

An Application For We Work On



Plastic Injection Moulding Machine



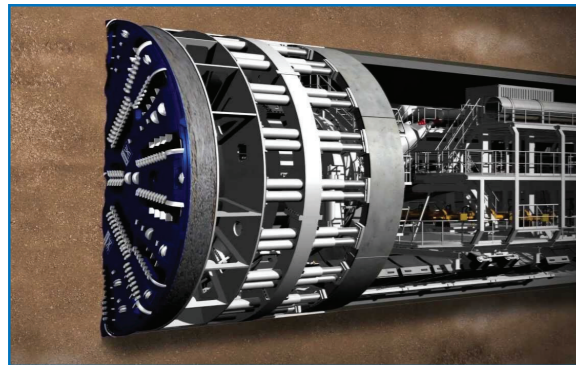
Aerial Motor Lifts



Pick & Carry Cranes



Marine Application



Tunnel Boring Machine



Hydraulic Tower Eviction Winch



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In view of continuous R&D, we reserve right to modify technical data stated in this catalog without notice.



Seamless Flow
Dynamic Torque

New *In* Advanced



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About US

Polaris Hydrotechnik, Estd. in the year 2022 specializes in the design & manufacturing of hydraulic motors in India. Driven by ten years of extensive research and backed up by parent company **Top Gear Transmissions** which is leading transmissions solution provider in country.

Polaris is one stop solution for customer's hydraulic motor needs. Polaris Hydrotechnik earns high value from its stakeholder with the best in class manufacturing facility & reliable testing standards.

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α Series Radial Piston Motors _____ 04-05

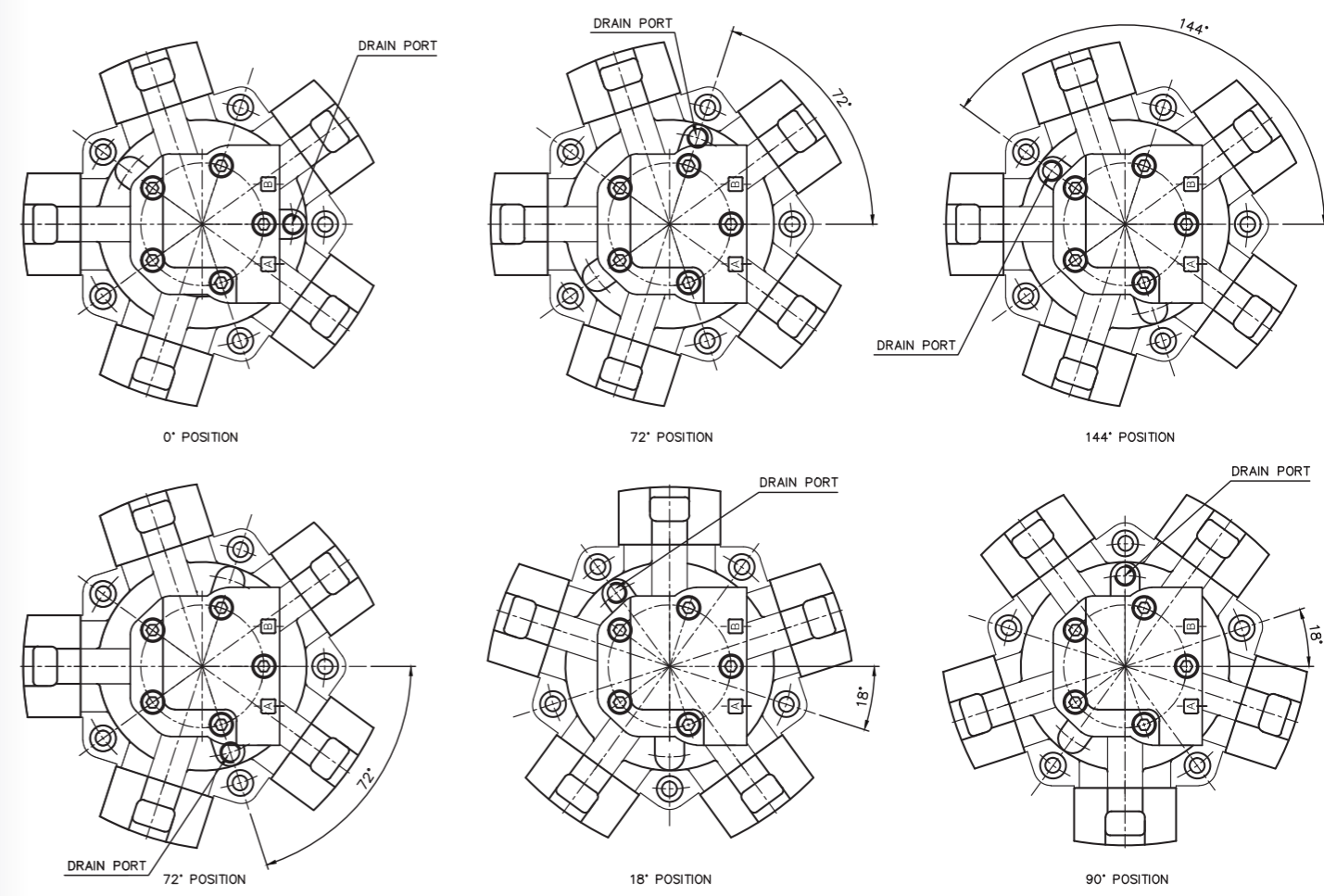
β Series Swivel Cylinder Radial Piston Motors _____ 06-07



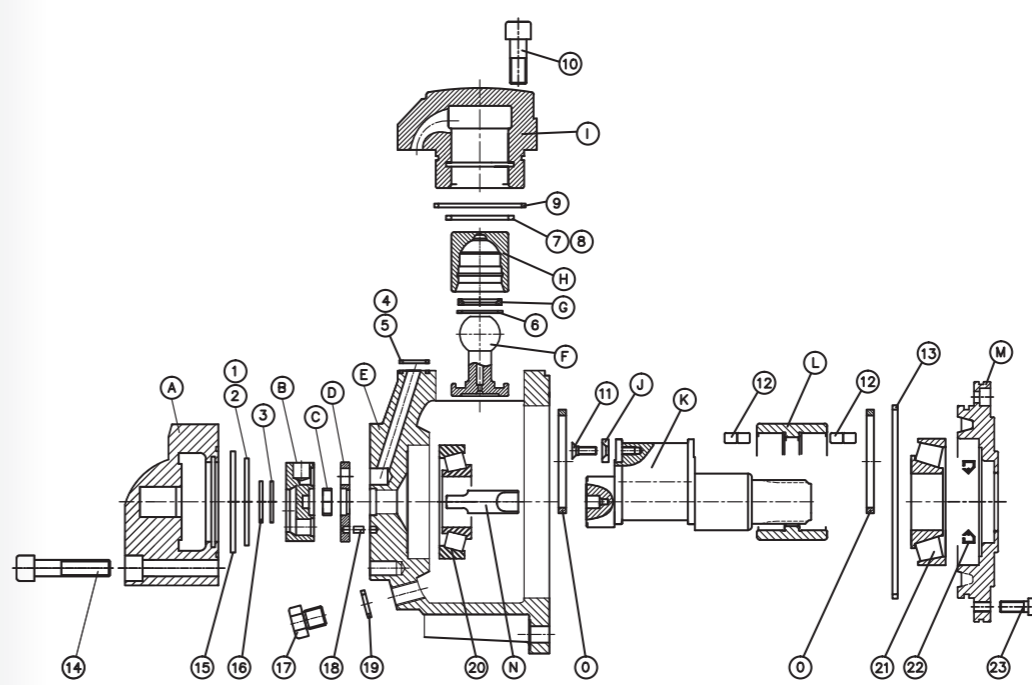
POLARIS
HYDROTECHNIK

Model	Displacement (ml/r)	Rated Pressure (Mpa)	Peak Pressure (Mpa)	Rated Torque (N.m)	Theoric Specific Torque (N.m/Mpa)	Speed Range (r/min)	Weight (kg)
α1-63	77	25	32	284	11	15-1500	20
α1-80	91	25	32	335	13	15-1250	20
α1-100	96	25	32	355	14	15-1000	20
α1-110	113	25	32	419	17	15-1000	20
α1-125	126	20	25	371	19	15-1000	20
α1-140	138	20	25	410	20	15-1000	20
α1-160	159	16	20	376	24	15-1000	20
α1-200	196	16	20	464	29	15800	20
α2-100	113	25	32	419	17	15-1250	27
α2-125	138	25	32	512	20	15-1250	27
α2-150	159	25	32	588	24	15-1000	27
α2-175	180	20	25	532	27	15-1000	27
α2-200	207	20	25	611	31	8-800	27
α2-250	235	16	20	556	35	8-630	27
α2-280	276	16	20	653	41	8-500	27
α3-175	181	25	32	670	77	8-1000	35
α3-200	201	25	32	743	30	8-800	35
α3-220	222	25	32	819	33	8-800	35
α3-250	254	20	25	752	38	8-630	35
α3-300	289	20	25	856	43	6-500	35
α3-350	340	20	25	1000	50	6-400	35
α3-400	380	18	22.5	1008	56	6-350	35
α6-400	397	25	32	1409	59	5-630	57.5
α6-450	452	25	32	1672	67	5-630	57.5
α6-500	491	20	25	1451	73	5-500	57.5
α6-600	594	20	25	1756	88	4-500	57.5
α6-700	683	16	20	1616	101	4-400	57.5
α6-750	754	16	20	1785	112	4-320	57.5
α8-600	617	25	32	2282	91	4-500	72
α8-700	710	25	32	2626	105	4-400	72
α8-800	810	20	25	2396	120	4-400	72
α8-900	889	20	25	2629	131	3-350	72
α8-1000	1000	16	20	2366	148	3-300	72
α11-700	707	25	32	2612	104	4-400	94
α11-800	784	25	32	2899	116	4-400	94
α11-900	894	25	32	3306	132	4-400	94
α11-1000	981	20	25	2902	145	3-320	94
α11-1100	1104	20	25	3265	163	3-320	94
α11-1200	1234	16	20	2919	182	3-320	94
α11-1300	1301	16	20	3079	192	3-250	94
α16-1400	1413	25	32	5224	209	2-400	170
α16-1600	1648	20	25	4874	244	2-400	170
α16-1800	1815	20	25	5367	268	2-350	170
α16-2000	2035	18	22.5	5416	301	2-350	170
α16-2400	2267	16	20	5364	335	2-250	170
α31-2500	2553	25	32	9438	378	2-200	298
α31-2800	2683	20	25	7935	397	1-200	298
α31-3000	3063	20	25	9057	453	1-200	298
α31-3150	3218	20	25	9518	476	1-160	298
α31-3500	3561	20	25	10530	527	1-160	298
α31-4000	4153	18	22.5	11053	614	1-160	298
α31-4500	4522	16	20	10698	669	1-160	298
α31-5000	4828	16	20	11423	714	1-160	298
α70-5000	4968	20	25	14626	731	1-160	550
α70-5400	5452	20	25	16125	806	1-160	550
α70-6000	5984	20	25	17697	885	0.5-125	550
α70-6300	6540	18	22.5	17408	967	0.5-125	550
α70-7000	7122	16	20	16849	1053	0.5-125	550

Alpha Hydraulic Motor Installation Chart



Alpha Hydraulic Motor Parts Arrangement

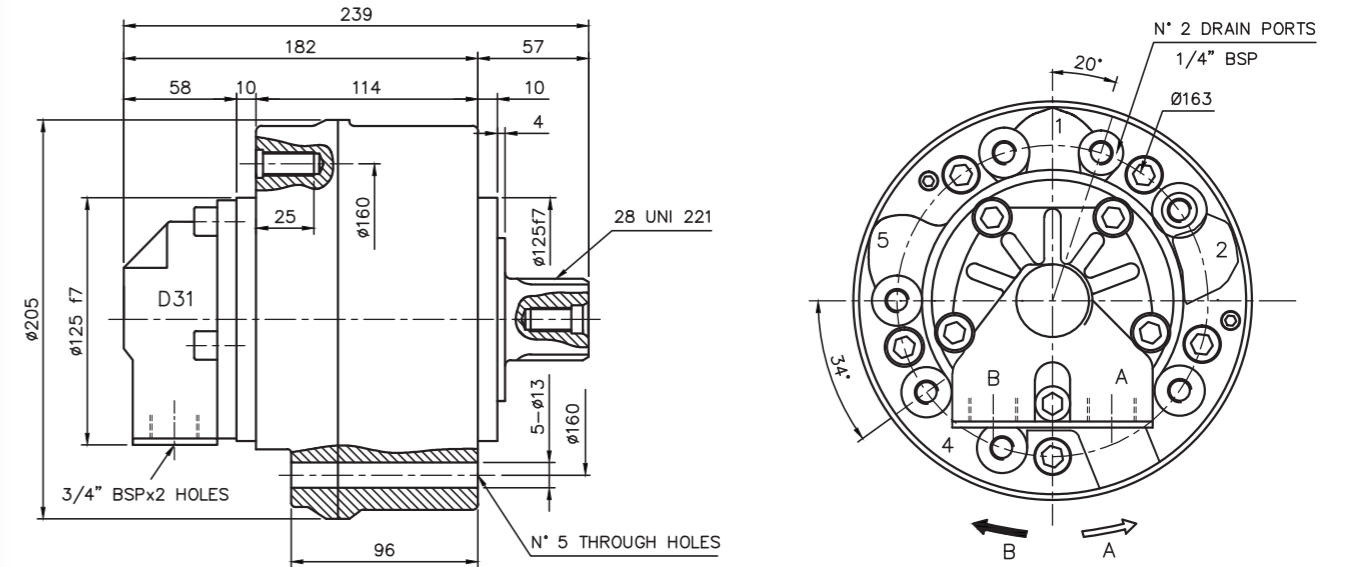


1	SEAL	13	"O" RING
2	"O" RING	14	ALLEN BOLT
3	"O" RING	15	"O" RING
4	SEAL	16	SEAL
5	"O" RING	17	DRAIN PLUG
6	CIRCLIP	18	DOWEL PIN
7	CYLINDER SEAL	19	WASHER
8	"O" RING	20	BEARING
9	"O" RING	21	BEARING
10	ALLEN BOLT	22	SHAFT SEAL
11	CSK ALLEN BOLT	23	ALLEN BOLT
12	ROLLERS		
A	DISTRIBUTOR	I	CYLINDER
B	VALVE PLATE	J	CLAMP PLATE
C	BUSH	K	CRANK SHAFT
D	DISTRIBUTOR DISC	L	CRANK RING
E	MOTOR BODY	M	BEARING COVER
F	CONNECTING ROD	N	CONNECTING PIN
G	SUPPORT RING	O	HOLDING RING
H	PISTON		

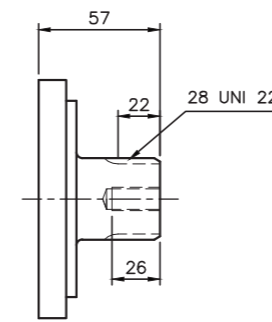
Model	Displacement (ml/r)	Rated Pressure (Mpa)	Peak Pressure (Mpa)	Rated Torque (N.m)	Theoric Specific Torque (N.m/Mpa)	Speed Range (r/min)	Max. cont Speed (r/min)	Weight (kg)
β05-60	59	25	31.5	235	9.4	1-700	1000	22
β05-75	74	25	31.5	295	11.8	1-700	1000	22
β05-90	86	25	31.5	343	13.7	1-700	1000	22
β05-110	115	25	31.5	458	18.3	1-650	900	22
β05-130	129	25	31.5	513	20.5	1-650	900	22
β05-150	151	25	31.5	600	24	1-650	900	22
β05-170	166	25	31.5	660	26.4	1-600	800	22
β05-200	191	25	28	760	30.4	1-600	800	22
β1-100	99	25	31.5	385	15.4	1-550	1000	31
β1-150	154	25	31.5	600	24	1-550	1000	31
β1-175	172	25	31.5	670	26.8	1-550	900	31
β1-200	201	25	31.5	785	31.4	1-550	800	31
β1-250	243	25	31.5	950	38	1-450	700	31
β1-300	290	25	31.5	1130	45.2	1-350	650	31
β1-320	314	25	28	1225	49	1-350	600	31
β1-350	340	25	28	1350	54	1-350	600	31
β2-200	192	25	31.5	750	30	0.7-550	800	51
β2-250	251	25	31.5	980	39.2	0.7-550	800	51
β2-300	304	25	31.5	1188	47.5	0.7-500	750	51
β2-350	347	25	31.5	1355	54.2	0.7-500	3750	51
β2-420	425	25	31.5	1658	66.3	0.7-450	750	51
β2-500	493	25	31.5	1923	76.9	0.7-450	700	51
β2-600	565	25	30	2208	88.3	0.7-450	700	51
β2-630	623	25	28	2433	97.3	0.7-400	650	51
β3-425	426	25	31.5	1660	66.4	0.5-500	650	87
β3-500	486	25	31.5	1895	75.8	0.5-450	600	87
β3-600	595	25	31.5	2320	92.8	0.5-450	575	87
β3-700	690	25	31.5	2700	108	0.5-400	500	87
β3-800	792	25	31.5	3100	124	0.5-400	500	87
β3-900	873	25	31.5	3400	136	0.5-350	400	87
β3-1000	987	25	28	3850	154	0.5-300	350	87
β4-600	616	25	31.5	2403	96.1	0.4-400	550	120
β4-800	793	25	31.5	3100	124	0.4-350	550	120
β4-900	904	25	31.5	3525	141	0.4-325	450	120
β4-1000	1022	25	31.5	4000	160	0.4-300	400	120
β4-1100	1116	25	31.5	4350	174	0.4-275	400	120
β4-1300	1316	25	28	5125	205	0.4-225	350	120
β5-800	807	25	31.5	3150	126	0.3-325	450	175
β5-1000	1039	25	31.5	4050	162	0.3-300	450	175
β5-1200	1185	25	31.5	4625	185	0.3-300	400	175
β5-1300	1340	25	31.5	5225	209	0.3-300	400	175
β5-1450	1462	25	31.5	5700	228	0.3-275	350	175
β5-1600	1634	25	31.5	6350	254	0.3-250	300	175
β5-1800	1816	25	31.5	7075	283	0.3-250	300	175
β5-2000	2007	25	31.5	7825	313	0.3-200	250	175
β6-1700	1690	25	31.5	6600	264	0.2-250	400	275
β6-2100	2127	25	31.5	8300	332	0.2-225	350	275
β6-2500	2513	25	31.5	9800	392	0.2-200	300	275
β6-3000	3041	25	31.5	11875	475	0.2-175	250	275

Beta Series Hydraulic Motor Dimensional Details

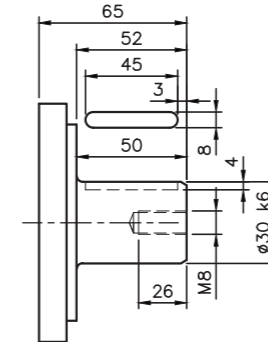
Contour Dimension



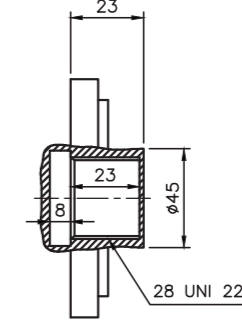
External Spline



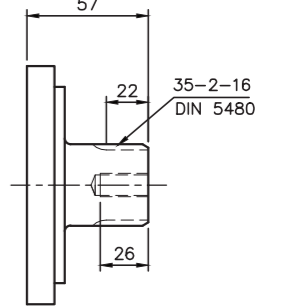
Flat Key



Internal Spline



Involute Spline



Spline Parameters

35-2-16 DIN 5480	
d0	φ32.0
d1	φ35.0 ^{+0.050} _{+0.000} H14
d2	φ31.0 ^{+0.160} _{+0.000} H11
A	φ3.5
da	φ27.711 H11
d3	φ34.6 ^{-0.000} _{-0.160} h11
d4	φ30.6 ^{-0.000} _{-0.220} h14
B	φ4.0
db	φ39.000 f8

28 UNI 221 (6-28-34) DIN 5463	
d1	φ28.0 ^{+0.021} _{+0.000} H7
d2	φ34.1 ^{+0.016} _{+0.000} H7
A	7.0 ^{+0.028} _{+0.013} F7
d3	φ28.0 ^{-0.007} _{-0.020} g6
d4	φ34.0 ^{-0.065} _{-0.160} h14
B	7.0 ^{-0.013} _{-0.028} f7

Coupling

