

HIGH SPEED MOTORS BMM SERIE

BMM SERIES MOTOR IS A MINI-MOTOR WITH HIGH SPEED, VERY COMPACT DESIGN, SPOOL VALVE, ECONOMICAL TYPE MOTOR.

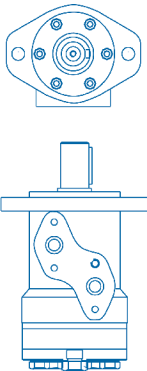
CHARACTERISTIC FEATURES

- COMPACT DESIGN OF SPOOL AND GEAR SET, WHICH PROVIDE MINI VOLUME, HIGH POWER DENSITY AND LOW WEIGHT
- CREDIBLE DESIGN FOR SHAFT SEAL, WHICH CAN BEAR HIGH PRESSURE AND BE USED IN PARALLEL OR IN SERIES.
- DIRECTION OF SHAFT ROTATION AND SPEED CAN BE CONTROLLED EASILY AND SMOOTHLY

DISPLACEMENT cm ³		8.2	12.9	19.9	31.6	50,3
REVOLUTION in ³		0.5	0.79	1.21	1.93	3.0
FLOW (GPM)	CONT.	4.2	5.2	5.2	5.2	5.2
	INT.	5.2	6.6	6.6	6.6	6.6
SPEED (RPM)	CONT.	1950	1550	1000	630	400
	INT.	2450	1940	1250	800	500
PRESSURE (PSI)	CONT.	1450	1450	1450	1450	1015
	INT.	2030	2030	2030	2030	2030
TORQUE (LBF.IN)	CONT.	97	141	221	354	407
	INT.	132	203	309	504	778
POWER (HP)	CONT.	3.38	4.22	4.22	2.96	2.96
	INT.	5.92	8.29	8.29	7.1	5.92
LENGTHS	L	4.09	4.17	4.29	4.45	4.80
	L1	4.13	4.21	4.33	4.53	4.84
	L2	0.14	0.22	0.34	0.53	0.85

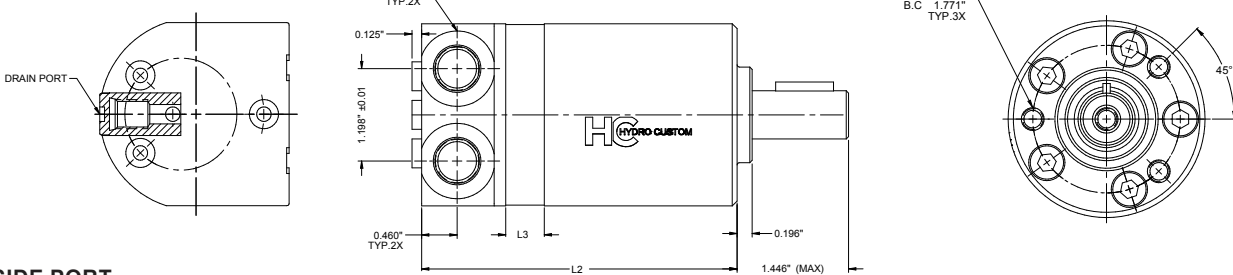


BMM

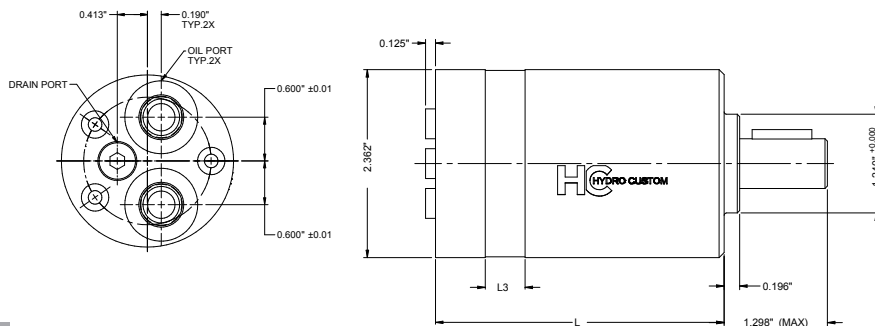


OTHER SHAFTS & MOUNTINGS AVAILABLE UPON REQUEST

REAR PORT



SIDE PORT



PART NUMBERS

PORT CONFIGURATION	8.2	12.9	19.9	31.6	50
	0.5	0.79	1.21	1.93	3.0
SIDE PORT	301-0050	301-0051	301-0052	301-0053	301-0055
REAR PORT	301-0060	301-0061	301-0062	301-0063	301-0065

BM1 SERIES MOTOR IS A SMALL VOLUME, SPOOL VALVE GEROLOR GEAR SET, ECONOMICAL TYPE MOTOR

CHARACTERISTIC FEATURES

- COMPACT DESIGN OF SPOOL AND GEAR SET, WHICH PROVIDE SMALL VOLUME, HIGH POWER AND LOW WEIGHT
- DIRECTION OF SHAFT ROTATION AND SPEED CAN BE CONTROLLED EASILY AND SMOOTHLY
- BEST COMBINATION OF EFFICIENCY AND ECONOMY IN MEDIUM LOAD APPLICATIONS



BM1

MAIN SPECIFICATIONS

DISPLACEMENT cm ³		50	80	100	125	160	200	250	315	400
REVOLUTION in ³		3.0	4.8	6.1	7.6	9.7	12.2	15.2	19.2	24.4
FLOW (GPM)	CONT.	15	15	15	15	15	15	15	15	15
	INT.	20	20	20	20	20	20	20	20	20
SPEED (RPM)	CONT.	716	750	550	450	360	280	220	189	140
	INT.	955	900	673	560	430	350	270	236	180
PRESSURE (PSI)	CONT.	2030	2030	2030	2030	2030	2030	1595	1305	1015
	INT.	2537	2537	2537	2537	2537	2537	2030	2030	1522
	PEAK	3262	3262	3262	3262	3262	3262	2610	2320	2030
TORQUE (LBF.IN)	CONT.	734	1140	1423	1812	2166	2519	3182	3589	3845
	INT.	955	1503	1874	2343	3014	3448	4022	4464	4694
	PEAK	1014	1630	1990	2681	3441	3967	4113	4885	4922
POWER (HP)	CONT.	12.67	16.89	16.89	16.89	18.94	14.88	14.88	13.53	11.48
	INT.	16.73	22.31	22.31	22.31	23.68	20.3	18.94	16.91	16.89
LENGTHS	L	0.35	0.57	0.70	0.91	1.14	1.46	1.81	2.24	2.84
	L1	5.63	5.81	5.95	6.14	6.38	6.69	7.07	7.50	8.07
	L2	5.83	6	6.14	6.34	6.58	6.89	7.26	7.70	8.27

PART NUMBERS

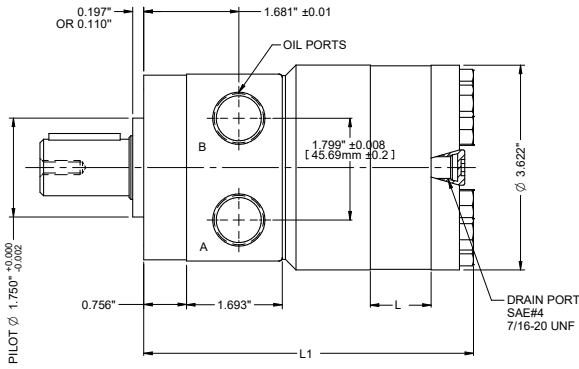
PORT CONFIGURATION	FLANGE	SHAFT	PORT SIZE	50	80	100	125	160	200	250	315	400
				3.0	4.8	6.1	7.6	9.7	12.2	15.2	19.2	24.4
TYPE H SIDELOAD BEARING INCLUDED	2 BOLT	1" STRAIGHT	SAE-10	316-0400H	316-0402H	316-0403H	316-0409H	316-0404H	316-0405H	316-0406H	316-0408H	316-0407H
			1/2 NPT	316-0390H	316-0392H	316-0393H	316-0399H	316-0394H	316-0395H	316-0396H	316-0398H	316-0397H
		1"-6T SPLINED	SAE-10	316-0800H	316-0802H	316-0803H	316-0809H	316-0804H	316-0805H	316-0806H	316-0808H	316-0807H
	4 BOLT	1" STRAIGHT	SAE-10	316-0500H	316-0502H	316-0503H	316-0509H	316-0504H	316-0505H	316-0506H	316-0508H	316-0507H
			1/2 NPT	316-0420H	316-0422H	316-0423H	316-0429H	316-0424H	316-0425H	316-0426H	316-0428H	316-0427H
		1"-6T SPLINED	SAE-10	316-0900H	316-0902H	316-0903H	316-0909H	316-0904H	316-0905H	316-0906H	316-0908H	316-0907H
TYPE S	2 BOLT	1" STRAIGHT	SAE-10	313-0400	313-0402	313-0403	313-0409	313-0404	313-0405	313-0406	313-0408	313-0407
			1/2 NPT	313-0390	313-0392	313-0393	313-0399	313-0394	313-0395	313-0396	313-0398	313-0397
		1"-6T SPLINED	SAE-10	313-0800	313-0802	313-0803	313-0809	313-0804	313-0805	313-0806	313-0808	313-0807
	4 BOLT	1" STRAIGHT	SAE-10	313-0500	313-0502	313-0503	313-0509	313-0504	313-0505	313-0506	313-0508	313-0507
			1/2 NPT	313-0420	313-0422	313-0423	313-0429	313-0424	313-0425	313-0426	313-0428	313-0427
		1"-6T SPLINED	SAE-10	313-0900	313-0902	313-0903	313-0909	313-0904	313-0905	313-0906	313-0908	313-0907
1/2 NPT	313-0920	313-0922	313-0923	313-0929	313-0924	313-0925	313-0926	313-0928	313-0927			

ALSO AVAILABLE:

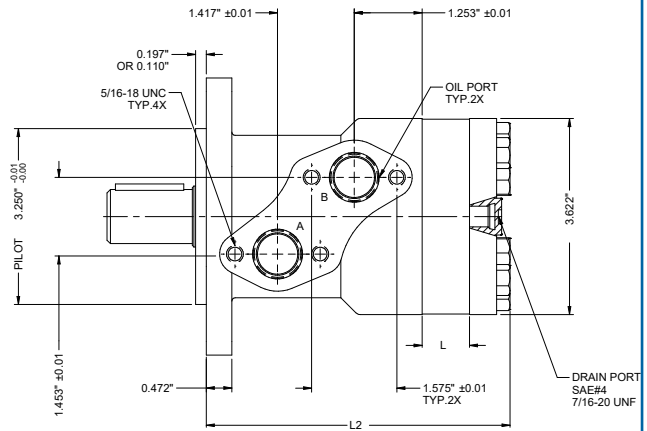
- OTHER SHAFT DIMENSION
- OTHER MOUNTING FLANGES

PORTS CONFIGURATION

H TYPE

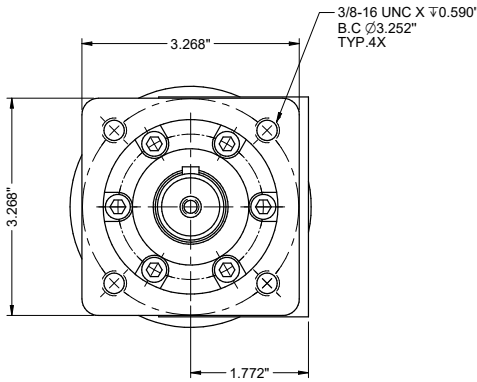


S TYPE

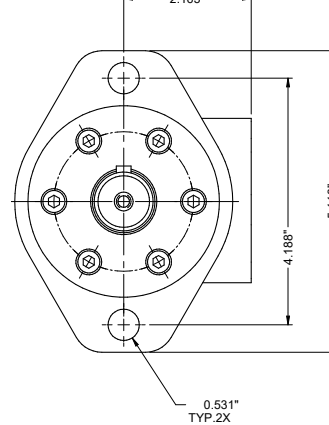


MOUNTING FLANGES

4 BOLT MOUNTING
SQUARE FLANGE
4X 3/8-16 UNC BOLT ON Ø3.25"

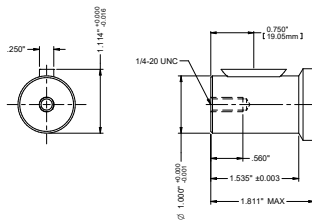


2 BOLT MOUNTING
2 BOLTS FLANGE, Ø0.531" X 2 BOLT CENTER SPACE
4.188" PILOT Ø3.250" X 0.197"



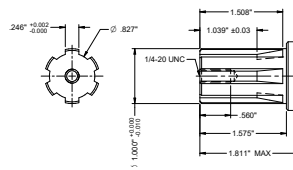
SHAFT TYPE

1" STRAIGHT KEY

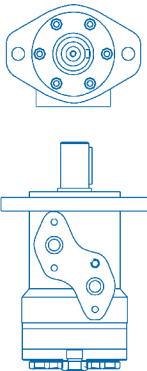


CYLINDER SHAFT: 1" X 1.535"
WOODRUFF KEY: 1" X 0.250"
LINK THREAD: 1/4-20 UNC

1"-6T SPLINED



SPLINE SHAFT:
0.996" X 1.535"
0.996" X 0.846" X 0.246" 6 TEETH
LINK THREAD: 1/4-20 UNC



BM2 / BM2W 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.



BM2

BM2W

MAIN SPECIFICATIONS

DISPLACEMENT cm ³		50	63	80	100	125	160	200	250	315	400	500
REVOLUTION in ³		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 (LBF.IN)	CONT.	884	1105	1414	1759	2210	2829	2917	3403	3403	4287	5613
	INT.	1105	1388	1680	2122	2581	3359	3960	4844	4880	5923	6674
POWER (HP)	CONT.	13.02	4.65	21.3	21.31	21.31	21.31	18.27	16.75	13.7	13.7	13.7
	INT.	17.78	17.78	29.63	29.63	29.63	29.63	29.61	29.61	22.84	22.84	21.99
LENGTHS	L	0.35	0.45	0.57	0.70	0.91	1.14	1.46	1.81	2.24	2.84	3.54
	L1	5.75	5.84	5.97	6.09	6.30	6.54	6.85	7.21	7.64	8.23	8.94
	L2	5.95	6.04	6.16	6.29	6.50	6.73	7.05	7.40	7.84	8.43	9.134
	L3	6.18	6.30	6.42	6.54	6.73	6.99	7.28	7.64	8.07	8.66	9.37

- 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. OPTIMUM OPERATING SITUATION SHOULD BE AT THE 1/3~2/3 OF THE CONTINUOUS OPERATION.

PART NUMBERS

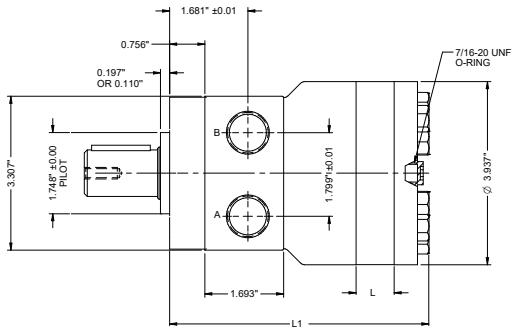
FLANGE	SHAFT	PORT SIZE	50	80	100	125	160	200	250	315	400	500
			3,0	4,8	6,1	7,6	9,7	12,2	15,2	19,2	24,4	30,4
2 BOLT	1" KEYED	SAE-10	322-0300	322-0302	322-0303	322-030A	322-0304	322-0305	322-0306	322-0307	322-0308	322-0309
		1/2NPT	322-0180	322-0182	322-0183	322-018A	322-0184	322-0185	322-0186	322-0187	322-0188	322-0189
4 BOLT	1" KEYED	SAE-10	322-0250	322-0252	322-0253	322-025A	322-0254	322-0255	322-0256	322-0257	322-0258	322-0259
		1/2NPT	322-0390	322-0392	322-0393	322-039A	322-0394	322-0395	322-0396	322-0397	322-0398	322-0399
WHEEL MOTOR	1 1/4" TAPER	SAE-10	328-0420F	328-0422F	328-0423F	328-042AF	328-0424F	328-0425F	328-0426F	328-0427F	328-0428F	328-0429F

ALSO AVAILABLE:

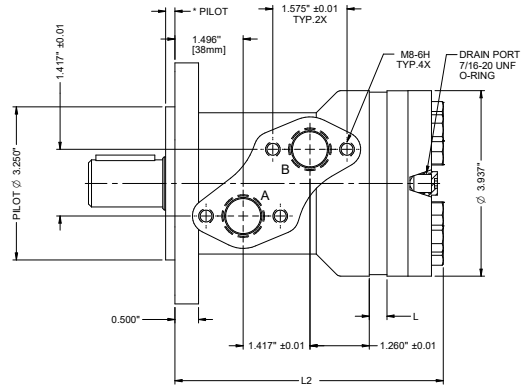
- OTHER SHAFT DIMENSION
- OTHER MOUNTING FLANGES
- SIDE LOAD BEARING

PORT CONFIGURATION

H TYPE



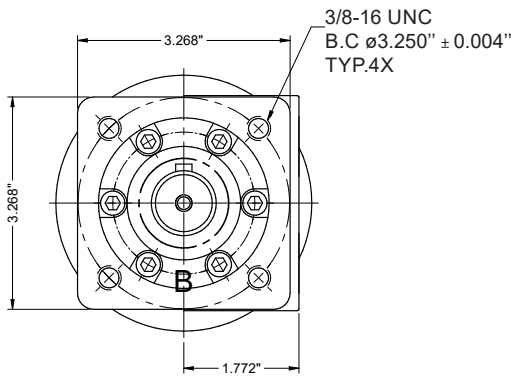
S TYPE



MOUNTING FLANGES

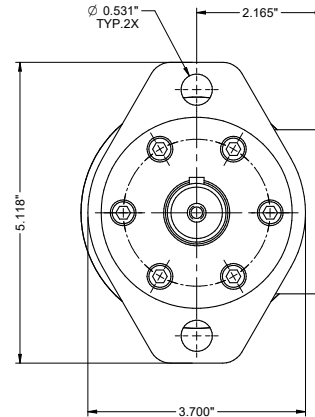
4 BOLT

SQUARE FLANGE
4X 3/8-16 UNC BOLT ON $\phi 3.25''$



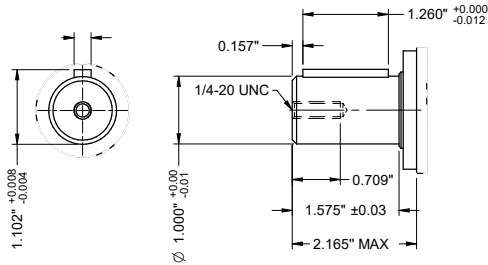
2 BOLT

2 BOLTS FLANGE, $\phi 0.531'' \times 2$ BOLT CENTER SPACE $4.188''$
PILOT $\phi 3.250'' \times 0.197''$



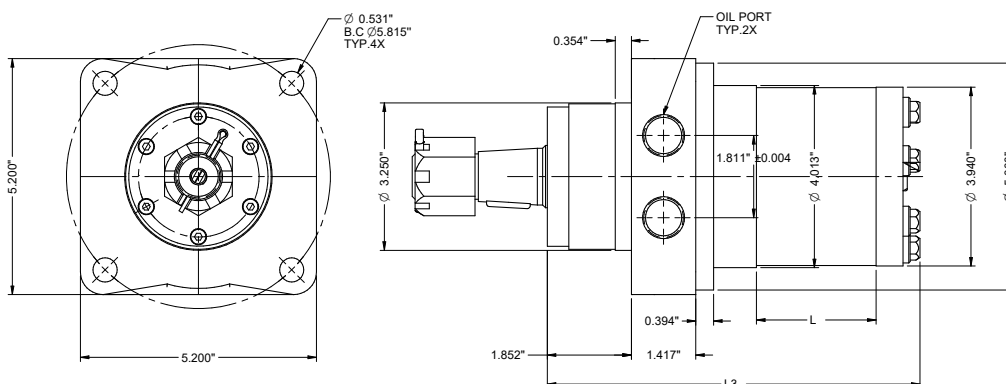
SHAFT TYPE

1''-STRAIGHT KEY



1 1/4'' TAPERED

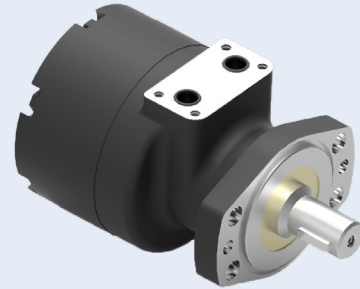
BM2W



BME SERIES MOTOR HAS ADVANCED GEROLER GEAR SET DESIGN, THEY ARE SUITED FOR HIGH PRESSURE HIGH EFFICIENCY, LOW SPEED APPLICATIONS. IT CAN KEEP HIGH VOLUME EFFICIENCY, LONG WORKING LIFE.

CHARACTERISTIC FEATURES

- ADVANCED GEROLER GEAR SET DESIGN, LOW PRESSURE OF START-UP, HIGH EFFICIENCY.
- HIGH PRESSURE APPLICATIONS, HIGH TORQUE. HAS NEEDLE BEARINGS DESIGN, IT CAN BEAR HIGH AXIAL AND RADIAL FORCES.
- ADVANCE HIGH SPEED DISTRIBUTION FLOW DESIGN, AUTOMATICALLY COMPENSATE IN OPERATING, HIGH VOLUME EFFICIENCY, RUN SMOOTHLY AT LOW SPEED.

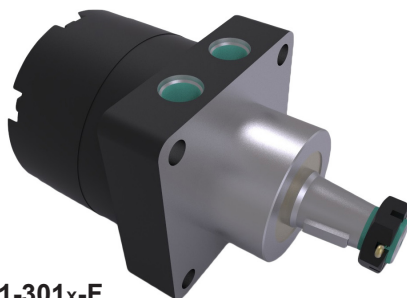


MAIN SPECIFICATIONS

DISPLACEMENT cm ³		125	160	200	230	250	300	350	375	475	540	750
REVOLUTION in ³												
FLOW (GPM)	CONT.	11.89	15.85	18.49	18.49	19.81	21.13	21.13	19.81	19.81	19.81	19.81
	INT.	15.85	19.81	22.45	22.45	23.78	25.10	25.10	23.78	23.78	23.78	23.78
SPEED (RPM)	CONT.	336	350	330	290	290	250	215	200	150	140	100
	INT.	450	440	425	365	350	315	365	240	180	170	120
PRESSURE (PSI)	CONT.	2973	2973	2973	2973	2973	2973	2973	2973	2538	2030.5	1523
	INT.	3480	3480	3480	3480	3480	3480	3480	3480	2756	2538	1740
TORQUE (LBF.IN)	CONT.	3088.91	4159.85	4708.60	5531.72	6195.53	7169.11	8009.93	8762.24	9824.33	8673.74	9293.29
	INT.	3611.11	4850.21	5328.15	6284.03	6992.09	8231.20	9160.53	10089.86	10691.71	10974.93	10443.89
POWER (HP)	CONT.	16.47	23.10	24.65	25.45	28.51	28.44	27.33	27.81	23.38	19.27	14.75
	INT.	25.78	33.86	35.93	36.39	38.83	41.14	53.05	38.42	30.54	29.60	19.89
LENGTHS	L	154	158	161	163	166	170	174	176	185	191	209

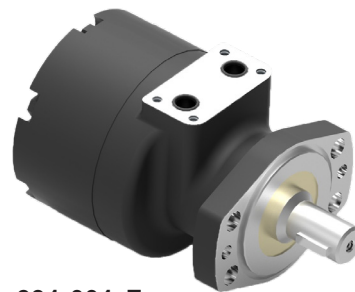
- NOTE:**
1. CONTINUOUS DATA: THE MAX. VALUE OF OPERATING MOTOR CONTINUOUSLY.
 2. INTERMITTENT DATA: THE MAX. VALUE OF OPERATING MOTOR IN 6 SECONDS PER MINUTE.
 3. A SIMULTANEOUS MAX. RPM AND MAX. PRESSURE IS NOT RECOMMENDED.
 4. OPTIMUM OPERATING SITUATION SHOULD BE AT THE 1/3~2/3 OF THE CONTINUOUS OPERATING SITUATION.

BMEW WHEEL MOUNT



391-301x-F

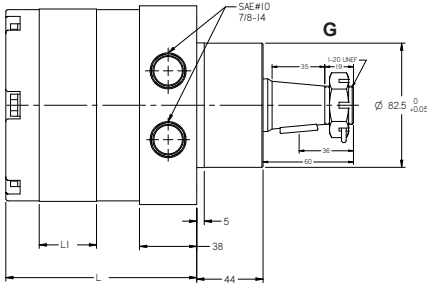
BME 6 HOLES MAGNETO



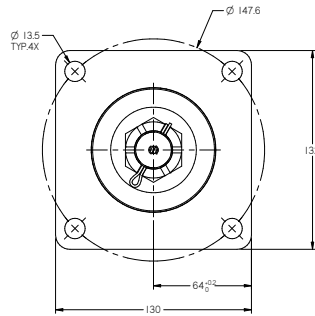
391-001xF

DIMENSIONS

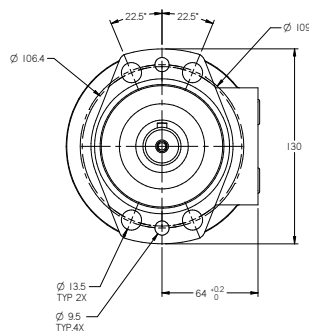
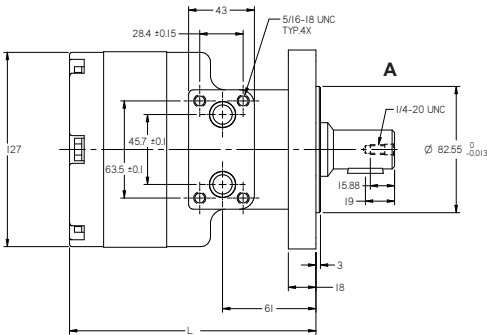
BMEW WHEEL MOUNT



MOUNTING FLANGES



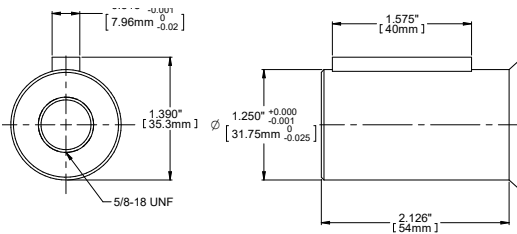
BME 6 HOLES MAGNETO



SHAFT TYPE

A

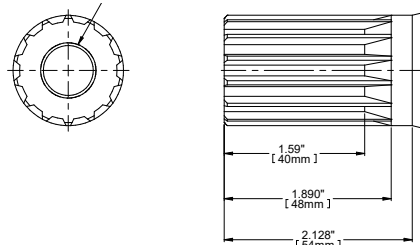
1 1/4" STRAIGHT KEY



CYLINDER SHAFT: $\varnothing 31.75\text{mm} \times 54\text{mm}$
 PARALLEL KEY: 7.96mm X 7.96mm X 40mm
 LINK THREAD: 5/8-18 UNF

B

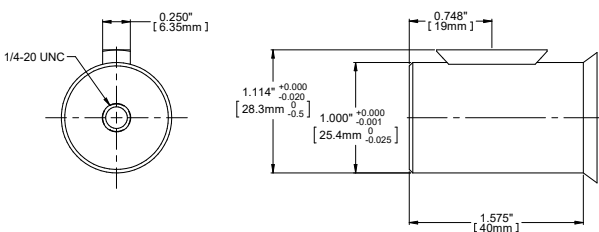
1 1/4"-14T SPLINED



INVOLUTE SPLINE SHAFT: $\varnothing 31.75\text{mm} \times 54\text{mm}$
 14 TEETH, DP13/24
 LINK THREAD: 5/8-18 UNF

E

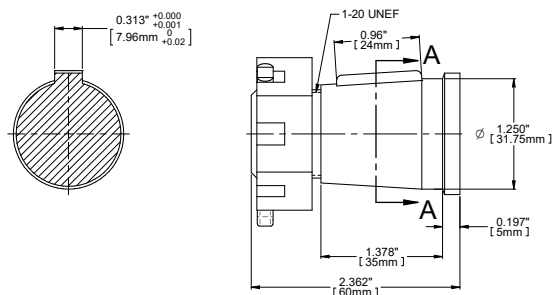
1" STRAIGHT KEY



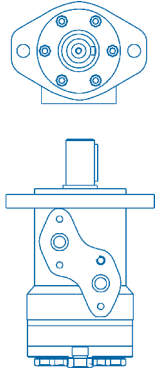
CYLINDER SHAFT: $\varnothing 25.4\text{mm} \times 39\text{mm}$
 WOODRUFF KEY: $\varnothing 25.4\text{mm} \times 6.35\text{mm}$
 LINK THREAD: 1/4-20 UNC

G

1 1/4" TAPERED



CONE SHAFT: $\varnothing 31.75\text{mm}$
 PARALLEL KEY: 7.96mm X 7.96mm X 24mm
 LINK THREAD: 1-20 UNEF
 TAPER 1:8



BM5 IS A LARGE VOLUME, DISC VALVE, HIGH PRESSURE MOTOR WITH RADIAL BEARINGS DESIGN AND CAN BEAR GREATER LOAD.



BM5

MAIN SPECIFICATIONS

DISPLACEMENT cm ³		80	100	125	160	200	250	305	400	500
REVOLUTION in ³		4.8	6.1	7.6	9.7	12.2	15.2	18.59	24.4	30.4
FLOW (GPM)	CONT.	20	20	20	20	20	20	20	20	20
	INT.	22	25	25	30	30	30	30	30	30
SPEED (RPM)	CONT.	799	742	576	460	365	294	246	183	148
	INT.	908	924	720	713	577	462	365	287	230
PRESSURE (PSI)	CONT.	2980	3045	3045	3045	3045	2900	2900	2320	1740
	INT.	4350	4350	4350	3770	3770	3770	3480	2465	2030
	PEAK	4350	4350	4350	4350	4350	4350	4350	2900	2465
TORQUE (LBF.IN)	CONT.	2033	2564	3182	4058	4791	5658	5967	7337	7470
	INT.	2555	3359	4243	4685	5622	6895	6851	8044	8398
	PEAK	2917	3713	4774	4818	5834	7205	8212	8840	9061
POWER (HP)	CONT.	27.76	28.76	28.76	16.91	16.91	16.91	11.84	11.84	11.84
	INT.	50.75	50.75	50.75	33.95	35.95	35.53	29.6	29.95	25.37
LENGTHS	L1	0.59	0.73	0.90	1.14	1.41	1.77	2.20	2.83	3.56
	L3	7.08	7.22	7.40	7.64	7.91	8.27	8.70	9.33	10.25

- 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. OPTIMUM OPERATING SITUATION SHOULD BE AT THE 1/3-2/3 OF THE CONTINUOUS OPERATION.

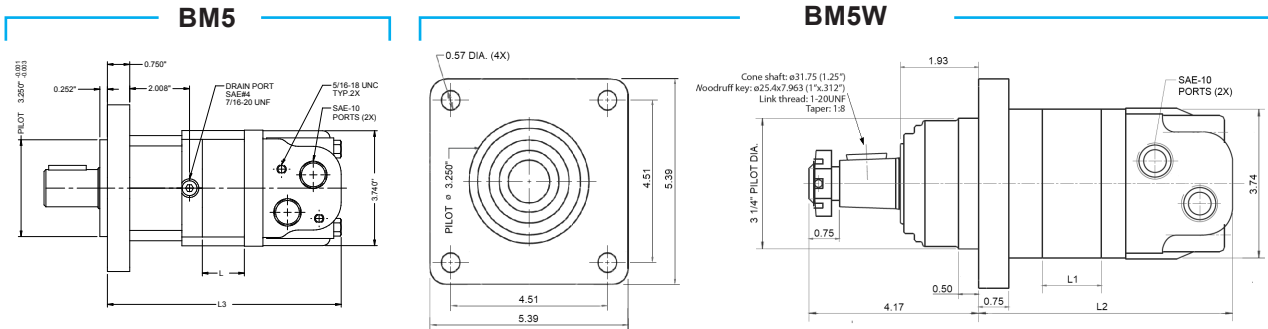
PART NUMBERS

FLANGE	SHAFT	80	100	125	160	200	250	315	400	500
		4,8	6,1	7,6	9,7	12,2	15,2	19,2	24,4	30,4
SAEA 4 BOLT	1 1/4" STRAIGHT	351-0571	351-0572	351-0573	351-0574	351-0575	351-0576	351-0577	351-0578	351-0570
	1 1/4" SPLINED	351-2031	351-2032	351-2033	351-2034	351-2035	351-2036	351-2037	351-2038	351-2030
	1" STRAIGHT	351-0581	351-0582	351-0583	351-0584	351-0585	351-0586	351-0587	351-0588	351-0580
	1" SPLINED	351-1301G	351-1302G	351-1303G	351-1304G	351-1305G	351-1306G	351-1307G	351-1308G	351-1300G
MAGNETO MOUNT	1 1/4" STRAIGHT	351-0211	351-0212	351-0213	351-0214	351-0215	351-0216	351-0217	351-0218	351-0210
	1 1/4" SPLINED	351-2111	351-2112	351-2113	351-2114	351-2115	351-2116	351-2117	351-2118	351-2110
	1" STRAIGHT	351-0651	351-0652	351-0653	351-0654	351-0655	351-0656	351-0657	351-0658	351-0650
	1" SPLINED	351-1121	351-1122	351-1123	351-1124	351-1125	351-1126	351-1127	351-1128	351-1120
WHEEL MOTOR	1 1/4" TAPERED	351-3141	351-3142	351-3143	351-3144	351-3145	351-3146	351-3147	351-3148	351-3140

ALSO AVAILABLE:

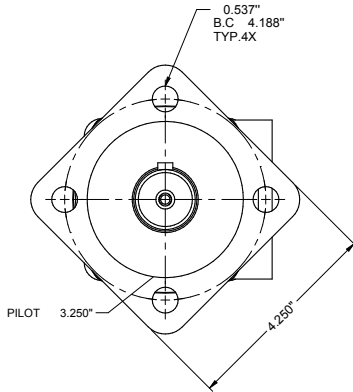
- OTHER SHAFT DIMENSION
- OTHER MOUNTING FLANGES

DIMENSIONS

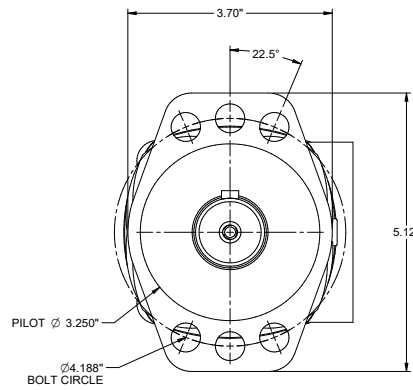


MOUNTING FLANGES

SAE A - 4 BOLT

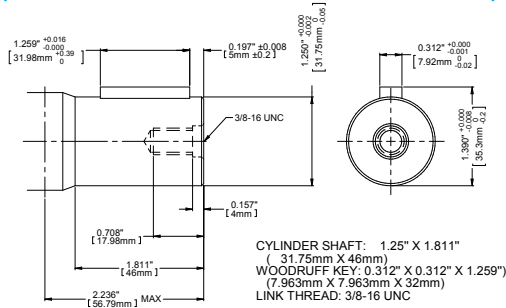


MAGNETO - 4 BOLT

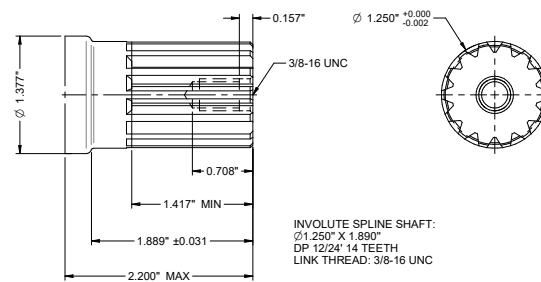


SHAFT TYPE

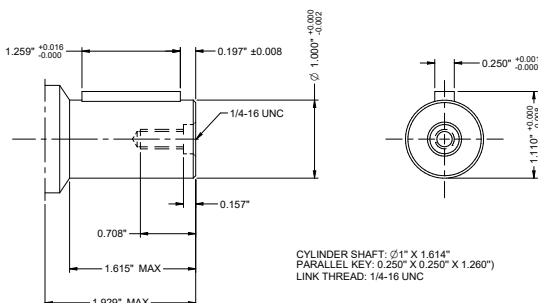
1 1/4" STRAIGHT KEY



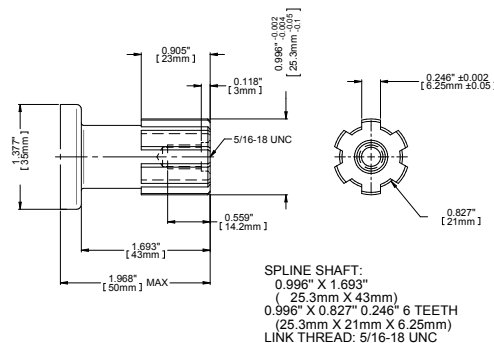
1 1/4"-14T SPLINED



1" STRAIGHT KEY



1"-6T SPLINED



CROSSOVER RELIEF VALVES

- MADE TO ABSORB PEAK OF PRESSURE
- COMPACT DESIGN
- FITS MANY MANUFACTURERS

PART NO	FITS ON MOTORS	PSI RANGE	PORT
469-8210	BMM	500-2000	SAE #6
460-2100	BM1/BM2	725-1450	SAE #10
460-2210	BM1/BM2	1000-3000	
465-1210	BM5	1000-3000	



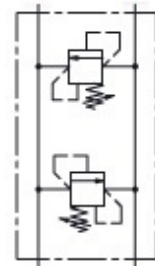
FOR HMM



FOR BM1 & BM2



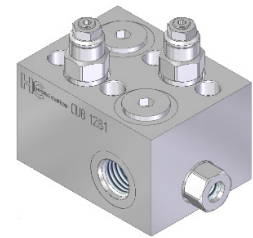
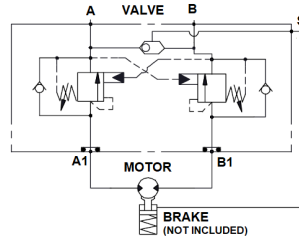
FOR BM5



INTEGRATED COUNTERBALANCE VALVES

- MADE TO SMOOTHLY BRAKE ROTATION
- FITS ON BM1 & BM2 MOTORS- INTEGRATE A
- SHUTTLE TO SEND A SIGNAL/OIL

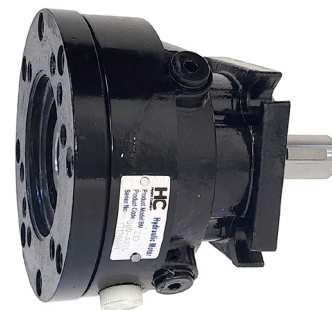
PART NO
1281



ZD80 HYDRAULIC BRAKES TO INSTALL ON MOTORS

- MULTI-DISC BRAKE THAT RELEASE UNDER HYDRAULIC PRESSURE
- COMPACT, EASY TO INSTALL
- MIN STARTING TORQUE: 3980 LB*IN
- MIN OPERATING PRESSURE: 360 PSI
- MAX OPENING PRESSURE: 4350 PSI
- DRAIN AND BRAKE RELEASE PORT: SAE-04

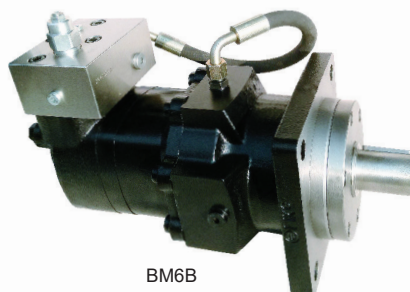
PART NO	FEMALE	MALE	MOUNTING FLANGE
ZD80-A014	1"-6T SPLINE	1" KEYED	SAE-A 2/4 BOLTS
ZD80-A024		1"-6T SPLINE	



MOTOR WITH INTEGRATED BRAKES



BM2B



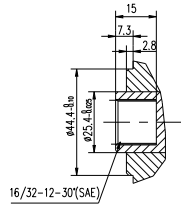
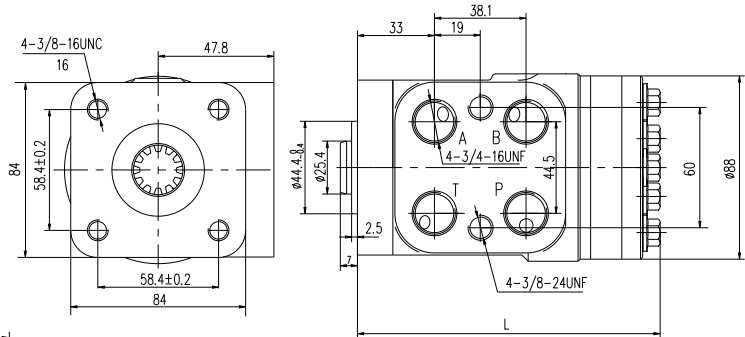
BM6B

STEERING UNITS

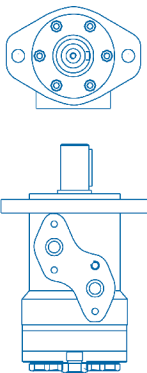
- OPEN CENTER, NON LOAD REACTION
- MAX PRESSURE: 2300 PSI
- SHAFT INPUT: 12 th - 16/32 - 30 (SAE) T SPLINE



PART NO	DISPLACEMENT in ³ (cm ³) / rev.	LENGHT (IN)
070-1341	4.9 (80)	5.1
070-1532	6.1 (100)	5.2
070-1533	7.6 (125)	5.3
070-1334	9.7 (160)	5.5
070-1335	12.2 (200)	5.8
070-1336	15.2 (250)	5.9



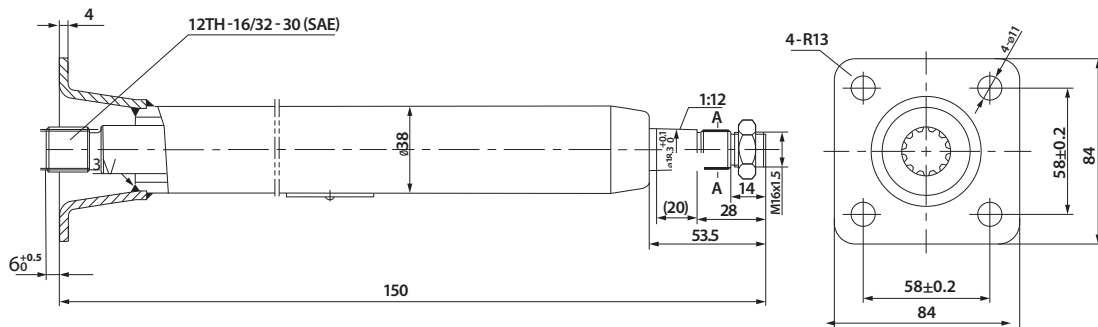
DIMENSIONS									
cm ³ /rev	80	100	125	160	200	250	315	400	500
DIM "L"	129.5	132	135	140	145	151	161	171	183



STEERING COLUMNS

* FITS ALSO ON MOST COMMON DANFOSS & CHARLYNN UNITS

PART NO	LENGHT
651-1579-S	6"
650-1500-S	8"
651-1504-S	16"



LENGHT