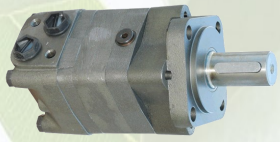
MS Hydraulic Orbit Motor



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)

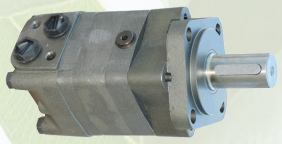
*Continuous pressure: Max. value of operating motor continuously.
*Intermittent pressure: Max. value of operating motor in 6 seconds per minute.
*Peak pressure: Max. value of operating motor in 0.6 second per minute

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 Gerolor 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.

MS Hydraulic Orbit Motor



PERFORMANCE DATA

MS80 [80.6cm³/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	20.5 (Max.cont.)	22.5 (Max.int.)
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**
50	30	77	117	153	192	224	248
	612	**603**	**592**	**581**	**572**	**558**	**542**
60	28	77	117	153	192	224	243
	735	**726**	**718**	**703**	**687**	**673**	**646**
65 (Max.cont.)	26	75	116	151	188	217	236
	794	**786**	**773**	**760**	**744**	**722**	**706**
80 (Max.int.)	24	72	109	142	176	206	227
	981	**968**	**955**	**925**	**893**	**870**	**832**

MS100 [100.8cm³/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	20.5 (Max.cont.)	22.5 (Max.int.)
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**
50	40	88	135	194	247	286	315
	486	**483**	**473**	**462**	**450**	**430**	**420**
60	37	88	132	185	244	283	312
	588	**584**	**574**	**562**	**550**	**538**	**520**
75 (Max.cont.)	35	80	130	180	240	279	310
	740	**735**	**720**	**705**	**696**	**676**	**653**
90 (Max.int.)	30	75	124	170	236	271	303
	850	**840**	**810**	**787**	**770**	**750**	**747**

MS125 [125cm³/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	20.5 (Max.cont.)	22.5 (Max.int.)
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**
50	50	115	176	248	315	362	397
	391	**386**	**378**	**365**	**352**	**339**	**308**
60	45	113	171	241	308	358	397
	469	**461**	**450**	**437**	**425**	**400**	**372**
75 (Max.cont.)	45	110	167	240	306	352	389
	588	**574**	**560**	**544**	**526**	**505**	**481**
90 (Max.int.)	40	105	162	237	301	343	378
	710	**696**	**680**	**661**	**646**	**628**	**610**

TORQUE(N•m) 301
SPEED (r/min) **646**

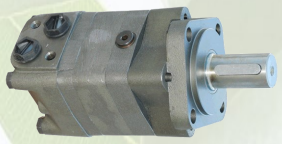
MS160 [154cm³/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	21 (Max.cont.)	22.5 (Max.int.)
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**
50	70	148	225	305	372	445	480
	313	**310**	**306**	**298**	**293**	**285**	**272**
60	68	143	218	296	370	442	480
	378	**376**	**370**	**362**	**353**	**346**	**332**
75 (Max.cont.)	62	140	211	291	365	439	475
	475	**469**	**461**	**450**	**441**	**432**	**414**
90 (Max.int.)	59	131	202	286	357	425	460
	567	**561**	**554**	**543**	**532**	**520**	**509**

cont.
int.

MS Hydraulic Orbit Motor



PERFORMANCE DATA (continued)

MS200 [194cm³/rev.]

Pressure (MPa)

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

Max.cont. Max.int.

MS250 [243cm³/rev.]

Pressure (MPa)

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

Max.cont. Max.int.

MS315 [311cm³/rev.]

Pressure (MPa)

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

Max.cont. Max.int.

MS400 [394cm³/rev.]

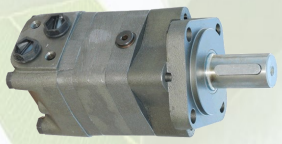
Pressure (MPa)

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

Max.cont. Max.int.

TORQUE (N•m) 766
SPEED (rpm) **208**

MS Hydraulic Orbit Motor



PERFORMANCE DATA (continued)

MS475 [475cm³/rev.]

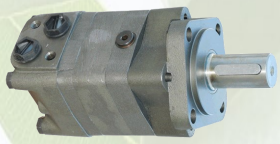
Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max.cont.)	15 (Max.int.)
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 (Max.cont.)	212 **155**	443 **153**	664 **147**	901 **140**	980 **132**
90 (Max.int.)	196 **186**	421 **184**	643 **178**	877 **170**	959 **157**

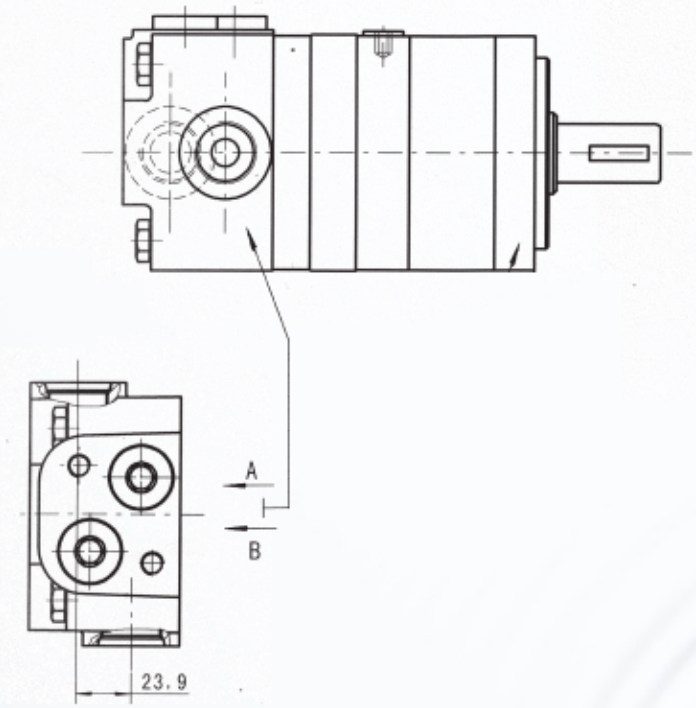
cont.

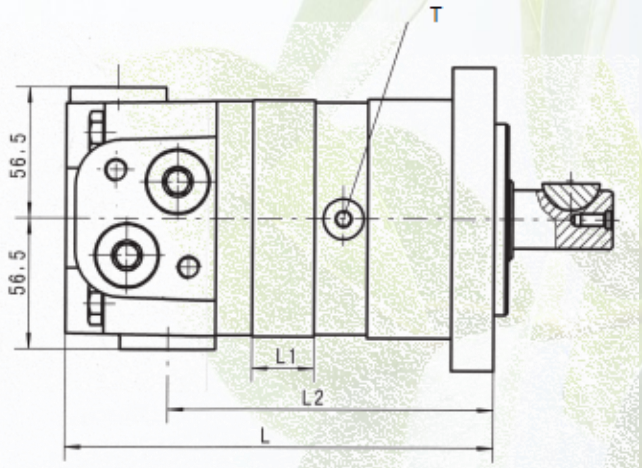
int.

MS Hydraulic Orbit Motor



OVERWIEV DRAWING

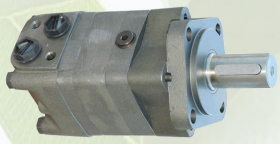




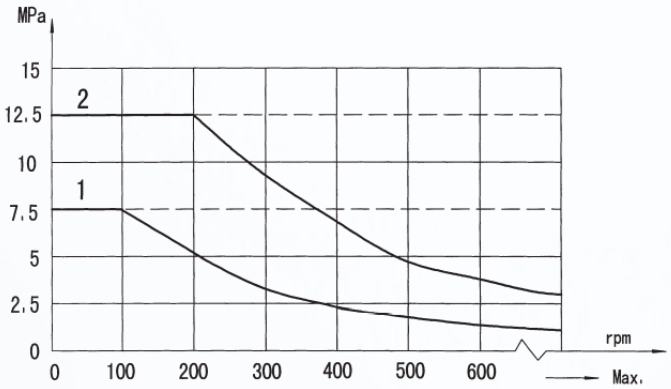
Mounting \ Code	EE-D (depth)
P(A,B)	G1/2 (15)
T	G1/4 (12)

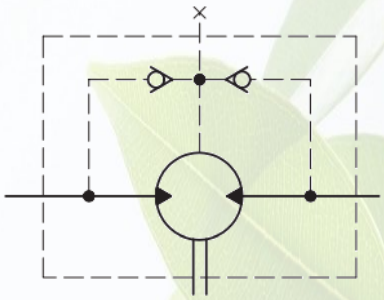
Model	MS 80	MS 100	MS 125	MS 160	MS 200	MS 250	MS 315	MS 400	MS 475
L	176mm	180mm	185mm	187mm	1994mm	202mm	214mm	229mm	243mm
L1	16mm	20mm	25mm	27mm	34mm	42mm	54mm	69mm	83mm
L2	130mm	134mm	139mm	141mm	148mm	156mm	168mm	183mm	197mm

MS Hydraulic Orbit Motor



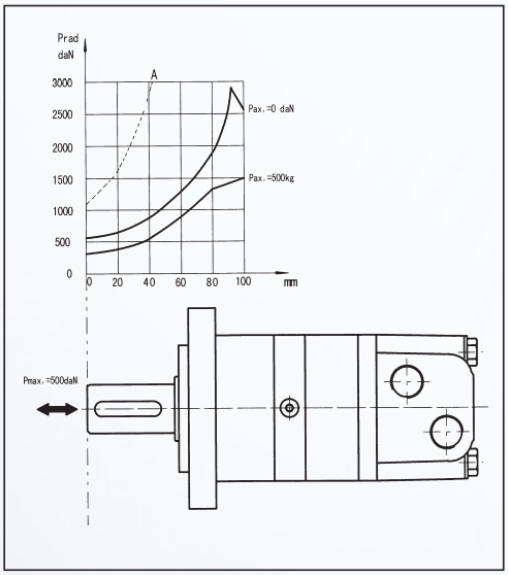
PERMISSIBLE SHAFT SEAL PRESSURE





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 return 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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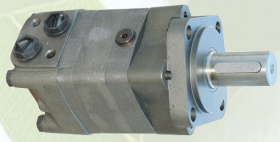
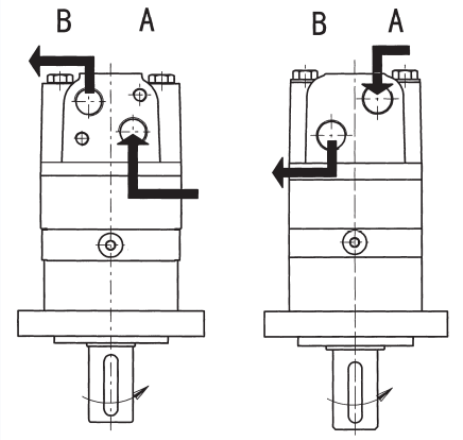


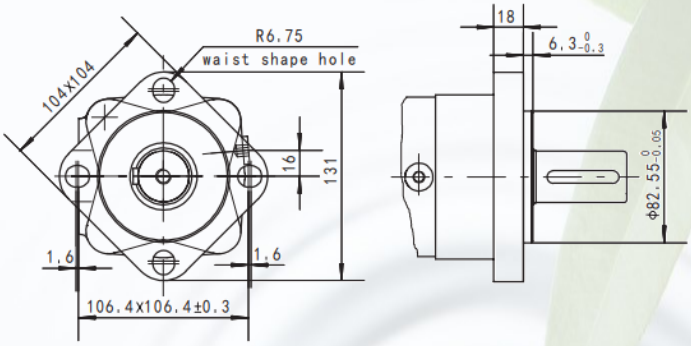
STANDARD DIRECTION OF SHAFT ROTATION



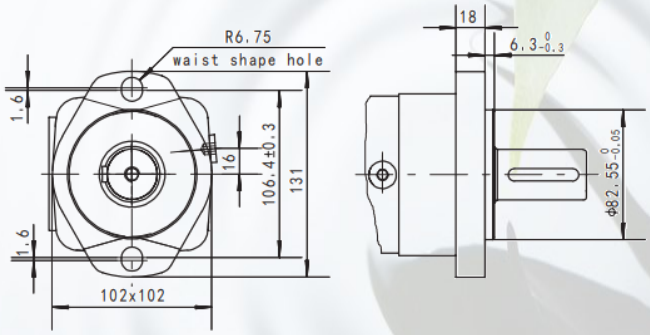
When facing shaft end of motor,shaft to rotate: Clockwise when port "A" is pressurized. Counter-clockwise port "B" is pressurized.

MOUNTING

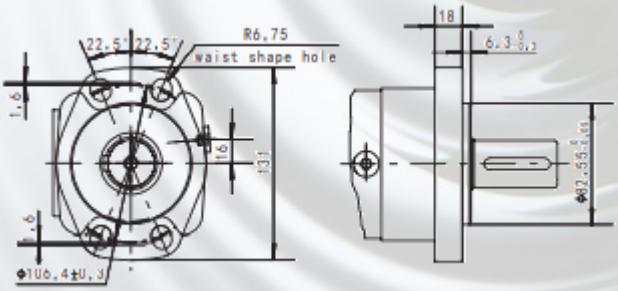
STANDARD



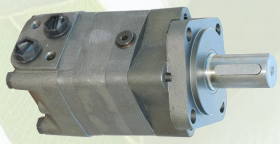
A



F

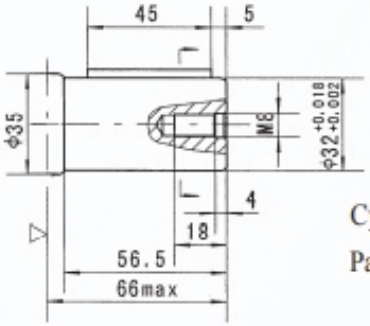


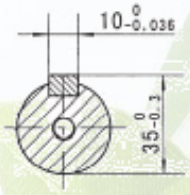
MS Hydraulic Orbit Motor



SHAFT EXTENSIONS

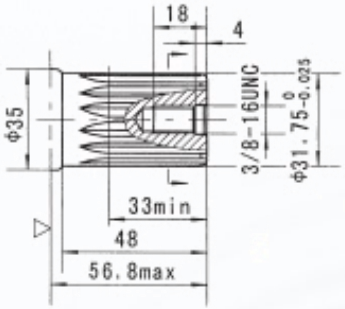
STANDARD





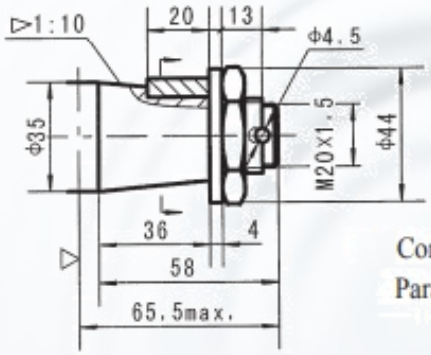
Cylindrical shaft ø32
Parallel key 10x8x45

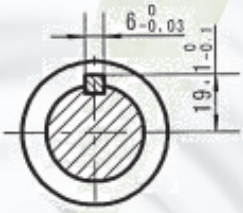
SH



Splined 14-DP12/24

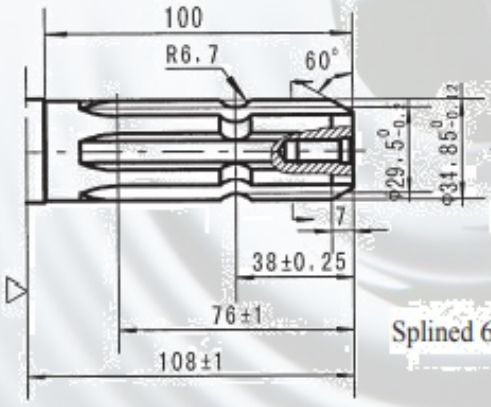
K





Cone-shaft ø35
Parallel key B6x6x20

SL



Splined 6-34.85x28.14x8.64