



**BM2 series** motor is a medium, spool valve type motor, that can bear higher pressure than BM1.

### CHARACTERISTIC FEATURES

- It adopts the gerolor design. Has higher efficiency than our BM1 series.
- Credible design for shaft seal, which can bear high pressure and can be used in parallel or in series application.
- Direction of shaft speed can be controlled easily and smoothly.
- Best efficiency and economy in medium load applications.

## Main Specification

Displacement (cc)		50	63	80	100	125	160	200	250	315	400	500
cu.in/rev		3.0	3.8	4.8	6.1	7.6	9.7	12.2	15.2	19.2	24.4	30.4
Flow (GPM)	Cont.	10.5	10.5	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
	Int.	13.2	13.2	20	20	20	20	20	20	20	20	20
Speed (RPM)	Cont.	755	630	750	600	475	375	300	240	190	160	110
	Int.	970	790	940	750	600	470	375	300	240	200	128
Pressure (PSI)	Cont.	2030	2030	2030	2030	2030	2392	1885	1595	1235	1235	1160
	Int.	2537	2537	2900	2900	2900	2900	2900	2900	1667	1667	1305
Torque (in-lbs)	Cont.	884	1105	1414	1759	2210	2829	2917	3403	3403	4287	5613
	Int.	1105	1388	1680	2122	2581	3359	3960	4844	4880	5923	6674

- 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 are on page 4.
  5. Optimum operating situation should be at the 1/3~2/3 of the continuous operation.

## BM2-50 50cc

		ΔP (PSI)							
		725	1015	1305	1450	1740	2030	2320	2540
Flow (GPM)	1	309 72	398 64	530 57	583 56	690 53	787 34	-	-
	3	318 210	398 199	557 187	601 184	698 170	840 148	937 125	1061 97
	4	309 285	433 279	575 267	663 262	778 252	884 232	972 212	1061 187
	5	301 355	398 354	530 345	610 341	751 326	840 312	972 291	1105 260
	7	301 503	398 494	530 488	610 477	707 462	866 445	964 419	1105 382
	8	309 580	398 575	530 566	601 557	707 546	840 536	964 505	1105 469
	9	283 647	371 645	522 638	583 637	707 618	822 606	946 582	1105 545
	11	265 791	362 789	513 784	583 781	698 768	813 755	928 729	1078 697
	12	256 863	354 863	513 858	575 853	690 843	796 822	928 807	1061 789

Torque 928 in-lbs  
Speed 807 rpm

## BM2-63 63cc

		ΔP (PSI)							
		725	1015	1305	1450	1740	2030	2320	2540
Flow (GPM)	1	362 58	530 51	672 45	734 44	866 42	990 27	-	-
	3	398 166	539 157	681 148	751 142	893 136	1043 116	1167 99	1326 76
	4	380 224	539 220	707 211	813 204	972 192	1105 161	1220 146	1326 131
	5	380 279	504 278	725 273	769 269	928 257	1061 232	1140 211	1344 185
	7	424 397	495 390	672 385	760 376	884 331	1078 348	1149 270	1353 217
	8	389 458	495 454	654 447	751 435	884 431	1061 423	1202 399	1388 370
	9	354 511	469 509	654 503	734 502	884 488	1034 479	1185 459	1379 430
	11	327 625	460 622	645 618	725 616	866 607	1017 595	1167 576	1353 551
	12	248 681	424 681	619 677	707 673	822 665	884 649	1105 638	1282 623

## BM2-80 80cc

		ΔP (PSI)							
		725	1015	1305	1450	1740	2030	2320	2540
Flow (GPM)	3	495 131	690 123	866 119	946 114	1149 103	1308 85	1503 60	1591 51
	5	442 225	725 222	928 214	1043 211	1167 197	1414 185	1591 164	1662 153
	8	424 367	663 363	849 359	1017 348	1149 333	1326 323	1574 303	1680 286
	11	398 507	636 502	857 494	928 491	1132 479	1317 464	1565 437	1671 426
	13	371 605	619 605	796 596	866 589	1105 581	1299 559	1512 538	1653 526
	16	354 747	557 731	751 727	840 722	1043 712	1255 694	1494 674	1635 663
	18	318 837	513 829	725 818	796 815	990 798	1229 788	1459 769	1582 755
	20	256 934	495 924	681 918	751 907	972 894	1176 878	1432 863	1565 845

## BM2-100 100cc

		ΔP (PSI)							
		725	1015	1305	1450	1740	2030	2320	2540
Flow (GPM)	3	645 112	875 108	1087 98	1229 97	1414 85	1618 70	1856 59	1971 51
	5	601 188	840 185	1087 177	1264 172	1459 166	1759 154	1945 142	2104 131
	8	575 302	840 297	1061 291	1238 288	1459 281	1715 265	1945 251	2122 237
	11	522 416	778 414	1052 403	1193 401	1423 396	1697 381	1927 364	2104 350
	13	486 491	751 487	1043 480	1105 476	1388 467	1635 456	1918 444	2077 429
	16	424 605	698 601	972 592	1052 590	1326 584	1591 573	1909 555	2077 541
	18	380 680	619 674	884 669	990 665	1255 661	1503 650	1768 628	2024 619
	20	345 755	557 747	866 744	928 742	1238 727	1476 722	1750 701	2007 692

CONT. INT.



## BM2-125 125cc

		ΔP (PSI)							
		725	1015	1305	1450	1740	2030	2320	2540
3	Flow (GPM)	796	1078	1414	1547	1812	2095	2290	2387
		82	81	74	72	62	48	25	16
5	Flow (GPM)	751	1052	1397	1520	1839	2210	2458	2581
		147	144	142	137	131	115	103	85
8	Flow (GPM)	672	955	1397	1459	1821	2139	2449	2572
		238	237	235	227	220	208	194	172
11	Flow (GPM)	698	928	1326	1423	1812	2104	2431	2555
		328	325	322	320	314	310	284	264
13	Flow (GPM)	663	840	1282	1397	1733	2104	2343	2519
		393	389	387	384	374	362	349	332
16	Flow (GPM)	530	840	1229	1370	1618	1971	2245	2466
		479	479	474	472	467	454	432	420
18	Flow (GPM)	530	734	1105	1326	1574	1874	2228	2316
		540	537	535	534	530	524	501	487
20	Flow (GPM)	486	707	1078	1282	1520	1812	2166	2307
		601	599	596	590	587	582	557	542

Torque 2166 in-lbs  
Speed 557 rpm

## BM2-160 160cc

		ΔP (PSI)							
		725	1015	1305	1450	1740	2030	2320	2540
3	Flow (GPM)	1017	1414	1812	1945	2316	2652	3006	3200
		65	64	59	57	49	43	39	31
5	Flow (GPM)	1017	1414	1821	2033	2343	2829	3138	3359
		113	109	104	102	97	90	79	72
8	Flow (GPM)	928	1397	1786	1945	2307	2696	3041	3342
		186	182	179	174	167	154	135	131
11	Flow (GPM)	884	1282	1724	1927	2263	2643	3006	3315
		257	255	248	246	239	226	207	193
13	Flow (GPM)	813	1255	1662	1848	2210	2608	2970	3235
		302	300	295	293	285	276	257	240
16	Flow (GPM)	743	1211	1591	1759	2122	2528	2917	3182
		372	370	368	364	358	345	337	307
18	Flow (GPM)	575	1061	1459	1591	1971	2493	2829	3094
		424	423	419	416	404	391	327	356
20	Flow (GPM)	530	1034	1397	1547	1945	2404	2776	3023
		469	466	463	460	451	436	419	399

## BM2-200 200cc

		ΔP (PSI)						
		725	1015	1305	1523	1740	2030	2538
3	Flow (GPM)	1317	1812	2254	2564	2900	3271	3916
		57	55	51	49	45	34	26
5	Flow (GPM)	1238	1786	2210	2855	2917	3633	3960
		94	91	88	85	80	74	62
8	Flow (GPM)	1149	1697	2139	2714	2873	3324	3934
		151	149	141	137	132	123	106
11	Flow (GPM)	1105	1644	2060	2696	2776	3448	3854
		208	204	201	196	188	177	155
13	Flow (GPM)	1061	1565	1989	2608	2696	3377	3775
		246	243	238	234	227	215	189
16	Flow (GPM)	972	1467	1945	2519	2581	3297	3704
		303	298	293	291	285	271	238
18	Flow (GPM)	866	1326	1812	2157	2458	2917	3624
		341	339	333	329	321	310	274
20	Flow (GPM)	751	1246	1759	2077	2369	2855	3536
		379	375	369	365	359	345	313

## BM2-250 250cc

		ΔP (PSI)							
		435	725	1015	1160	1450	1595	2030	2538
3	Flow (GPM)	1017	1609	2228	2608	3094	3359	4155	4729
		45	44	43	40	36	34	26	18
5	Flow (GPM)	972	1574	2228	2608	3112	3403	4155	4844
		76	75	71	71	65	63	54	45
8	Flow (GPM)	884	1503	2210	2519	3085	3359	4146	4827
		121	120	117	116	111	107	96	81
11	Flow (GPM)	796	1406	2051	2378	2917	3235	4066	4685
		165	162	161	159	156	153	135	114
13	Flow (GPM)	707	1308	1909	2228	2829	3112	4005	4597
		197	195	192	191	159	157	150	145
16	Flow (GPM)	663	1149	1768	2077	2696	3006	3828	4464
		242	242	240	238	234	230	212	182
18	Flow (GPM)	442	1034	1680	1945	2564	2829	3642	4376
		273	271	271	268	263	260	243	209
20	Flow (GPM)	371	928	1591	1856	2475	5392	3580	4296
		303	302	301	300	297	291	275	241

CONT. INT.

## BM2-315 315cc

		ΔP (PSI)						
		435	725	943	1160	1305	1885	1958
Flow (GPM)	3	1193 36	1901 32	2466 30	3032 28	3403 27	4553 26	4862 25
	5	1193 57	1909 56	2546 55	3094 54	3359 53	4491 49	4880 47
	8	1105 94	1812 92	2431 91	3006 90	3315 89	4367 81	4800 80
	11	1017 127	1724 125	2351 124	2961 123	3235 122	4287 109	4650 108
	13	796 151	1503 150	2228 149	2829 146	3112 144	4190 135	4517 130
	16	707 192	1414 187	2033 192	2696 180	2953 177	4040 161	4349 157
	18	513 216	1193 214	1901 210	2519 206	2829 200	3907 185	4155 175
	20	486 236	1105 234	1812 232	2378 229	2723 227	3766 210	4146 202

Torque 3766 in-lbs  
Speed 210 rpm

## BM2-400 400cc

		ΔP (PSI)						
		435	725	943	1160	1305	1885	1958
Flow (GPM)	3	1503 27	2228 26	3271 25	3890 23	4287 22	5260 19	5481 18
	5	1503 45	2484 44	3227 43	3854 42	4243 40	5216 38	5437 34
	8	1361 73	2458 71	3138 69	3766 67	4155 64	5127 61	5392 60
	11	1273 99	2413 98	3094 94	3624 86	4119 83	5092 79	5357 73
	13	1211 119	2378 117	3041 114	3589 110	4066 106	5039 99	5304 93
	16	1193 146	2343 141	2917 135	3448 131	3934 119	4906 111	5923 106
	18	1061 165	2166 164	2785 161	3271 156	3845 150	4818 146	5746 141
	20	1017 182	2077 178	2652 172	3094 167	3757 164	4641 159	5569 154

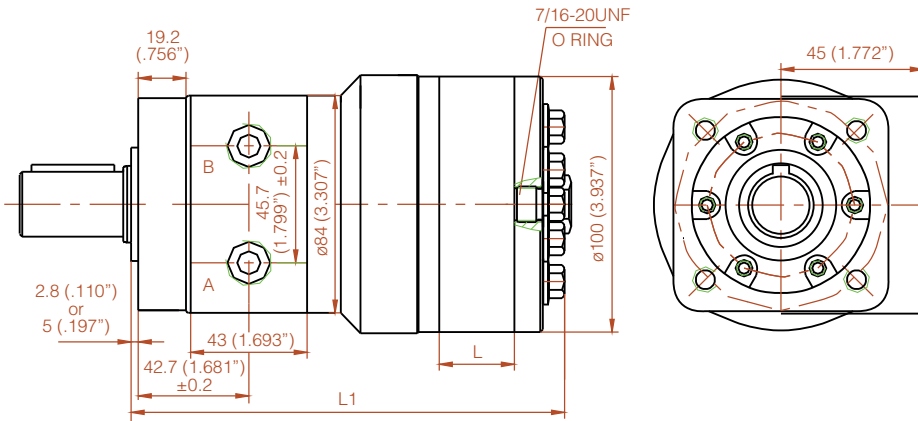
## BM2-500 500cc

		ΔP (PSI)					
		435	725	943	1160	1305	1885
Flow (GPM)	3	1768 33	3050 31	4084 30	5145 27	5613 25	6674 23
	5	1759 37	3006 36	4022 35	5083 34	5525 32	6586 28
	8	1680 60	2900 59	3951 58	5003 57	5534 55	6533 50
	11	1662 81	2820 80	3863 79	4915 78	5445 76	6444 73
	13	1591 95	2740 94	3775 93	4827 93	5357 92	6347 89
	16	1547 119	2652 118	3677 116	3819 115	5277 113	6206 111
	18	1503 134	2564 133	3651 131	3722 129	5180 128	6100 127
	20	1414 159	2458 158	3554 156	3633 153	5083 151	5994 150

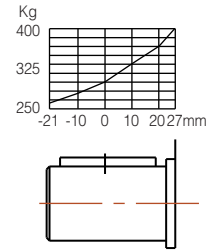
CONT. INT.

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

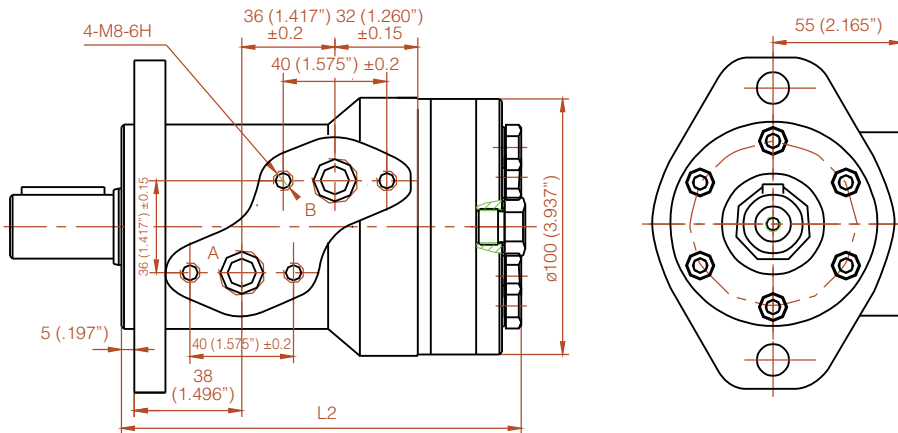
## H Type



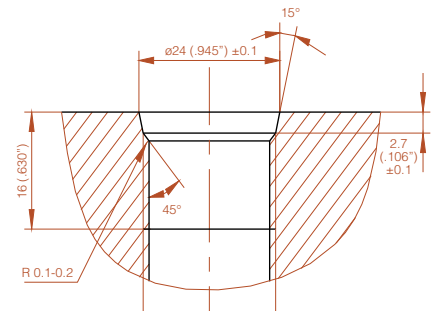
Shaft Load Capacity  
 Radial Load: 400Kg Max.  
 Axis Load: 200Kg Max.



## S Type



## Oil Port

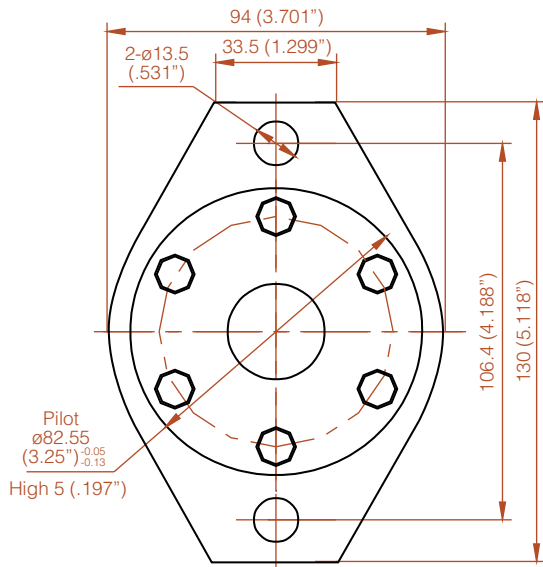


C: 7/8-14UNF-2B

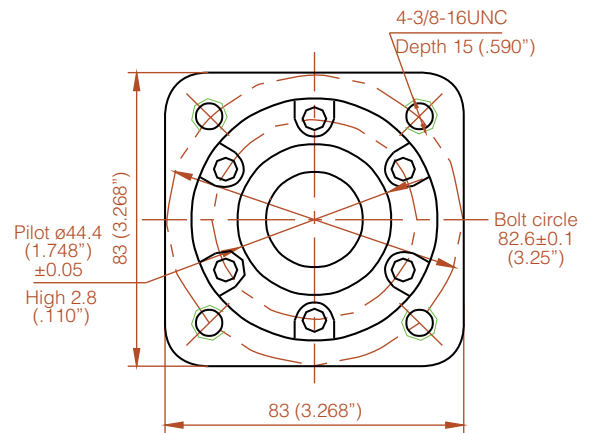
Displacement	50	63	80	100	125	160	200	250	315	400	500											
<b>L</b>	9	0.354	11.3	0.445	14.5	0.571	17.8	0.701	23	0.906	29	1.142	37	1.457	46	1.811	57	2.244	72	2.835	90	3.543
<b>L1</b>	146	5.748	148.3	5.839	151.5	5.965	154.8	6.094	160	6.299	166	6.535	174	6.850	183	7.205	194	7.638	209	8.228	227	8.937
<b>L2</b>	151	5.945	153.3	6.035	156.5	6.161	159.8	6.291	165	6.496	171	6.732	179	7.047	188	7.402	199	7.835	214	8.425	232	9.134

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

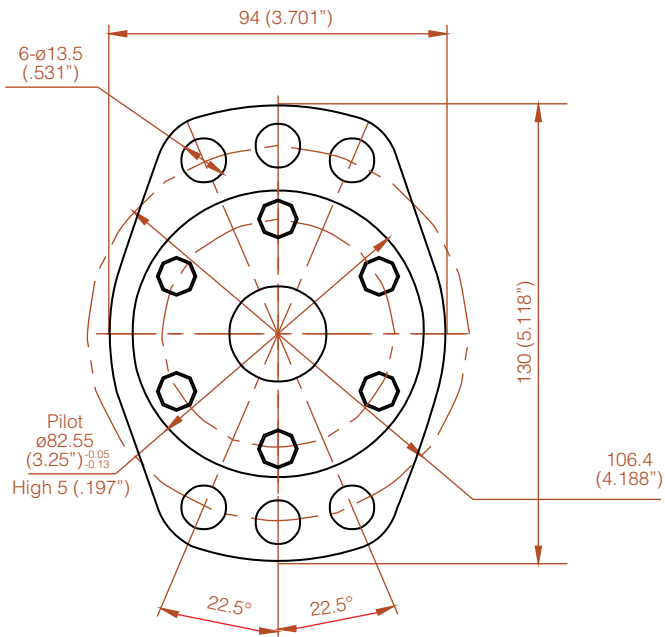
## Flange A



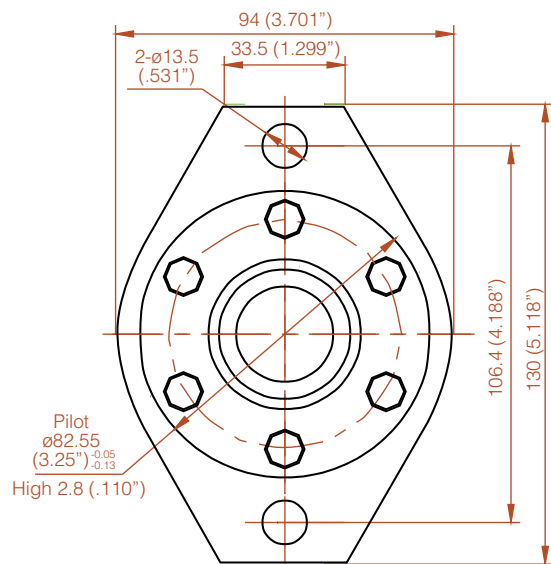
## Flange B



## Flange C

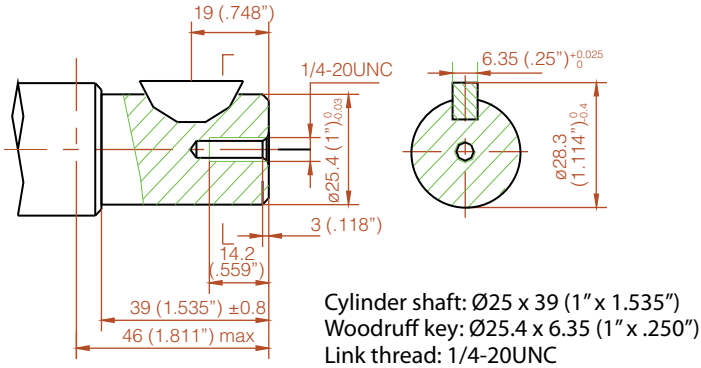


## Flange H

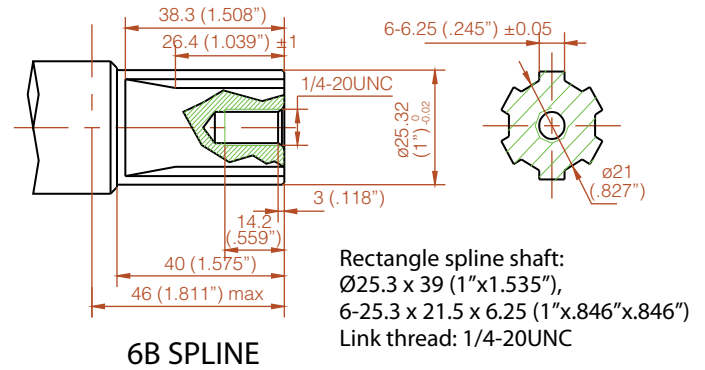


H flange is good for installing on a gearbox, pilot being thinner. 2.8 mm versus 5 mm like the A flange.

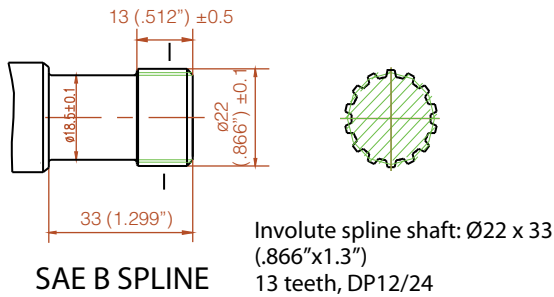
## Shaft A



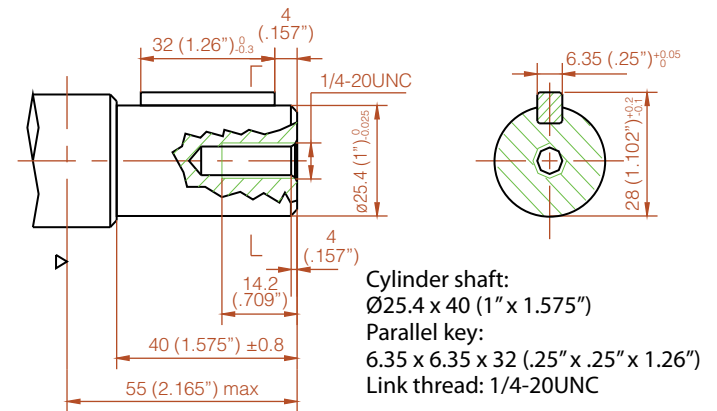
## Shaft C



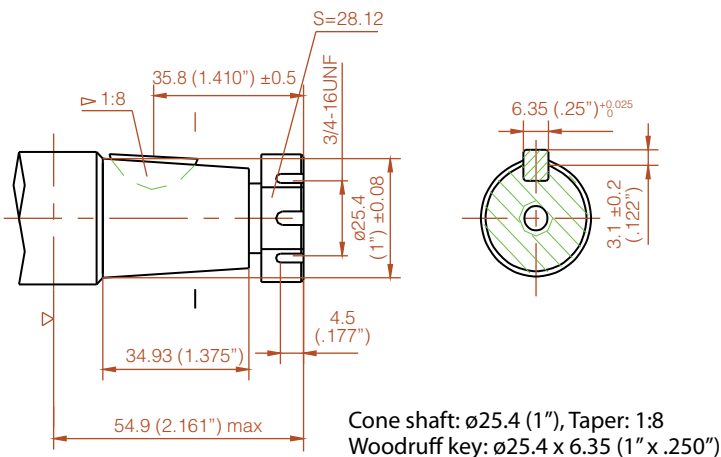
## Shaft D



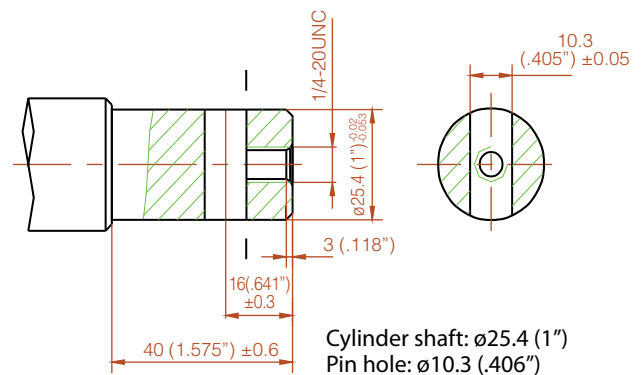
## Shaft E



## Shaft I



## Shaft J



# BM2 Code number & Order information

Choose an option for each category

**BM2**

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## Figuration

**H** - Parallel Port    **S** - S-Port

## Displacement (cc)

**A** - 50    **B** - 63    **C** - 80    **D** - 100    **E** - 125  
**F** - 160    **G** - 200    **H** - 250    **I** - 315    **J** - 400    **K** - 500

## Flange & Pilot (mm)

**A** - Rhombus flange, 2- $\varnothing$ 13.5 (.531") bolt center space 106.4 (4.188"), pilot  $\varnothing$ 82.5x5 (3.25"x.197")  
**B** - Square flange 83x83 (3.268"x3.268"), 4-3/8-16UNC bolt distributing circle  $\varnothing$ 82.55 (3.25"), pilot  $\varnothing$ 44.4x2.8 (1.748"x.110")  
**C** - 6 bolt Rhombus flange, 6- $\varnothing$ 13.5 (.531") bolt distributing circle  $\varnothing$ 106.4 (4.188"), pilot  $\varnothing$ 82.5x5 (3.25"x.197")  
**H** - Rhombus flange, 2- $\varnothing$ 13.5 (.531") bolt center space 106.4 (4.188"), pilot  $\varnothing$ 82.5x2.8 (3.25"x.110")

## Shaft & Key (mm)

**A** - Cylinder shaft;  $\varnothing$ 25.4x39 (1"x1.535"), Woodruff key:  $\varnothing$ 25.4x6.35 (1"x.25"), Link thread :1/4-20UNC  
**C** - Rectangle spline shaft:  $\varnothing$ 25.3x39 (1"x1.535"), 6-25.3x21.5x6.25 (1"x.846"x.246"), Link thread :1/4-20UNC  
**D** - Involute spline shaft:  $\varnothing$ 22x33 (.875"x1.299"), 13 teeth, DP16/32  
**E** - Cylinder shaft;  $\varnothing$ 25.4x40 (1"x1.575"), Parallel key: 6.35x6.35x32 (.25"x.25"x1.260"), Link thread :1/4-20UNC  
**I** - Cone shaft:  $\varnothing$ 25.4 (1"), Taper:1:8, Woodruff key:  $\varnothing$ 25.4x6.35 (1"x.250")  
**J** - Cylinder shaft;  $\varnothing$ 25.4 (1"), Pin hole:  $\varnothing$ 10.3 (.406")

## Oil Port

**C** - 2-7/8-14UNF SAE    **D** - 2-1/2-14NPTF

## Link Thread on Port Surface

**A** - None    **C** - 4-5/16-UNC

## Drain Port

**A** - None    **C** - 7/16-20UNF

## Special

**A** - Standard  
**B** - Add 2 radial bearing

## Order example: BM2HABCDCCB

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