BMP HYDRAULIC MOTOR

BMP series motor are small volume, economical type, which is designed with shaft distribution flow, which adapt the Gerotor gear set design and provide compact volume, high power and low weight.

Characteristic features:

* Advanced manufacturing devices for the Gerotor gear set, which provide small volume, high efficiency and long life.
* Shaft seal can bear high pressure of motor of which can be used in parallel or in series.
* Advanced construction design, high power and low weight.

Main Specification

Technical data for BMP with 25 and 1 in and 1 in splined and 28.56 tapered shaft

Type		BMP BMPH BMPW 36	BMP BMPH BMPW 50	BMP BMPH BMPW 80	BMP BMPH BMPW 100	BMP BMPH BMPW 125	BMP BMPH BMPW 160	BMP BMPH BMPW 200	BMP BMPH BMPW 250	BMP BMPH BMPW 315	BMP BMPH BMPW 400	BMP BMPH BMPW 500
Geometric displacement (cm^3/rev.)		36	51.7	77.7	96.2	120.2	157.2	194.5	240.3	314.5	389.5	486.5
Max. speed (rpm)	cont.	1500	1150	770	615	490	383	310	250	192	155	120
	int.	1650	1450	960	770	615	475	385	310	240	190	150
Max. torque (N•m)	cont.	55	100	146	182	236	302	360	380	375	360	385
	int.	76	128	186	227	290	370	440	460	555	525	560
	peak	96	148	218	264	360	434	540	550	650	680	680
Max. output (kW)	cont.	8.0	10.0	10.0	11.0	10.0	10.0	10.0	8.5	7.0	6.0	5.0
	int.	11.5	12.0	12.0	13.0	12.0	12.0	12.0	10.5	8.5	7.0	6.0
Max. pressure drop (MPa)	cont.	12.5	14	14	14	14	14	14	11	9	7	6
	int.	16.5	17.5	17.5	17.5	17.5	17.5	17.5	14	14	10.5	9
	peak	22.5	22.5	22.5	22.5	22.5	22.5	22.5	18	16	14	12
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60	60	60
	int.	60	75	75	75	75	75	75	75	75	75	75
Weight (kg)		5.6	5.6	5.7	5.9	6.0	6.2	6.4	6.7	6.9	7.4	8

* Continuous pressure:Max. value of operating motor continuously.
* Intermittent pressure:Max. value of operating motor in 6 seconds per minute.
* Peak pressure:Max. value of operating motor in 0.6 second per minute.

Main Specification

Technical data for BMP with 31.75 and 32 shaft

Type		BMP BMPH 36	BMP BMPH 50	BMP BMPH 80	BMP BMPH 100	BMP BMPH 125	BMP BMPH 160	BMP BMPH 200	BMP BMPH 250	BMP BMPH 315	BMP BMPH 400	BMP BMPH 500
Geometric displacement (cm^3/rev.)		36	51.7	77.7	96.2	120.2	157.2	194.5	240.3	314.5	389.5	486.5
Max. speed (rpm)	cont.	1500	1150	770	615	490	383	310	250	192	155	120
	int.	1650	1450	960	770	615	475	385	310	240	190	150
Max. torque (N•m)	cont.	55	100	146	182	236	302	360	460	475	490	430
	int.	76	128	186	227	290	370	440	570	555	580	560
	peak	96	148	218	264	360	434	540	670	840	840	780
Max. output (kW)	cont.	8.0	10.0	10.0	11.0	10.0	10.0	10.0	8.5	7.0	6.0	6.0
	int.	11.5	12.0	12.0	13.0	12.0	12.0	12.0	10.5	8.5	7.0	7.0
Max. pressure drop (MPa)	cont.	12.5	14	14	14	14	14	14	14	12	9.5	7
	int.	16.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	14	11.5	9
	peak	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	18	13
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60	60	60
	int.	60	75	75	75	75	75	75	75	75	75	75
Weight (kg)		5.6	5.6	5.7	5.9	6.0	6.2	6.4	6.7	6.9	7.4	8.0

* Continuous pressure:Max.value of operating motor continuously.

* Intermittent pressure:Max.value of operating motor in 6 seconds per minute .

* Peak pressure:Max.value of operating motor in 0.6 second per minute.

Performance Data

BMP 36 [36cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	12.5 (Max.cont.)	16.5 (Max.int.)
8	13 / **214**	25 / **205**	29 / **200**	34 / **194**	43 / **187**	48 / **179**		
15	13 / **406**	25 / **398**	29 / **391**	34 / **383**	43 / **374**	48 / **366**	56 / **353**	75 / **324**
20	13 / **541**	24 / **534**	29 / **528**	34 / **521**	43 / **513**	48 / **500**	56 / **486**	76 / **458**
30	12 / **814**	24 / **804**	29 / **792**	34 / **778**	43 / **763**	48 / **749**	56 / **726**	76 / **701**
35	12 / **952**	23 / **944**	28 / **930**	34 / **913**	43 / **897**	48 / **879**	56 / **858**	76 / **833**
40	12 / **1090**	23 / **1078**	28 / **1064**	32 / **1048**	41 / **1024**	47 / **998**	55 / **977**	75 / **943**
45	11 / **1232**	22 / **1218**	26 / **1196**	32 / **1175**	41 / **1149**	46 / **1118**	54 / **1080**	74 / **1044**
Max.cont. 55	6 / **1505**	15 / **1494**	22 / **1480**	28 / **1466**	37 / **1438**	44 / **1406**	52 / **1367**	71 / **1309**
Max.int. 60	3 / **1650**	11 / **1640**	18 / **1626**	20 / **1603**	30 / **1571**	38 / **1536**	49 / **1502**	67 / **1446**

BMP 50 [51.7cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	20 / **151**	41 / **134**	56 / **115**	69 / **90**	89 / **56**	95 / **42**		
15	19 / **286**	40 / **274**	56 / **261**	71 / **243**	91 / **204**	100 / **182**	112 / **139**	120 / **102**
20	18 / **382**	39 / **373**	55 / **361**	71 / **348**	92 / **318**	101 / **309**	117 / **287**	128 / **251**
30	17 / **573**	38 / **568**	55 / **558**	71 / **535**	91 / **503**	98 / **488**	116 / **462**	124 / **440**
35	17 / **670**	38 / **661**	54 / **652**	69 / **640**	89 / **606**	98 / **589**	117 / **562**	124 / **548**
45	14 / **863**	36 / **858**	53 / **849**	67 / **837**	88 / **807**	98 / **788**	114 / **764**	123 / **746**
55	12 / **1055**	33 / **1042**	50 / **1028**	65 / **1010**	85 / **979**	96 / **963**	111 / **947**	121 / **920**
Max.cont. 60	10 / **1150**	32 / **1143**	47 / **1126**	64 / **1111**	83 / **1079**	94 / **1065**	108 / **1043**	119 / **1015**
Max.int. 75	6 / **1440**	25 / **1430**	42 / **1416**	56 / **1395**	76 / **1367**	87 / **1351**	101 / **1335**	112 / **1312**

BMP 80 [77.7cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	32 / **97**	62 / **87**	85 / **74**	104 / **55**	129 / **33**	144 / **22**		
15	32 / **186**	63 / **181**	84 / **170**	107 / **154**	126 / **132**	144 / **118**	165 / **86**	
20	31 / **251**	63 / **243**	84 / **236**	107 / **225**	132 / **207**	146 / **196**	168 / **178**	185 / **155**
30	31 / **381**	62 / **379**	83 / **368**	106 / **355**	131 / **332**	146 / **316**	168 / **285**	186 / **263**
35	30 / **443**	59 / **435**	81 / **426**	102 / **415**	130 / **397**	144 / **383**	167 / **361**	185 / **342**
45	25 / **570**	58 / **564**	79 / **554**	100 / **543**	126 / **526**	142 / **509**	165 / **483**	182 / **458**
55	23 / **696**	57 / **685**	78 / **672**	97 / **656**	124 / **643**	140 / **630**	161 / **602**	179 / **579**
Max.cont. 60	20 / **761**	53 / **753**	75 / **744**	94 / **736**	120 / **720**	137 / **706**	160 / **681**	177 / **660**
Max.int. 75	14 / **948**	44 / **940**	67 / **931**	87 / **920**	112 / **906**	151 / **890**	169 / **871**	169 / **854**

Torque (N•m) 87
Speed (rpm) **920**

BMP 100 [96.2cm³/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	40 / **81**	77 / **75**	105 / **69**	130 / **57**	161 / **36**	180 / **24**		
15	39 / **152**	77 / **149**	106 / **145**	130 / **140**	160 / **122**	180 / **103**	208 / **81**	
20	36 / **204**	74 / **200**	104 / **195**	128 / **190**	161 / **177**	179 / **166**	205 / **148**	227 / **133**
30	33 / **308**	72 / **304**	103 / **298**	125 / **290**	160 / **280**	177 / **268**	203 / **255**	225 / **231**
35	30 / **360**	70 / **352**	98 / **343**	122 / **331**	159 / **320**	176 / **306**	202 / **294**	224 / **275**
45	29 / **462**	67 / **458**	95 / **451**	118 / **443**	155 / **433**	174 / **419**	200 / **402**	220 / **383**
55	25 / **566**	64 / **558**	93 / **549**	116 / **540**	152 / **529**	170 / **515**	198 / **498**	217 / **478**
Max.cont. 60	22 / **618**	60 / **611**	91 / **601**	114 / **589**	149 / **580**	167 / **570**	194 / **558**	213 / **540**
Max.int. 75	15 / **771**	54 / **763**	83 / **755**	106 / **744**	141 / **735**	160 / **724**	186 / **708**	205 / **693**

cont.
int.

Performance Data

BMP 315 [314.5cm³/rev.]

Flow (L/min)	Pressure (MPa) 3	5	7	9	10	Max.cont. 12.5	Max.int. 14
8	123 **25**	215 **23**	292 **21**	368 **17**	405 **11**		
15	118 **47**	211 **46**	287 **44**	367 **40**	404 **28**	495 **21**	568 **10**
20	110 **62**	205 **61**	278 **60**	360 **57**	395 **46**	494 **40**	566 **36**
30	101 **94**	196 **93**	271 **91**	349 **88**	388 **76**	490 **68**	565 **65**
35	96 **109**	188 **107**	264 **106**	341 **104**	382 **96**	478 **89**	557 **84**
45	89 **141**	180 **140**	254 **138**	337 **135**	372 **127**	468 **120**	553 **115**
55	76 **173**	166 **172**	239 **170**	325 **167**	362 **160**	457 **152**	548 **143**
Max.cont. 60	65 **188**	154 **186**	227 **184**	308 **182**	348 **178**	443 **172**	529 **163**
Max.int. 75	40 **236**	120 **234**	201 **232**	279 **228**	323 **226**	418 **223**	497 **214**

BMP 400 [389.5cm³/rev.]

Flow (L/min)	Pressure (MPa) 3	4.5	5.5	6.5	8	Max.cont. 10	Max.int. 12.5
8	166 **20**	232 **19**	287 **18**	340 **16**	418 **12**		
15	165 **38**	228 **36**	277 **35**	337 **33**	417 **31**	496 **27**	612 **21**
20	162 **50**	223 **49**	273 **49**	331 **48**	413 **45**	495 **41**	608 **35**
30	154 **76**	216 **75**	266 **74**	318 **73**	405 **71**	486 **67**	600 **60**
35	146 **88**	210 **87**	256 **87**	312 **86**	395 **83**	480 **80**	588 **75**
45	132 **114**	197 **113**	243 **112**	300 **110**	383 **108**	464 **106**	576 **99**
55	117 **139**	184 **137**	227 **136**	283 **135**	363 **135**	450 **132**	552 **123**
Max.cont. 60	102 **153**	163 **152**	215 **150**	272 **148**	347 **146**	436 **143**	532 **138**
Max.int. 75	53 **191**	128 **189**	182 **187**	234 **185**	318 **183**	391 **180**	484 **176**

Torque (N•m) 234
Speed (rpm) **185**

BMP500[486.5cm³/rev.]

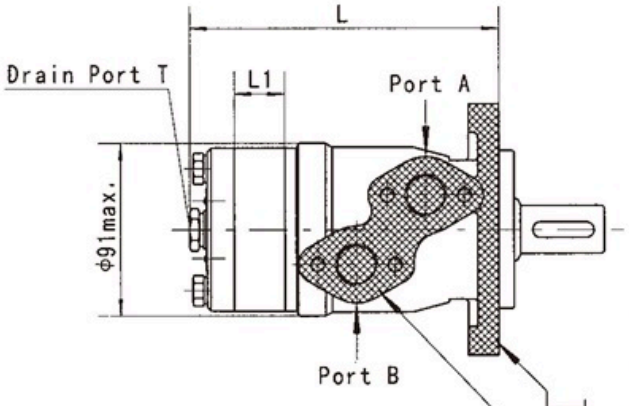
Flow (L/min)	Pressure (MPa) 1.5	3	4.5	Max.cont. 6	7	8	Max.int. 9
4	96 **7**	194 **6**	285 **4**				
8	98 **15**	201 **15**	304 **14**	391 **14**	443 **12**	512 **9**	574 **7**
15	96 **30**	192 **30**	284 **29**	380 **28**	421 **26**	496 **23**	550 **22**
20	96 **40**	191 **40**	280 **40**	372 **39**	418 **37**	493 **33**	546 **31**
30	91 **61**	185 **60**	272 **60**	360 **58**	412 **56**	486 **53**	541 **50**
40	86 **81**	172 **80**	261 **80**	343 **79**	408 **76**	480 **73**	538 **70**
50	78 **102**	160 **101**	241 **100**	332 **98**	391 **96**	466 **93**	528 **90**
Max.cont. 60	66 **122**	134 **121**	213 **120**	305 **119**	371 **117**	438 **114**	496 **110**
70	52 **143**	111 **142**	189 **141**	292 **139**	344 **137**	418 **135**	475 **131**
Max.int. 75	35 **153**	83 **152**	154 **151**	241 **150**	312 **149**	389 **147**	448 **144**

Torque (N•m) 389
Speed (rpm) **147**

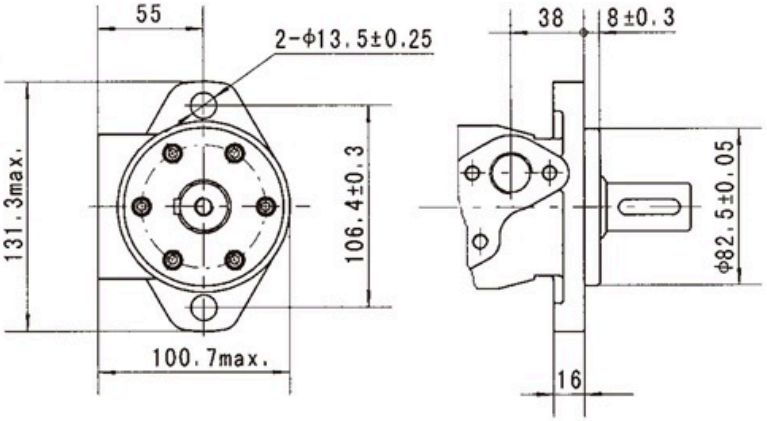
cont.
int.

BMP DIMENSIONS AND MOUNTING DATA

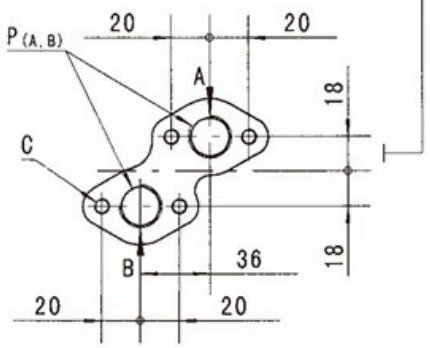
MOUNTING



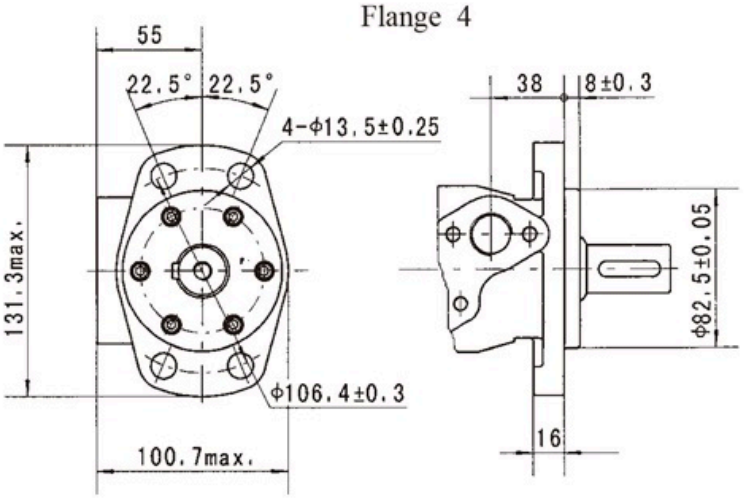
Flange 2



PORT

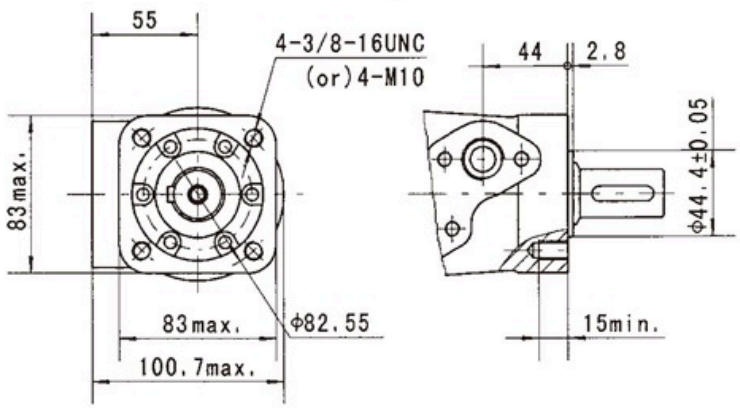


Flange 4



Model	L	L1
BMP36	137	7
BMP50	137	7
BMP80	140.5	10.5
BMP100	143	13
BMP125	146	16
BMP160	151	21
BMP200	157	26
BMP250	162	32
BMP315	172	42
BMP400	182	52
BMP500	195	65

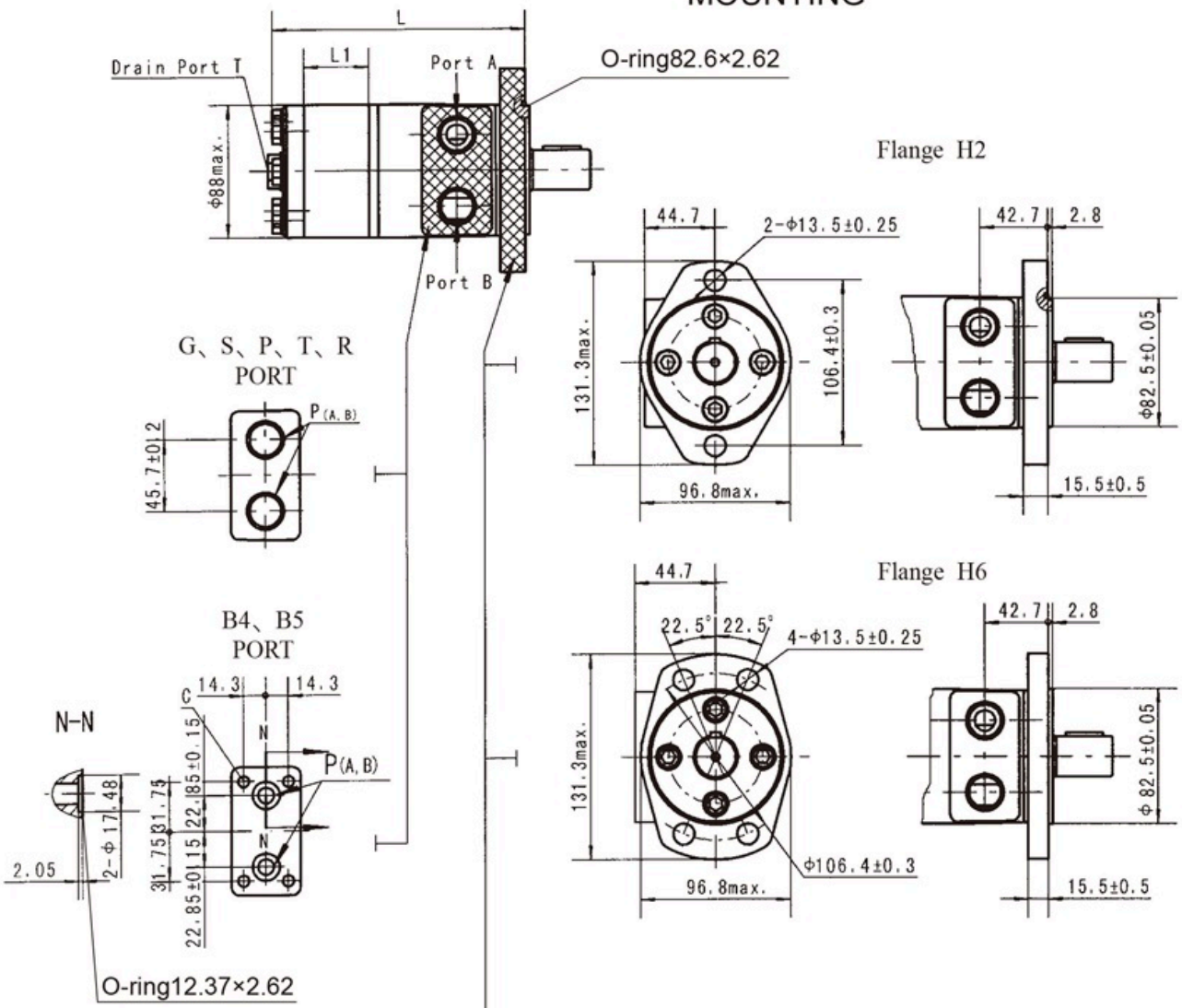
Flange H4/H5



Mounting \ Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)

BMPH DIMENSIONS AND MOUNTING DATA

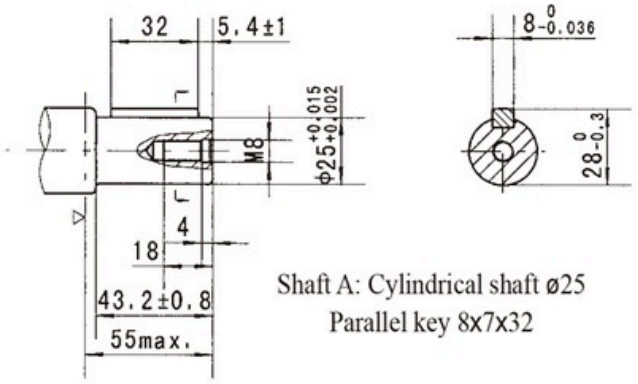
MOUNTING



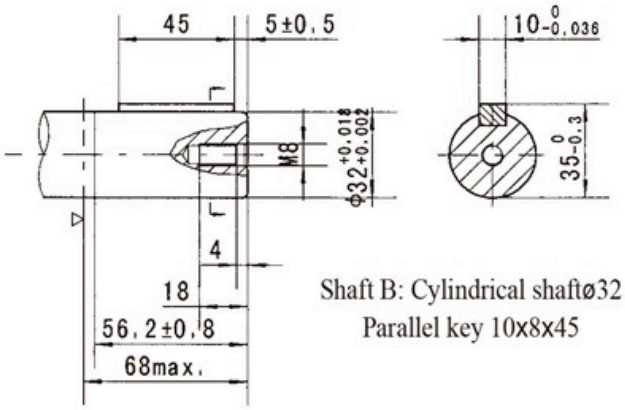
Model	L	L1
BMPH36	141	7
BMPH50	141	7
BMPH80	144.5	10.5
BMPH100	147	13
BMPH125	150	16
BMPH160	155	21
BMPH200	160	26
BMPH250	166	32
BMPH315	176	42
BMPH400	186	52
BMPH500	199	65

Code / Mounting	G (depth)	S (depth)	P (depth)	T (depth)	R (depth)	B4 (depth)	B5 (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	3/4-16 O-ring (15)	PT(RC)1/2 (15)	ø10	ø10
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	7/16-20UNF(12)	PT(RC)1/4 (9.7)	7/16-20UNF(12)	G1/4(12)
C	–	–	–	–	–	4-5/16-18UNC(13)	4-M8(13)

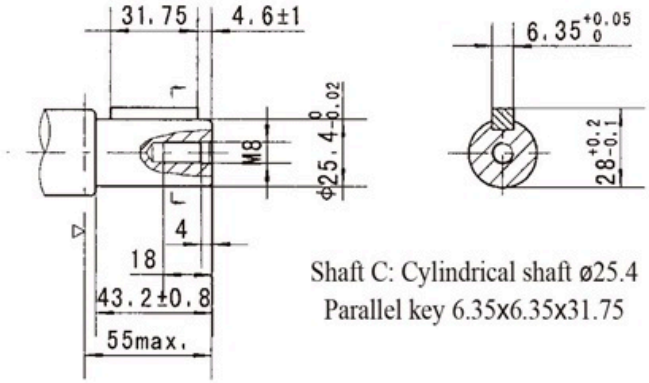
BMP SHAFT EXTENSIONS DIMENSIONS DATA



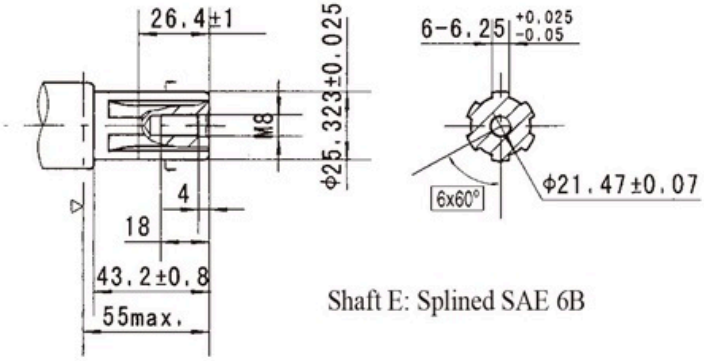
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



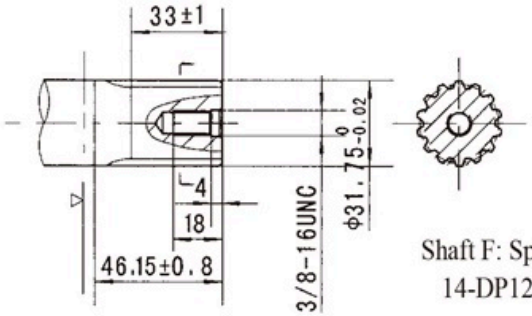
Shaft B: Cylindrical shaftø32
Parallel key 10x8x45



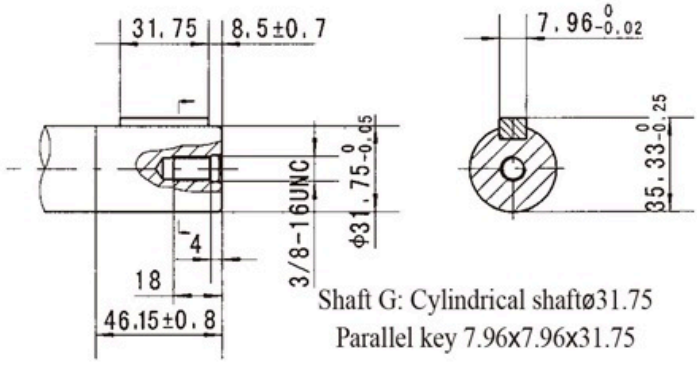
Shaft C: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75



Shaft E: Splined SAE 6B



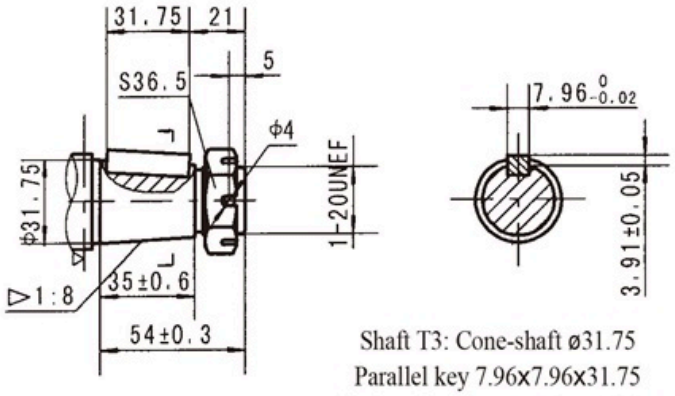
Shaft F: Splined
14-DP12/24



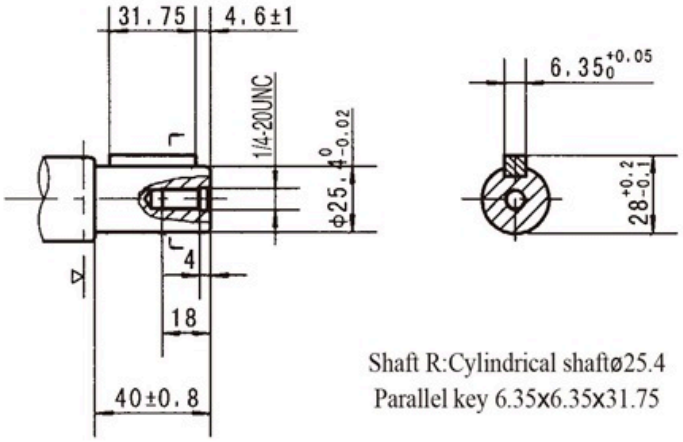
Shaft G: Cylindrical shaftø31.75
Parallel key 7.96x7.96x31.75

▷ Motor Mounting Surface

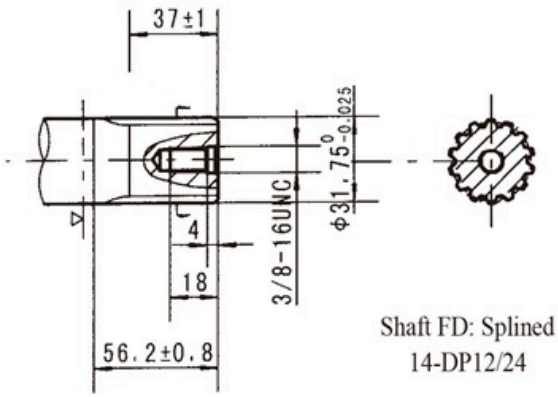
BMP SHAFT EXTENSIONS DIMENSIONS DATA



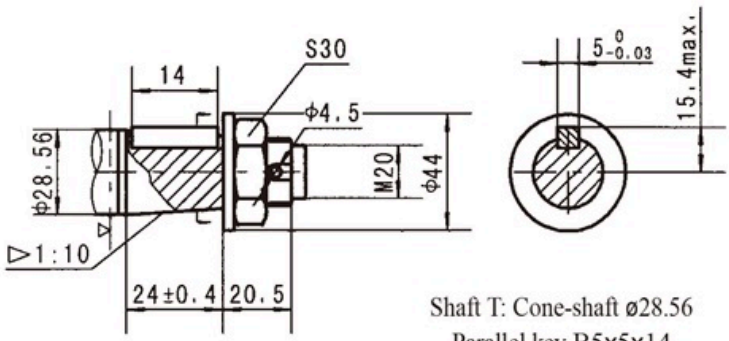
Shaft T3: Cone-shaft ø31.75
Parallel key 7.96x7.96x31.75
Tightening torque:200±10Nm



Shaft R:Cylindrical shaftø25.4
Parallel key 6.35x6.35x31.75



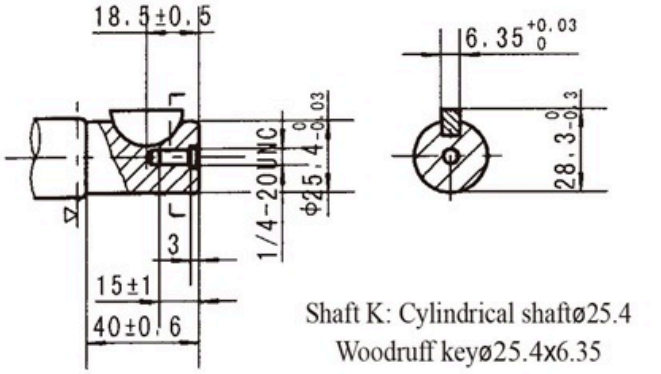
Shaft FD: Splined
14-DP12/24



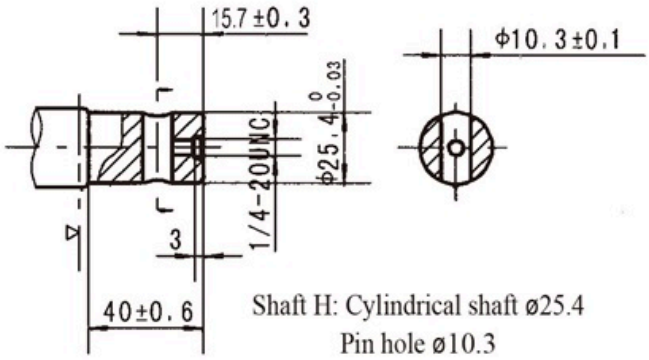
Shaft T: Cone-shaft ø28.56
Parallel key B5x5x14
Tightening torque:100±10Nm

▷ Motor Mounting Surface

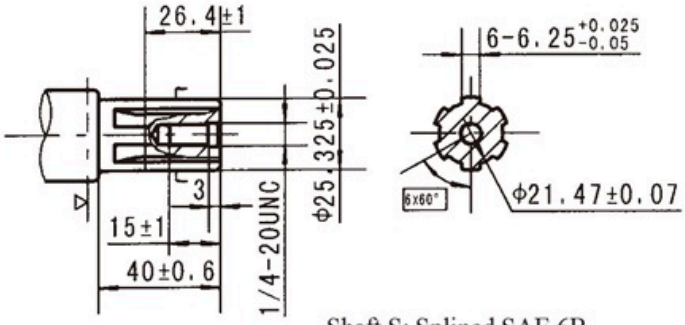
BMPH SHAFT EXTENSIONS DIMENSIONS DATA



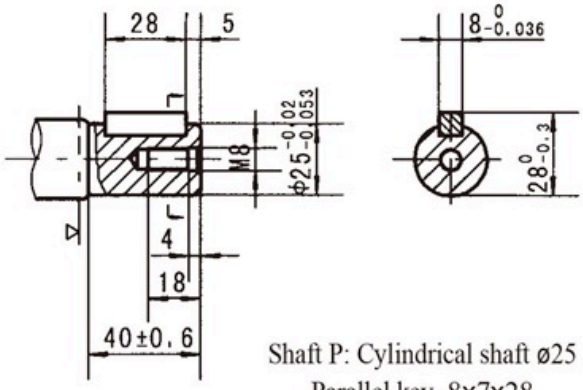
Shaft K: Cylindrical shaftø25.4
Woodruff keyø25.4x6.35



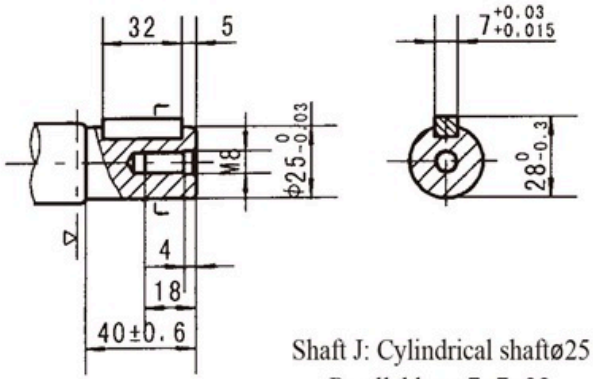
Shaft H: Cylindrical shaft ø25.4
Pin hole ø10.3



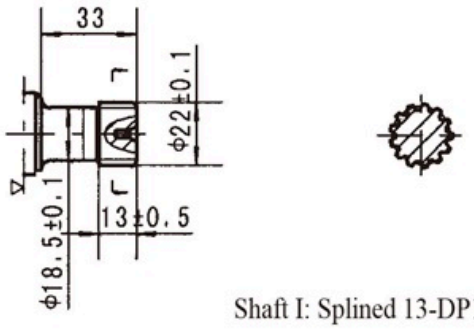
Shaft S: Splined SAE 6B



Shaft P: Cylindrical shaft ø25
Parallel key 8x7x28



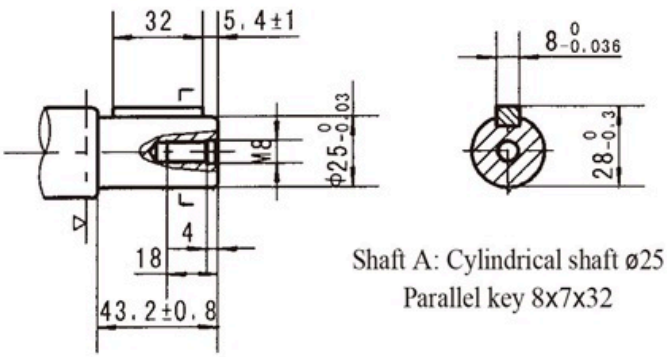
Shaft J: Cylindrical shaftø25
Parallel key 7x7x32



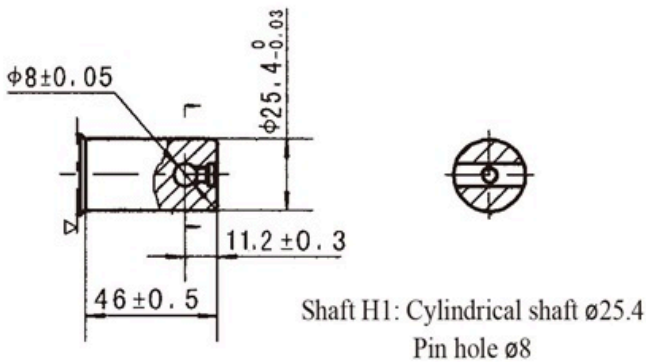
Shaft I: Splined 13-DP16/32

▷ Motor Mounting Surface

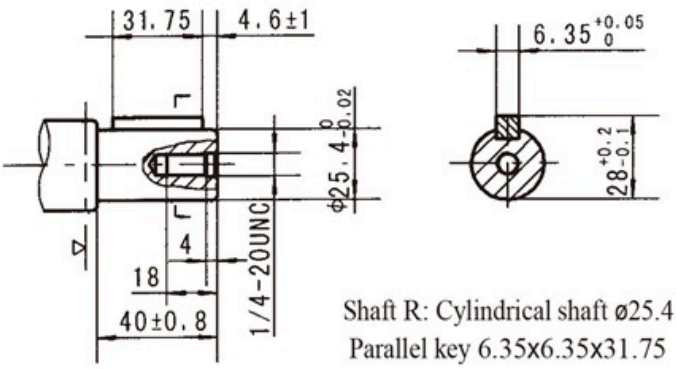
BMPH SHAFT EXTENSIONS DIMENSIONS DATA



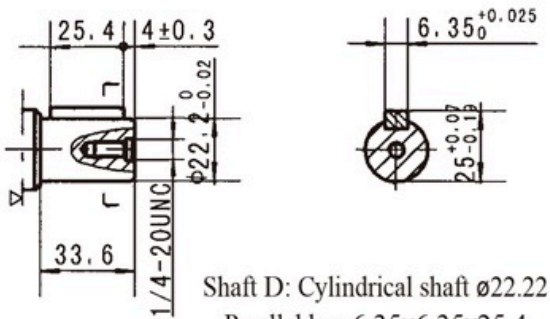
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



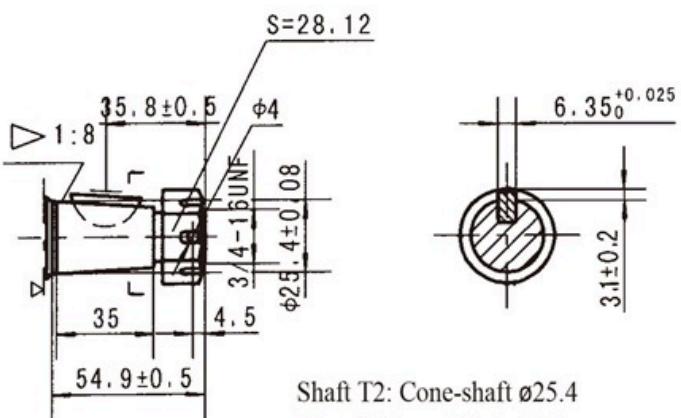
Shaft H1: Cylindrical shaft ø25.4
Pin hole ø8



Shaft R: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75



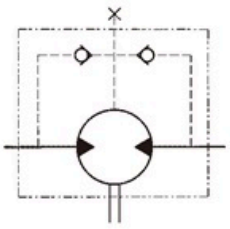
Shaft D: Cylindrical shaft ø22.22
Parallel key 6.35x6.35x25.4



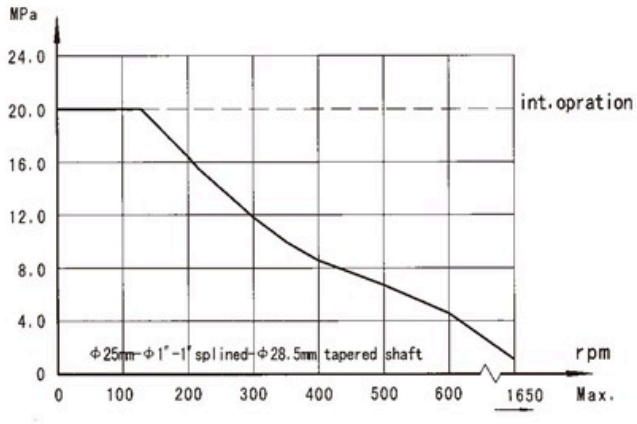
Shaft T2: Cone-shaft ø25.4
Parallel key ø25.4x6.35
Tightening torque:200±10Nm

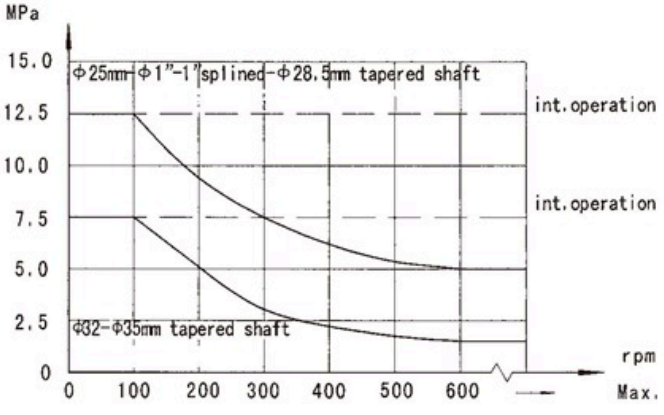
▷ Motor Mounting Surface

BMP、BMPH Series Hydraulic Motor



Permissible shaft seal pressure

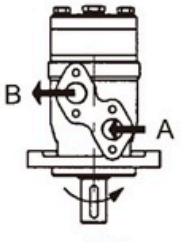




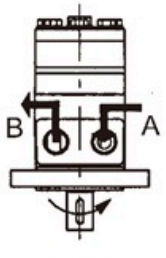
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation: Standard

When facing shaft end of motor,shaft to rotate:
Clockwise when port "A" is pressurized.
Counter-clockwise port "B" is pressurized.

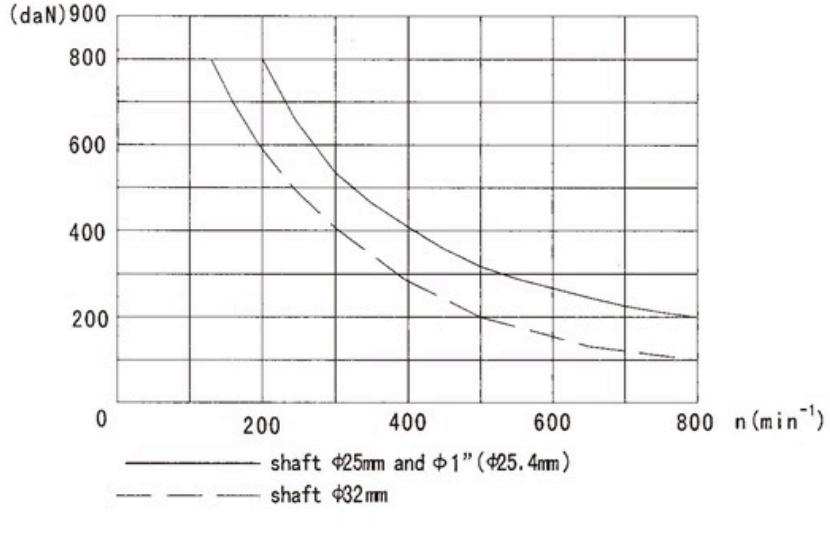


BMP

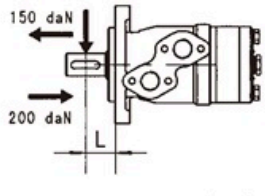


BMPH

Status of the shaft's radial force
(Standard motor with journal bearing)



$$F_r = \frac{800}{n} \cdot \frac{25000}{95+L} \text{ daN}$$



F_r =Radial Force (daN)
L =Distance (mm)
n =Speed (rpm)
Rhomb-flange L=30mm
Square-flange L=24mm