

MS Hydraulic Orbit Motor



Technical data for MS / MSY *										
Type		MS 80	MS 100	MS 125	MS 160	MS 200	MS 250	MS 315	MS 400	MS 475
Displacement (cm ³ /rev.)		80.6	100.8	125	154	194	243	311	394	475
Max. speed (RPM)	cont.	800	748	600	470	375	300	240	185	155
	int	988	900	720	560	450	360	280	225	185
Max. Torque (Nm)	cont.	225	290	365	485	586	708	880	880	910
	int	305	390	480	590	705	860	1000	980	990
Max. Output (kW)	cont.	16	18	18	18.1	18.1	18	17	11	9
	int	20	22	23	25	24	23.8	20.2	12	11
Max. Pressure Drop (Bar)	cont.	205	205	205	210	210	200	200	160	140
	int	275	275	275	260	250	250	240	190	150
	Peak	295	295	295	280	270	270	260	210	175
Max Oil Flow (L/min)	cont.	65	75	75	75	75	75	75	75	75
	int	80	90	90	90	90	90	90	90	90
Max. Inlet Pressure (Bar)	cont.	250	250	250	250	250	250	250	250	250
	int	300	300	300	300	300	300	300	300	300
Weight (kg)		9.8	10	10.3	10.7	11.1	11.6	12.3	13.2	14.3

*All engines are reinforced (extension Y)

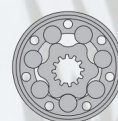
*Continuous pressure: Max. value of operating motor continuously.

*Intermittent pressure: Max. value of operating motor in 6 seconds per minute.

*Peak pressure: Max. value of operating motor in 0.6 second per minute

MS series motor adapt the advanced Geroler gear set designed with disc distribution flow and high pressure.

The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.



CHARACTERISTICS FEATURES

- Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.
- The output shaft adapts in tapered roller bearings that permit high axial and radial forces. The case can offer capacities of high pressure and high torque in the wide of applications.
- Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life, provide smooth and reliable operation.
- The new series motor is suitable for vehicles with greater loads and pressure drop.

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MS Hydraulic Orbit Motor



PERFORMANCE DATA

MS80 [80.6cm³/rev.]

Pressure (MPa)

		Max.cont. Max.int.						
		3.5	7	10.5	14	17.5	20.5	22.5
Flow (L/min)	15	35	80	120	158	195	228	249
		180	174	168	164	158	151	143
	30	35	80	120	158	195	232	260
		362	352	346	338	330	322	310
	40	35	79	119	155	193	227	250
		487	480	468	457	446	438	425
Max.cont.	50	30	77	117	153	192	224	248
		612	603	592	581	572	558	542
	60	28	77	117	153	192	224	243
Max.int.		735	726	718	703	687	673	646
	65	26	75	116	151	188	217	236
		794	786	773	760	744	722	706
	80	24	72	109	142	176	206	227
		981	968	955	925	893	870	832

MS100 [100.8cm³/rev.]

Pressure (MPa)

		Max.cont. Max.int.						
		3.5	7	10.5	14	17.5	20.5	22.5
Flow (L/min)	15	48	95	150	200	250	282	310
		146	144	139	135	130	120	105
	30	45	94	146	198	250	290	317
		291	289	278	274	269	258	242
	40	43	89	142	196	248	288	316
		387	384	374	359	350	335	320
Max.cont.	50	40	88	135	194	247	286	315
		486	483	473	462	450	430	420
	60	37	88	132	185	244	283	312
Max.int.		588	584	574	562	550	538	520
	75	35	80	130	180	240	279	310
		740	735	720	705	696	676	653
	90	30	75	124	170	236	271	303
		850	840	810	787	770	750	747

MS125 [125cm³/rev.]

Pressure (MPa)

		Max.cont. Max.int.						
		3.5	7	10.5	14	17.5	20.5	22.5
Flow (L/min)	15	55	120	176	245	309	345	375
		115	113	110	104	98	90	84
	30	55	120	175	250	315	364	404
		231	228	223	214	202	188	172
	40	53	118	178	250	315	364	403
		312	309	290	289	278	262	235
Max.cont.	50	50	115	176	248	315	362	397
		391	386	378	365	352	339	308
	60	45	113	171	241	308	358	397
Max.int.		469	461	450	437	425	400	372
	75	45	110	167	240	306	352	389
		588	574	560	544	526	505	481
	90	40	105	162	237	301	343	378
		710	696	680	661	646	628	610

TORQUE(N·m) 301
SPEED (r/min) 646

MS160 [154cm³/rev.]

Pressure (MPa)

		Max.cont. Max.int.						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	70	142	215	298	372	435	476
		93	91	89	85	80	76	58
	30	73	151	225	312	382	456	492
		189	187	181	176	170	162	153
	40	75	152	228	314	383	454	488
		252	250	246	239	234	228	212
Max.cont.	50	70	148	225	305	372	445	480
		313	310	306	298	293	285	272
	60	68	143	218	296	370	442	480
Max.int.		378	376	370	362	353	346	332
	75	62	140	211	291	365	439	475
		475	469	461	450	441	432	414
	90	59	131	202	286	357	425	460
		567	561	554	543	532	520	509

cont.
int.

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PERFORMANCE DATA (continued)

MS200 [194cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7	10.5	14	17.5	21	22.5
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Flow (L/min)	15	87 74	179 73	273 71	371 68	471 64	562 60	610 48
	30	91 150	190 148	288 143	386 140	489 134	572 128	618 119
	40	94 198	193 195	296 192	394 188	498 183	584 178	645 167
	50	90 248	191 246	292 241	389 236	493 230	580 223	634 212
	60	85 300	185 295	279 288	382 281	483 273	575 263	622 251
	75	78 374	176 370	271 364	370 360	472 352	561 340	610 331
Max.int.	90	68 443	163 440	265 435	361 428	456 424	545 413	599 400

MS250 [243cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7	10.5	14	17.5	20	22.5
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Flow (L/min)	15	110 59	231 58	351 56	462 53	585 50	681 46	778 35
	30	116 119	236 117	359 114	475 108	597 102	700 92	790 80
	40	118 162	241 159	363 156	480 150	599 143	706 134	796 121
	50	111 203	234 201	352 197	472 191	591 182	693 173	788 158
	60	106 244	224 242	345 237	462 230	582 220	685 208	772 194
	75	101 303	214 299	340 294	454 285	570 272	670 260	760 244
Max.int.	90	93 363	209 359	335 354	447 348	559 340	657 328	749 303

MS315 [311cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7	10.5	14	17.5	20	22.5
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Flow (L/min)	15	148 48	304 47	456 45	613 43	762 41	879 39	978 27
	30	155 95	314 93	465 91	635 89	778 86	884 82	988 67
	40	160 127	321 125	479 121	650 117	796 115	906 109	997 91
	50	155 159	314 157	465 153	638 149	780 145	886 142	988 128
	60	151 187	306 185	453 181	620 176	765 169	886 157	976 143
	75	146 238	300 236	445 232	613 227	755 224	875 220	966 196
Max.int.	90	135 286	284 283	436 278	601 272	740 265	863 257	952 232

MS400 [394cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

3.5	7	10.5	14	16	17.5
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Flow (L/min)	15	186 37	379 36	578 35	779 33	896 31	986 29
	30	190 75	388 73	590 71	791 68	905 65	991 61
	40	195 99	394 97	596 95	797 93	912 90	998 85
	50	191 125	388 123	587 118	785 114	904 109	983 102
	60	186 149	388 146	587 142	785 137	904 131	983 122
	75	181 187	372 183	576 177	770 171	891 164	973 153
Max.int.	90	176 226	367 221	571 214	766 208	883 199	965 183

TORQUE (N·m) 766
SPEED (rpm) 208

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PERFORMANCE DATA (continued)

MS475 [475cm³/rev.]

Pressure (MPa)

Max.cont. Max.int.

		3.5	7	10.5	14	15
Flow (L/min)	15	218 30	439 29	661 28	892 27	995 25
	30	223 61	450 60	676 58	910 56	1002 53
	40	228 82	461 80	689 77	927 74	1017 68
	50	224 103	456 101	682 97	920 92	1008 86
	60	220 123	451 121	677 118	913 112	998 105
	75	212 155	443 153	664 147	901 140	980 132
Max.int.	90	196 186	421 184	643 178	877 170	959 157

	cont.
	int.

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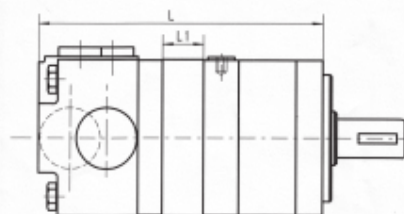
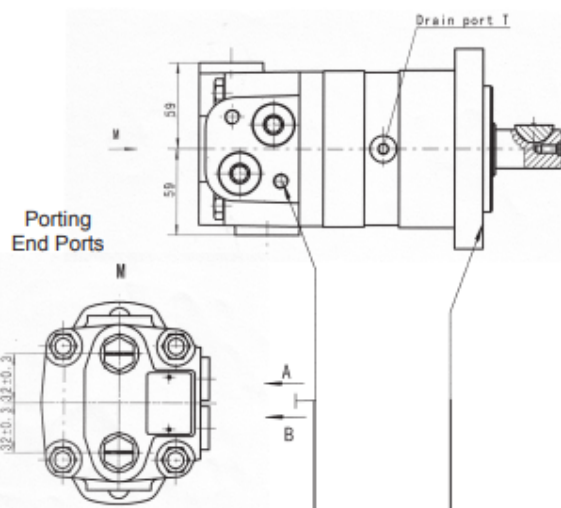
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OVERVIEW DRAWING

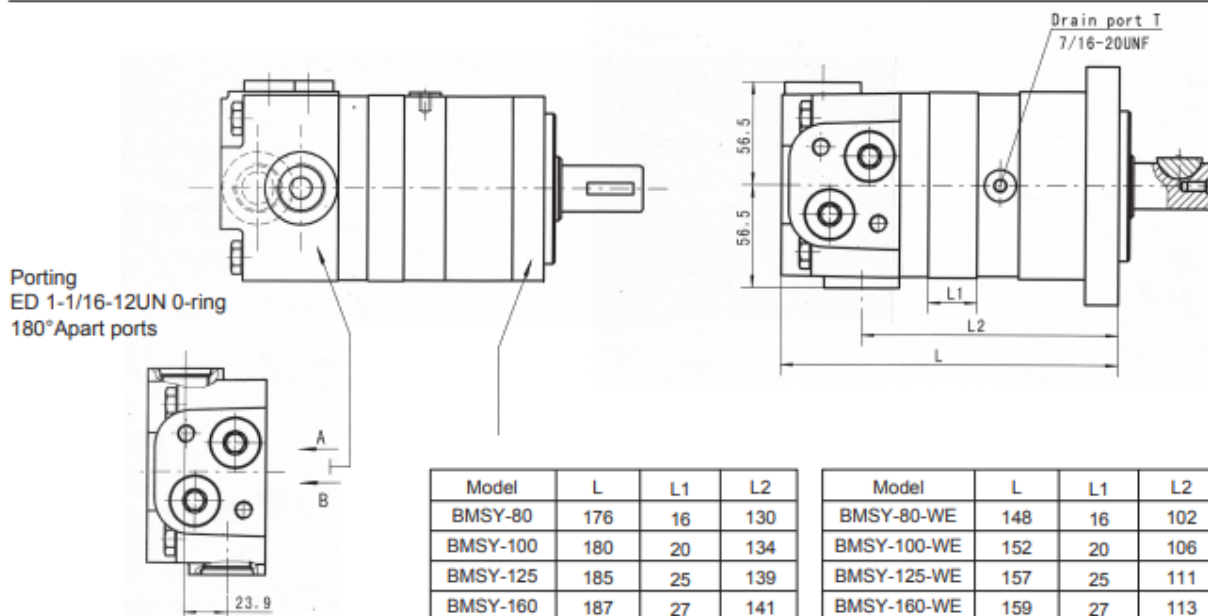
BMSY DIMENSIONS AND MOUNTING DATA



End Ports P(A/B)

Model	L	L1	Model	L	L1
BMSY-80	176	16	BMSY-80-WE	148	16
BMSY-100	180	20	BMSY-100-WE	152	20
BMSY-125	185	25	BMSY-125-WE	157	25
BMSY-160	187	27	BMSY-160-WE	159	27
BMSY-200	194	34	BMSY-200-WE	166	34
BMSY-250	202	42	BMSY-250-WE	174	42
BMSY-315	214	54	BMSY-315-WE	186	54
BMSY-400	229	69	BMSY-400-WE	201	69
BMSY-475	243	83	BMSY-475-WE	215	83

Code Mounting	EE-D (depth)	EE-M2 (depth)	EE-S2 (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)



Code Mounting	ED (depth)
P(A,B)	1-1/16-12UN (18)
T	7/16-20UNF (12)

Model	L	L1	L2
BMSY-80	176	16	130
BMSY-100	180	20	134
BMSY-125	185	25	139
BMSY-160	187	27	141
BMSY-200	194	34	148
BMSY-250	202	42	156
BMSY-315	214	54	168
BMSY-400	229	69	183
BMSY-475	243	83	197

Model	L	L1	L2
BMSY-80-WE	148	16	102
BMSY-100-WE	152	20	106
BMSY-125-WE	157	25	111
BMSY-160-WE	159	27	113
BMSY-200-WE	166	34	119
BMSY-250-WE	178	42	127
BMSY-315-WE	190	54	139
BMSY-400-WE	205	69	154
BMSY-475-WE	219	83	168

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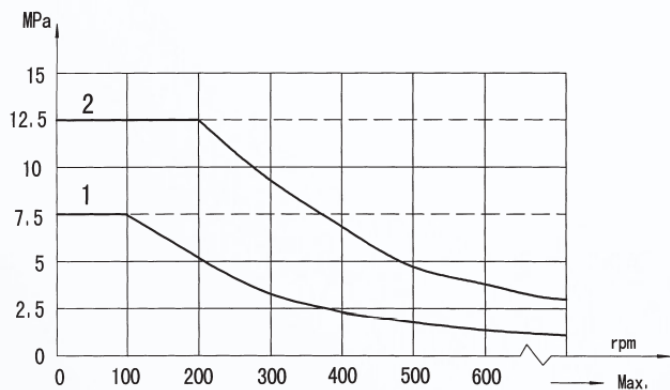
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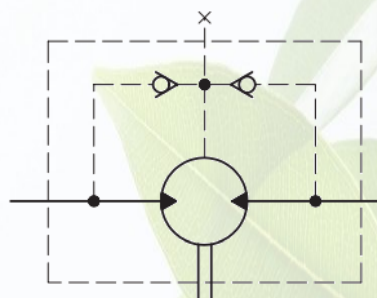
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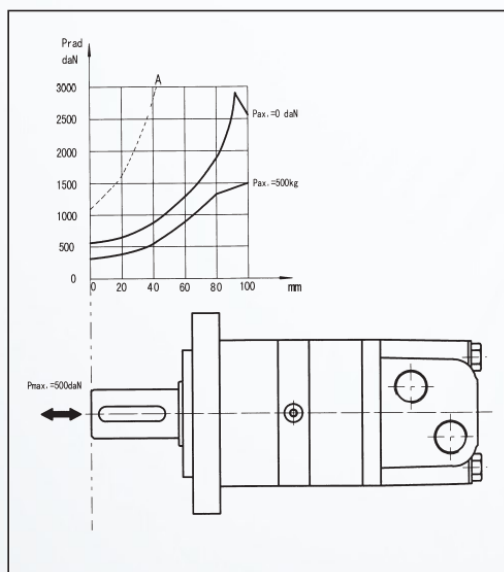
PERMISSIBLE SHAFT SEAL PRESSURE



Note: 1. Chart for standard shaft seal;
2. Chart for high pressure shaft seal.



AXIAL AND RADIAL FORCES



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

OIL FLOW IN DRAIN LINE

The table shows the max. oil flow in the drain line at the re-turn pressure less than 5-10 Bar.

Pressure drop (Bar)	Viscosity (mm ² /s)	Oil flow in the drain line (L/min.)
140	20	1.5
	35	1
210	20	3
	35	2

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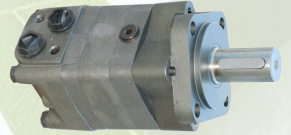
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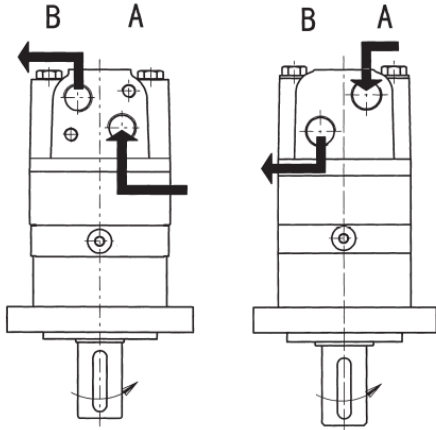
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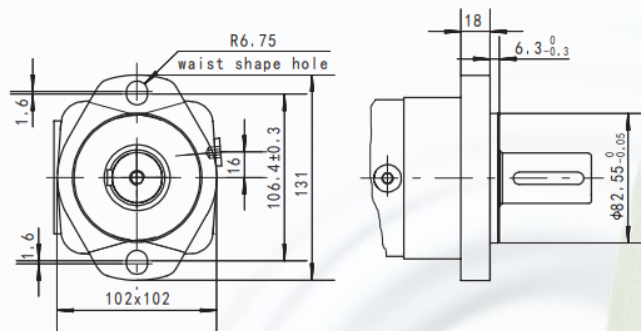
STANDARD DIRECTION OF SHAFT ROTATION



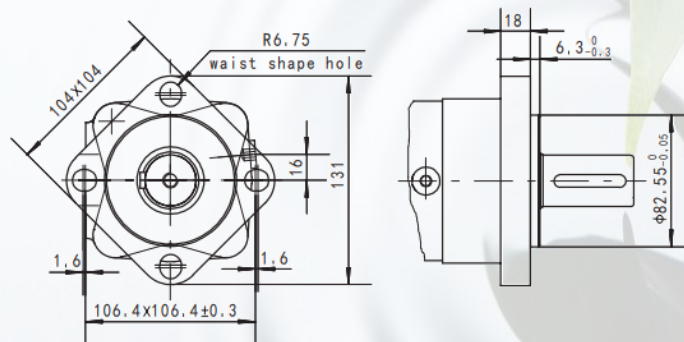
When facing shaft end of motor, shaft to rotate: Clockwise when port "A" is pressurized. Counter-clockwise when port "B" is pressurized.

MOUNTING

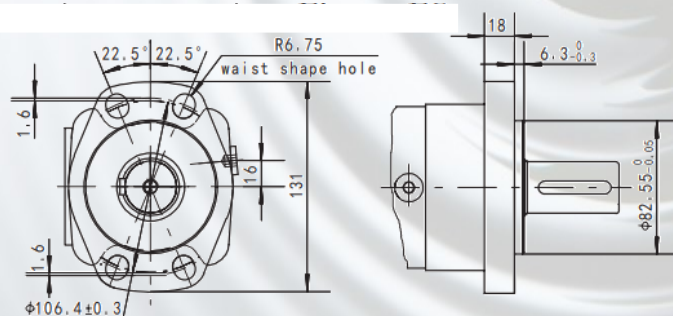
FLANGE E2



STANDARD E4



FLANGE F6

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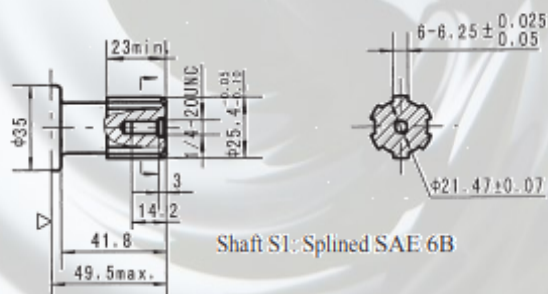
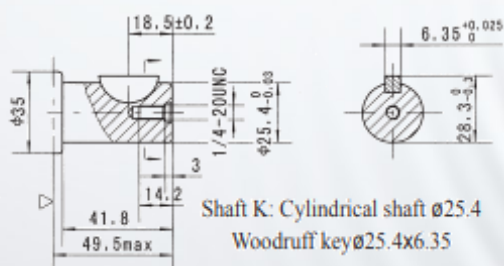
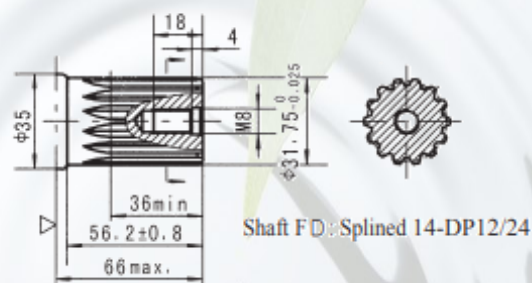
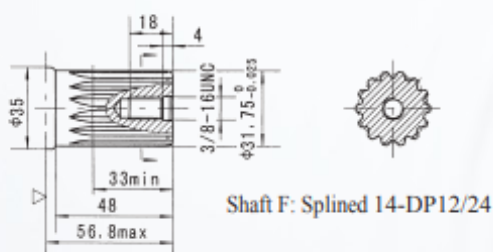
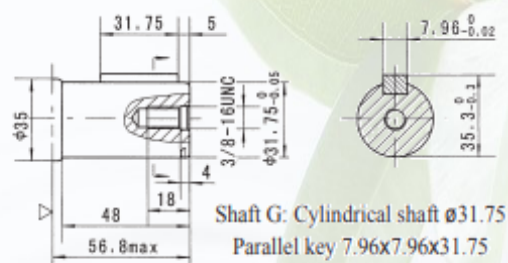
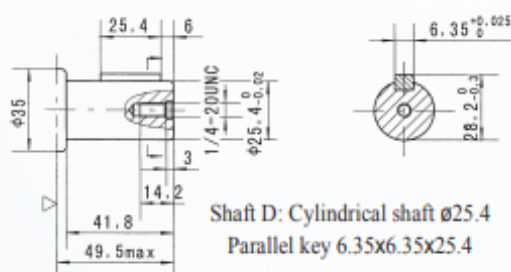
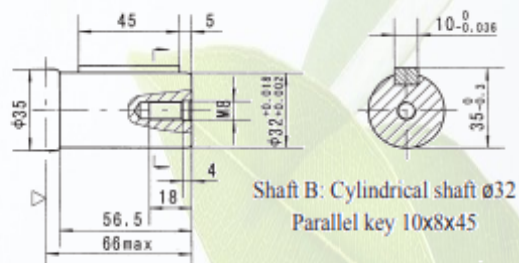
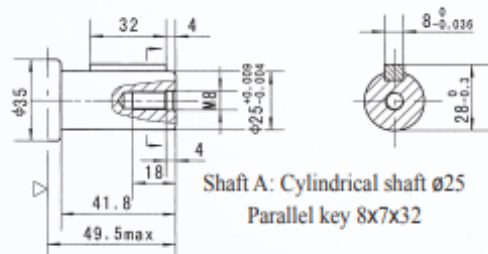
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SHAFT EXTENSIONS



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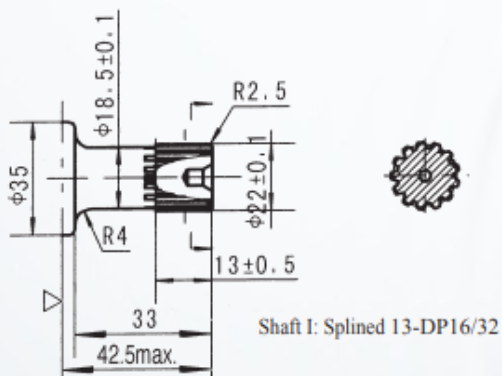
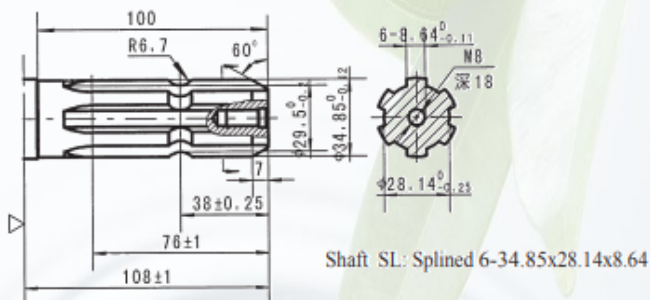
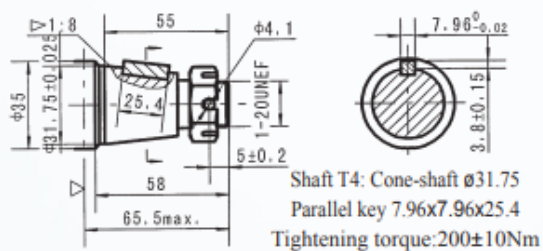
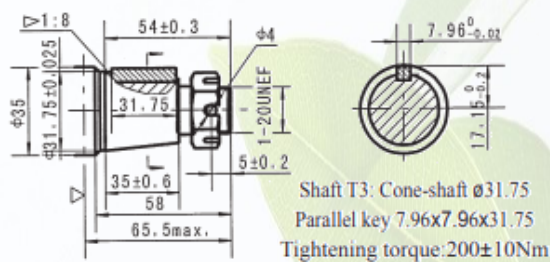
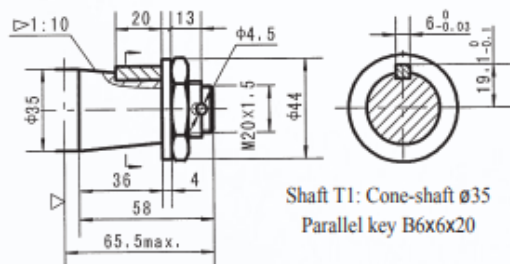
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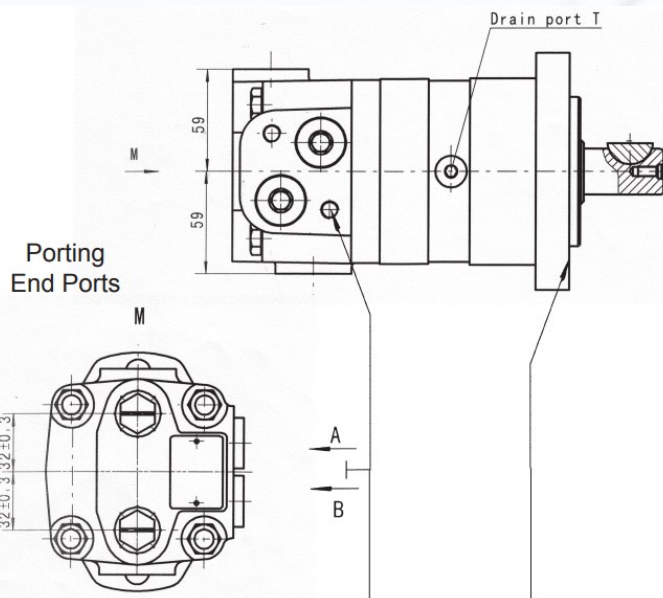
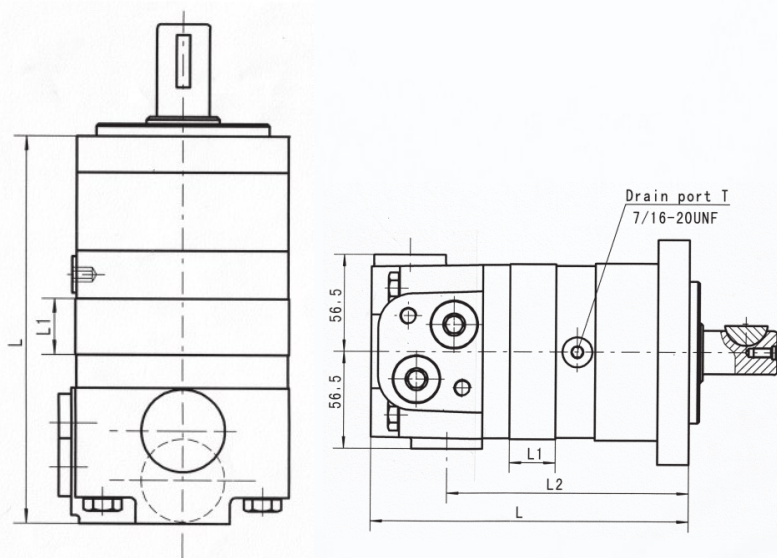
SHAFT EXTENSIONS (continued)



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PORTS



Code	EE-D (depth)	EE-M2 (depth)	EE-S2 (depth)
Mounting			
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)

TYPE	L	L1	L2
MSY 80	177	16	126.5
MSY 100	181	20	130.5
MSY 125	186	25	135.5
MSY 160	188	27	137.5
MSY 200	195	34	144.5
MSY 250	203	42	152.5
MSY 315	215	54	164.5
MSY 400	230	69	179.5
MSY 475	244	83	193.5

TYPE	L	L1	L2
MSYW 80	148.5	16	98
MSYW 100	152.5	20	102
MSYW 125	157.5	25	107
MSYW 160	159.5	27	109
MSYW 200	166.5	34	116
MSYW 250	174.5	42	124
MSYW 315	186.5	54	136
MSYW 400	201.5	69	151
MSYW 475	215.5	83	165

TYPE	L	L1	L2
MSS 80	129	16	85
MSS 100	133	20	89
MSS 125	138	25	94
MSS 160	140	27	96
MSS 200	147	34	103
MSS 250	155	42	111
MSS 315	167	54	123
MSS 400	182	69	138
MSS 475	196	83	152

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