
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Mount, Port

③	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.7, port G1/2, drain port G1/4	A23
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×5.2, port G1/2, drain port G1/4	A24
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×8, port 7/8-14UNF, drain port 7/16-20UNF	A25
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port 7/8-14UNF, drain port 7/16-20UNF	A50
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port 7/8-14UNF, drain port 7/16-20UNF	A51
	SAE B 2×Ø13.1 Mount Ø146.05, pilot Ø101.5×6.1, port Ø10.4/Ø12.7 hole, drain port 7/16-20UNF	B22
	4×3/8-16UNC Square mount Ø82.55, pilot Ø44.4×2.6, port 7/8-14UNF, drain port 7/16-20UNF	F71
	4×M10 Square mount Ø82.55, pilot Ø44.4×2.6, port 7/8-14UNF, drain port 7/16-20UNF	F72
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×5.2, port 7/8-14UNF, drain port 7/16-20UNF, screw hole 4×5/16-18UNC, with speed sensor hole	A29
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×5.2, port G1/2, drain port G1/4, with speed sensor hole	A30
	SAE A Type 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.7, port M22×1.5, drain port M14×1.5	A26
	SAE A Type 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port Ø10.4/Ø12.7unthreaded holes, drain port 7/16-20UNF	A52
	SAE A Type 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port G1/2, drain port G1/4	A53
	SAE A Type 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port G1/2, drain port G1/4, height of port surface 44.7, flange vertical oil face	A55
	SAE A Type 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port G1/2, drain port G1/4, height of port surface 44.7, flange vertical oil face, oil port is 45mm away from the flange surface	A59
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port 7/8-14UNF, drain port 1/16-20 UNF, height of port surface 51, oil port is 34mm away from the flange surface	A60
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port G1/2(O-ring), drain port G1/4, height of port surface 55	A61

Ordering information

③	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port Ø10.4/Ø12.7unthreaded holes, drain port G1/4, height of port surface 55, threaded mounting holes 5/16-18UNC-2B	A62
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port Ø10.4/Ø12.7unthreaded holes, drain port G1/4, height of port surface 55, threaded mounting holes M8×1.25	A65
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×2.8, port 7/8-14UNF, drain port 7/16-20UNF, height of port surface 55, with speed sensor hole	A66
	SAE Type A 2-hole 2×Ø13.6 mount Ø106.4, pilot Ø82.5×8, port G1/2, drain port G1/4, height of port surface 55, rear mounted oil port	A5C
	4×Ø13.5 Magneto mount Ø106.4, pilot Ø82.5×8, port 7/8-14UNF, drain port 7/16-20UNF	M22
	4×Ø13.5 Magneto mount Ø106.4, pilot Ø82.5×5.2, port G1/2, drain port G1/4	M24
	4×Ø13.5 Magneto mount Ø106.4, pilot Ø82.5×2.7, port G1/2, drain port G1/4	M27
	4×3/8-16UNC square mount Ø82.55, pilot Ø44.4×2.6, port 1/2-14NPTF, drain port 7/16-20UNF	F74

Output Shaft

		A23/A24/A50/A51/B22/F71/ F72/A26/A52/A53/A55/A59/ A60/A61/A62/A65/A5C/M22/ M24/F74/A25/M27	A29/A30/ A66	Code
④	Ø25 Straight, parallel key 8×7×32	●		S2
	Ø25.4 Straight, parallel key 6.35×6.35×31.75	●		S4
	Ø25.4 Straight, parallel key 6.35×6.35×31.75	●		S6
	Ø22.22 Spline 13-DP16/32	●		R2
	Ø25.4, Spline SAE 6B, threaded M8*1.25	●		R1
	Ø25.4, Spline SAE 6B SAE 6B, threaded 1/4-20UNC	●		R8
	Ø25.4 Straight, parallel key 6.35×6.35×31.75, center hole M8, L=44.5		●	ST
	Ø25 Straight, parallel key 8×7×32, center hole M8		●	SY
	Ø25.4 Straight, parallel key 6.35×6.35×31.75, center hole 5/16-18UNC, L=44.5, induction teeth with speed sensor(30 teeth)		●	SP
	Ø25 Straight, parallel key 8×7×32, programme with bearings	●		SH
	Ø25.4 Straight, woodruff key 1/4x1", center hole 1/4-20UNC, short shaft, L=38.6, programme with bearings	●		SI
	Ø25 Straight, parallel key 7×7×31.5, center hole M6, pilot 2.8 shaft extension 49.6, L=43.1	●		SF
	Ø25.4 Straight, woodruff key 1/4*1", center hole 1/4-20UNC, L=38.6	●		SG
	Ø25.4 Extended straight shaft, parallel key 6.35×6.35×31.75, center hole 5/16-18UNC, L=57.4, material stainless steel	●		SM

Ordering information

Output Shaft

		A23/A24/A50/A51/B22/F71/ F72/A26/A52/A53/A55/A59/ A60/A61/A62/A65/A5C/M22/ M24/F74/A25/M27	A29/A30/ A66	Code
④	Ø25.4 Straight, woodruff key 1/4*1", center hole 1/4-20UNC, L=38.6, induction teeth with speed sensor(30 teeth)		●	SQ
	Ø25.4 Shaft, spline 15-DP16/32, threaded 1/2-20UNF	●		R3
	Ø25.4 Shaft, spline SAE 6B, threaded 1/4-20UNC programme with bearings	●		R9
	Ø25.4 Tapered shaft, 1:8	●		T9
	Ø25.4 Tapered shaft, 1:8	●		TA
	Ø25.4 Straight, woodruff key 1/4*1", center hole 1/4-20UNC, L=38.6, with speed sensor(15 teeth)		●	SV

Rotation Direction

⑤	CW	A
	CCW	R

Paint Option

⑥	No Paint	N
	Black	B
	Hengli blue	C

Special Features

		A23/A24/A50/A51/B22/F71/ F72/A26/A52/A53/A55/A59/ A60/A61/A62/A65/A5C/M22/ M24/F74/A25/M27	A29/A30/ A66	Code
⑦	Standard	●		A
	High temperature	●		V
	Low temperature	●		S
	Speed sensor-3 loose wires out		●	S2

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Note: ● =Available; When using the order information, the user can select the motor series, displacement, installation flange, port, shaft and other information. If the selected specification is not in the table or has special requirements, please contact us.

Displacement performance

		Pressure(bar)						Max.Cont	Max.Inter
50		30	60	80	100	120	140	150	175
51.6 cm ³ /rev.		Torque(N·m), Speed(rpm)							
Flow (L/min)	5	21	43	58	72	85	96		
	10	93	84	79	71	63	57		
	15	21	44	59	74	89	103	110	127
	20	187	178	170	164	156	145	140	121
	25	20	42	58	73	88	103	111	129
	30	282	273	266	258	249	239	233	216
	35	18	41	56	72	86	102	109	128
	40	378	367	361	352	344	332	326	308
	45	17	42	57	72	87	102	110	129
	50	472	463	456	448	439	429	421	405
Max.Cont	5	16	41	56	71	86	101	109	127
	10	566	557	549	539	529	518	511	493
	15	14	40	55	70	85	100	108	127
	20	660	653	644	635	623	610	604	585
	25		39	54	70	85	100	107	126
	30		748	739	729	720	707	700	682
	35		38	53	66	83	98	106	124
	40		844	835	827	813	800	793	775
	45		36	51	66	81	95	103	122
	50		942	930	920	907	894	887	869
Max.Inter	5								
	10								
	15								
	20								
	25								
	30								
	35								
	40								
	45								
	50								

Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐

T - 0068

		Pressure(bar)								Max.Cont	Max.Inter
80		30	60	80	100	120	140	160	180	200	225
80.3 cm ³ /rev.		Torque(N·m), Speed(rpm)									
Flow (L/min)	5	33	67	89	111	132					
	10	60	58	55	52	50					
	15	32	68	92	116	138	160	170	189		
	20	122	119	116	114	111	108	117	115		
	25	28	64	88	111	134	157	181	204	226	252
	30	244	240	238	236	232	229	225	221	214	204
	35	29	64	87	111	134	156	180	203	225	252
	40	314	363	360	357	353	350	346	341	335	325
	45	25	61	85	108	131	153	177	199	222	250
	50	491	534	481	477	474	469	465	459	453	443
Max.Cont	5	21	56	79	102	125	147	171	194	217	244
	10	616	610	606	602	597	593	587	580	574	563
	15	15	48	71	94	118	140	163	186	208	235
	20	743	734	729	724	719	713	708	702	691	682
	25		42	66	89	112	135	158	180	202	229
	30		858	853	848	842	836	830	823	816	807
	35		38	62	86	109	131	154	176	198	226
	40		921	916	910	905	898	891	884	876	864
	45										
	50										
Max.Inter	5										
	10										
	15										
	20										
	25										
	30										
	35										
	40										
	45										
	50										

Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐

T - 0070

Displacement performance

		Pressure(bar)							Max.Cont	Max.Inter
		30	60	80	100	120	140	175	200	225
		Torque(N·m), Speed(rpm)								
Flow (L/min)	5	41	83	110	137	161	184			
		49	47	44	41	39	34			
	10	41	84	113	141	168	195	241	272	
		98	95	93	91	87	82	70	60	
	20	36	80	109	138	165	193	240	273	303
		196	194	191	188	184	179	167	154	122
	30	36	79	108	136	164	192	238	270	301
		295	290	287	283	278	272	259	246	227
	40	32	75	104	132	161	188	235	268	298
		394	390	386	382	376	370	355	342	323
Max.Cont	50	24	68	96	124	152	180	228	262	293
		493	490	486	482	476	470	456	442	425
	60	16	58	86	114	143	170	217	250	281
		598	590	586	581	574	566	551	536	520
	70		50	79	107	135	162	211	244	276
			689	685	679	673	666	650	634	615
	75		45	74	102	130	158	205	239	272
			739	734	730	724	716	701	687	670

Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐

T - 0071

		Pressure(bar)							Max.Cont	Max.Inter
		30	60	80	100	120	140	175	200	225
		Torque(N·m), Speed(rpm)								
Flow (L/min)	5	51	105	140	173	206	236			
		39	38	36	34	30	26			
	10	52	106	142	177	211	228	302		
		78	76	74	72	69	64	50		
	20	47	101	138	173	208	226	300		
		157	154	152	149	144	138	120		
	30	47	101	137	173	208	242	301	338	370
		237	233	231	227	223	216	202	188	172
	40	41	94	130	165	199	233	290	329	368
		317	314	310	306	301	295	283	270	252
Max.Cont	50	33	86	122	156	191	225	284	322	359
		397	394	391	386	381	374	362	350	337
	60	24	72	108	143	177	211	269	309	347
		480	473	469	466	460	454	441	431	418
	70		64	98	133	168	201	259	300	338
			553	548	544	539	533	520	509	496
	75		57	93	128	162	197	254	295	334
			595	590	585	580	574	561	550	536

Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐

T - 0072

Displacement performance

		Pressure(bar)						Max.Cont	Max.Inter	
160		30	60	80	100	120	140	160	180	215
155.4 cm ³ /rev.		Torque(N·m), Speed(rpm)								
Flow (L/min)	5	66	129	170	212	237				
		31	30	27	26	24				
	10	65	133	178	221	265	306	291		
		63	61	60	58	55	51	37		
	20	59	127	172	217	258	301	343		
		126	124	122	119	116	109	103		
	30	59	126	171	214	257	300	341	382	
		190	187	186	183	180	175	170	163	
	40	53	120	164	207	250	292	333	373	431
		253	251	249	247	244	239	232	223	209
Max.Cont	50	41	108	151	194	236	277	317	357	423
		318	316	314	311	308	303	297	290	275
	60	27	92	135	178	221	261	302	342	407
		382	380	378	375	371	367	361	354	340
Max.Inter	70	80	111	167	209	250	290	330	396	
		443	441	439	435	431	425	419	407	
	75	73	116	159	202	244	284	323	389	
			476	473	471	468	463	458	452	440

Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐

T - 0073

		Pressure(bar)						Max.Cont	Max.Inter
		30	60	80	100	120	150	195	
200									
198.2cm ³ /rev.		Torque(N·m), Speed(rpm)							
Flow (L/min)	5	79	153	205	256	303			
		25	23	21	20	17			
	10	82	167	222	258	325			
		49	48	46	43	39			
	20	74	162	217	274	328	399	498	
		99	97	92	84	79	67	60	
	30	74	157	213	267	318	393	497	
		149	147	146	141	134	125	96	
	40	66	151	205	258	308	385	492	
		199	197	195	191	186	178	168	
Max.Cont	50	54	137	191	246	279	371	475	
		250	248	246	244	240	232	216	
60		38	117	172	226	277	352	456	
		302	298	297	294	290	284	273	
Max.Inter	70		103	158	211	263	338	442	
			348	346	345	341	335	325	
	75		94	150	203	256	332	435	
			374	372	369	367	360	351	

Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐

T - 0074

Displacement performance

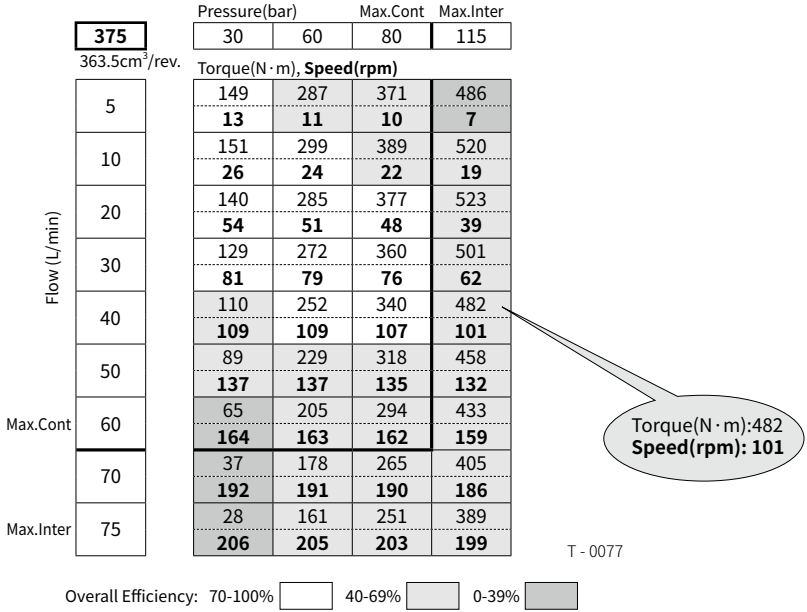
		Pressure(bar)				Max.Cont		Max.Inter	
250		30	60	80	100	125	150	170	
248.1cm ³ /rev.		Torque(N·m), Speed(rpm)							
Flow (L/min)	5	101	199	265	318	390			
		19	19	18	17	14			
	10	105	211	279	345	410	474		
		39	37	35	33	28	24		
Max.Cont	20	96	203	269	334	411	483	545	
		78	74	70	65	57	48	44	
	30	86	186	253	318	392	464	518	
		119	118	116	108	96	84	82	
Max.Inter	40	82	176	240	301	376	450	505	
		160	157	156	153	143	137	131	
	50	68	166	226	290	363	432	485	
		200	197	195	194	188	182	173	
	60	52	145	206	268	343	415	467	
		239	238	236	236	231	219	217	
	70	26	123	185	248	322	392	446	
		280	275	277	273	270	266	263	
	75	18	111	174	238	311	382	435	
		302	300	295	291	289	285	283	
Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐									

T - 0075

		Pressure(bar)				Max.Cont		Max.Inter	
315		30	60	80	100	120	140		
310.1cm ³ /rev.		Torque(N·m), Speed(rpm)							
Flow (L/min)	5	127	250	331	390				
		15	14	13	11				
	10	130	261	342	417	478	556		
		31	29	26	22	19	17		
Max.Cont	20	120	246	330	409	484	551		
		63	60	56	48	43	38		
	30	110	238	320	397	465	539		
		95	92	86	71	65	61		
	40	97	222	301	374	438	506		
		128	126	124	122	117	112		
	50	79	201	283	353	419	486		
		159	159	158	155	151	146		
Max.Inter	60	59	182	263	339	405	469		
		192	190	189	187	183	180		
	70	36	159	234	309	378	446		
		224	223	221	219	216	213		
	75	24	144	220	293	346	429		
		240	238	236	234	233	229		
Overall Efficiency: 70-100% ☐ 40-69% ☐ 0-39% ☐									

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Displacement performance



Installation size

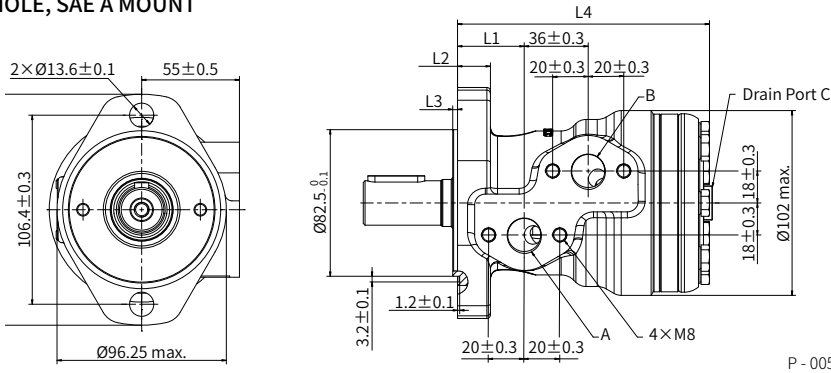
Displacement cm ³ /rev.	L ₁ mm	L ₂ mm	L ₃ mm	L ₄ mm
50	140.4	137.9	137.0	135.1
80	145.5	143.0	142.1	140.2
100	145.5	143.0	142.1	140.2
125	148.9	146.4	145.5	143.6
160	153.3	150.8	149.9	148.0
200	159.2	156.7	155.8	153.9
250	166.2	163.7	162.8	160.9
315	174.9	172.4	171.5	169.6
375	182.4	179.9	179.0	177.1

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Note: Dimensions L₁、 L₂、 L₃、 L₄ are the length from the flange mounting surface to the rear end of the motor, and the tolerance is ±0.8mm.

Installation size

·2-HOLE, SAE A MOUNT

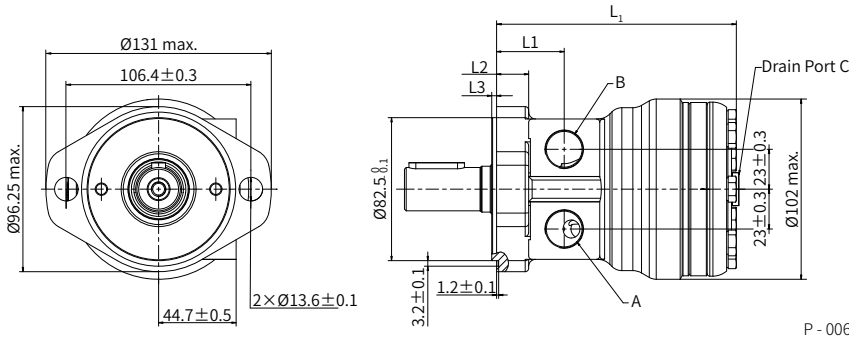


P - 0052

Code	A/B	C	L1	L2	L3	L4
A23	G1/2	G1/4	37.5 ± 0.3	18.5 ± 1	2.7 ± 0.1	L_1
A24			35 ± 0.3	16.0 ± 1	5.2 ± 0.1	L_2
A26	M22×1.5	M14×1.5	37.6 ± 0.3	18.5 ± 1	2.7 ± 0.1	L_1
A29	7/8-14UNF	7/16-20UNF	35 ± 0.3	16.0 ± 1	5.2 ± 0.1	L_2
A30	G1/2	G1/4				
A25	7/8-14UNF	7/16-20UNF	32.2	13.2 ± 1	8	L_4

T - 0225

·2-HOLE, SAE A MOUNT



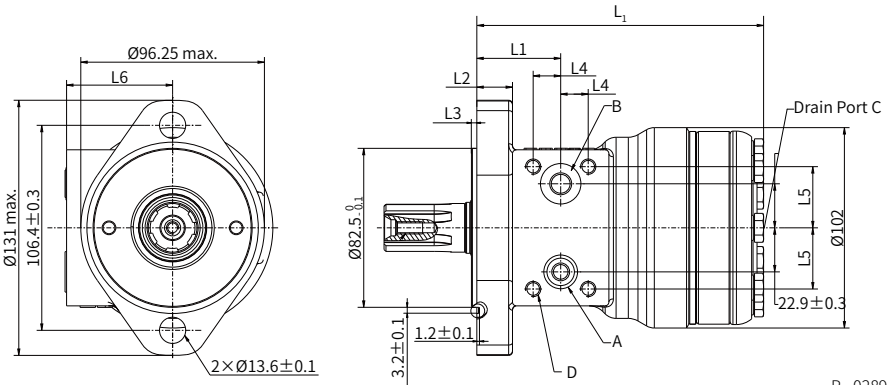
P - 0064

Code	A/B	C	L1	L2	L3
A51	7/8-14UNF	7/16-20UNF	39±0.3	18.5±1	2.8±0.1
A55	G1/2	G1/4			
A59			45±0.3	15.5±1	

T - 0226

Installation size

· 2-HOLE, SAE A MOUNT



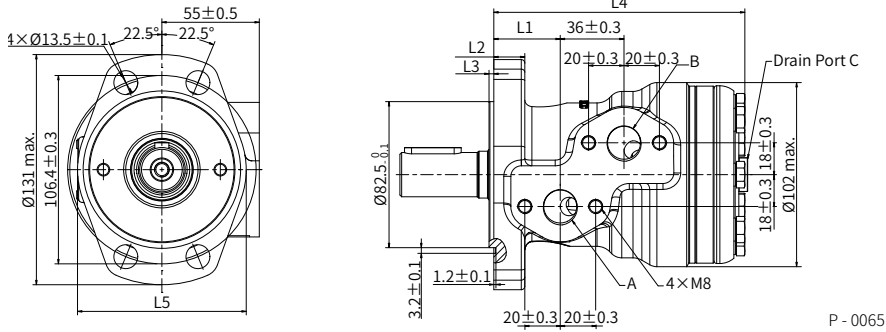
P - 0289

Code	A/B	C	D	L1	L2	L3	L4	L5	L6
A50	7/8-14UNF	7/16-20UNF	-	43.5±0.3	18.5±1	2.8±0.1	-	-	55±0.5
A52	Ø10.4/ Ø12.7		4x5/16- UNC-2B				14.3±0.3	31.75±0.3	
A53	G1/2		G1/4				-	-	
A60	7/8-14UNF	7/16-20UNF	-	34±0.3	15.24±1		-	-	51±0.5
A61	G1/2	G1/4	-	43.5±0.3	18.5±1		-	-	55±0.5
A62	Ø10.4/ Ø12.7	G1/4	4x5/16- UNC-2B				14.3±0.3	31.75±0.3	
A65		G1/4	4xM8				-	-	
A66	7/8-14UNF	7/16-20UNF	-				-	-	

T - 0227

Installation size

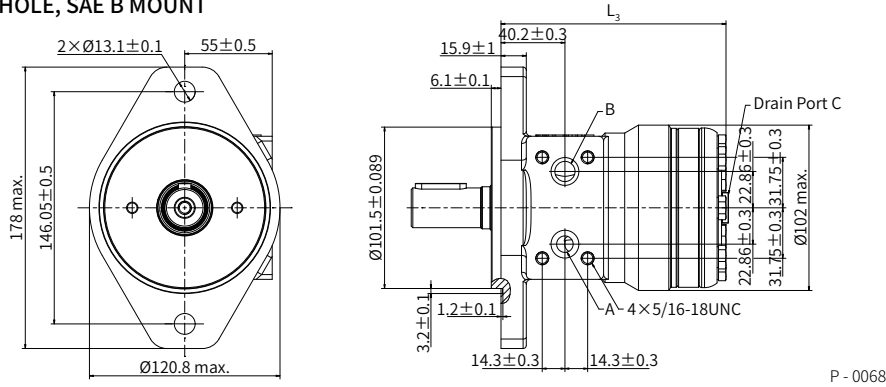
• 4-HOLE, MAGNETO MOUNT



Code	A/B	C	L1	L2	L3	L4
M22	7/8-14UNF	7/16-20UNF	32.2±0.3	13.2±1	8±0.1	L ₁
M24	G1/2	G1/4	35±0.3	16±1	5.2±0.1	L ₂
M27			37.5±0.3	18.5±1	2.7±0.1	L ₁

T - 0228

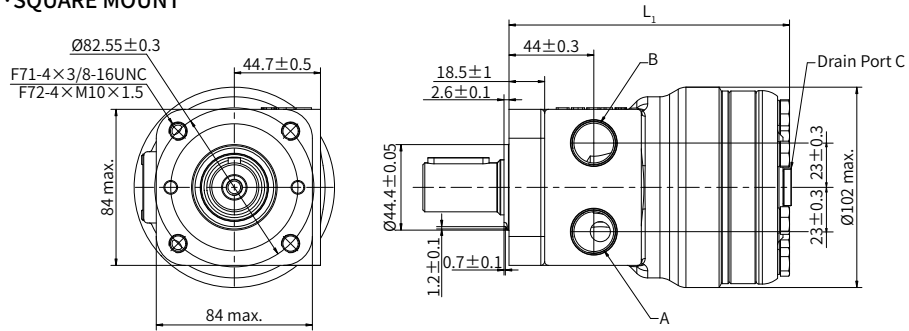
2-HOLE, SAE B MOUNT



B22 Main Port A, B: Ø10.4/Ø12.7 Unthreaded hole; Drain Port C: 7/16-20UNF

Installation size

· SQUARE MOUNT

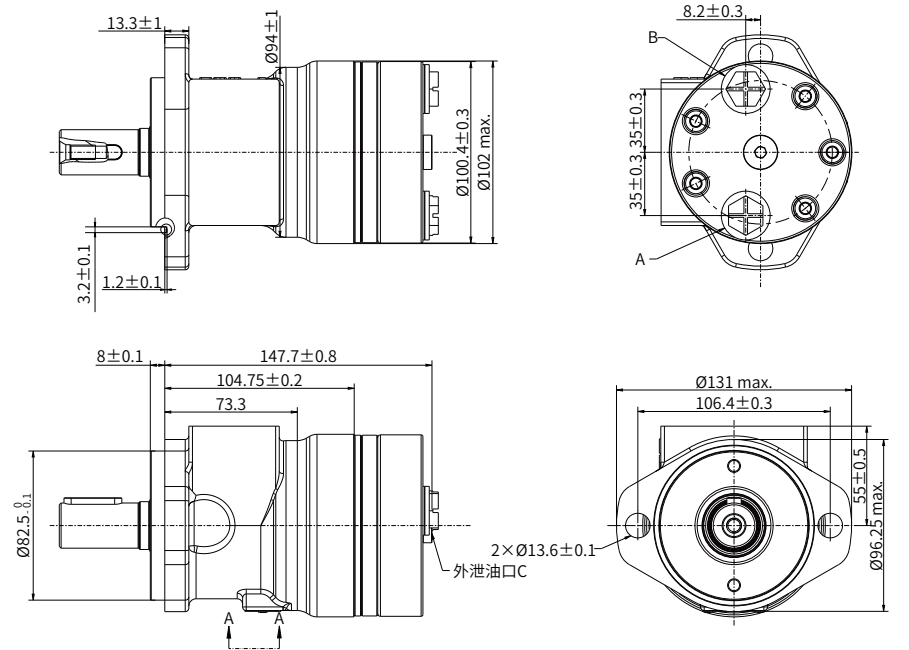


P - 0069

Code	A/B	C
F71	7/8-14UNF	7/16-20UNF
F72		
F74	1/2-14NPTF	

T - 0229

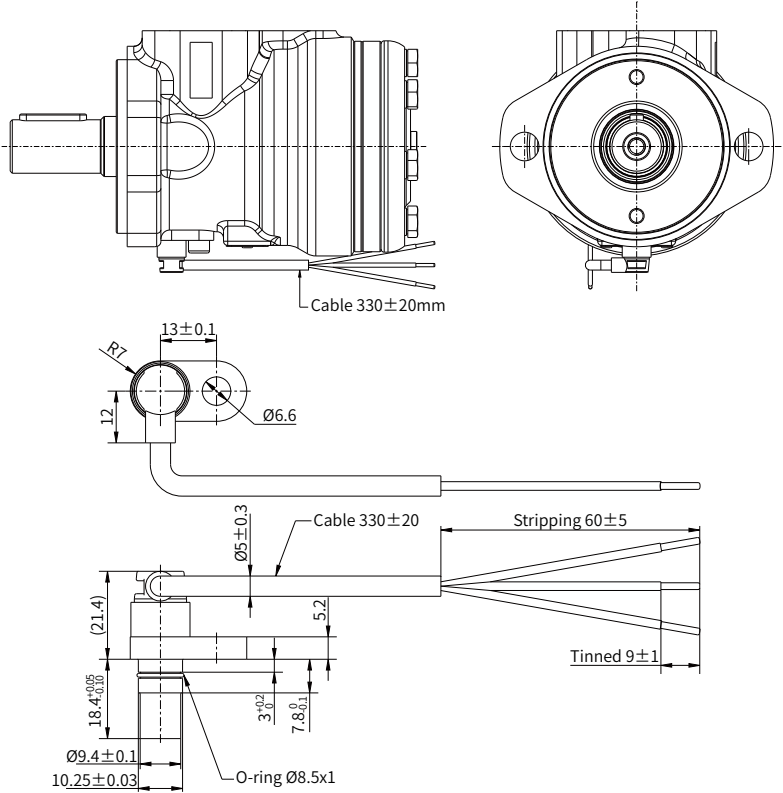
· 2-HOLE, SAE A MOUNT(REAR OIL PORT)



A5C Main Port A, B: G1/2; Drain Port C: G1/4

P - 0290

Speed sensor



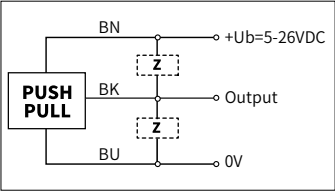
P - 0239

Speed sensor

Dimensions	Ø10.25 /L=18.4mm
Voltage	5-26VDC
Input Current	<15mA
Sensing distance	0.2~1.7mm
Power reverse protection (Y/N)	Yes
Power input overcurrent and overvoltage protection (Y/N)	Yes
Maximum output current	40mA
Voltage drop	< 3VDC
Working frequency	0-20KHz
Output signal	Impulse(HTL)
Operating temperature	-40°C ~125°C
Protection	IP67/IP69K
Shell material	Stainless steel/plastic
Pressure resistance of measuring surface	175bar
Connector	Cable 0.33m
Number of counting teeth	30

T - 0193

■ WIRING DIAGRAM



P - 0240

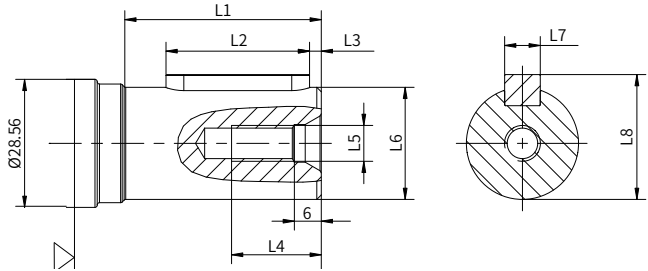
■ TERMINAL ASSIGNMENT

Signal		+Ub	0V	Output
Color		BN	BU	BK

P - 0241

Shaft end dimensions

·Straight Shaft—Paralley Key



P - 0070

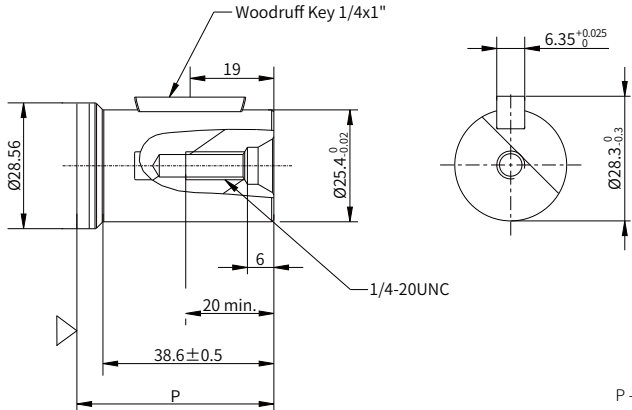
Code	L1	L2	L3	L4	L5	L6	L7	L8	Max.torque
S2	43 ^{+0.8} _{-0.05}	32 ^{-0.30} _{-0.62}	2.6±0.1	20 min.	M8	Ø25 ^{+0.02} ₀	7.94±0.01	27.84±0.01	678 N·m
S4		31.75 ⁰ _{-0.38}	4.5±0.1	18 min.		Ø25 ⁰ _{-0.02}	6.35 ^{+0.05} ₀	28.2 ⁰ _{-0.3}	655 N·m
S6				20 min.	5/16-18UNC				
ST					M8	Ø25 ^{+0.02} ₀	7.94±0.01	27.84±0.01	678 N·m
SY									
SH		32 ^{-0.30} _{-0.62}	2.6±0.1						
SP		31.75 ⁰ _{-0.38}	4.5±0.1		5/16-18UNC	Ø25 ⁰ _{-0.02}	6.35 ^{+0.05} ₀	28.2 ⁰ _{-0.3}	655 N·m
SF	43.1±0.5	31.5 ^{+0.3} _{-0.1}	5±0.1	16 min.	M6x1	Ø25 ^{+0.02} ₀	7 ⁰ _{-0.036}	28.1 ⁰ _{-0.3}	678 N·m
SM	57.44±0.5	31.75 ⁰ _{-0.38}	5±0.1	25.4 min.	5/16-18UNC	Ø25 ⁰ _{-0.02}	6.35 ^{+0.05} ₀	28.2 ⁰ _{-0.3}	655 N·m

T - 0230

·Straight Shaft—Woodruff Key

SI/SG/SQ/SV

Ø25.4mm Straight
Woodruff key: 1/4x1"
Max. Torque: 360N·m



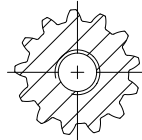
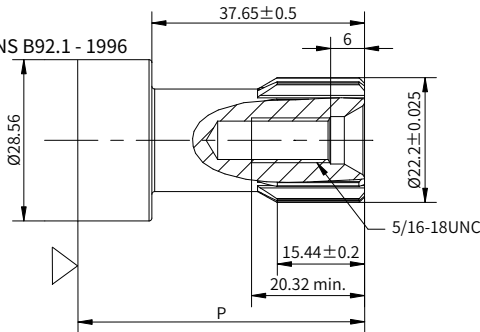
P - 0281

Shaft end dimensions

· 13 Teeth Spline

R2

Ø22.2mm Shaft
Spline: 13-DP16/32, ANS B92.1 - 1996
Max. Torque: 170N · m

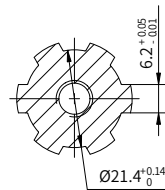
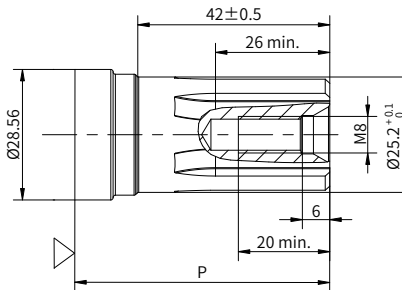


P - 0075

· SAE 6B Spline

R1/R8/R9

Ø25.4mm Shaft
Spline: SAE 6B (B.S.2059)
Max. Torque: 678N · m

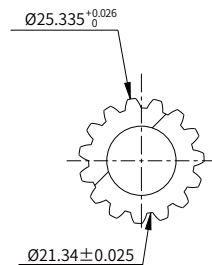
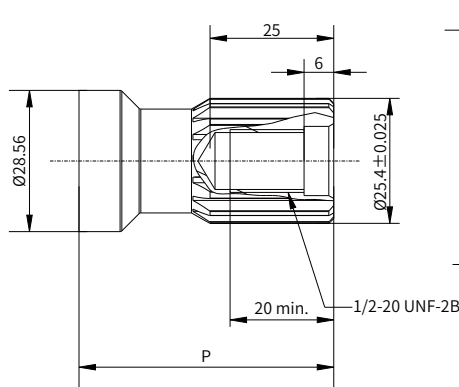


P - 0073

· 15 Teeth Spline

R3

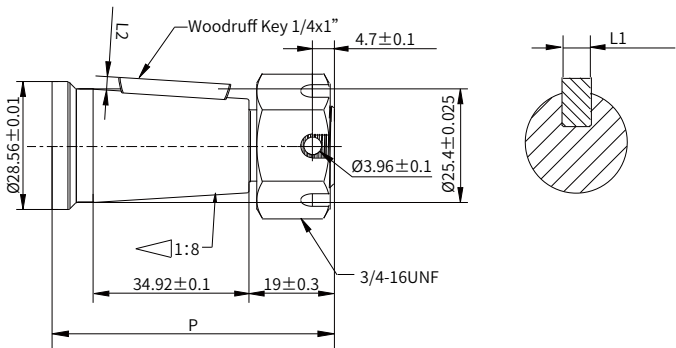
Ø25.4mm
Spline: 16-DP16/32,
ANS B92.1 - 1996
Max. Torque: 678N · m



P - 0291

Shaft end dimensions

·Tapered Shaft



P - 0292

Code	L1	L2	Tightening Torque	Max.torque
T9	6.35 ^{+0.025} ₀	3 ⁰ _{0.2}	200±10 N·m	655 N·m
TA	4.76 ⁰ _{-0.02}	2.13 ⁰ _{-0.12}		

T - 0229

P mm	Pilot 3mm	Pilot 5.2mm	Pilot 6.1mm	Pilot 8mm
S2	53.0	55.5	56.4	58.3
S4	53.0	55.5	56.4	58.3
S6	53.0	55.5	56.4	58.3
R1	48.0	50.5	51.4	53.3
R2	40.7	43.2	44.1	46.0
R8	48.0	50.5	51.4	51.4
SH	53.0	55.5	56.4	58.3
SI	44.9	47.1	48.0	49.9
ST	53.4	55.6	-	-
SY	53.4	55.6	-	-
SP	53.0	55.4	-	-
SF	49.8	52.0	52.9	54.8
SG	44.9	47.1	48.0	49.9
SM	63.7	65.9	66.8	68.7
SQ	38.8	41.0	-	-
R3	47.9	50.1	51.0	52.9
R9	48.3	50.5	51.4	53.3
T9	62.7	64.9	65.8	67.7
TA	62.7	64.9	65.8	67.7
SV	44.9	47.1	48.0	49.9

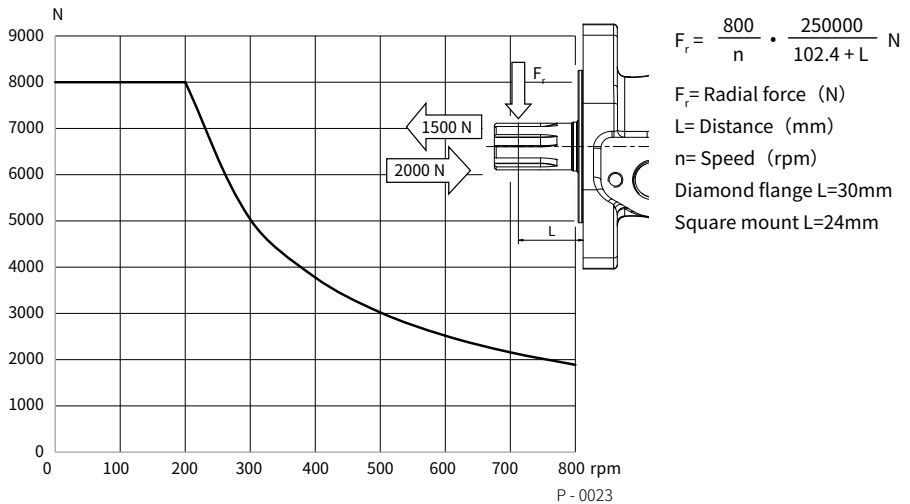
T - 0085

Note: Dimension P is the overall distance from the flange mounting surface to the end of the shaft, and the tolerance is ±0.8mm.

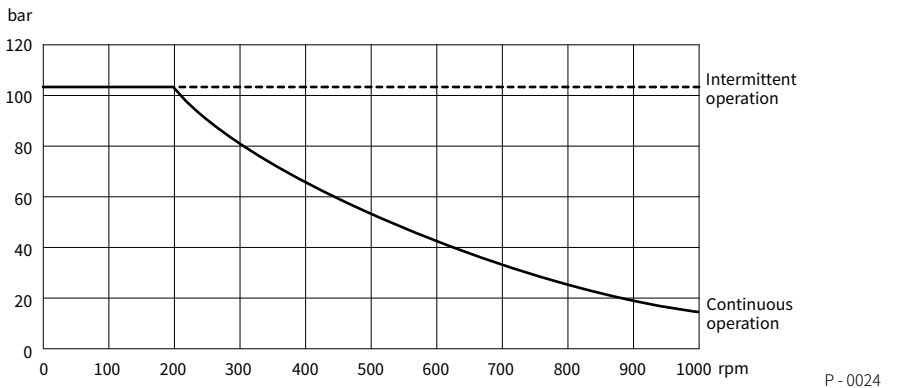
Allowable shaft load/bearing curve

HRD series products adopt optimized output shaft design, improve the wear resistance between output shaft and housing, when not exceeding its rated load for continuous operation, the life of dynamic pressure bearings can fully meet customer use.

Note: For frequent start-stop working conditions, you need to contact Hengli's sales or technical personnel for consultation. in the fixed position, the comparison between the side load and the rotational speed is referred to the figure below.



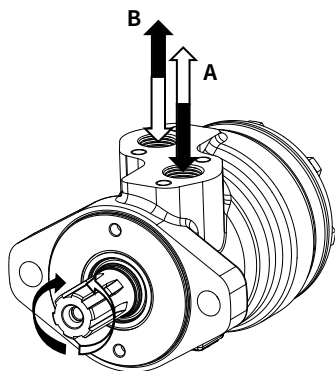
Permissible shaft seal pressure



When case drain port is not working, the pressure on the output shaft seal is slightly higher than the pressure in the return line. When using a drain line, the pressure on the shaft seal of the output shaft is the same as the pressure in the drain line.

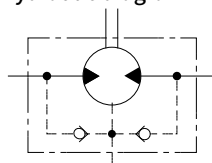
Rotation direction: CW

When facing the motor shaft extension direction, port A is high pressure oil, the output shaft rotates CW; Otherwise, it rotates CCW.



P - 0060

Hydraulic diagram



P - 0021

