



The BM5 is a large volume, disc valve, high pressure motor with radial bearings design and can bear greater load.

CHARACTERISTIC FEATURES

- Advanced design in disc distribution flow, which can provide better performance at low speed.
- The valve can automatically compensate for the 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)		80	100	125	160	200	250	280	305	400	500
cu.in/rev		4.8	6.1	7.6	9.7	12.2	15.2	17.0	18.59	24.4	30.4
Flow (GPM)	Cont.	20	20	20	20	20	20	20	20	20	20
	Int.	22	25	25	30	30	30	30	30	30	30
Speed (RPM)	Cont.	799	742	576	460	365	294	270	246	183	148
	Int.	908	924	720	713	577	462	420	365	287	230
Pressure (PSI)	Cont.	2980	3045	3045	3045	3045	2900	2900	2900	2320	1740
	Int.	4350	4350	4350	3770	3770	3770	3480	3480	2465	2030
	Peak	4350	4350	4350	4350	4350	4350	4350	4350	2900	2465
Torque (in-lbs)	Cont.	2033	2564	3182	4058	4791	5658	5481	5967	7337	7470
	Int.	2555	3359	4243	4685	5622	6895	6294	6851	8044	8398
	Peak	2917	3713	4774	4818	5834	7205	7426	8212	8840	9061

- 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. Simultaneous max. RPM and max. pressure are not recommended.
 4. The Conversion Factors are on page 4.
 5. Optimum operating situation should be at the 1/3~2/3 of the continuous operation.

BM5-80 80cc

		ΔP (PSI)								
		510	1015	1450	2030	2465	2980	3480	3990	4350
Flow (GPM)	1	309 44	663 40	911 36	1282 33	1556 28	1839 22	1945 13	2033 2	-
	2	309 92	663 85	928 81	1344 79	1591 74	1909 65	2086 57	2272 46	2652 42
	4	309 185	663 177	928 172	1326 168	1644 161	1918 153	2201 140	2343 125	2740 114
	6	309 269	663 265	928 255	1344 249	1662 244	1962 232	2263 220	2555 199	2785 187
	8	309 367	663 360	911 351	1370 341	1680 340	2033 326	2343 310	2537 284	2829 265
	12	265 543	619 540	893 535	1317 523	1644 515	2016 487	2316 474	2493 434	2917 414
	16	265 727	619 723	857 717	1299 685	1618 676	2024 641	2281 605	2458 574	2873 555
	20	221 907	575 886	840 868	1291 864	1582 850	1954 808	2139 763	2378 730	2829 717
	22	194 937	530 929	796 907	1238 887	1520 875	1927 867	1989 835	-	-

Torque 1989 in-lbs
Speed 835 rpm

BM5-100 100cc

		ΔP (PSI)								
		510	1015	1450	2030	2465	3045	3480	3990	4350
Flow (GPM)	1	398 31	787 30	1149 28	1547 23	1839 15	2175 6	-	-	-
	2	407 71	796 68	1193 64	1591 52	1901 50	2219 36	2458 28	2696 15	3006 6
	4	407 144	822 142	1238 138	1635 132	1945 121	2378 106	2608 94	2740 78	3182 67
	6	407 218	822 213	1238 206	1662 201	2042 190	2387 167	2696 163	3094 142	3448 128
	8	371 298	822 293	1255 284	1644 274	2060 260	2458 227	2740 225	3227 213	3536 194
	12	354 444	796 439	1246 430	1680 414	2016 404	2519 371	3006 358	3359 343	3713 330
	16	309 586	796 578	1220 566	1635 556	2033 534	2564 506	2917 486	3262 472	3713 457
	20	309 732	751 723	1202 709	1574 684	2016 666	2475 647	2785 628	3147 609	3669 596
	22	283 803	707 798	1149 789	1556 776	1989 762	2431 744	2714 696	-	-
	25	212 916	663 914	1078 897	1494 884	1989 866	2369 839	2740 805	-	-

BM5-125 125cc

		ΔP (PSI)								
		510	1015	1450	2030	2465	3045	3480	3990	4350
Flow (GPM)	1	486 27	1017 24	1520 20	1954 16	2475 13	2873 9	3182 4	-	-
	2	504 58	1017 55	1520 49	1954 44	2519 40	2882 38	3200 29	3624 24	3978 15
	4	495 117	1025 114	1538 110	2077 104	2608 100	3050 94	3350 88	3943 79	4332 68
	6	513 175	1043 173	1591 167	2104 157	2670 146	3112 141	3554 132	4208 119	4597 104
	8	486 233	1061 227	1591 222	2122 218	2758 210	3191 206	3607 199	4243 189	4685 172
	12	442 359	1017 343	1547 338	2086 333	2740 324	3182 314	3589 301	4155 289	4774 278
	16	398 464	999 459	1529 454	2122 452	2652 449	3182 444	3713 442	4155 440	-
	20	371 565	972 563	1503 560	2033 557	2564 555	3050 553	3624 550	4066 545	-
	22	354 629	928 627	1414 622	2033 617	2652 615	3138 612	3669 607	-	-
	25	283 727	796 724	1370 722	1945 720	2519 717	3094 715	3536 712	-	-

BM5-160 160cc

		ΔP (PSI)							
		510	1015	1450	2030	2465	3045	3480	3770
Flow (GPM)	1	575 22	1158 19	1688 18	2298 12	2811 9	3395 3	3784 2	-
	2	619 44	1193 43	1733 40	2343 34	2961 34	3571 32	4066 26	4685 21
	4	619 93	1238 90	1839 86	2528 80	3182 79	3890 74	4438 47	4729 43
	6	654 137	1282 134	1909 132	2590 121	3288 118	3978 110	4606 101	4774 102
	8	654 187	1326 185	1945 181	2652 170	3297 172	4058 166	4650 152	4818 150
	12	619 285	1326 282	1954 279	2696 267	3359 256	4049 242	4685 238	-
	16	575 373	1282 371	1856 368	2652 365	3315 363	4022 358	-	-
	20	530 463	1193 460	1812 457	2652 455	3315 453	-	-	-
	22	486 509	1149 507	1768 505	2564 504	3271 502	-	-	-
	25	442 578	1132 576	1768 573	2564 570	2343 568	-	-	-
30	309 689	1061 671	1680 662	2475 652	-	-	-	-	

CONT. INT.



BM5-200 200cc

		ΔP (PSI)							
		510	1015	1450	2030	2465	3045	3480	3770
Flow (GPM)	1	698 15	1414 13	1750 11	2696 7	3271 5	3890 2	4332 1	4597 1
	2	760 35	1459 33	2166 32	2873 26	3713 23	4614 19	5304 13	5392 11
	4	796 74	1547 72	2263 71	3050 64	3872 62	4623 57	5481 50	5613 44
	6	804 110	1591 108	2369 107	3182 99	3960 97	4791 93	5534 85	5746 79
	8	804 151	1635 148	2387 146	3280 142	4066 138	4862 129	5622 123	5834 114
	12	804 228	1644 224	2475 221	3324 217	4119 211	4862 204	-	-
	16	707 307	1644 303	2396 296	3315 289	4111 283	4862 275	-	-
	20	663 386	1556 380	2369 373	3271 364	4066 353	-	-	-
	22	601 416	1485 411	2298 404	3182 400	4049 392	-	-	-
	25	530 480	1414 474	2263 468	3138 457	3934 447	-	-	-
	30	389 571	1282 563	2077 557	2917 542	-	-	-	-

BM5-250 250cc

		ΔP (PSI)							
		510	1015	1450	2030	2465	2900	3480	3770
Flow (GPM)	1	928 12	1856 10	2758 9	3624 6	4632 4	5437 3	6321 1	-
	2	964 27	1901 26	2829 24	3757 20	4818 18	5481 14	6542 11	6939 9
	4	1017 60	1989 54	2970 54	3978 49	4995 48	5658 46	6718 44	7205 42
	6	1017 89	2033 85	3023 82	4111 77	5127 73	5746 68	6895 62	-
	8	1017 122	2077 118	3147 114	4199 109	5304 106	5622 99	-	-
	12	972 185	2077 182	3147 178	4243 172	5304 167	-	-	-
	16	840 242	2033 238	3094 236	4155 232	5127 222	-	-	-
	20	796 306	1901 303	2970 299	4111 293	-	-	-	-
	22	707 333	1856 329	2873 323	4022 313	-	-	-	-
	25	663 383	1768 377	2829 374	3934 364	-	-	-	-
	30	530 457	1635 452	2696 450	3784 442	-	-	-	-

BM5-280 280cc

		ΔP (PSI)						
		510	1015	1450	2030	2465	2900	3480
Flow (GPM)	1	1096 12	2113 10	3129 9	4058 7	4950 1	-	-
	2	1096 26	2192 24	3165 22	4217 20	5198 15	6011 11	7072 8
	4	1140 54	2272 52	3324 49	4420 45	5481 42	6294 35	7426 28
	6	1176 79	2351 78	3412 74	4544 68	5684 62	5834 58	6895 53
	8	1176 107	2396 105	3474 103	4668 94	5764 88	-	-
	12	1140 161	2396 158	3448 156	4703 146	5843 136	-	-
	16	1017 215	2281 209	3430 204	4623 194	-	-	-
	20	893 267	2148 259	3315 255	4544 242	-	-	-
	22	840 294	2095 289	3103 283	4385 277	-	-	-
	25	769 334	2033 326	2917 322	4075 315	-	-	-
	30	610 394	1848 388	2776 385	-	-	-	-

BM5-305 305cc

		ΔP (PSI)						
		510	1015	1450	2030	2465	2900	3480
Flow (GPM)	1	1193 11	2298 9	3412 9	4420 6	5392 1	-	-
	2	1193 24	2387 22	3448 20	4597 18	5658 14	6365 10	7691 8
	4	1238 49	2475 47	3624 45	4818 42	5967 38	6851 32	8212 27
	6	1282 73	2564 71	3713 68	4950 62	6188 57	6011 53	7426 47
	8	1282 98	2608 97	3784 95	5083 86	6276 80	-	-
	12	1238 148	2608 145	3757 143	5127 134	6365 125	-	-
	16	1105 197	2484 192	3739 187	5039 178	-	-	-
	20	972 245	2343 238	3607 234	4950 222	-	-	-
	22	919 269	2281 265	3377 260	4774 255	-	-	-
	25	840 306	2210 299	3174 295	4438 289	-	-	-
	30	663 361	2016 356	3023 353	-	-	-	-

CONT. INT.

Torque 3023 in-lbs
Speed 353 rpm

BM5-400 400cc

		ΔP (PSI)						
		510	1015	1450	2030	2320	2465	2900
Flow (GPM)	1	1547 9	3094 8	4385 7	5879 6	6895 4	-	-
	2	1591 18	3182 17	4508 16	6144 13	7337 10	7868 8	8752 8
	4	1680 37	3315 35	4791 34	6453 32	7072 27	8044 24	8796 24
	6	1680 55	3403 53	4862 51	6630 47	7196 44	7956 38	8840 40
	8	1680 76	3448 74	4950 70	6763 66	-	-	-
	12	1680 114	3448 113	4950 109	6674 103	-	-	-
	16	1591 151	3359 149	4791 145	-	-	-	-
	20	1459 190	3271 188	4703 182	-	-	-	-
	22	1361 207	3165 206	4614 204	-	-	-	-
	25	1238 237	3006 235	4526 231	-	-	-	-
	30	1061 284	2829 280	4402 274	-	-	-	-

Torque 4402 in-lbs
Speed 274 rpm

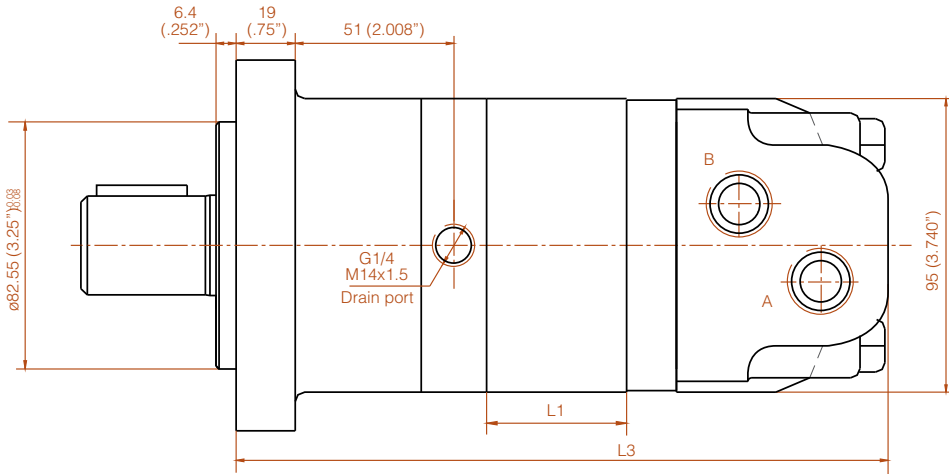
BM5-500 500cc

		ΔP (PSI)					
		510	1015	1450	1740	2030	2465
Flow (GPM)	1	1989 6	3890 5	3801 5	-	-	-
	2	2077 13	4066 11	6321 9	6984 10	7956 9	8990 8
	4	2122 28	4243 26	6365 25	7381 24	8398 23	9017 17
	6	2122 43	4287 41	6409 38	7470 37	8221 34	9061 30
	8	2122 57	4332 55	6453 52	7558 49	8177 47	-
	12	1989 89	4243 88	4950 87	6453 86	-	-
	16	1856 118	4111 116	6321 115	-	-	-
	20	1680 143	3934 141	3934 139	-	-	-
	22	1547 158	3845 156	6055 153	-	-	-
	25	1459 181	3713 178	5967 175	-	-	-
	30	1105 227	3403 274	4508 221	-	-	-

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

Figure A: Standard Type



Shaft Load Capacity
Radial Load: 1500Kg Max.
25.4 (1.00")

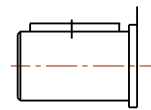
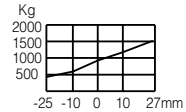
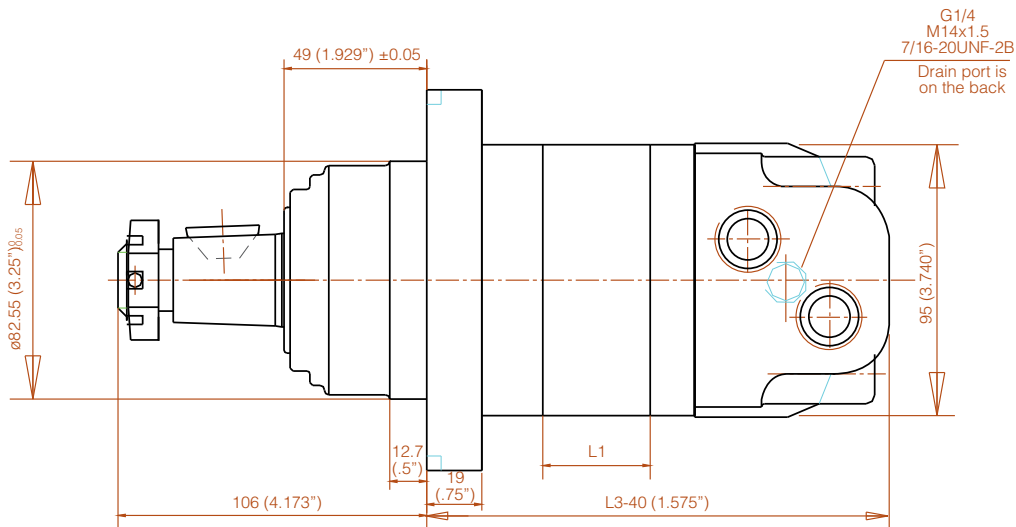
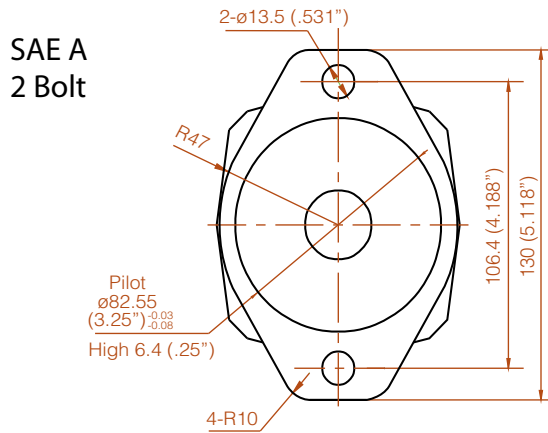


Figure B: Wheel Motor Type

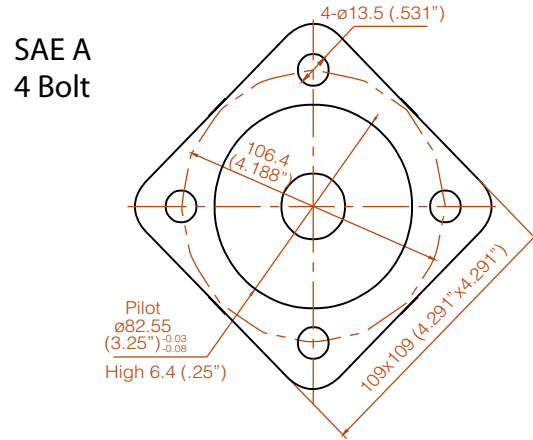


Displacement	80	100	125	160	200	250	280	305	400									
L	15	0.591	18.5	0.728	23	0.906	29	1.142	36	1.417	45	1.772	51.2	2.016	56	2.205	72	2.835
L1	208	8.189	212	8.346	216.5	8.524	222.5	8.760	229.5	9.035	238.5	9.390	245	9.646	249.5	9.823	265.5	10.453
L2	180	7.087	183.5	7.224	188	7.402	194	7.638	201	7.913	210	8.268	216	8.504	221	8.701	237	9.331

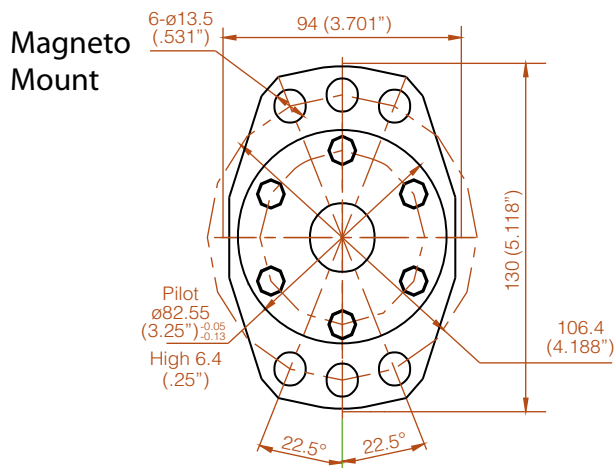
Flange A



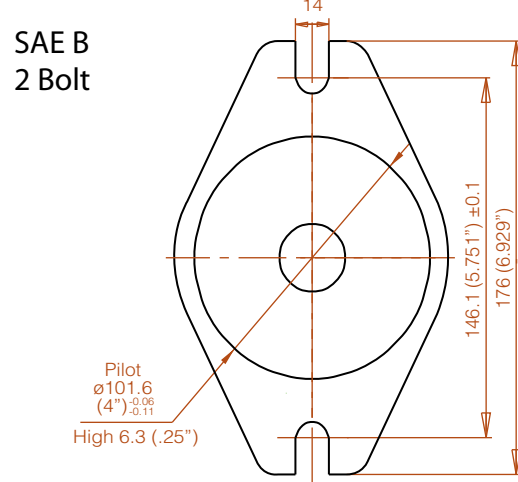
Flange B



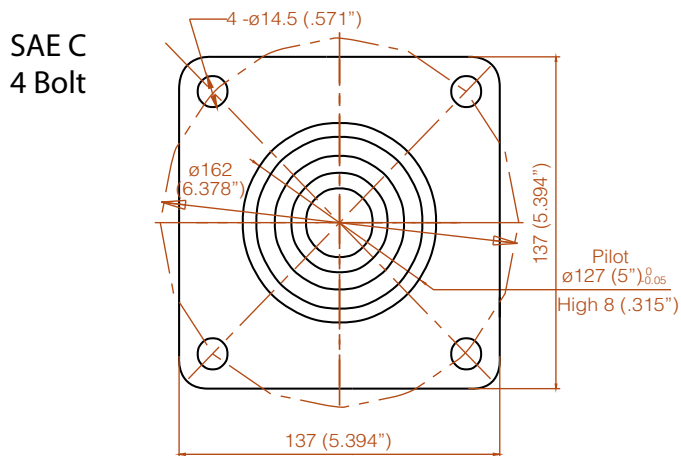
Flange C



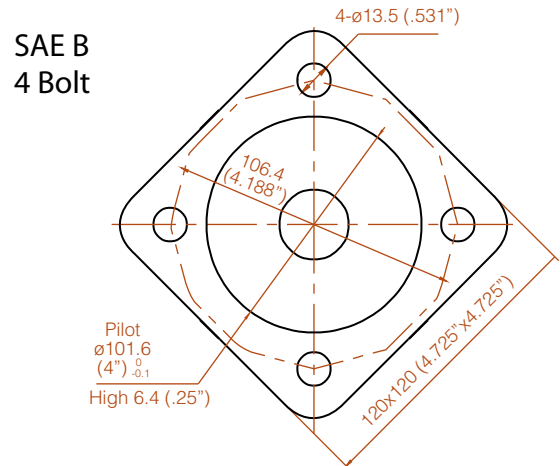
Flange D



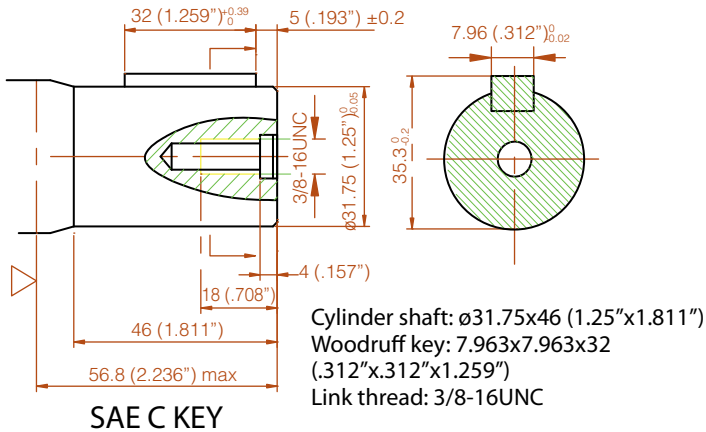
Flange I



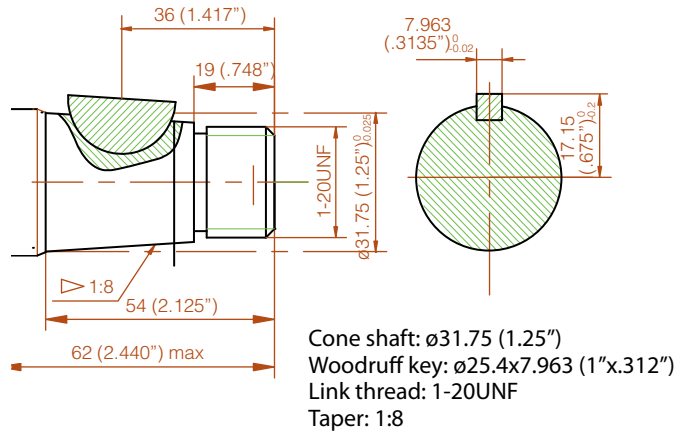
Flange J



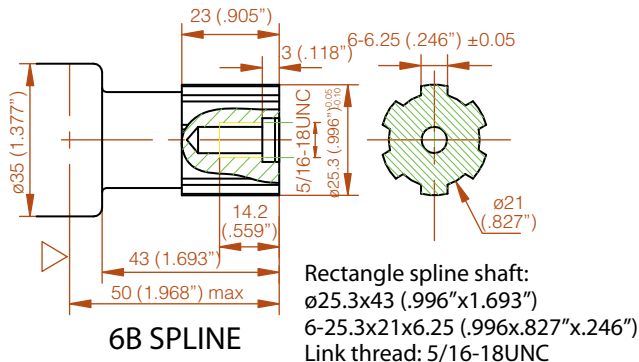
Shaft C



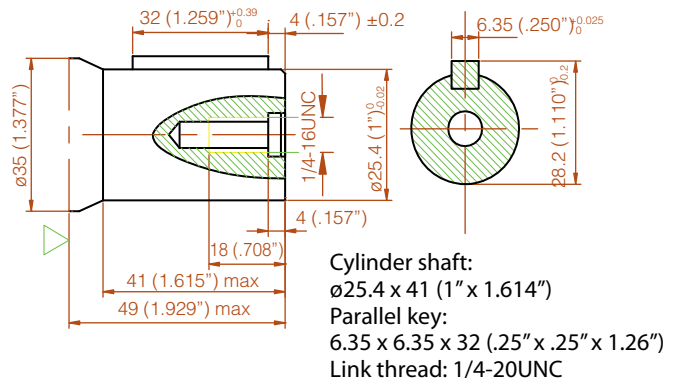
Shaft D



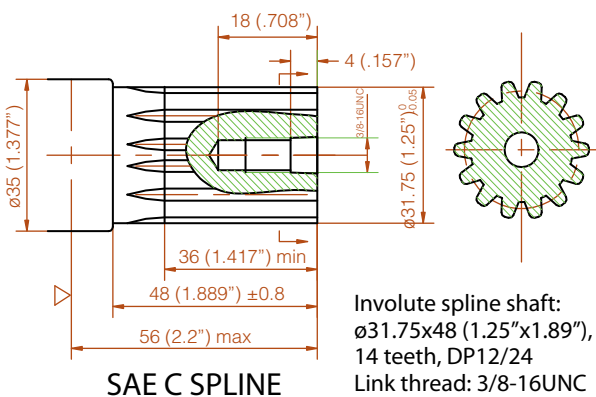
Shaft E



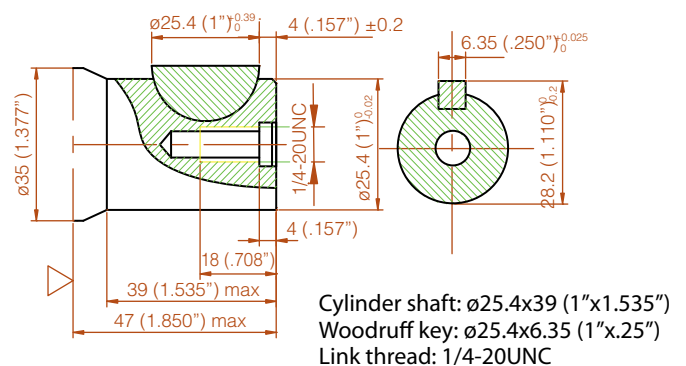
Shaft H



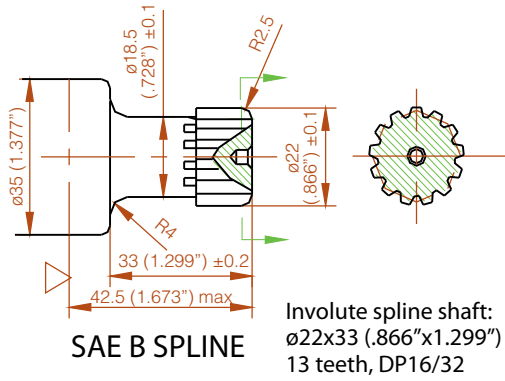
Shaft I



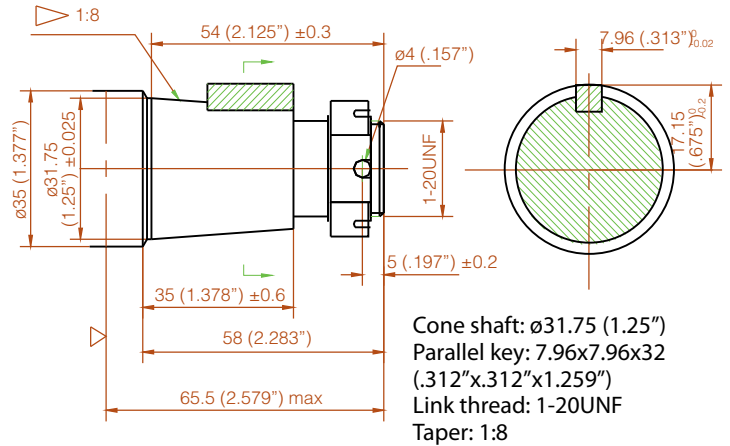
Shaft J



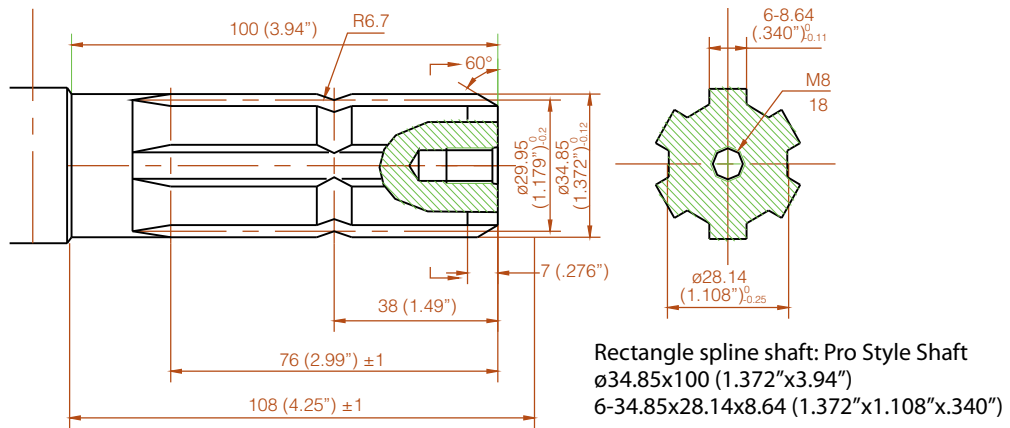
Shaft M



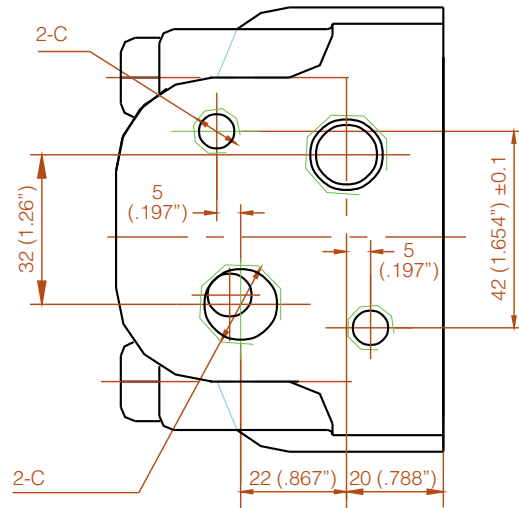
Shaft O



Shaft P



Back Housing B



BM5 Code number & Order information

Choose an option for each category

BM5

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Figuration

A - Standard **B** - Wheel Motor Type

Displacement (cc)

A - 80 **B** - 100 **C** - 125 **D** - 160 **E** - 200 **F** - 305 **G** - 400 **H** - 500

Flange & Pilot (mm)

- A** - Rhombus flange, 2- ϕ 13.5 (.531") bolt center space 106.4 (4.188"), Pilot ϕ 82.5x6.4 (3.25"x.251")
- B** - Square flange 109x109 (4.29"x4.29"), 4- ϕ 13.5 (.531") distributing circle ϕ 106.4 (4.188"), Pilot ϕ 82.5x6.4 (3.25"x.251")
- C** - 6 bolt Rhombus flange, 6- ϕ 13.5 (.531") distributing circle ϕ 106.4 (4.188"), Pilot ϕ 82.5x6.4 (3.25"x.251")
- D** - Rhombus flange, 2-14 distributing circle ϕ 146.1 (5.752"), Pilot ϕ 101.57x6.3 (4"x.248")
- I** - Wheel motor square flange 137x137 (5.393"x5.393"), 4- ϕ 14.5 (.570") distributing circle ϕ 161.9 (6.375"), Pilot ϕ 127x8 (5"x.315")
- J** - Square flange 120x120 (4.72"x4.72"), 4- ϕ 13.5 (.531") distributing circle ϕ 127 (5"), Pilot ϕ 101.5x6.4 (4"x.251")

Shaft & Key (mm)

- C** - Cylinder shaft: ϕ 31.75x46 (1.25"x1.811"), Parallel key: 7.963X7.963X32 (.313"x.313"x1.259"), Link thread : 3/8-16UNC
- D** - Cone shaft: ϕ 31.75 (1.25"), Woodruff key: ϕ 25.4x7.963 (1"x.313"), Link thread: 1-20UNEF, taper 1:8
- E** - Rectangle spline shaft: ϕ 25.3x43 (.996"x1.693"), 6-25.3x21x6.25 (.996"x.827"x.246"), Link thread: 5/16-18UNC
- H** - Cylinder shaft: ϕ 25.4x41 (1"x1.614"), Parallel key: 6.35x6.35x32 (.25"x.25"x1.259"), Link thread :1/4-20UNC
- I** - Involute spline shaft: ϕ 31.75x48 (1.25"x1.889"), 14 teeth, DP12/24, Link thread: 3/8-16UNC
- J** - Cylinder shaft: ϕ 25.4x39 (1"x1.535"), Woodruff key: ϕ 25.4x6.35 (1"x.250"), Link thread : 1/4-20UNC
- M** - Involute spline shaft: ϕ 22x33 (.866"x1.299"), 13teeth, DP16/32
- O** - Cone shaft: ϕ 31.75 (1.25"), Parallel key: 7.96x7.96x32 (.312"x.312"x1.259") Link thread: 1-20UNF, Taper: 1:8
- P** - Rectangle spline shaft: ϕ 34.85x100 (1.372"x3.937"), 6-34.85x28.14x8.64 (1.372"x1.108"x.340")

Back Housing

B - Refer to Drawing Page

Oil Port

C - 2-1/2-14NPTF **D** - 2-7/8-14UNF SAE **F** - 2-1-1/16-12UN

Link Thread on Port Surface

A - None **C** - 2-3/8-16UNC **E** - 3-3/8-16UNC

Drain Port

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

Order example: BM5AABCBCD

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