Itahydraulic
Power Tecnology

MOMR SERIES HYDRAULIC MOTOR

MOMR Series motors are medium speed high torque motors designed on an internal gear design consisting of a rotor and stator. These motors are suitable for long operating periods at moderate pressures.

Characteristic Features:

- Advanced manufacturing design for the Geroler gear set, which provide high starting torque, high efficiency and long life
- Motors have high pressure shaft seals which can be used in Parallel or Series
- Smooth running over the entire speed range

Main Specifications

Type		MOMR & MOMRS									
		36	50	80	100	**125**	**160**	200	250	315	375
Geometric Displacement (cm³/rev.)		36	51.3	80.6	100.8	124.9	157.2	199.2	252	314.5	370
Max. Speed (rpm)	Cont.	1085	755	750	600	475	375	300	240	190	160
	Int.	1220	970	940	750	600	470	375	300	240	200
Max. Torque (Nm)	Rated	69	100	160	200	250	320	330	352	360	420
	Cont.	69	100	190	240	292	363	358	352	360	420
	Int.	88	126	220	280	340	430	448	470	470	548
Max. Output (kW)	Rated	7.5	7.7	12.3	12.3	12.0	12.3	10	9	7	6.5
	Cont.	7.5	7.7	15	15	14	14	11	9	7	8.6
	Int.	9.4	9.7	17	17	16	16	14	12	9	12
Max. Pressure Drop (Bar)	Rated	140	140	140	140	140	140	120	110	85	85
	Cont.	140	140	175	175	175	165	130	110	85	85
	Int.	175	175	200	200	200	200	175	140	115	115
Max. Flow (L/min)	Cont.	40	40	60	60	60	60	60	60	60	60
	Int.	50	50	75	75	75	75	75	75	75	75
Weight (kg)		6.7	6.7	6.9	6.9	7.2	7.5	8.0	8.5	9	9.3

- Rated Speed & Rated Torque: Output value of speed and torque under rated flow and rated pressure
- 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 seconds per minute

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PERFORMANCE DATA

MOMR50 [51.3cm 3/rev.]

Pressure (Bar)

Flow (L/min)	50	70	90	100	120	140	160 (Max.Cont.)	175 (Max.Int.)
5	35	45	61	67	77	88		
	95	84	76	73	69	46		
10	36	46	62	69	80	95	108	120
	184	176	165	162	150	130	111	84
15	35	49	63	73	88	100	109	123
	283	277	269	261	250	230	211	185
20	34.5	47	61	69	83	96	109	126
	377	375	365	361	346	330	308	276
25	34	45	61	69	81	96	109	126
	476	468	460	453	438	423	395	361
30	33	44	60	67	80	95	108	126
	576	569	561	554	542	531	500	465
35	31	42	59	66	80	93	107	124
	669	665	657	654	638	623	598	561
Max. Cont. 40	30	41	58	66	79	92	106	122
	760	758	753	750	738	724	700	670
Max. Int. 45	29.5	40	57	65	78	90	105	121
	856	856	850	845	835	815	799	780

MOMR80 [80.6cm 3/rev.]

Pressure (Bar)

Flow (L/min)	50	70	90	100	120	140	160 (Max.Cont.)	175 (Max.Int.)
10	55	77	98	107	130	149	170	180
	115	109	106	101	91	75	53	45
20	50	81.6	105	118	132	160	178	189
	239	235	227	224	209	196	172	160
30	48	74	97	114	131	150	179	190
	364	360	357	345	332	321	300	284
40	45	71	95	105	128	149	177	188
	488	483	475	472	460	447	420	408
50	42	70	90	98	125	147	171	187
	619	615	607	598	593	568	547	535
60	38	63	85	95	118	142	169	185
	740	725	721	715	707	688	667	657
Max. Cont. 70	36	58	80	89	112	139	164	179
	860	853	839	837	823	811	790	776
Max. Int. 75	29	56	77	85	110	133	161	177
	925	915	910	899	888	871	853	837

MOMR100 [100.8cm 3/rev.]

Pressure (Bar)

Flow (L/min)	50	70	90	100	120	140	160 (Max.Cont.)	175 (Max.Int.)
10	70	100	122	138	159	182	210	222
	99	95	87	84	74	63	52	44
20	68	95	123	143	165	200	221	238
	199	194	188	182	175	162	150	138
30	62	94	121	140	164	194	220	240
	299	294	288	284	278	263	249	236
40	59	88	119	134	161	192	218	238
	400	398	387	385	380	366	350	336
50	55	83	117	125	157	185	217	235
	498	496	488	484	475	464	450	436
60	48	79	110	119	152	180	214	233
	599	595	587	585	579	569	552	538
Max. Cont. 70	43	70	100	112	142	170	201	229
	699	693	687	683	679	668	648	636
Max. Int. 75	39	63	97	105	140	167	197	227
	748	741	737	735	720	713	697	686

Cont
Int.

Torque (Nm) 167
Speed (rpm) 713

MOMR125 [124.9cm 3/rev.]

Pressure (Bar)

Flow (L/min)	50	70	90	100	120	140	160 (Max.Cont.)	175 (Max.Int.)
10	90	122	160	173	205	237	258	270
	73	71	66	63	55	42	23	14
20	85	118	159	172	208	250	278	292
	154	152	150	145	138	123	109	91
30	82	107	158	164	206	241	277	291
	237	236	233	226	219	207	192	170
40	79	105	150	161	204	238	275	289
	315	313	309	307	302	297	272	254
50	75	96	145	160	198	236	262	282
	398	397	395	391	381	368	353	337
60	62	95	139	158	183	222	254	279
	475	473	471	470	463	450	427	416
Max. Cont. 70	59	83	125	150	178	212	250	262
	554	553	551	550	546	538	514	500
Max. Int. 75	56	80	122	145	172	205	245	261
	598	597	593	590	586	577	551	537

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MOMR160 [157.2cm 3/rev.]

Pressure (Bar)

Flow (L/min)	50	70	90	100	120	140	160 (Max.Cont.)	175 (Max.Int.)
10	115	160	203	220	260	300	340	362
	58	55	52	50	44	38	34	26
20	114	160	205	230	265	320	355	380
	119	115	111	108	103	95	84	76
30	105	158	202	221	261	305	344	378
	184	181	177	172	165	153	134	130
40	100	145	196	218	257	299	340	374
	246	244	239	237	230	218	199	184
50	90	140	190	209	250	295	336	366
	307	305	302	300	292	280	262	244
60	84	136	180	199	240	286	330	360
	370	368	364	362	355	342	334	304
Max. Cont. 70	65	120	164	180	223	280	320	350
	435	434	430	427	416	405	335	366
Max. Int. 75	59	116	158	175	220	272	314	342
	465	462	458	456	447	433	416	395

MOMR200 [199.2cm 3/rev.]

Pressure (Bar)

Flow (L/min)	50	70	90	105	120	140 (Max.Cont.)	175 (Max.Int.)
10	148	205	255	290	327	370	442
	49	47	45	43	40	30	24
20	140	202	250	323	330	411	448
	99	97	93	90	86	78	65
30	130	193	241	307	325	377	445
	149	146	140	136	131	122	105
40	125	186	232	305	313	390	436
	200	197	192	188	181	170	149
50	120	177	225	295	305	382	427
	250	247	242	238	231	218	193
60	110	166	221	285	292	372	419
	300	298	291	287	282	268	236
Max. Cont. 70	98	150	205	244	278	331	410
	350	347	342	338	331	318	282
Max. Int. 75	85	141	199	235	268	323	400
	375	372	366	362	357	343	310

MOMR250 [252cm 3/rev.]

Pressure (Bar)

Flow (L/min)	30	50	70	80	100	110	140 (Max.Cont.)	175 (Max.Int.)
10	115	180	251	295	350	380	470	535
	40	38	37	35	32	30	22	16
20	110	178	252	294	352	385	470	548
	79	78	75	74	70	68	57	48
30	100	170	248	285	348	381	469	545
	120	119	117	116	110	107	95	79
40	91	159	232	268	332	366	460	530
	158	157	156	154	151	148	130	110
50	81	148	216	252	320	352	453	521
	200	198	196	195	163	160	152	147
60	75	132	201	235	305	340	433	505
	241	240	239	237	232	228	210	180
Max. Cont. 70	50	117	189	220	290	320	412	495
	280	279	277	276	271	268	250	215
Max. Int. 75	42	105	180	211	281	310	405	486
	300	299	298	297	295	289	272	239

MOMR315 [314.5cm 3/rev.]

Pressure (Bar)

Flow (L/min)	30	50	65	80	90	130 (Max.Cont.)	135 (Max.Int.)
10	135	215	279	343	383	515	550
	31	29	28	27	27	24	22
20	133	216	289	349	380	508	552
	62	61	60	58	57	52	50
30	125	205	275	341	375	494	543
	95	92	91	90	88	81	79
40	113	195	267	335	367	485	526
	123	121	120	118	117	106	104
50	92	170	253	321	352	474	511
	155	154	152	149	147	137	133
60	80	160	231	305	334	458	492
	190	187	193	179	176	163	157
Max. Cont. 70	57	136	215	285	320	444	480
	222	220	217	212	208	192	185
Max. Int. 75	55	124	205	269	308	427	469
	235	234	231	227	225	408	201

Torque (Nm) 205
Speed (rpm) 231

Cont
Int.

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MOMR375 [370cm 3/rev.]

Pressure (Bar)

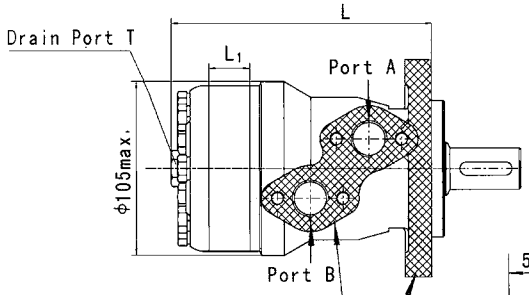
Flow (L/min)		30	50	65	80	90	130	135
	10	160	270	340	420	470	550	610
		26	25	24	22	21	19	17
	20	159	260	340	410	470	540	605
		53	52	51	49	47	42	37
	30	150	255	330	400	450	530	600
		79	78	77	75	73	67	60
	40	135	240	310	375	430	520	590
		106	105	104	102	99	93	85
	50	120	230	295	360	420	505	570
		134	132	131	129	126	120	110
	60	98	210	275	340	390	490	550
		159	158	157	155	153	147	135
Max.	70	75	175	250	320	370	465	530
Cont.		187	186	185	183	180	175	160
Max.	75	65	160	230	310	360	450	515
Int.		200	199	198	195	192	187	178

Max.Cont. Max.Int.

Cont
Int.

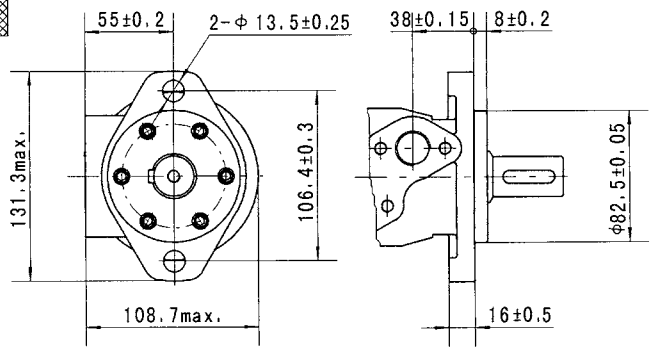
Torque (Nm) 230
Speed (rpm) 198

MOMR DIMENSIONS AND MOUNTING DATA



MOUNTING

Flange 2



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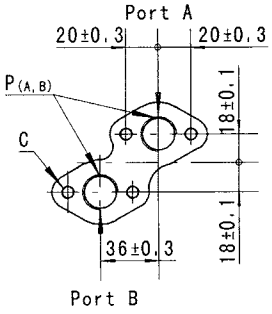

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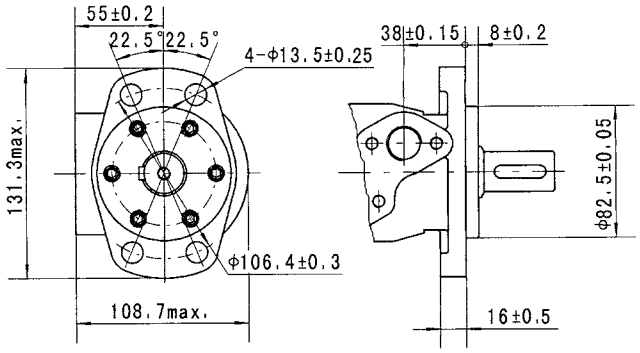
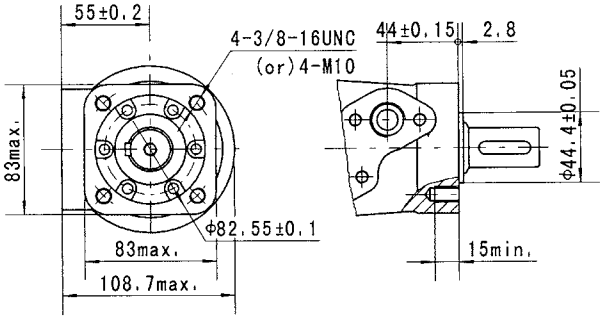


Flange H4/H5



Model	L	L1
MOMR36	137	7
MOMR50	140	10
MOMR80	146	16
MOMR100	150	20
MOMR125	155	25
MOMR160	161.5	30.5
MOMR200	170	38.1
MOMR250	180	50
MOMR315	192	62
MOMR375	204	74

Code / Mounting	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)

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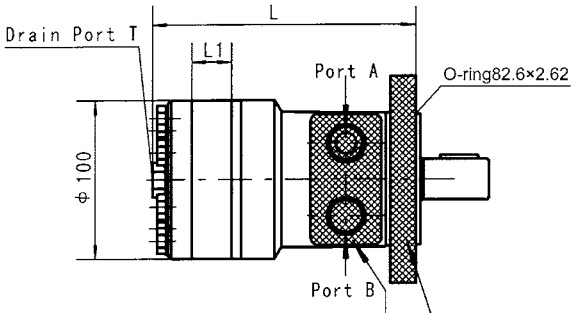
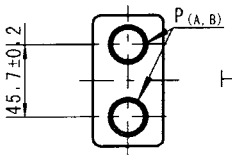
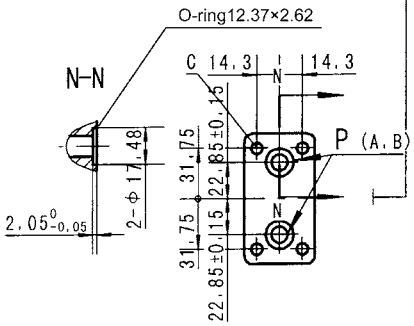
M103- DIMENSIONS AND MOUNTING DATA



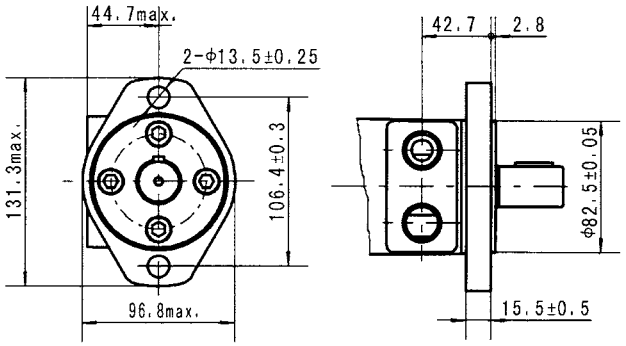
PORT: G、S、P、R、M1、M2、M3



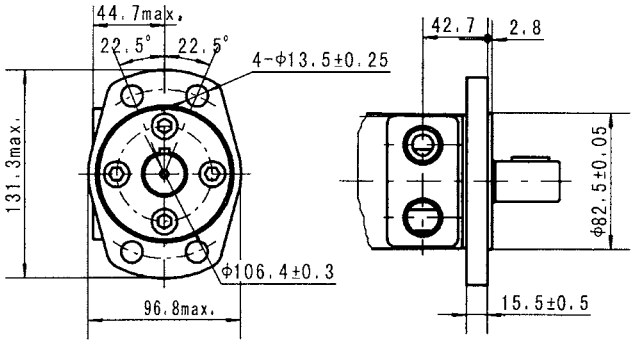
PORT: B4、B5



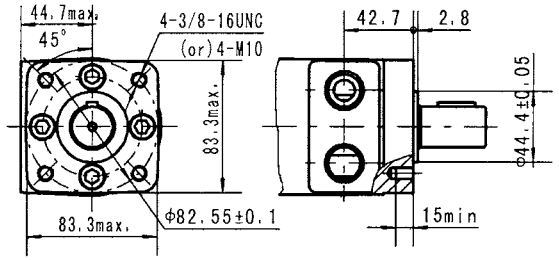
Flange H2



Flange H6



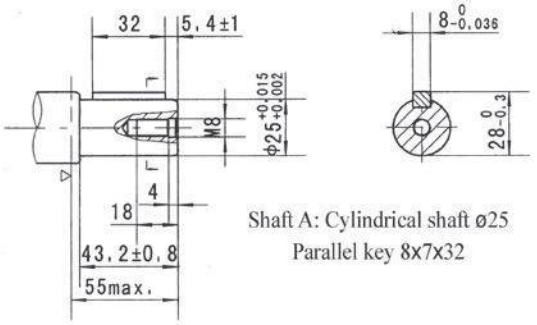
Flange H4/H5



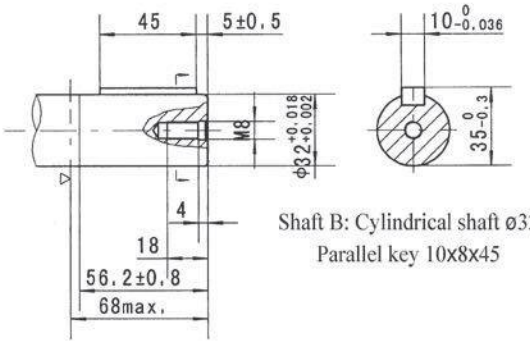
Model	L	L1
M103-36	141	7
M103-50	144	10
M103-80	150	16
M103-100	154	20
M103-125	159	25
M103-160	165.5	30.5
M103-200	174	38.1
M103-250	184	50
M103-315	196	62
M103-375	208	74

Code / Mounting	G (depth)	S (depth)	P (depth)	R (depth)	M1 (depth)	M2 (depth)	M3 (depth)	B4 (depth)	B5 (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)	M18 x 1.5 (15)	M20 x 1.5 (15)	M22 x 1.5 (15)	ø10	ø10
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)	M10 x 1 (12)	M10 x 1 (12)	M10 x 1 (12)	7/16-20UNF(12)	G1/4(12)
C	–	–	–	–	–	–	–	4-5/16-18UNC(13)	4-M8(13)

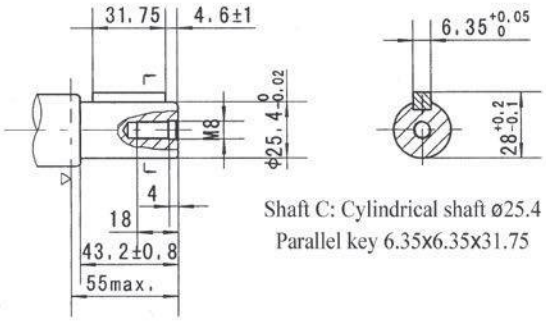
MOMR SHAFT EXTENSIONS DIMENSIONS DATA



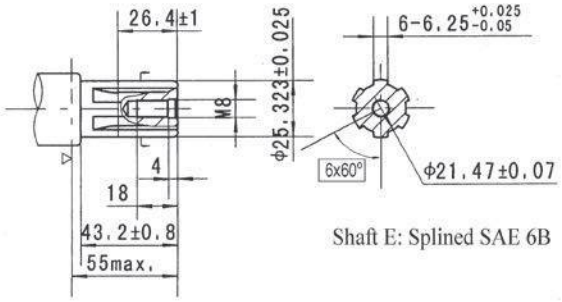
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



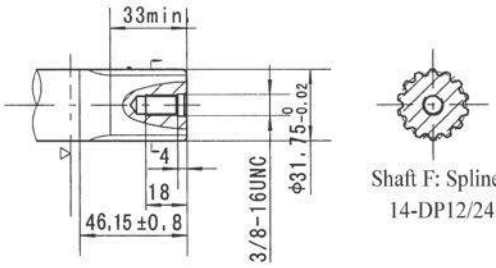
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



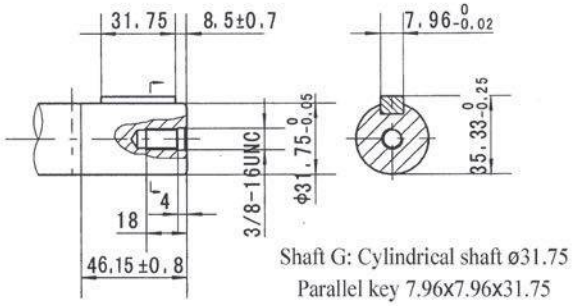
Shaft C: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75



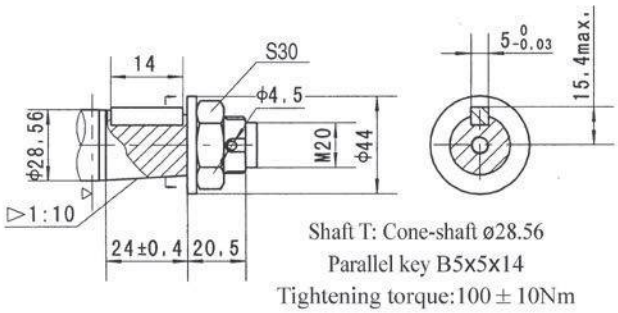
Shaft E: Splined SAE 6B



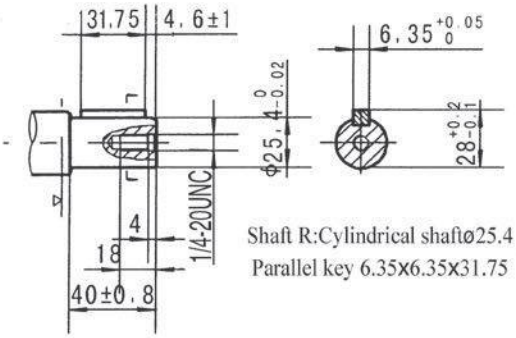
Shaft F: Splined
14-DP12/24



Shaft G: Cylindrical shaft ø31.75
Parallel key 7.96x7.96x31.75



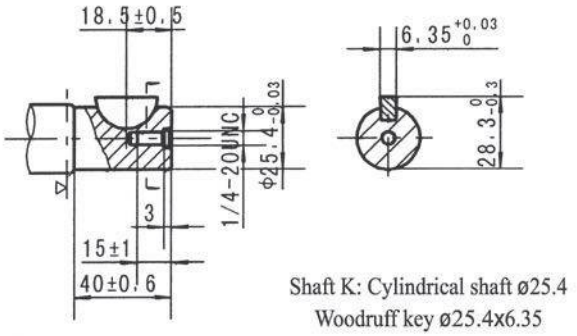
Shaft T: Cone-shaft ø28.56
Parallel key B5x5x14
Tightening torque:100 ± 10Nm



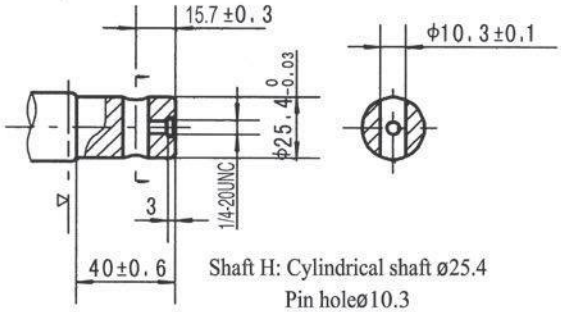
Shaft R:Cylindrical shaftø25.4
Parallel key 6.35x6.35x31.75

▷ Motor Mounting Surface

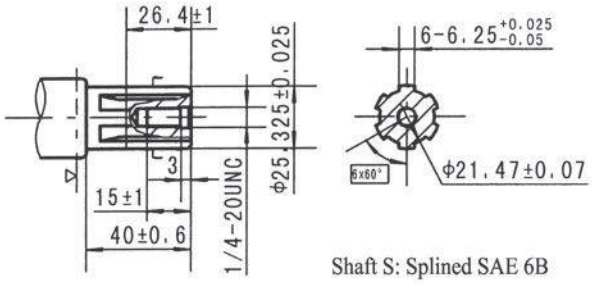
M103- SHAFT EXTENSIONS DIMENSIONS DATA



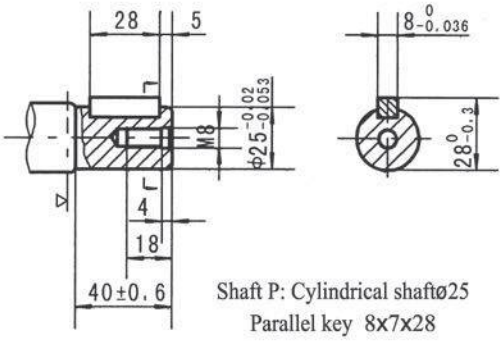
Shaft K: Cylindrical shaft ø25.4
Woodruff key ø25.4x6.35



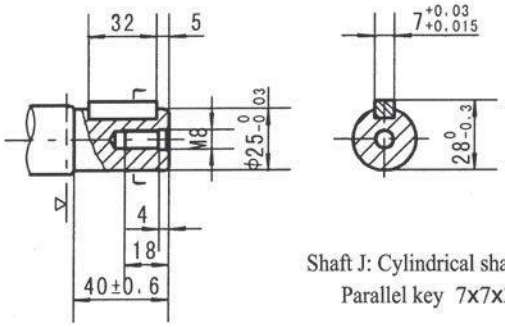
Shaft H: Cylindrical shaft ø25.4
Pin holeø10.3



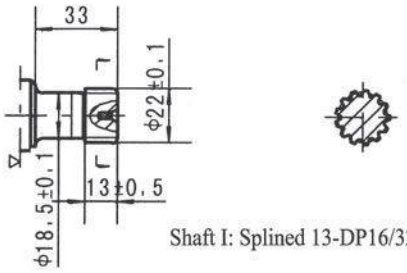
Shaft S: Splined SAE 6B



Shaft P: Cylindrical shaftø25
Parallel key 8x7x28



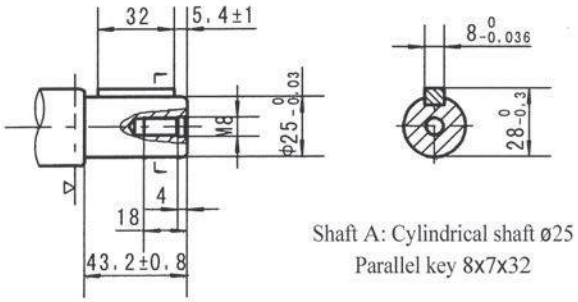
Shaft J: Cylindrical shaft ø25
Parallel key 7x7x32



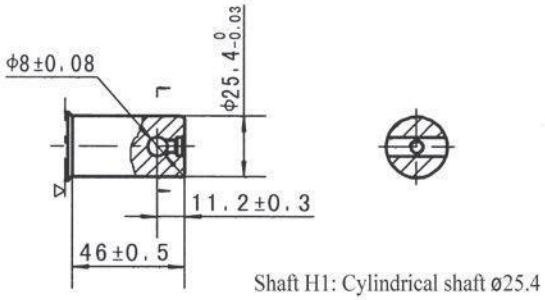
Shaft I: Splined 13-DP16/32

▷ Motor Mounting Surface

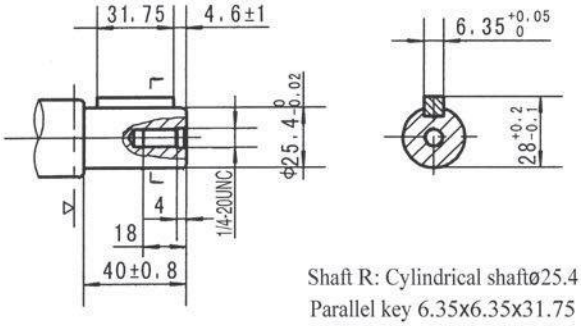
M103- SHAFT EXTENSIONS DIMENSIONS DATA



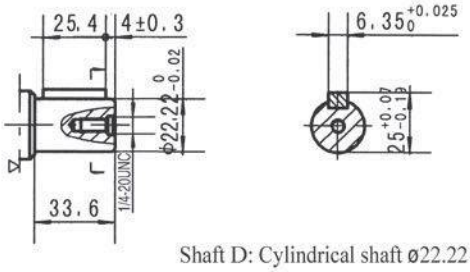
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



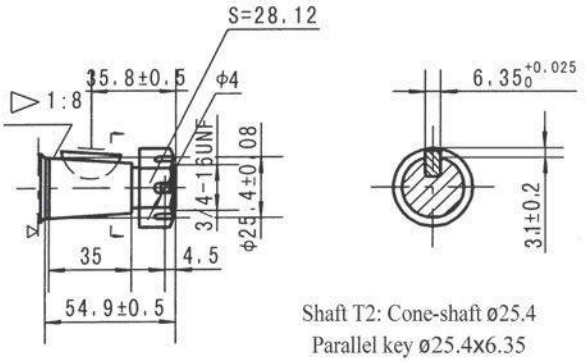
Shaft H1: Cylindrical shaft ø25.4
Pin hole ø8



Shaft R: Cylindrical shaftø25.4
Parallel key 6.35x6.35x31.75



Shaft D: Cylindrical shaft ø22.22
Parallel key 6.35x6.35x25.4

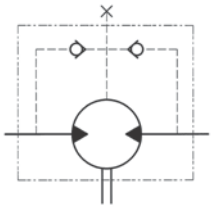


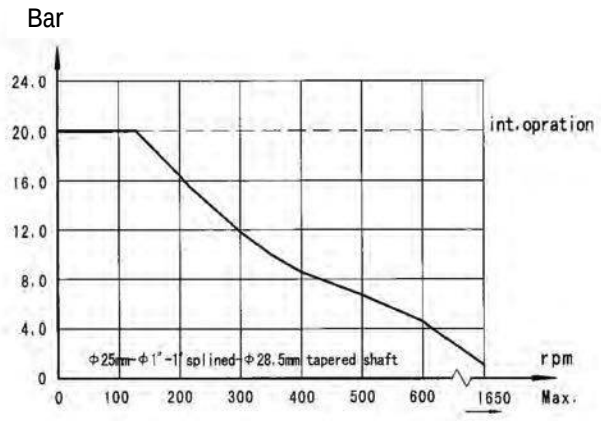
Shaft T2: Cone-shaft ø25.4
Parallel key ø25.4x6.35
Tightening torque:200 ± 10Nm

▷ Motor Mounting Surface

MOMR, M103- SERIES HYDRAULIC MOTOR

PERMISSIBLE SHAFT SEAL PRESSURE

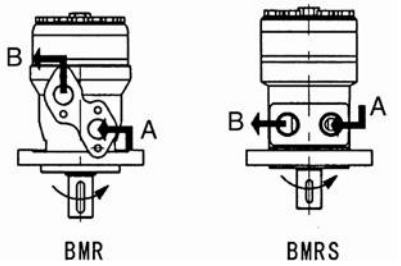




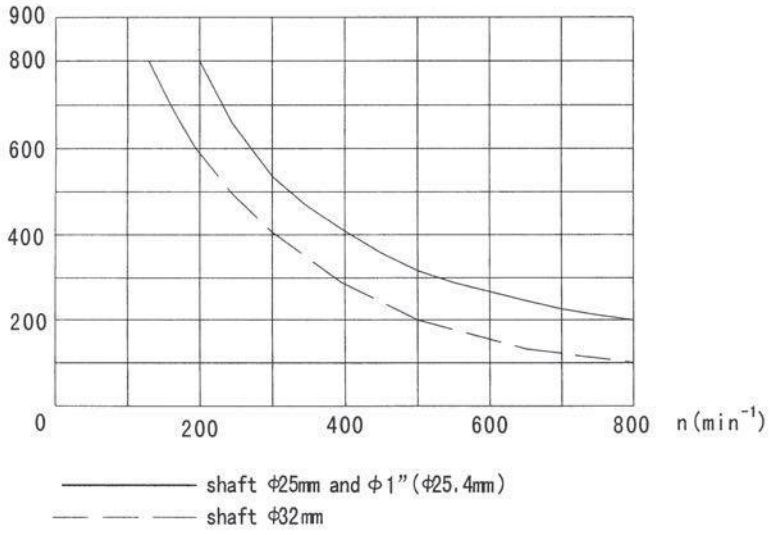
In applications without drain line, the shaft seal pressure is equal to the pressure in the return line.
When applications use the drain line, the pressure behind the output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION

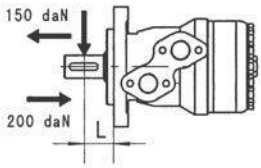
When facing shaft end of motor, shaft to rotate:
Clockwise when Port "A" is pressurised
Counter-clockwise Port "B" is pressurised



STATUS OF THE SHAFT'S RADIAL FORCE



$$F_r = \frac{800}{n} \cdot \frac{25000}{95+L} \text{ daN}$$



F_r =Radial Force (daN)
L =Distance (mm)
n =Speed (rpm)
Rhomb-flange L=30mm
Square-flange L=24mm

Itahydraulic
Power Tecnology

ORDER INFORMATION

1	2		3		4		5		6		7		8
Code	Disp.		Flange		Output Shaft		Port & Drain Port		Rotation Direction		Paint		Unusual Function
MOMR	36	2	2-∅13.5 Rhomb-Flange, Pilot ∅82.5x8	A	Shaft ∅25, Parallel Key 8x7x32	D	G1/2 Manifold Mount 4xM8, G1/4	Omit	Standard	00	No Paint	Omit	Standard
	50	4	4-∅13.5 Rhomb-Flange, Pilot ∅82.5x8	B	Shaft ∅32, Parallel Key 10x8x45	M	M22x1.5 Manifold Mount 4xM8, M14x1.5	R	Opposite	Omit	Blue	N	Large Radial Force
	80	H4	4-3/8-16 Square-Flange, Pilot ∅44.4x2.8	C	Shaft ∅25.4, Parallel Key 6.35x6.35x31.75	S	7/8-14 O-Ring Manifold 4-5/16-18UNC, 7/16-20UNF			B	Black	AX	Large Axial Force
	100	H5	4-M10 Square-Flange, Pilot ∅44.4x2.8	E	Shaft ∅25, Splined Tooth SEA 6B	P	1/2-14 NPFT Manifold 4-5/16-18UNC, 7/16-20UNF			S	Silver Grey	O	No Case Drain
	125			R	Short shaft ∅25.4, Parallel Key 6.35x6.35x31.75	R	PT(Rc)1/2 Manifold 4-M8,PT(Rc)1/4					F	Free Running
	160			F	Shaft ∅31.75, Splined Tooth 14-DP12/24							LS	Low Speed
	200			FD	Long Shaft ∅31.75, Splined Tooth 14-DP12/24								
	250			G	Shaft ∅31.75, Parallel Key 7.96x7.96x31.75								
	315			T	Cone Shaft ∅28.56, Parallel Key B5x5x14								
	400			T3	Cone Shaft ∅31.75, Parallel Key 7.96x7.96x25.4								

1	2		3		4		5		6		7		8
Code	Disp.		Flange		Output Shaft		Port & Drain Port		Rotation Direction		Paint		Unusual Function
M103	36	H2	2-∅13.5 Rhomb-Flange, Pilot ∅82.5x2.8	K	Shaft ∅25.4, Woodruff Key ∅25.4x6.35	D	G1/2 Manifold Mount 4-M8, G1/4	Omit	Standard	00	No Paint	Omit	Standard
	50	H6	4-∅13.5 Rhomb-Flange, Pilot ∅82.5x2.8	S	Sub-Shaft ∅25.4, Splined Tooth SAE 6B	M	M22x1.5 Manifold Mount 4-M8,M14x1.5	R	Opposite	Omit	Blue	N	Large Radial Force
	80	H4	4-3/8-16 Square-Flange, Pilot ∅44.4x2.8	A	Shaft ∅25, Parallel Key 6.35x6.35x31.75	S	7/8-14 O-Ring Manifold 4-5/16-18UNC, 7/16-20UNF			B	Black	AX	Large Axial Force
	100	H5	4-M10 Square-Flange, Pilot ∅44.4x2.8	R	Shaft ∅25.4, Splined Tooth SAE 6B	P	1/2-14 NPTF Manifold 4-5/16-16-18UNC, 7/16-20UNF			S	Silver Grey	O	No Case Drain
	125			H	Short Shaft ∅25.4, Parallel Key 6.35x6.35x31.75	R	PT(Rc)1/2 Manifold 4-M8, PT(Rc)1/4					F	Free Running
	160			H1	Shaft ∅31.75, Splined Tooth 14-DP12/24							LS	Low Speed
	200			D	Long Shaft ∅31.75, Splined Tooth 14-DP12/24								
	250			I	Shaft ∅31.75, Parallel Key 7.96x7.96x31.75								
	315			T2	Cone Shaft ∅28.56, Parallel Key B5x5x14								
	375			P									
				J									