



**The BM6** is a large volume, disc valve, high pressure motor with a radial ball-bearings design and can bear greater load and has higher torque rating than our BM5.

### CHARACTERISTIC FEATURES

- The motor can be used in high pressure, so it's max. torque is higher than our BM5 motor.
- Advanced design in disc distribution flow, which provides improved performance at low speed.
- The valve can automatically compensate for wear, so the volumetric efficiency is higher.
- Double taper roller bearings permit high radial loads. The motors can be used on heavier vehicles in traction drive applications.

## Main Specification

Displacement (cc)		195	245	310	395	490	625	800	985
cu.in/rev		11.8	14.9	18.9	24.0	29.8	38.1	48.7	60.0
Flow (GPM)	Cont.	40	40	40	40	40	40	40	40
	Int.	45	55	60	60	60	60	60	60
Speed (RPM)	Cont.	775	615	485	383	307	241	184	153
	Int.	866	834	698	563	454	355	276	230
Pressure (PSI)	Cont.	2975	2975	2975	2975	2450	2030	1740	1740
	Int.	4500	4500	4500	4500	3990	2465	2030	2030
Torque (in-lbs)	Cont.	5083	6497	8212	10051	10723	11731	12483	13852
	Int.	7602	10440	11934	14453	16619	12155	14551	16540

- Notes**
1. Continuous data: The Max. Value of operating motor continuously.
  2. Intermittent Data: The Max. Value of operating motor is 10 % per minute.
  3. A simultaneous max. RPM and max. pressure is not recommended.
  4. The Conversion Factors is on page 4.
  5. Optimum operating situation should be at the 1/3~2/3 of the continuous operation.



# BM6 Performance Data

## BM6-195 195cc

ΔP (PSI)

	508	1015	1530	2030	2465	2980	3480	3990	4495
<b>4</b>	707	1547	2396	3235	4013	4606	5207	5781	-
	77	75	72	66	63	45	32	18	-
<b>8</b>	760	1582	2422	3280	4102	4818	5534	6223	6886
	154	149	145	131	120	117	100	83	66
<b>12</b>	751	1591	2466	3306	4208	4995	5781	6639	7293
	232	228	223	214	204	188	170	149	119
<b>16</b>	698	1582	2475	3324	4199	5074	5870	6718	7470
	305	301	298	288	281	256	234	212	180
<b>20</b>	707	1582	2484	3359	4243	5074	5932	6798	7602
	383	378	372	364	254	331	304	279	245
<b>24</b>	707	1538	2422	3315	4190	5083	5914	6807	-
	461	455	449	438	429	411	387	362	-
<b>28</b>	654	1556	2396	3315	4190	5039	5914	6807	-
	539	532	525	513	502	475	448	420	-
<b>32</b>	619	1494	2378	3262	4155	5039	5923	6745	-
	618	610	603	591	576	542	511	480	-
<b>36</b>	619	1441	2334	3218	4111	4995	5870	6745	-
	693	685	675	661	646	601	565	528	-
<b>40</b>	619	1450	2307	3218	4119	4942	5834	-	-
	772	761	747	735	719	668	626	-	-
<b>45</b>	575	1423	2290	3182	4075	4906	5790	-	-
	868	856	846	827	810	750	703	-	-

Torque 5790 in-lbs  
Speed 703 rpm

## BM6-245 245cc

CONT. INT.

ΔP (PSI)

	508	1015	1530	2030	2465	2980	3480	3990	4495
<b>4</b>	937	2007	3059	4075	5101	5684	6639	7541	8486
	61	57	55	48	42	39	30	12	6
<b>8</b>	972	2095	3129	4199	5269	6197	7072	8000	8999
	121	117	114	105	96	82	68	48	35
<b>12</b>	972	2077	3182	4261	5366	6374	7426	8442	9503
	184	181	177	167	158	142	124	108	91
<b>16</b>	990	2086	3182	4305	5401	6453	7461	8486	10440
	242	238	234	226	219	201	183	162	143
<b>20</b>	928	2051	3129	4287	5428	6497	7541	8663	9724
	305	300	296	286	276	255	237	216	196
<b>24</b>	919	2042	3147	4261	5410	6497	7611	8654	-
	364	360	356	347	337	313	289	270	-
<b>28</b>	902	2007	3112	4270	5401	6480	7558	8663	-
	426	421	416	403	375	355	335	320	-
<b>32</b>	804	1909	3059	4155	5304	6409	7514	8619	-
	489	481	474	461	447	422	395	370	-
<b>36</b>	707	1856	2953	4066	5127	6276	7426	-	-
	551	545	538	525	511	481	455	-	-
<b>40</b>	707	1786	2917	4031	5127	6188	7072	-	-
	614	608	602	587	572	539	508	-	-
<b>45</b>	583	1786	2882	3943	5083	6055	6674	-	-
	689	683	675	686	641	607	572	-	-
<b>50</b>	-	1724	2793	3898	4906	5923	-	-	-
	-	759	750	732	711	676	-	-	-
<b>55</b>	-	1688	2749	3810	4871	5879	-	-	-
	-	835	825	805	784	743	-	-	-

## BM6-310 310cc

ΔP (PSI)

	508	1015	1530	2030	2465	2980	3480	3990	4495
<b>4</b>	1202	2581	3810	5065	6047	7081	8257	9017	9459
	47	45	42	38	32	24	17	10	3
<b>8</b>	1238	2652	3987	5269	6471	7691	8707	9724	10917
	96	93	88	82	74	64	55	44	32
<b>12</b>	1238	2705	4075	5410	6718	8036	9238	10431	11757
	144	141	136	130	121	111	100	89	76
<b>16</b>	1238	2670	4084	5437	6816	8133	9370	10608	11934
	191	187	183	177	166	153	139	123	108
<b>20</b>	1193	2617	4040	5454	6824	8177	9503	10785	-
	240	235	231	225	215	199	181	165	-
<b>24</b>	1149	2617	4031	5428	6842	8212	9530	10838	-
	288	282	278	273	260	248	232	215	-
<b>28</b>	1149	2564	3978	5384	6789	8204	9485	10785	-
	336	333	327	320	308	295	276	257	-
<b>32</b>	1105	2519	3925	5304	6745	8115	9370	-	-
	384	381	375	367	354	341	320	-	-
<b>36</b>	1061	2440	3837	5216	6612	8062	9282	-	-
	431	422	417	411	397	384	361	-	-
<b>40</b>	1017	2396	3748	5110	6568	7974	9149	-	-
	479	467	462	457	442	428	404	-	-
<b>50</b>	972	2166	3395	4623	6029	7390	-	-	-
	598	583	577	571	552	535	-	-	-
<b>60</b>	-	1945	3218	4535	5719	7037	-	-	-
	-	698	691	684	661	641	-	-	-

## BM6-395 395cc

ΔP (PSI)

	508	1015	1530	2030	2465	2980	3480	3990	4495
<b>4</b>	1662	3342	4977	6568	8159	9574	11280	12120	14453
	37	36	34	32	28	21	13	5	1
<b>8</b>	1662	3386	5110	6745	8425	10051	11633	12871	14453
	76	74	72	68	65	55	44	32	20
<b>12</b>	1662	3430	5154	6833	8557	10184	11854	13614	-
	115	112	109	105	100	91	81	78	-
<b>16</b>	1618	3386	5154	6833	8557	10219	11890	-	-
	152	149	145	142	130	124	114	-	-
<b>20</b>	1618	3386	5154	6878	8601	10263	11987	-	-
	191	187	185	180	173	160	150	-	-
<b>24</b>	1529	3297	5065	6789	8557	10219	-	-	-
	228	228	224	219	211	203	-	-	-
<b>28</b>	1485	3253	5021	6745	8513	10175	-	-	-
	267	265	260	254	247	235	-	-	-
<b>32</b>	1441	3165	4933	6657	8371	10131	-	-	-
	305	303	298	291	281	268	-	-	-
<b>36</b>	1397	3032	4844	6480	8357	9998	-	-	-
	346	340	336	329	317	301	-	-	-
<b>40</b>	1353	2900	4756	6480	8106	-	-	-	-
	386	380	375	368	359	-	-	-	-
<b>50</b>	1176	2679	4579	6480	8071	-	-	-	-
	482	475	469	460	449	-	-	-	-
<b>60</b>	-	2502	4438	6374	7876	-	-	-	-
	-	569	561	551	537	-	-	-	-

## BM6-490 490cc

ΔP (PSI)

	508	1015	1523	2030	2465	2973	3480	3988
4	2077	4296	6409	8504	10564	12447	14524	16619
	30	29	28	27	25	21	17	12
8	2077	4296	6489	8601	10723	12747	14851	-
	61	60	58	55	51	45	38	-
12	2077	4287	6480	8610	10767	12818	-	-
	92	90	88	85	80	72	-	-
16	2069	4243	6436	8601	10758	12871	-	-
	121	120	117	113	108	99	-	-
20	1989	4155	6391	8592	10758	-	-	-
	151	149	146	143	138	-	-	-
24	1945	4146	6356	8557	10696	-	-	-
	184	181	180	176	171	-	-	-
28	1848	4058	6259	8460	10652	-	-	-
	214	211	208	204	198	-	-	-
32	1715	3960	6188	8371	10608	-	-	-
	244	241	237	232	226	-	-	-
36	1547	3828	6038	8283	10343	-	-	-
	276	273	266	260	255	-	-	-
40	1414	3739	5949	8106	10122	-	-	-
	307	304	296	291	285	-	-	-
50	1149	3218	5198	7576	-	-	-	-
	383	380	365	362	-	-	-	-
60	-	2855	4827	7072	-	-	-	-
	-	454	442	435	-	-	-	-

## BM6-625 625cc

ΔP (PSI)

	508	725	1015	1233	1523	1740	2030	2465
4	2431	3757	5039	6268	7505	8433	9397	10520
	24	24	23	22	21	18	16	15
8	2608	3978	5339	6665	8159	9662	11200	11978
	45	44	44	43	42	39	37	36
12	2608	3960	5384	6754	8115	9927	11731	12155
	73	72	72	71	69	67	65	64
16	2519	3934	5339	6710	8080	9883	11695	12111
	93	92	91	90	88	86	84	82
20	2475	3881	5251	6665	8080	9883	11704	12128
	119	118	117	116	115	112	110	107
24	2334	3792	5171	6577	7991	9795	11642	12067
	143	142	140	139	138	135	132	130
28	2254	3660	5074	6489	7894	9751	11598	12022
	168	166	165	164	162	159	156	153
32	2122	3536	4942	6356	7762	9618	11465	11890
	192	190	188	187	185	182	179	176
36	1945	3350	4765	6170	7541	9255	-	-
	216	214	213	212	210	207	-	-
40	1768	3182	4588	6002	7364	8946	-	-
	241	240	239	238	237	234	-	-
50	-	2740	4146	5560	6966	-	-	-
	-	298	296	294	290	-	-	-
60	-	2245	3801	5198	6559	-	-	-
	-	355	353	350	345	-	-	-

## BM6-800 800cc

ΔP (PSI)

	508	725	1015	1233	1523	1740	2030
4	3837	5366	7408	8999	10944	12173	14551
	18	17	17	16	15	14	13
8	3704	3492	7320	8867	10944	12482	14197
	36	35	35	34	33	31	29
12	3350	4986	7019	8575	10493	12005	-
	56	56	55	55	53	51	-
16	2997	4588	6701	8283	10316	-	-
	74	73	71	70	69	-	-
20	2864	4402	6436	7929	10033	-	-
	93	92	90	89	87	-	-
24	2776	4137	6170	7576	9512	-	-
	111	110	109	108	105	-	-
28	2732	3960	5728	7045	8981	-	-
	129	128	127	125	123	-	-
32	2466	3704	5375	6595	-	-	-
	148	146	145	143	-	-	-
36	2378	3518	4835	6144	-	-	-
	166	165	165	164	-	-	-
40	2201	3076	4393	5578	-	-	-
	184	183	182	180	-	-	-
50	-	2643	3872	5092	-	-	-
	-	230	228	225	-	-	-
60	-	-	3342	4561	-	-	-
	-	-	276	273	-	-	-

## BM6-985 985cc

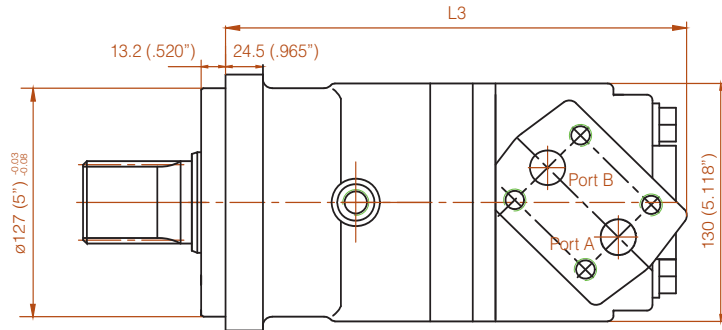
ΔP (PSI)

	508	725	1015	1233	1523	1740	2030
4	4279	6842	8522	10635	12756	13852	15788
	15	15	14	14	13	13	12
8	4367	6621	8787	10900	13057	14471	16540
	30	30	29	28	27	26	25
12	4367	6621	8840	11032	13189	14993	-
	45	45	44	43	42	41	-
16	4323	6533	8796	10988	13233	-	-
	61	61	60	59	58	-	-
20	4199	6453	8690	10900	13092	-	-
	77	76	76	75	74	-	-
24	4066	6223	8478	10758	12959	-	-
	92	92	91	90	89	-	-
28	3925	6188	8389	10581	12783	-	-
	107	107	106	105	103	-	-
32	3757	5958	8159	10219	-	-	-
	123	122	121	120	-	-	-
36	3483	5702	7894	9901	-	-	-
	138	138	137	135	-	-	-
40	3227	5384	7638	9547	-	-	-
	153	152	151	150	-	-	-
50	2873	5171	7328	9255	-	-	-
	191	190	189	188	-	-	-
60	-	4641	7152	9017	-	-	-
	-	230	229	226	-	-	-

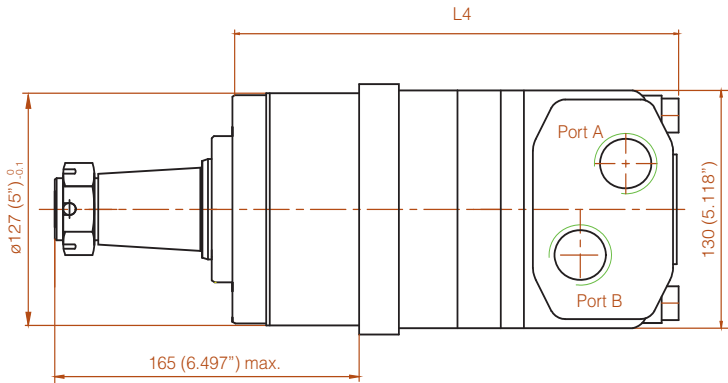
CONT. INT.

All the data were tested at 50°C with anti-wear hydraulic oil.  
Actual data may vary slightly from different unit in production.

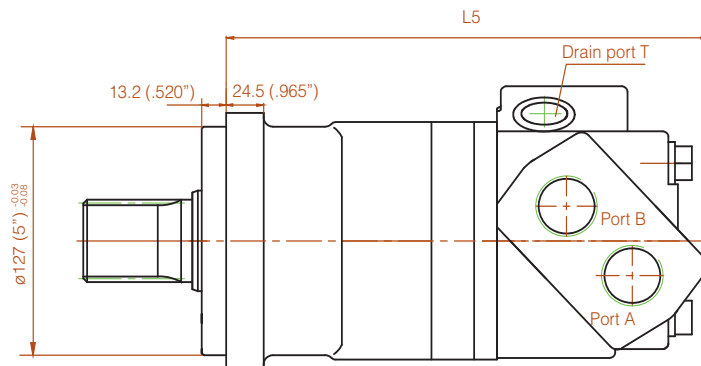
## Figuration C: Rhombus Back Housing Type



## Figuration D: Wheel Motor

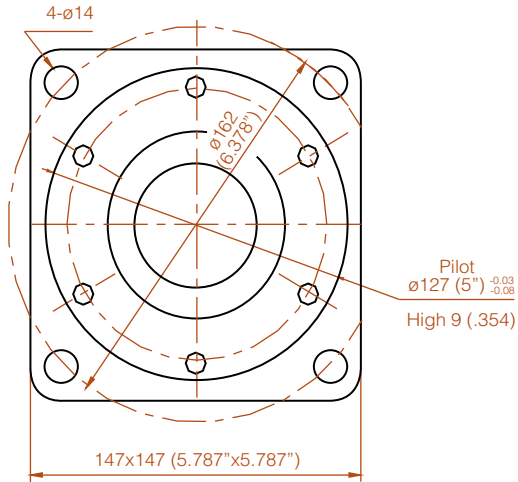


## Figuration E: Internal Drain Style

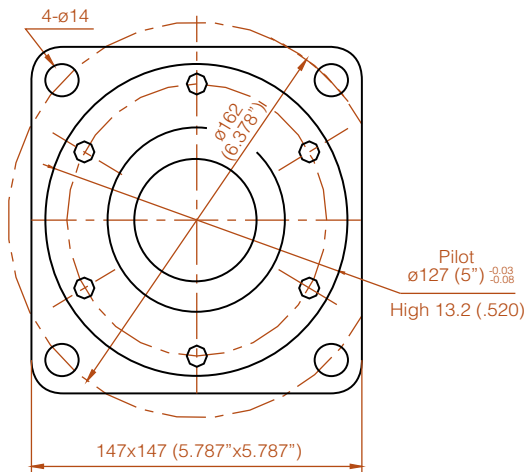


Displacement	195		245		310		395		490		625		800		985	
<b>L1</b>	230	9.055	25.5	1.004	243	9.567	253	9.961	263	10.354	277	10.906	298	11.732	317	12.480
<b>L2</b>	245	9.646	250.5	9.862	257.7	10.146	268	10.551	277.5	10.925	292	11.496	313	12.323	332	13.071
<b>L3</b>	258	10.157	263	10.354	270	10.630	280	11.024	290	11.417	305	12.008	326	12.835	345	13.583
<b>L4</b>	254.7	10.028	260.3	10.248	267.6	10.535	276.4	10.882	287.4	11.315	302.1	11.894	323	12.717	341.8	13.457
<b>L5</b>	266	10.472	271	10.669	278	10.945	288	11.339	298	11.732	313	12.323	333	13.110	352	13.858

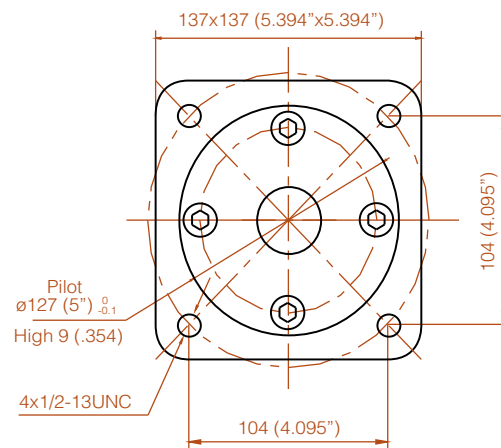
## Flange A



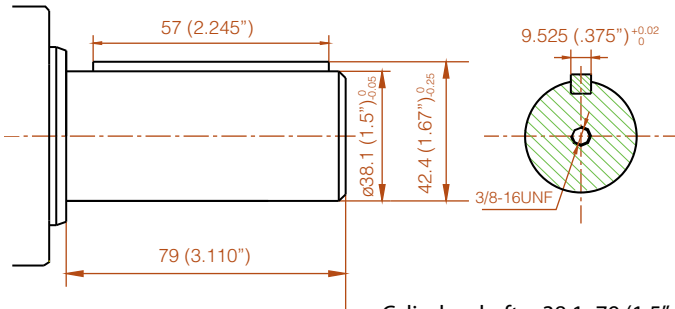
## Flange F



## Flange I

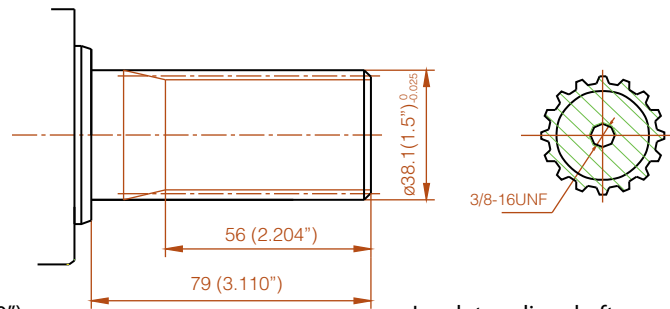


## Shaft A



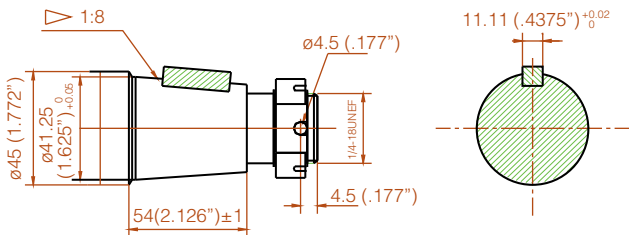
Cylinder shaft:  $\varnothing 38.1 \times 79$  (1.5"  $\times$  3.110")  
 Parallel key: 9.525  $\times$  9.525  $\times$  7  
 (.375"  $\times$  .375"  $\times$  2.245")  
 Link thread: 3/8-16UNC

## Shaft B



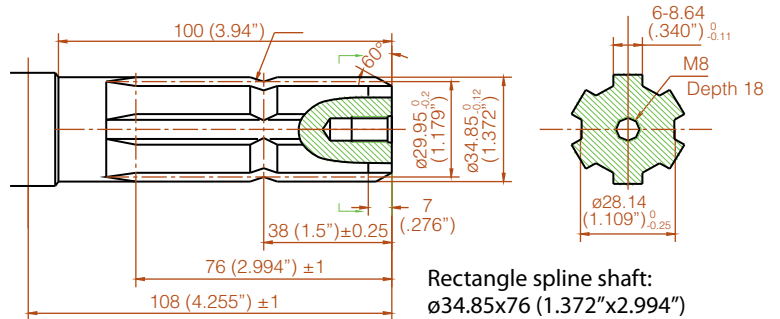
Involute spline shaft:  
 $\varnothing 38.1 \times 79$  (1.5"  $\times$  3.110"),  
 17 teeth, DP12/24  
 Link thread: 3/8-16UNC

## Shaft D



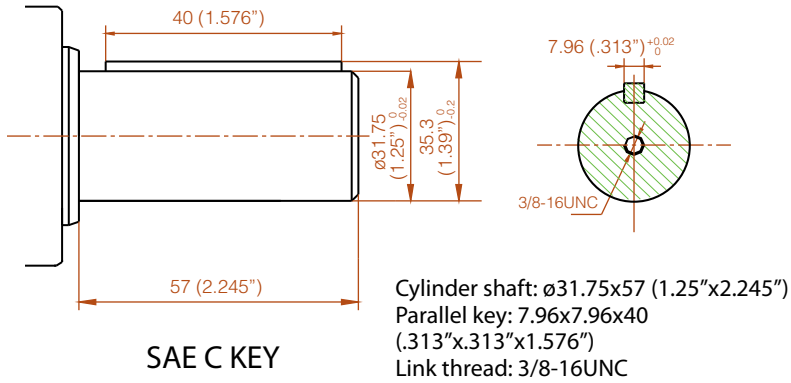
Cone shaft:  $\varnothing 41.25$  (1.625")  
 Parallel key: 11.11  $\times$  11.11  $\times$  32  
 (.4375"  $\times$  .4375"  $\times$  1.260")  
 Link thread: 1-1/4-18UNEF  
 Taper: 1:8

## Shaft E

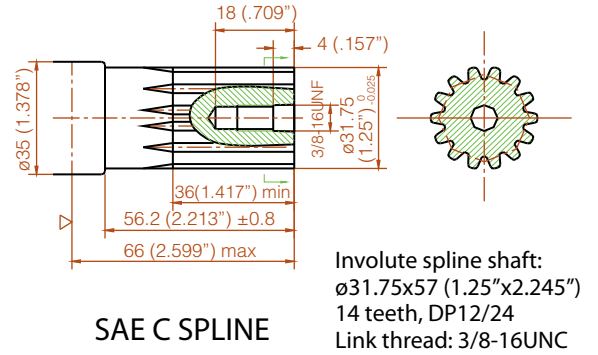


Rectangle spline shaft:  
 $\varnothing 34.85 \times 76$  (1.372"  $\times$  2.994")  
 6-34.85  $\times$  28.14  $\times$  8.64  
 (1.372"  $\times$  1.109"  $\times$  .340")  
 Link thread: M8

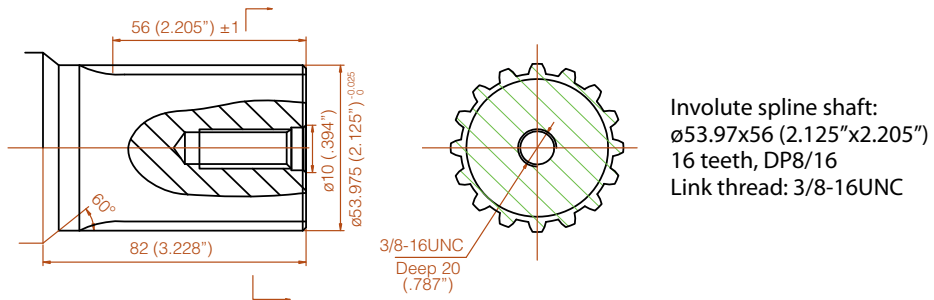
## Shaft G



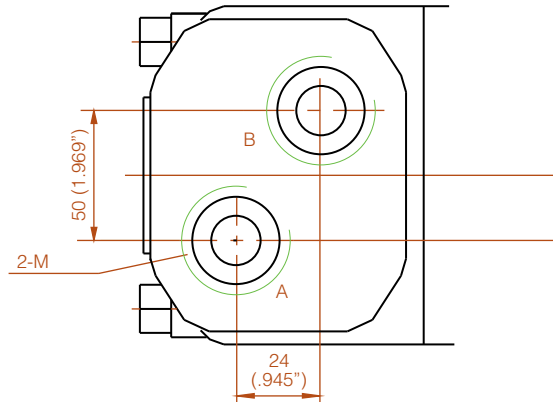
## Shaft H



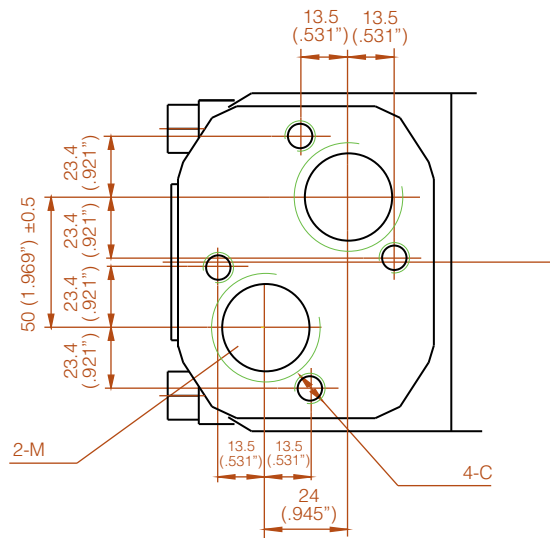
## Shaft R



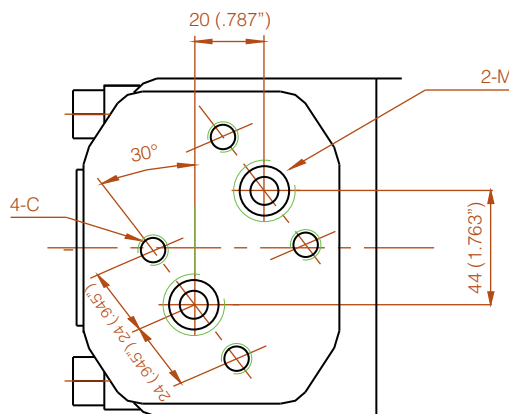
## Back Housing A



## Back Housing B



## Back Housing C





# BM6 Code number & Order information

Choose an option for each category

**BM6**

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## Figuration

- C** - Rhombus Back Housing Type
- D** - Wheel Motor Type
- E** - Internal Drain Style

## Displacement (cc)

- A** - 195 **B** - 245 **C** - 310 **D** - 395 **E** - 490 **F** - 625 **G** - 800 **H** - 985

## Flange & Pilot (mm)

- A** - Square flange 147x147 (5.788"x5.788"), 4- $\phi$ 14 distributing circle  $\phi$ 162 (6.378"), Pilot  $\phi$ 127x9 (5"x.354")
- F** - Square flange 147x147 (5.788"x5.788"), 4- $\phi$ 14 distributing circle  $\phi$ 162 (6.378"), Pilot  $\phi$ 127x13.2 (5"x.520")
- I** - Wheel motor square flange 137x137 (5.393"x5.393"), 4-1/2-13UNC distributing 104x104 (4.094"x4.094"), Pilot  $\phi$ 127x9 (5"x.354")

## Shaft & Key (mm)

- A** - Cylinder shaft:  $\phi$ 38.1x79 (1.5"x3.110"), Parallel key: 9.525x9.525x57 (.375"x.375"x2.245"), Link thread: 3/8-16UNC
- B** - Involute spline:  $\phi$ 38.1x79 (1.5"x3.110"), 17 teeth, DP12/24, Link thread: 3/8-16UNC
- D** - Cone shaft:  $\phi$ 41.25 (1.625"), Parallel key: 11.11x11.11x32 (.4375"x.4375"x1.260"), Link thread: 1-1/4-18UNEF, Taper 1:8
- E** - Rectangle spline shaft:  $\phi$ 34.85x76 (1.373"x2.993"), 6-34.85x28.14x8.64 (1.373"x1.108"x.341"), Link thread: M8
- G** - Cylinder shaft:  $\phi$ 31.75x57 (1.25"x2.245"), Parallel key: 7.96x7.96x40 (.313"x.313"x1.575"), Link thread: 3/8-16UNC
- H** - Involute spline shaft:  $\phi$ 31.75x57 (1.25"x2.245"), 14 teeth, DP12/24, Link thread: 3/8-16UNC
- R** - Involute spline shaft:  $\phi$ 53.97x56 (2.125"x2.205"), 16 teeth, DP8/16, Link thread: 3/8-16UNC

## Back Housing

- A** - Refer to Drawing Page **B** - Refer to Drawing Page **C** - Refer to Drawing Page

## Oil Port

- A** - 2-G3/4 **D** - 2-1-1/16-12UN **F** - 2-1-5/16-12UN **H** - 2-3/4"

## Link Thread on Port Surface

- A** - None **B** - 4-M12 **C** - 4-M10

## Drain Port

- A** - None **D** - 7/16-20UNF

## Order example: BM6CAADCACD

Other configuration and/or mounting types are available upon request.