



## Usage Guide:

1. KM Series Hydraulic Motor is a low speed high torque motor with high power ratio per unit volume.
2. Avoid using the motor at both maximum speed and maximum pressure.
3. Motors can be used in series or parallel. When the back pressure exceeds 5MPa, it is recommended to connect the leakage port.
4. Optimum operating range of the motor :  $1/3 \sim 2/3$  cont. operating condition
5. Make sure the motor is filled with hydraulic oil before running.
6. Maximum operating oil temperature : 80°C.
7. The recommended oil : Antiwear hydraulic oil with viscosity of 37~73cst, Oil cleanliness ISO18/13.

## ▶ KM1 Series



### Structural features:

- Compact distribution shaft and integral rotor design, small volume, high power density.
- Reliable shaft seal design, withstand high back pressure, can be used in series and parallel.
- Convenient positive and negative conversion, stable speed.
- For optimum efficiency and economic performance, suitable for medium load applications.
- A variety of output shaft, flange, oil port connection.

### Main Specification

displacement (ml/r)		50	63	80	100	125	160	200	250	315	400
flow (LPM)	cont.	45	45	60	60	60	60	60	60	60	60
	int.	50	50	75	75	75	75	75	75	75	75
speed (RPM)	cont.	879	720	740	589	475	370	296	237	189	149
	int.	975	755	827	673	594	463	370	297	236	185
pressure (MPA)	cont.	12.5	12.5	12.5	12.5	12.5	12.5	11	11	10	8.5
	int.	16.5	16.5	16.5	16.5	16.5	16.5	16.5	14	12.5	10.5
torque (N*M)	cont.	81	101	129	161	202	245	286	360	406	435
	int.	108	134	171	213	268	342	390	456	505	533
Output power (KW)	cont.	10	10	10	10	10	10	10	8.5	7	6
	int.	12	12	12	12	12	12	12	10.5	8.5	7

#### Introductions :

1. **Maximum intermittent value:** The maximum that the motor can operate continuously
2. **Intermittent value:** The maximum that allows the motor to last 6 seconds in a minute.
3. **Avoid operating under the conditions of maximum speed and maximum pressure simultaneously.**
4. **Optimal operating range of the motor:** 1/3 ~ 2/3 continuous operating conditions.

# KM1

## Performance Data

Continuous working area

Intermittent working area

### 50ml/r

pressure P (Mpa) 连续最大 断续最大  
Max. cont. Max. int.

	3	6	7	8	10	11	12.5	16.5
8	18	36	42	50	60	72	79	102
	150	147	144	140	137	127	122	90
15	19	37	43	48	61	73	83	105
	290	285	283	276	275	265	256	230
20	17	37	42	50	62	72	80	107
	388	385	381	375	372	365	352	332
30	15	36	42	50	63	70	81	108
	584	578	570	566	560	555	546	516
35	15	35	42	50	60	68	80	106
	680	675	670	662	654	646	640	610
45	14	34	40	48	62	70	80	107
	878	868	863	856	849	840	830	798
50	13	35	40	48	63	69	79	
	970	960	955	950	942	935	925	

### 63ml/r

pressure P (Mpa)

	3	6	7	8	10	11	12.5	16.5
8	22	46	54	62	76	91	98	126
	125	124	123	121	118	116	113	72
15	22	46	54	60	76	91	104	132
	233	231	229	227	224	222	219	185
20	20	46	54	63	78	90	100	134
	310	309	307	305	301	298	294	263
30	20	45	53	63	79	88	102	135
	465	463	462	460	457	455	451	409
35	19	44	53	63	79	84	100	133
	543	540	539	537	533	531	528	484
45	18	42	50	60	78	88	100	134
	705	702	700	698	695	693	689	633
50	16	44	50	60	79	82	97	
	781	778	776	774	770	768	764	

Torque 82N.m  
Speed 768 rpm

### 80ml/r

pressure  $\Delta P$  (Mpa)

	3	6	7	8	10	11	12.5	16.5
8	28	60	70	80	100	110	128	168
	97	93	92	89	84	80	75	50
15	28	61	70	80	100	114	128	170
	184	181	178	174	169	166	160	140
20	27	60	70	80	100	112	129	170
	246	243	240	238	234	230	223	205
30	26	60	69	79	100	110	128	170
	370	366	363	360	354	350	345	323
35	25	58	67	77	100	110	126	170
	432	426	424	420	415	411	405	385
45	23	53	65	77	95	108	124	168
	554	550	546	541	536	530	524	503
50	20	55	65	75	95	105	123	168
	616	608	606	603	599	593	585	560
60	19	53	62	75	95	108	122	168
	741	732	727	722	717	712	707	675
75	16	47	60	70	90	104	121	
	825	820	815	810	808	804	795	

### 100ml/r

pressure  $\Delta P$  (Mpa)

	3	6	7	8	10	11	12.5	16.5
8	35	74	88	100	126	140	160	210
	78	75	73	70	64	68	56	35
15	35	74	85	100	126	140	160	212
	150	145	144	141	137	133	129	110
20	34	74	88	100	125	145	161	212
	197	195	193	190	189	183	178	160
30	33	71	85	95	123	138	158	212
	295	294	293	290	288	283	279	259
35	29	70	81	95	120	135	155	212
	347	345	344	342	337	335	330	310
45	30	66	80	93	120	133	155	208
	445	443	442	439	435	432	426	405
50	25	66	79	93	118	134	152	207
	498	495	493	491	485	480	476	456
60	22	65	75	93	116	132	152	207
	599	594	589	587	584	577	573	548
75	20	58	75	88	113	129	150	
	674	666	663	660	655	653	648	

### 125ml/r

pressure  $\Delta P$  (Mpa)

	3	6	7	8	10	11	12.5	16.5
8	44	94	112	128	158	180	200	263
	60	59	58	56	53	50	45	25
15	44	95	111	127	160	178	205	265
	118	116	115	114	110	108	105	85
20	42	95	108	128	158	175	202	268
	159	157	156	153	150	145	142	129
30	40	92	108	125	156	178	198	265
	236	235	233	230	225	220	218	206
35	38	87	107	122	154	174	195	268
	226	273	273	272	268	265	262	247
45	37	85	102	120	152	173	194	265
	355	352	351	349	345	341	339	322
50	33	85	98	120	149	170	192	260
	395	392	390	388	385	384	380	365
60	32	83	98	117	148	165	191	259
	476	470	468	465	461	459	454	436
75	25	75	95	110	142	160	185	
	594	588	585	582	577	570	565	

### 160ml/r

pressure  $\Delta P$  (Mpa)

	3	6	7	8	10	11	14	16.5
8	56	120	143	160	200	226	245	334
	47	46	45	44	42	40	38	24
15	56	120	135	160	202	226	245	341
	93	93	92	90	88	86	83	75
20	55	120	143	160	203	226	245	343
	120	118	117	116	115	114	114	104
30	54	118	140	160	200	225	242	340
	185	184	183	181	178	176	175	163
35	53	115	138	157	199	220	242	337
	214	213	212	211	208	207	205	196
45	52	112	135	156	198	220	238	335
	277	275	274	273	270	268	265	256
50	45	110	132	153	195	215	233	330
	308	307	305	303	300	298	296	288
60	44	106	130	150	192	214	230	329
	368	366	365	364	362	360	357	347
75	32	95	120	142	183	205	221	
	462	458	457	456	453	451	448	

# KM1 Motor Performance Data

Continuous working area

Intermittent working area

200ml/r

pressure  $\Delta P$  (Mpa)

3	6	7	8	10	11	15
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流量 Flow (LPM)	8	75 38	155 37	178 36	204 35	255 33	283 29	385 12
	15	72 74	152 72	180 71	206 70	259 68	265 66	390 57
	20	71 99	151 98	178 97	205 95	255 94	285 91	390 81
	30	70 148	149 147	175 146	200 145	254 142	285 138	388 126
	35	68 173	146 172	172 171	200 168	250 165	280 163	383 154
	45	63 220	142 219	170 218	195 216	248 213	278 211	382 200
	50	58 245	138 243	166 242	195 241	242 238	273 236	378 225
	60	56 295	135 294	165 293	190 292	240 289	270 286	375 276
	75	42 370	122 365	150 364	178 362	226 359		

250ml/r

pressure  $\Delta P$  (Mpa)

3	6	7	8	10	11	14
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流量 Flow (LPM)	8	94 30	195 29	225 28	259 27	326 25	357 24	
	15	90 60	193 59	225 58	260 57	326 55	360 53	455 48
	20	89 78	191 78	225 77	258 76	320 74	355 73	455 65
	30	84 118	188 117	220 117	250 116	320 114	354 112	452 103
	35	82 135	184 134	218 132	252 131	316 127	350 125	448 120
	45	79 179	179 178	215 177	246 176	310 174	345 172	442 163
	50	74 199	174 196	210 195	243 194	306 192	338 191	438 184
	60	70 236	171 235	206 235	239 234	300 230	336 228	432 222
	75	55 297	155 295	190 295	221 294	280 292	312 291	

315ml/r

pressure  $\Delta P$  (Mpa)

3	6	7	8	10	12.5
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流量 Flow (LPM)	8	115 25	244 24	282 22	312 17	388 13	
	15	116 46	243 46	284 45	324 43	406 40	503 20
	20	114 62	242 62	282 61	325 57	405 56	505 44
	30	109 93	238 93	276 92	320 90	400 88	500 76
	35	105 109	232 108	273 107	314 105	398 103	498 93
	45	100 140	225 140	268 138	310 136	390 135	490 125
	50	92 156	218 155	262 154	306 153	384 150	486 140
	60	89 188	215 187	258 186	300 184	378 180	478 170
	75	69 236	195 235	236 233	278 232	355 228	

400ml/r

pressure  $\Delta P$  (Mpa)

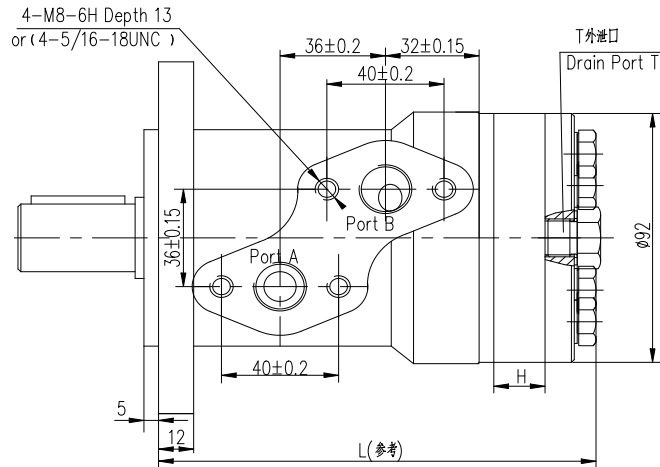
3	6	7	8	8.5	12.5
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流量 Flow (LPM)	8	147 19	305 18	355 17			
	15	147 38	308 37	359 35	406 33	435 32	531 26
	20	144 49	305 49	358 47	408 45	435 43	510 37
	30	137 73	300 73	352 72	400 70	433 68	528 63
	35	135 85	294 85	345 84	395 82	425 81	525 73
	45	130 110	286 110	339 108	390 106	420 105	515 100
	50	117 124	278 124	330 122	382 120	410 119	503 113
	60	112 148	274 148	326 147	378 146	402 145	500 138
	75	88 185	246 185	298 184	350 182	376 180	

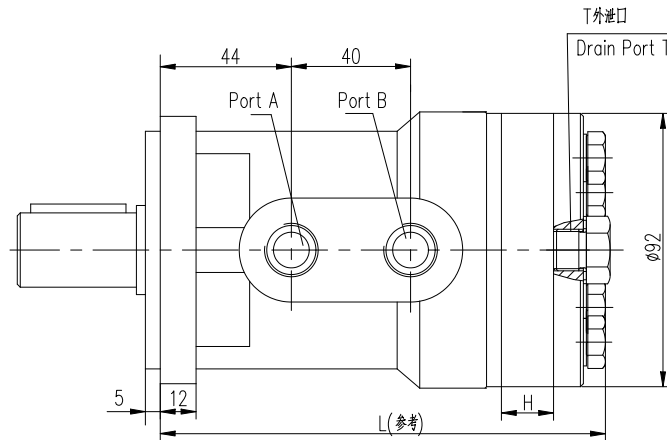
The data in the table are tested under the condition of 68# antiwear hydraulic oil and 50°C oil temperature. The results of different motors are slightly different.

## KM1 series motor dimension

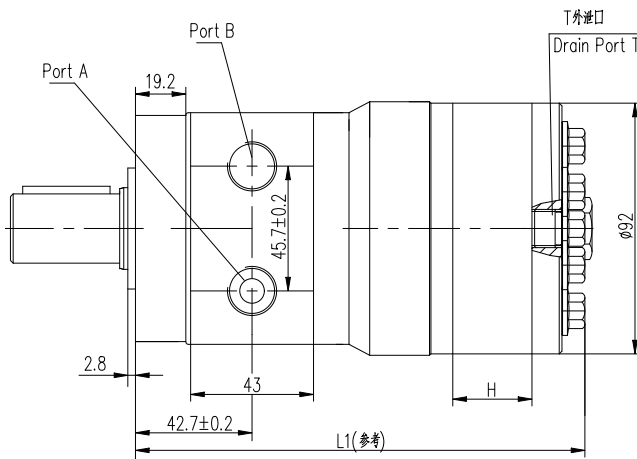
S shaped



L shaped



H shaped



排量	50	63	80	100	125	160	200	250	315	400
H	9	11.5	14.5	17.8	23	29	37	46	57	72
L	143	145.5	148.5	151.8	157	163	171	180	191	206
L1	145	147.5	150.5	154	159	165	173	182	193	208

马达标准旋向:

面对输出轴轴端, A油口进油, 马达顺时针旋转。

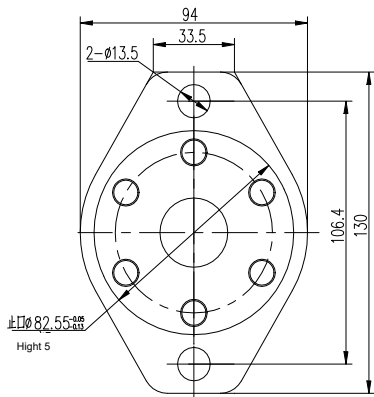
Standard Direction of The Motor Rotation:

CW----When A Port pressurized, Viewed From the Shaft End.

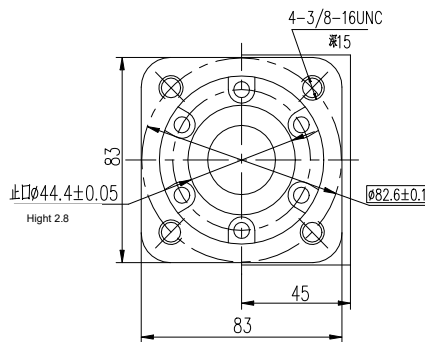
# KM1 connection dimension----

## Mounting Flange

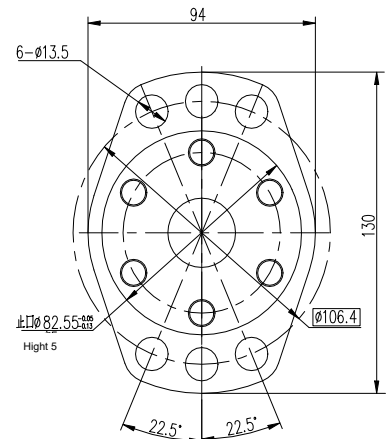
A 法兰  
Flange A



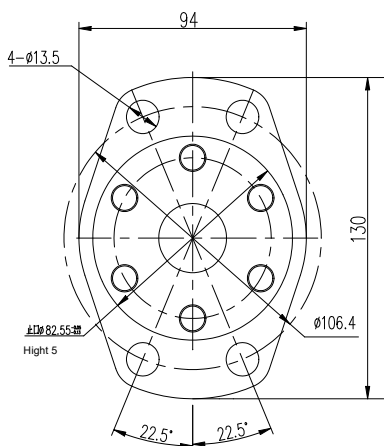
B 法兰  
Flange B



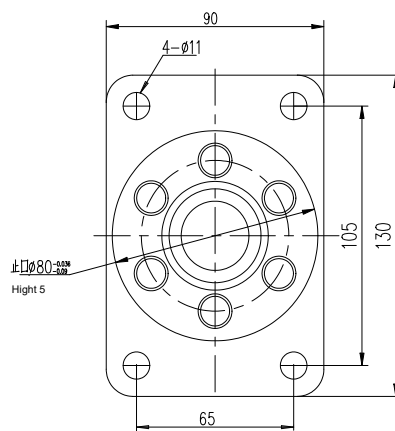
C 法兰  
Flange C



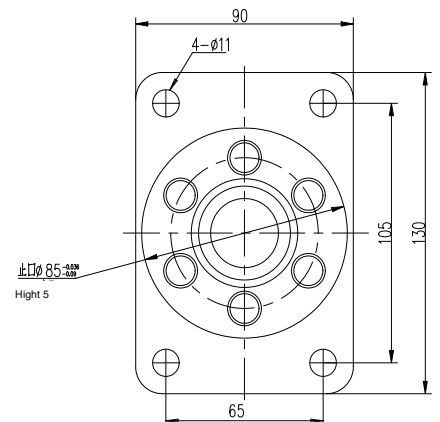
D 法兰  
Flange D



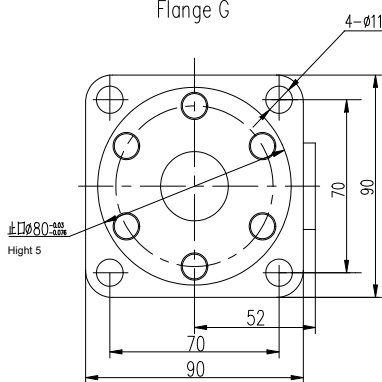
E 轴  
Flange E



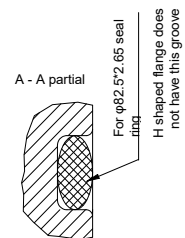
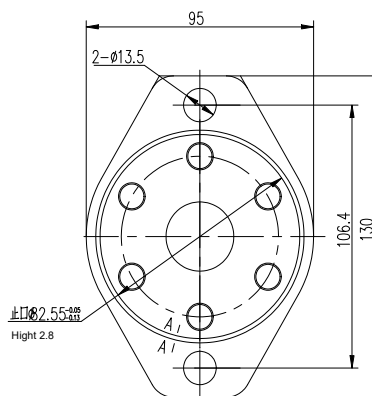
F 轴  
Flange F



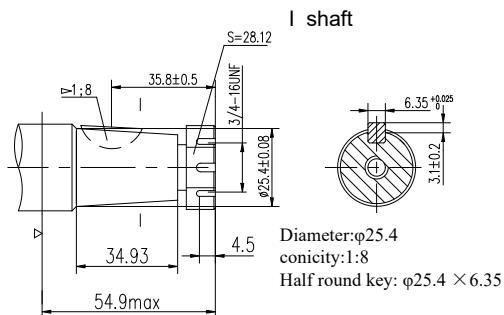
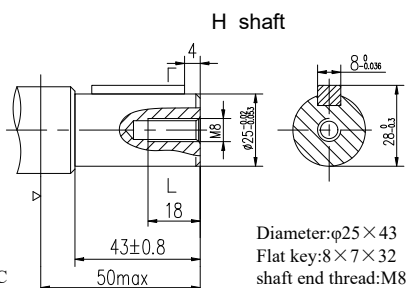
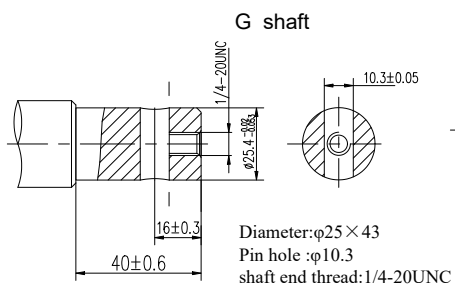
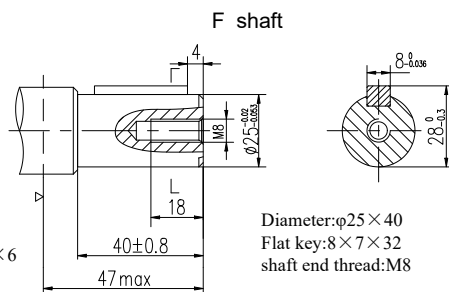
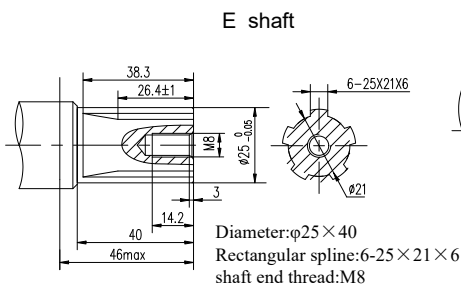
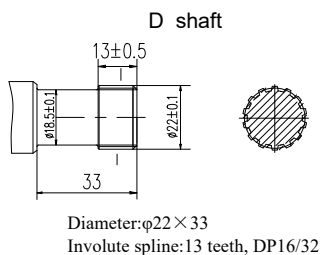
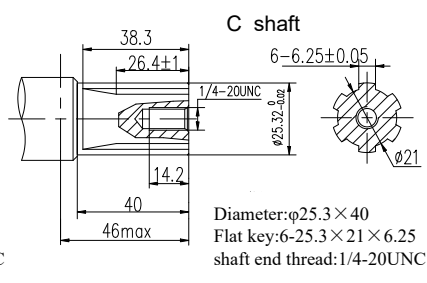
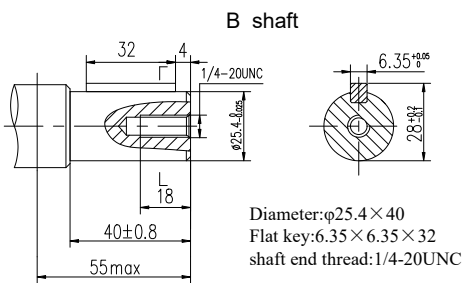
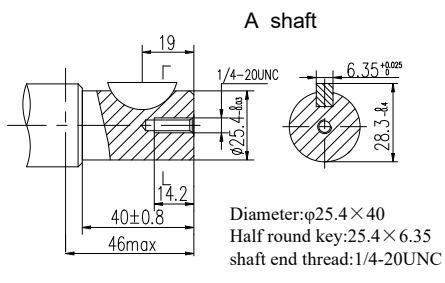
G 法兰  
Flange G



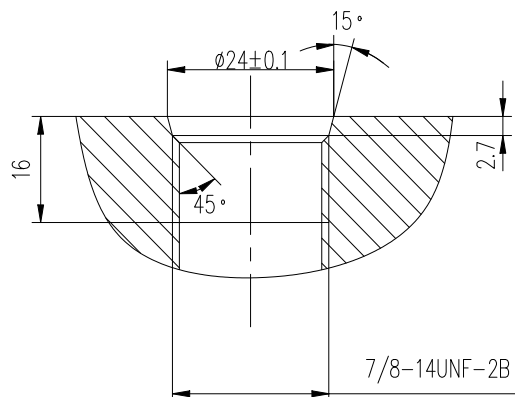
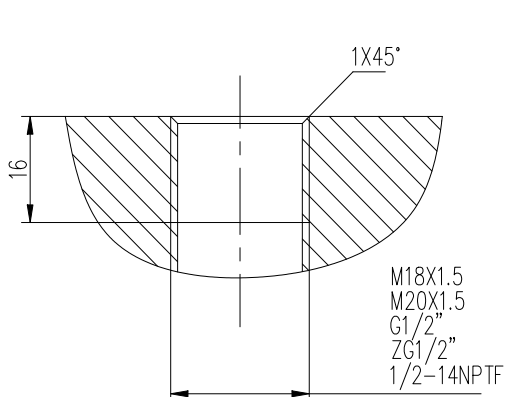
H (I) 法兰  
2 Bolt Flange H (I)



# KM1 ---output shaft



# KM1 oil Port





# KM1 Ordering Information (8 Code Form)

KM1	1	2	3	4	5	6	7	8
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pos 1		2		3		4		5		6		7		8	
configuration		displacement (ml/r)		Flange & front edge (mm)		shaft & key (mm)		oil port		external thread at the oil port surface		Drain port		special requirement	
S	S oil port	A	50	A	rhombus flange, 2- φ13.5 center distance 106.4, front edge φ82.5X5	A	cylinder axis; φ25.4X40, woodruff key: φ25.4X6.35 shaft end thread: 1/4- 20UNC	A	2-G1/2	A	no	A	no	A	normal
L	Straight oil port	B	63	B	square flange 83X83, 4-3/8-16UNC reference circle φ82.55, front edge φ44.4X2.8	B	cylinder axis; φ25.4X40 flat key: 6.35X6.35X32, shaft end thread: 1/4- 20UNC	B	2- M22X1.5	B	4-M8	B	M14X1.5	B	big radial force
H	thwartwise oil port	C	80	C	6 holes rhombus flange, 6-φ13.5 reference circle φ106.4, front edge φ82.5X5	C	rectangle spline: φ25.3X40, 6-25.3X21.5X6.25, shaft end thread: 1/4- 20UNC	C	2-7/8- 14UNF SAE	C	4-5/16- UNC	C	G1/4		
		D	100	D	4 bolt rhombus flange, 4-φ13.5 reference circle φ106.4, front edge φ82.5X5	D	involute spline: φ22X33, 13 teeth, DP12/24	D	2-1/2- 14NPTF			D	7/16- 20UNF		
		E	125	E	rectangle flange 130X90, 4- φ11 distributed 105X65, front edge φ80X5	E	rectangle spline: φ25X40, 6- 25X21X6 shaft end thread: M8	E	2-PT 1/2			E	M10X1		
		F	160	F	rectangle flange 130X90, 4- φ11 distributed 105X65, front edge φ85X5	F	cylinder axis; φ25X40 flat key: 8X7X28 shaft end thread: M8	F	2- M20X1.5						
		G	200	G	square flange 90X90, 4- φ11 distributed 70X70, front edge φ80X5	G	cylinder axis; φ25.4 X40, pin hole: φ10.3	G	2- M18X1.5						
		H	250	H	rhombus flange, 2- φ13.5 center distance 106.4, front edge φ82.5X2.8	H	cylinder axis; φ25X43 flat key: 8X7X32 shaft end thread :M8								
		I	315	I	rhombus flange, 2- φ13.5 center distance 106.4, front edge φ82.5X2.8 (with "O" ring seal outside)	I	conical shaft: φ25.4, conicity: 1:8 woodruff key: : φ25.4X6.35								
		J	400												

## KM1 Ordering Information (8 Code Form)

Ordering Instruction : 11\* - 0010

series code

Specification number

113 series are unitary 3 bearings "S"oilport, straight oil port or thwartwise oil port

116 series are unitary 3 bearings thwartwise oil port

117 series are unitary 3 bearings "S"oil port.

product features			displacement/serial number									
flange	output shaft	Oil port	50	63	80	100	125	160	200	250	315	400
square flange front edge Φ80	Φ25straight shaft, flat key 8 shaft end threadM8	2-M18X1.5	113-0010	-0011	-0012	-0013	-0019	-0014	-0015	-0016	-0017	-0018
square flange front edge Φ80	Φ25straight shaft, flat key 8 shaft end threadM8	2-M18X1.5 drain portM14X1.5	113-0020	-0021	-0022	-0023	-0029	-0024	-0025	-0026	-0027	-0028
rhombus flange front edge Φ82.55	Φ25.4 shaft, flat key 6.35shaft end thread 0.25-20UNC	S oil port7/8-14UNF screw hole4-5/16- 18UNC drain port7/16- 20UNF	113-0100	-0101	-0102	-0103	-0109	-0104	-0105	-0106	-0107	-0108
square flange, front edge Φ44.4X2.8	Φ25.4 shaft, flat key 6.35 shaft end thread 0.25-20UNC	S oil port1/2"- 14NPTFdrain port7/16-20UNF screw hole4-5/16- 18UNC	113-0240	-0241	-0242	-0243	-0249	-0244	-0245	-0246	-0247	-0248
square flange, front edge Φ44.4X2.8	Φ25.4 shaft, flat key 6.35shaft end thread 0.25-20UNC	S oil port7/8-14UNF screw hole5/16- 18UNC drain port7/16- 20UNF	113-0250	-0251	-0252	-0253	-0259	-0254	-0255	-0256	-0257	-0258
rhombus flange, front edge Φ82.55	Φ25 shaft, flat key 8shaft end threadM8	S oil portG1/2 screw hole4-M8	113-0330	-0331	-0332	-0333	-0339	-0334	-0335	-0336	-0337	-0338
rhombus flange, front edge Φ82.55	Φ25 shaft, flat key 8shaft end threadM8	S oil port G1/2" drain portG1/4" screw hole4-M8	113-0370	-0371	-0372	-0373	-0379	-0374	-0375	-0376	-0377	-0378
square flange, front edge Φ80	spline shaft 6D- 25X21X6, shaft end threadM8	straight oil port M18X1.5 drain portM14X1.5	113-1120	-1121	-1122	-1123	-1129	-1124	-1125	-1126	-1127	-1128
rhombus flange, front edge Φ82.55	spline shaft 6D-25.3X21.5X6.2 shaft end thread0.25- 20UNC	S oil port G1/2 drain port G1/4 screw hole4-M8	113-1280	-1281	-1282	-1283	-1289	-1284	-1285	-1286	-1287	-1288
rectangle flange, front edge Φ85	Shaft 6D- 25X22X6shaft end threadM8	M20X1.5, drain portM14X1.5	113-1300	-1301	-1302	-1303	-1309	-1304	-1305	-1306	-1307	-1308
4 holes rhombus flange, front edge Φ82.55	spline shaft 6D-25.3X21.5X6.2 spindle nose length39 shaft end threadM8	S oil port G1/2" drain port G1/4" screw hole4-M8	113-1320	-1321	-1322	-1323	-1329	-1324	-1325	-1326	-1327	-1328
4 holes rhombus flange, front edge Φ82.55	spline shaft 6D-25-X22X6 spindle nose length40 shaft end threadM8	S oil port G1/2" drain port G1/4" screw hole4-M8	113-1330	-1331	-1332	-1333	-1339	-1334	-1335	-1336	-1337	-1338
square flange, front edge Φ44.4X2.8	spline shaft 6D-25.3X21.5X6.2 shaft end thread0.25- 20UNC	S oil portG1/2 screw holeM8 drain portG1/4	113-1340	-1341	-1342	-1343	-1349	-1344	-1345	-1346	-1347	-1348
4 holes rhombus flange, front edge Φ82.55	spline shaft 6D-25.3X21.5X6.2 spindle nose length39 shaft end threadM8	S oil port M18X1.5 drain port M14X1.5 screw hole4-M8	113-1350	-1351	-1352	-1353	-1359	-1354	-1355	-1356	-1357	-1358