

Features

BMS motor is a disc valve type gerolor motor.Characteristic features.

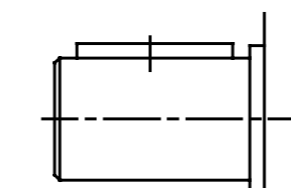
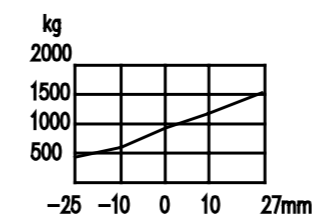
- ⊙Advanced design in disc distribution flow, which can provide improved performance at low speed.
- ⊙The valve can automatically compensate for the wear, so the volumetric is high .
- ⊙Double taper roller bearings permit high radial loads. The motors can be used on heavier vehicles in traction drive applications.



Specification Data

		(ml/r)								
Displacement		80	100	125	160	200	250	305	400	500
(LPM)	Cont.	75	75	75	75	75	75	75	75	75
	Flow Int..	85	95	95	115	115	115	115	130	130
(RPM)	Cont.	850	675	522	430	345	276	226	180	144
	Speed Int..	956	855	700	660	529	423	347	308	246
(Mpa)	Cont.	17.5	17.5	17.5	17.5	17.5	17.5	15	15	12
	Pressure Int..	28	28	28	25	25	25	21	17.5	15
(N*m)	Cont.	178	223	278	356	445	557	580	715	720
	Torque Int..	285	356	445	509	636	755	763	840	860

Shaft Side Load Capacity



- ⊙ Max. pressure is the allowed pressure at the inlet port.
- ⊙ A simultaneous maximum RPM and maximum pressure NOT recommended
Maximum pressure or maximum RPM operation: 10% of every minute.
- ⊙ Recommended fluids: Anti-wear type of hydraulic oil. Viscosity recommended 37-73 cSt. Recommended filtration ISO18/13.
- ⊙ Maximum operating temperature recommended 80°C.
- ⊙ Special high pressure capacity shaft seal ensures back pressure up to 10 Mpa. Recommended preferable back pressure 5 Mpa. Case drain line is recommended when back pressure higher than 5 Mpa.. The motor life is benefited from a case drain line.
- ⊙ It is highly recommended that the motor runs at 30% of rated pressure for at least one hour before application of full load. Be sure the motor is filled with fluid prior to any load applications.

BMS Performance Data

☐ Continuous
 ☐ Intermittent

80cc/r

		Δ Pressure Bar							
		35	70	105	140	170	205	240	275
0.95	25	45							
	3	1							
1.90	30	50	85						
	17	8	3						
3.80	35	75	110	145	175	205	220	240	
	44	40	37	34	28	22	14	2	
7.50	35	75	110	150	180	210	235	265	
	90	85	81	78	72	65	57	49	
15.0	35	75	115	150	185	215	250	280	
	182	176	170	166	159	152	140	128	
23.0	35	75	115	150	185	225	255	290	
	273	267	259	254	246	238	223	207	
30.0	35	75	115	150	190	230	265	300	
	365	375	349	341	333	325	306	286	
38.0	35	75	115	155	190	230	270	305	
	456	448	439	429	420	411	388	364	
45.0	30	70	115	155	195	235	270	305	
	547	537	530	516	507	497	470	442	
53.0	30	70	110	150	195	235	270	305	
	638	629	622	603	593	584	553	521	
61.0	30	70	110	150	190	230	270	305	
	729	720	714	689	679	670	635	599	
68.0	25	65	110	150	190	230	265	300	
	818	810	795	775	765	756	717	677	
76.0	25	65	105	145	185	225	260	295	
	908	901	880	861	851	842	799	755	

185 Torque Nm
 851 Speed RPM

100cc/r

		Δ Pressure Bar							
		35	70	105	140	170	205	240	275
0.95	30								
	2								
1.90	35	70	105						
	9	5	2						
3.80	45	95	135	175	210	240			
	34	31	28	23	15	6			
7.50	45	95	140	180	215	250	285	315	
	71	68	63	59	51	38	24	14	
15.0	45	90	140	185	225	270	310	355	
	145	141	136	131	121	104	94	80	
23.0	45	90	140	190	235	280	325	370	
	219	215	209	202	192	172	163	149	
30.0	40	90	140	190	240	290	340	385	
	294	288	281	273	261	243	231	216	
38.0	40	90	145	195	245	295	340	390	
	368	362	354	344	330	316	300	283	
45.0	40	90	145	195	245	295	345	395	
	442	436	427	415	399	389	369	350	
53.0	35	90	140	195	245	295	345	395	
	516	509	500	486	469	463	437	417	
61.0	35	90	140	195	245	295	345	395	
	591	583	573	558	540	537	506	485	
68.0	35	85	140	190	240	290	340	390	
	665	657	646	630	611	609	574	552	
76.0	30	80	135	185	235	290	335	390	
	739	731	715	703	684	662	643	619	
83.0	30	80	135	185	235	280	330	380	
	813	805	794	777	758	749	712	687	
91.0	30	80	130	175	230	280	330	375	
	887	879	868	852	834	814	782	754	
95.0	25	75	125	175	225	275	325		
	924	916	905	890	873	846	817		

125cc/r

		Δ Pressure Bar							
		35	70	105	140	170	205	240	275
0.95									
1.90	45	100							
	8	2							
3.80	60	120	180	230	285	330	375		
	27	23	19	16	13	9	3		
7.50	60	120	180	235	290	330	375	410	
	56	53	47	42	39	36	28	21	
15.0	55	120	185	245	300	350	400	450	
	113	111	104	97	95	92	85	77	
23.0	55	120	185	245	310	370	425	485	
	171	169	161	153	149	146	132	118	
30.0	55	120	185	250	315	375	435	495	
	224	222	219	210	204	201	192	184	
38.0	55	120	185	250	315	385	445	505	
	286	282	276	269	261	255	243	231	
45.0	50	120	185	250	315	380	440	500	
	344	338	333	327	317	307	295	284	
53.0	50	115	185	250	340	380	440	500	
	402	395	391	385	373	360	348	336	
61.0	45	115	180	250	315	375	440	500	
	460	452	447	443	430	411	397	384	
68.0	45	110	180	245	310	375	435	500	
	517	509	504	500	484	471	456	440	
76.0	45	110	175	240	305	370	435		
	575	568	560	551	539	524	508		
83.0	40	105	170	235	305	365	430		
	633	624	619	604	597	579	560		
91.0	35	105	170	235	300	365	425		
	691	682	676	665	651	633	616		
95.0	35	100	165	230	295	360	420		
	719	712	705	692	679	662	656		

160cc/r

		Δ Pressure Bar							
		15	35	70	105	140	170	205	240
0.95	25								
	3								
1.90	25	55	110	175	240				
	9	7	5	3	1				
3.80	30	65	130	195	260	320	375	430	
	23	21	19	17	13	8	3	2	
7.50	35	70	135	200	265	330	395	460	
	46	45	42	39	35	34	33	28	
15.0	35	70	140	215	285	360	430	505	
	93	92	89	85	79	77	75	59	
23.0	35	75	145	220	295	370	445	520	
	142	140	137	131	124	118	113	104	
30.0	35	75	150	225	300	375	450	525	
	190	187	184	178	170	166	164	153	
38.0	35	70	150	230	320	385	455	530	
	237	235	231	226	217	212	205	193	
45.0	30	70	150	230	305	380	455	530	
	286	283	279	274	265	254	246	235	
53.0	25	65	145	230	305	380	455	530	
	334	331	326	322	312	305	297	286	
61.0	25	65	145	225	300	375	455	530	
	382	378	374	369	360	349	339	326	
68.0	20	60	140	220	300	375	450		
	429	426	422	416	407	394	387		
76.0	20	60	135	215	300	375	445		
	477	474	469	462	451	440	430		
83.0	15	55	130	210	295	370	445		
	525	522	517	510	501	484	473		
91.0	15	50	130	210	290	370	440		
	572	569	564	556	546	531	522		
95.0	10	50	130	210	290	265	440		
	596	593	587	580	566	553	544		
114.0		35	120	200	280	355	430		
		713	706	696	682	672	658		

120 Torque Nm
 706 Speed RPM

BMS Performance Data

☐ Continuous
 ☐ Intermittent

200cc/r

Flow LPM	Δ Pressure Bar							
	15	35	70	105	140	170	205	240
0.95	25 4	65 2						
1.90	35 8	70 6	150 2					
3.80	45 17	80 16	160 14	200 11	305 7	370 4	430 2	490 1
7.50	45 37	85 35	165 33	250 31	325 26	415 21	510 19	575 14
15.0	45 76	90 74	175 72	260 70	345 64	430 61	510 57	595 51
23.0	45 115	90 113	180 110	270 108	360 102	445 99	530 94	615 87
30.0	45 154	90 151	185 148	275 146	370 140	455 135	540 130	625 123
38.0	45 193	95 190	185 187	280 184	375 177	465 173	545 168	630 160
45.0	40 231	90 229	185 226	2880 221	375 218	465 211	550 204	
53.0	35 269	85 267	185 264	280 260	380 254	465 248	550 241	
61.0	30 308	80 306	185 303	275 296	375 290	465 283	550 276	
68.0	30 346	80 345	180 342	270 334	375 327	465 315		
76.0	25 385	75 384	175 380	270 372	370 367	460 359		
83.0	20 424	70 423	170 418	265 410	365 404	460 395		
91.0	15 462	65 461	165 457	260 449	360 441	450 432		
95.0	15 484	60 482	160 476	260 469	355 459	445 449		
114.0		45 577	145 571	240 562	330 550			

250cc/r

Flow LPM	Δ Pressure Bar							
	15	35	70	105	140	170	205	240
0.95								
1.90	45 4	95 2						
3.80	50 14	105 13	210 11	315 9	410 6	515 4	615 3	715 1
7.50	50 29	110 28	215 26	325 23	425 20	540 18	640 15	740 12
15.0	55 60	115 59	225 56	340 53	450 49	555 47	660 46	765 44
23.0	50 91	115 90	230 87	350 83	465 78	570 73	675 69	780 65
30.0	50 122	115 121	235 118	360 113	475 108	585 104	690 101	
38.0	50 153	115 152	240 148	360 144	480 139	580 135	705 103	
45.0	45 184	110 183	235 180	360 175	480 170	600 165		
53.0	40 215	105 214	235 211	355 207	480 201	585 195		
61.0	40 246	95 245	230 242	355 238	470 232	580 223		
68.0	30 277	90 276	225 273	345 269	465 263	575 253		
76.0	30 308	90 306	215 302	340 298	465 291			
83.0	25 339	80 337	210 334	330 330	455 323			
91.0	15 370	75 369	200 364	325 360	445 353			
95.0	15 385	75 384	200 379	325 375	445 367			
114.0		60 462	185 458	305 453	430 447			

185 Torque Nm
 458 Speed RPM

BMS Performance Data

☐ Continuous
 ☐ Intermittent

305cc/r

Flow LPM	Δ Pressure Bar						
	15	35	70	105	140	170	205
0.95							
1.90	55 4	120 2					
3.80	70 12	135 11	260 10	390 9	500 6	610 1	
7.50	70 24	135 24	270 22	395 20	520 18	640 15	765 11
15.0	75 49	140 49	280 47	415 45	545 42	675 38	805 34
23.0	70 74	145 74	290 72	430 69	560 64	695 58	825 52
30.0	70 98	145 98	295 96	440 93	575 86	705 80	
38.0	65 123	140 122	295 120	440 117	580 110	720 102	
45.0	60 148	140 147	295 144	440 142	580 133	720 124	
53.0	55 172	135 172	290 168	440 165	580 156		
61.0	50 196	125 196	280 192	440 188	575 178		
68.0	40 221	120 221	275 217	440 212	570 202		
76.0	35 246	110 245	265 241	420 236	565 226		
83.0	25 271	105 270	260 266	400 260	545 255		
91.0	20 296	100 294	255 290	385 285	525 280		
95.0	15 308	95 307	250 303	375 298	510 293		
114.0		75 385	230 360	355 356			

400cc/r

Flow LPM	Δ Pressure Bar							
	15	35	70	105	120	140	155	170
0.95								
1.90	65 4	150 3						
3.80	85 9	175 9	350 8	505 7	585 7	665 6	745 5	820 4
7.50	90 18	180 18	360 17	530 16	615 15	700 14	775 13	845 11
15.0	90 37	190 37	375 36	560 35	650 34	740 33	815 31	890 28
23.0	90 57	190 56	385 55	575 52	670 50	765 49	840 47	905 45
30.0	90 76	190 75	390 74	580 71	675 69	770 68		
38.0	90 95	190 94	395 93	585 90	680 88	775 86		
45.0	85 114	190 113	390 112	580 109	675 106	770 103		
53.0	85 133	185 132	390 131	580 127	675 124			
61.0	80 153	180 152	380 150	570 146	670 144			
68.0	70 172	170 171	375 170	565 167	665 164			
76.0	65 191	165 190	370 189	560 186	660 184			
83.0	60 210	155 209	360 208	550 206				
91.0	50 230	150 229	350 227	540 224				
98.0	40 249	140 248	340 246	535 242				
114.0	20 287	120 286	320 283	515 277				
132.0		95 335	300 333					

300 Torque Nm
 333 Speed RPM

BMS Performance Data

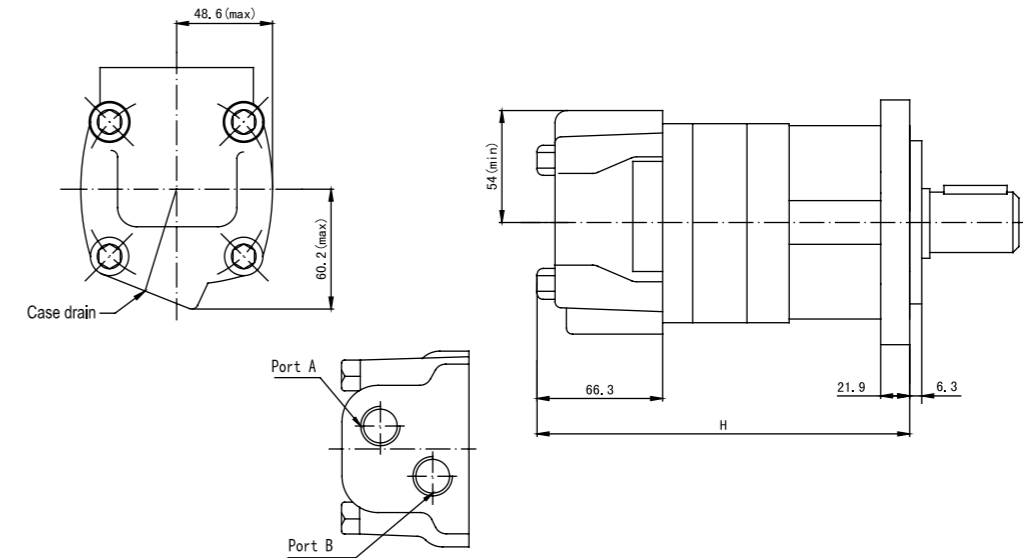
500cc/r

Flow LPM	Pressure Δ Bar							
	15	35	50	70	85	105	120	140
	1.9	75 2	180 1					
3.8	105 7	225 6	340 5	440 4	550 2			
7.5	105 14	235 13	350 12	460 10	575 9	715 7		
15	110 30	240 29	365 28	480 27	605 26	720 24	835 22	900 20
23	110 45	240 44	365 43	485 42	605 41	725 39	845 37	93 35
30	110 61	240 60	365 59	490 58	610 57	730 55	855 52	
38	105 76	230 75	360 74	485 73	610 72	730 70	855 68	
45	95 91	225 90	355 90	480 89	605 87	730 85	855 84	
53	90 106	220 105	345 105	475 104	60 102	725 100		
61	80 122	210 121	340 120	465 119	590 118	715 116		
68	70 153	190 152	315 151	445 150	570 149	700 146		
76	60 153	190 152	315 151	445 150	570 149	700 146		
83	50 168	175 168	305 167	435 165	560 164	685 161		
91	40 184	165 184	295 183	420 181	550 179	675 177		
98	30 199	155 195	285 195	410 192	540 190			
106		140 212	270 211	400 209	525 207			
114		125 230	255 229	385 277	510 224			

255 Torque NM
229 Speed rpm

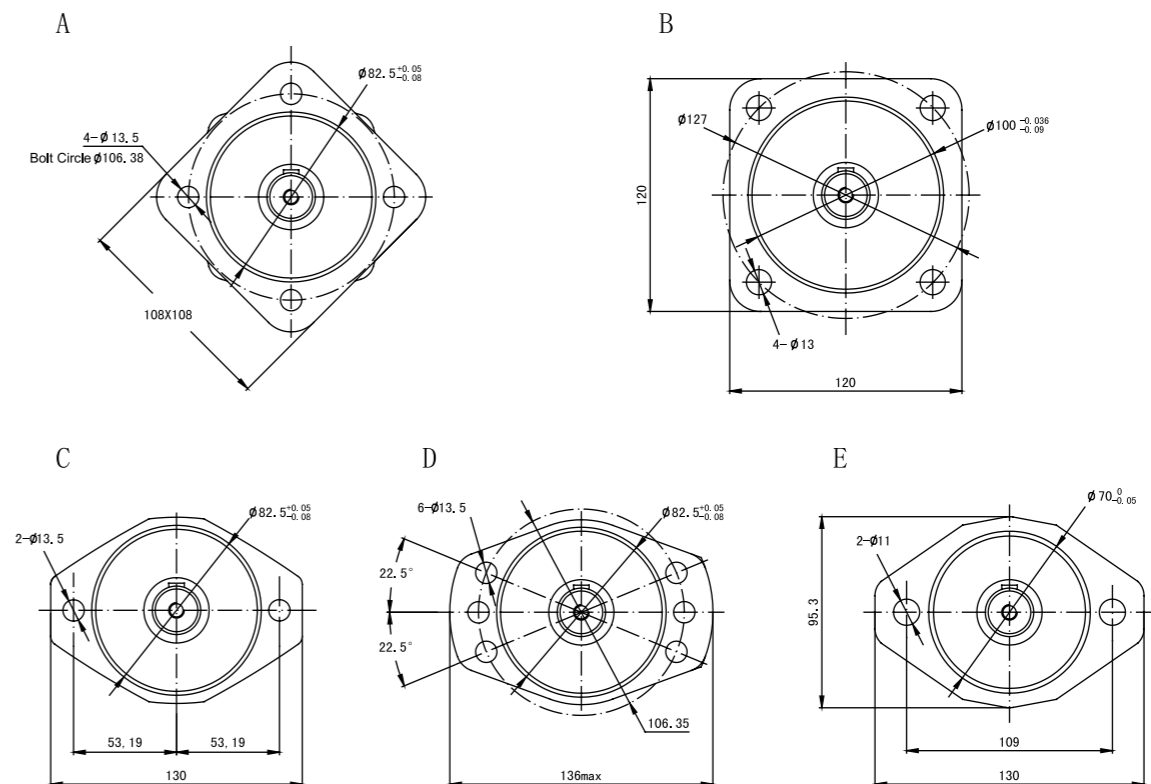
Continuous
Intermittent

BMS Standard Motor — Dimension and Mounting data

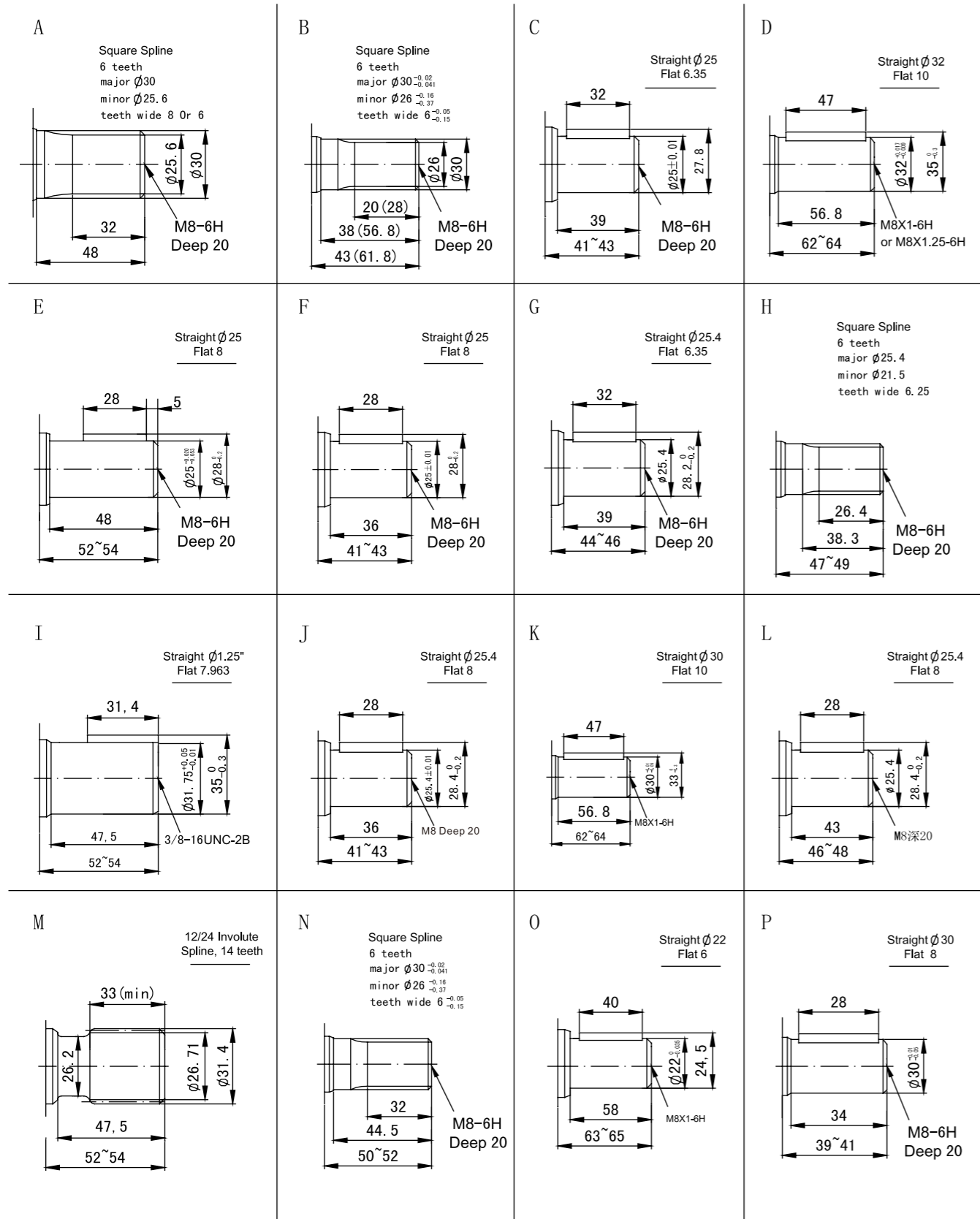


(ml/r) Displacement	80	100	130	160	200	250	305	400	500
H	184	189	195	195	202	211	223	239	256

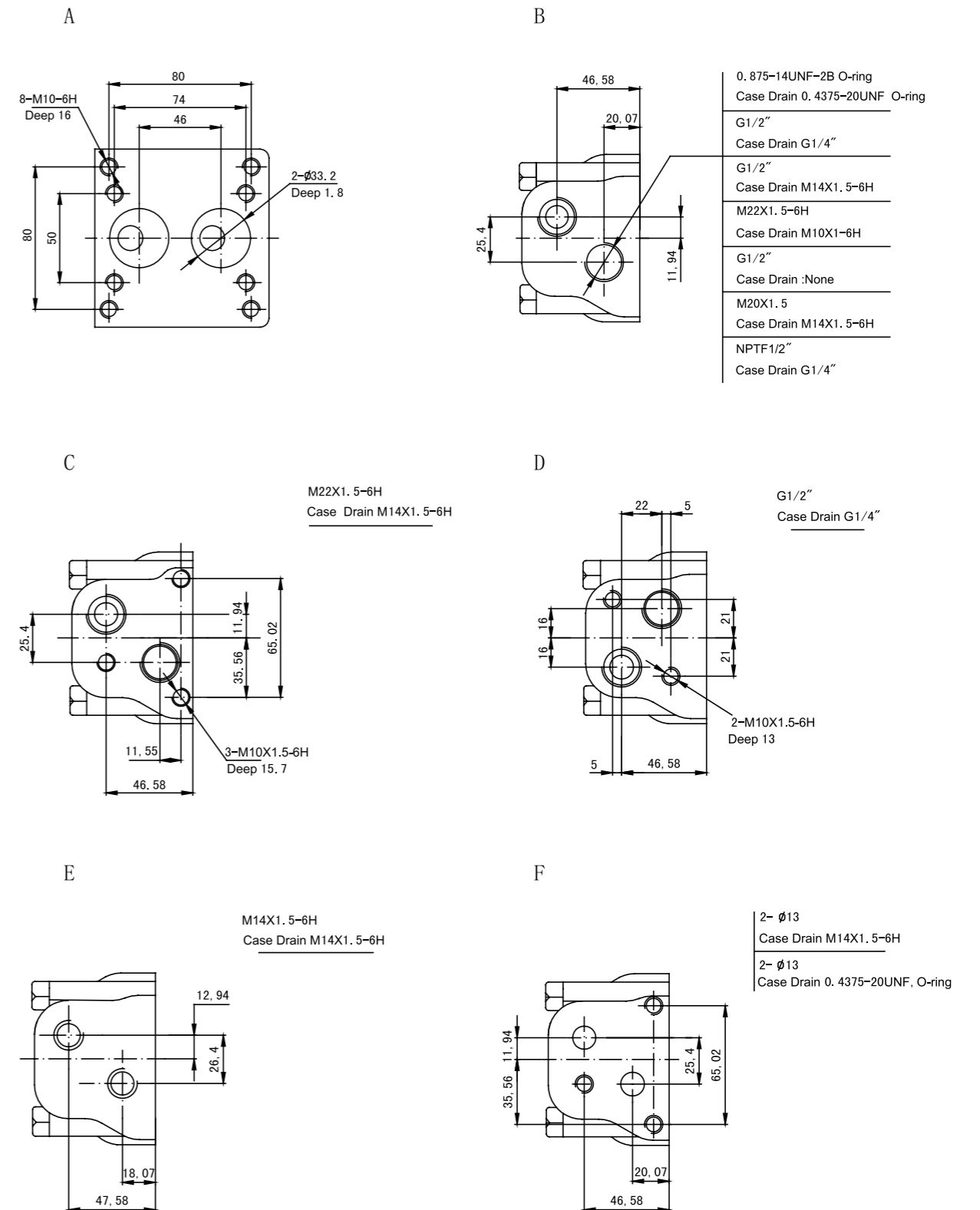
BMS Standard Motor — Mounting Flange



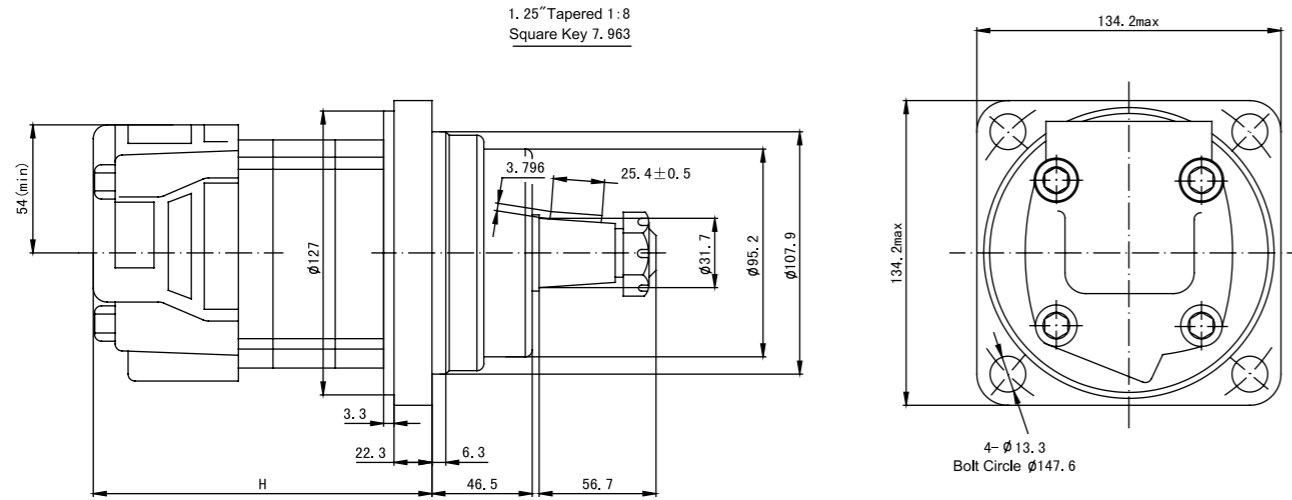
BMS Standard Motor — Shaft



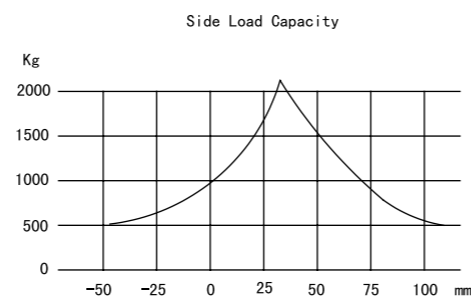
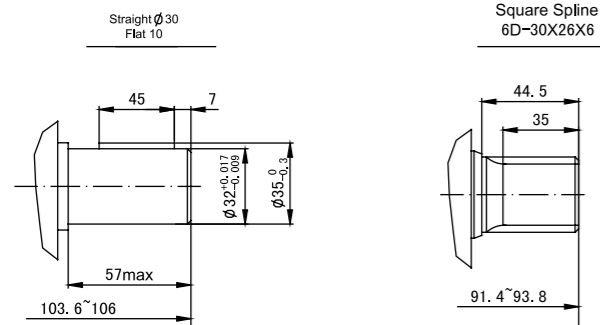
BMS Standard Motor — Ports



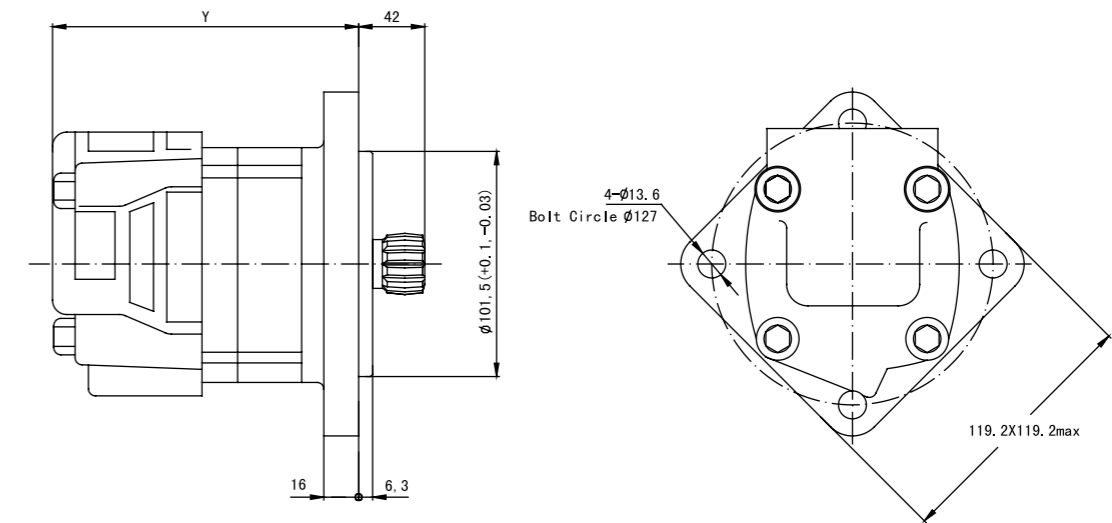
BMS Wheel motor—Dimension and Mounting data



(ml/r) Displacement	80	100	130	160	200	250	305	400	500
H	144	148	155	155	162	171	182	198	216

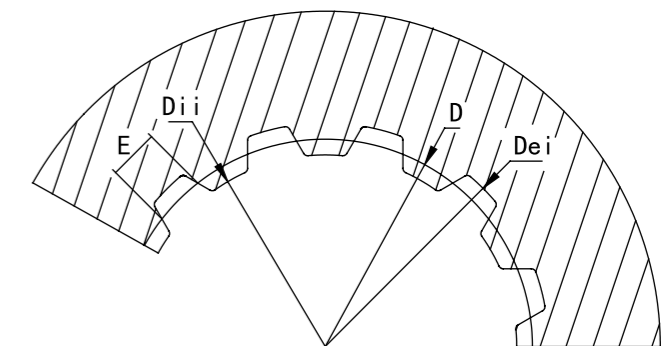


BMS Bearingless Motor—Dimension and Mounting data



(ml/r) Displacement	80	100	130	160	200	250	305	400	500
H	127	131	138	138	145	154	165	181	198

Fillet Root Side Fit	mm	
Number of Teeth	Z	12
Diametral Pitch	DP	12/24
Pressure Angle	D	30
Pitch Dia.	D	φ25.4
Major Dia.	Dei	φ28
Minor Dia.	Dii	φ23
Space Width	E	4.308



BMS Standard Motor Ordering Information

Flange	Shaft	Flange&Pilot	Displacements							
			80	100	130	160	195	245	305	395
port M22X1.5 drain port M14X1.5	φ25.4straight keyed8	2holes flange spigot φ82.55	251-0301	0302	0303	0304	0305	0306	0307	0308
		4holes flange spigot φ82.55t	251-0471	0472	0473	0474	0475	0476	0477	0478
	φ25straight keyed8,L=44	4holes flange spigot φ82.55	251-0451	0452	0453	0454	0455	0456	0457	0458
	φ31.75straight keyed7.963	2holes flange spigot φ82.55	251-0011	0012	0013	0014	0015	0016	0017	0018
	φ25.4straight keyed8	2holes flange spigot φ82.55	251-0061	0062	0063	0064	0065	0066	0067	0068
	φ25straight keyed8	2holes flange spigot φ82.55	251-0021	0022	0023	0024	0025	0026	0027	0028
	φ32straight keyed10	4holes flange spigot φ82.55	251-0041	0042	0043	0044	0045	0046	0047	0048
		2holes flange spigot φ82.55	251-0071	0072	0073	0074	0075	0076	0077	0078
	Rectangular Splined 6-30X26X6 L=52.5	2holes flange spigot φ82.55	251-1031	1032	1033	1034	1035	1036	1037	1038
		4holes flange spigot φ82.55	251-1111	1112	1113	1114	1115	1116	1117	1118
	Rectangular Splined 6-30X26X6 L=66.5	4holes flange spigot φ82.55	251-1051	1052	1053	1054	1055	1056	1057	1058
	Rectangular Splined 6-30X26X6 L=47,length of splined20	4holes flange spigot φ82.55	251-1091	1092	1093	1094	1095	1096	1097	1098
	Rectangular Splined 6-30X26X6 L=66.5,length of splined45	4holes flange spigot φ82.55	251-1381	1382	1383	1384	1385	1386	1387	1388
	12/24involute splined 14tooth	2holes flange spigot φ82.55	251-2411	2412	2413	2414	2415	2416	2417	2418
	port G1/2 drain port M14X1.5	φ25straight keyed6.35	2holes flange spigot φ82.55	251-0151	0152	0153	0154	0155	0156	0157
φ25straight keyed8 , L=44		2holes flange spigot φ82.55	251-0461	0462	0463	0464	0465	0466	0467	0468
port G1/2 drain port G1/4	φ31.75straight keyed7.963	2holes flange spigot φ82.55	251-0341	0342	0343	0344	0345	0346	0347	0348
	φ25.4straight keyed6.35	2holes flange spigot φ82.55	251-0161	0162	0163	0164	0165	0166	0167	0168
	φ31.75straight keyed7.93	4holes flange spigot φ82.55	251-0251	0252	0253	0254	0255	0256	0257	0258
	Rectangular Splined 6-30X26X6 L=52.5	4holes flange spigot φ82.55	251-1421	1422	1423	1424	1425	1426	1427	1428
	12/24involute splined 14tooth	4holes flange spigot φ82.55	251-2241	2242	2243	2244	2245	2246	2247	2248

BMS Standard Motor Ordering Information

Flange	Output Shaft	Flange&Pilot	Displacements							
			80	100	130	160	195	245	305	395
port 7/8-14UNF drain port 7/16-20UNF	φ31.75straight keyed7.963	4holes flange spigot φ82.55	251-0271	0272	0273	0274	0275	0276	0277	0278
		2holes flange spigot φ82.55	251-0441	0442	0443	0444	0445	0446	0447	0448
plate connection drain port 7/16-20UNF	φ31.75straight keyed7.963	4holes flange spigot φ82.55	251-0351	0352	0353	0354	0355	0356	0357	0358
		2holes flange spigotφ82.55	251-0361	0362	0363	0364	0365	0366	0367	0368
	φ25.4straight keyed8	2holes flange spigot φ82.55	251-0051	0052	0053	0054	0055	0056	0057	0058
	φ32straight keyed10	4holes flange spigot φ82.55	251-0121	0122	0123	0124	0125	0126	0127	0128
	Rectangular Splined 6D-30X26X6,L=52.5	4holes flange spigot φ82.55	251-1431	1432	1433	1434	1435	1436	1437	1438

BMS Wheel Motor Ordering Information

Flange	Output Shaft	Flange&Pilot	Displacements							
			80	100	130	160	195	245	305	395
port M22x1.5 drain port M14X1.5	φ32straight keyed10	4 holes wheel motor flange spigot φ107.9	251-4371	-4372	-4373	-4374	-4375	-4376	-4377	-4378
	Rectangular Splined 6D-30X26X6,L=92.2	4 holes wheel motor flange spigot φ107.9	251-1101	-1102	-1103	-1104	-1105	-1106	-1107	-1108
	φ31,75Cone Shaft keyed7,963	4 holes wheel motor flange spigot φ107.9	251-4141	-4142	-4143	-1137	-4145	-4146	-4147	-4148
portG1/2 drain portG1/4	φ32straight keyed10	4 holes wheel motor flange spigot φ107.9	251-1134	-1135	-1136	-4144	-1138	-1139	-1140	-1141
port 7/8-14UNF drain port 7/16-20UNF	φ31,75Cone Shaft keyed7,963	4 holes wheel motor flange spigot φ107.9	251-1001	-1002	-1003	-1004	-1005	-1006	-1007	-1060
plate connection drain port 7/16-20UNF	φ31,75Cone Shaft keyed7,963	4 holes wheel motor flange spigot φ107.9	251-4391	-4392	-4393	-4394	-4395	-4396	-4397	-4398