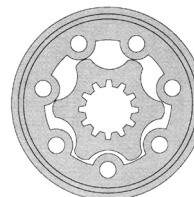


Hydraulic Motor Model BMPH



The BMPH Rotortorc™ gear set, shaft distribution flow, hydraulic motor is a compact, highly efficient, low speed-high torque design which can be used in either parallel or series systems. These low weight advanced construction design motors are manufactured in accordance with the requirements of the ISO 9000-2000 quality system.



Technical Specifications

| MODEL | | BMPH 36 | BMPH 50 | BMPH 80 | BMPH 100 | BMPH 125 | BMPH 160 | BMPH 200 | BMPH 250 | BMPH 315 | BMPH 400 |
|-----------------------------------------------------------------------|------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Displacement <i>in³/rev (cm³/rev)</i> | | 2.20 (36.0) | 3.15 (51.7) | 4.74 (77.7) | 5.87 (96.2) | 7.34 (120) | 9.59 (157) | 11.87 (195) | 14.66 (240) | 19.19 (315) | 23.77 (390) |
| Max Speed <i>rpm</i> | Cont | 1500 | 1150 | 770 | 615 | 490 | 383 | 310 | 250 | 192 | 155 |
| | Int. | 1650 | 1450 | 960 | 770 | 615 | 475 | 385 | 310 | 240 | 190 |
| Max Torque <i>in•lbf</i> | Cont | 487 | 885 | 1292 | 1611 | 2089 | 2673 | 3186 | 4071 | 4204 | 4337 |
| | Int. | 673 | 1133 | 1646 | 2009 | 2567 | 3275 | 3894 | 5045 | 4912 | 5133 |
| Max Differential <i>psi</i> | Cont | 1813 | 2031 | 2031 | 2031 | 2031 | 2031 | 2031 | 2031 | 1813 | 1450 |
| | Int. | 2393 | 2538 | 2538 | 2538 | 2538 | 2538 | 2538 | 2538 | 2031 | 1813 |
| Max Flow <i>gpm</i> | Cont | 14.53 | 15.85 | 15.85 | 15.85 | 15.85 | 15.85 | 15.85 | 15.85 | 15.85 | 15.85 |
| | Int. | 15.85 | 19.82 | 19.82 | 19.82 | 19.82 | 19.82 | 19.82 | 19.82 | 19.82 | 19.82 |
| Weight | | 13.90 lbs | 13.85 lbs | 14.25 lbs | 14.45 lbs | 14.70 lbs | 15.15 lbs | 15.60 lbs | 16.15 lbs | 16.95 lbs | 17.75 lbs |

Continuous (Cont.) = maximum of continuous operation. Intermittent (Int.) = maximum operating range for 6 seconds per minute

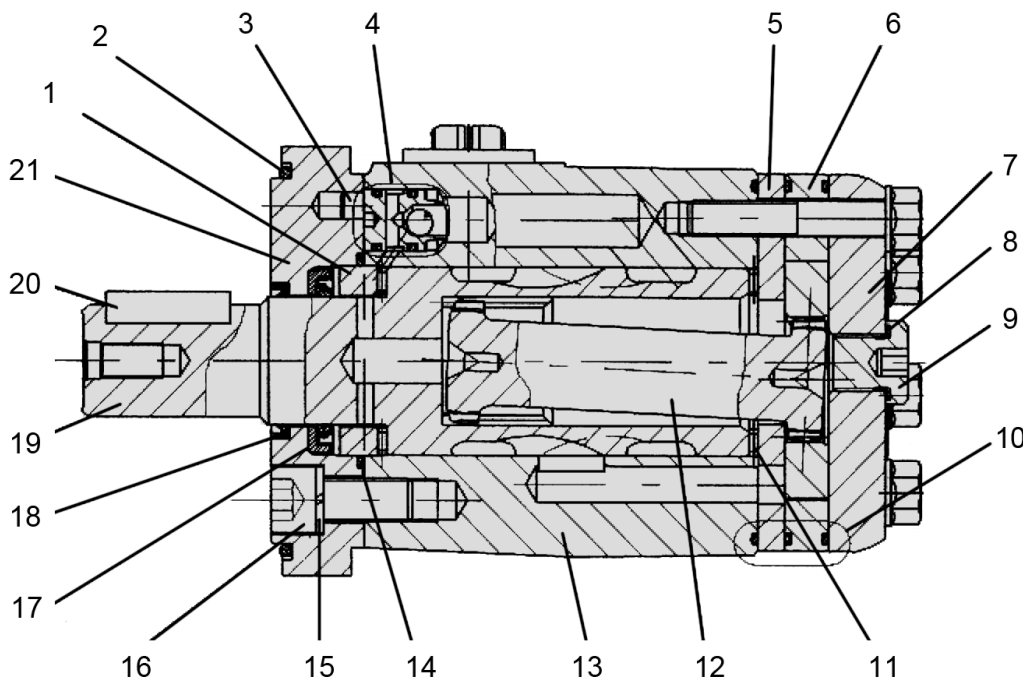
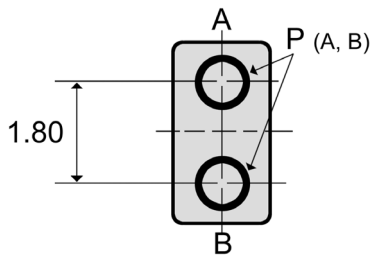
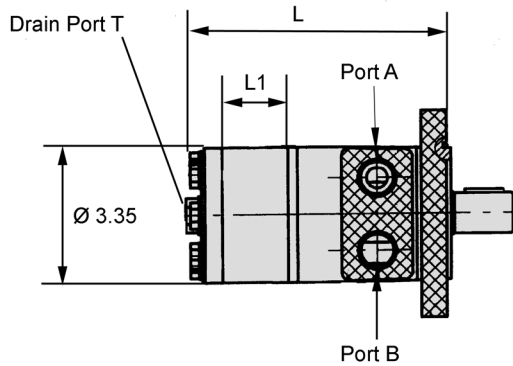


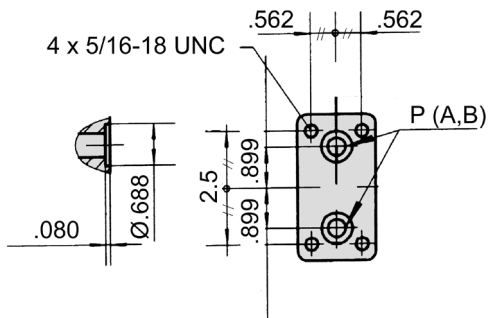
Diagram Key

- 1 Thrust Washer
- 2 "O" Ring
- 3 Pin
- 4 Check Valve
- 5 Wear Plate
- 6 Rotortorc™ Gear Set
- 7 End Cover
- 8 Seal
- 9 Case Drain Plug
- 10 "O" Ring
- 11 Thrust Needle Bearing
- 12 Drive Shaft
- 13 Housing
- 14 "O" Ring
- 15 Lock Washer
- 16 Bolt
- 17 Shaft Seal
- 18 Dust Seal
- 19 Output Shaft
- 20 Key
- 21 Front Cover

BMPH Installation Data

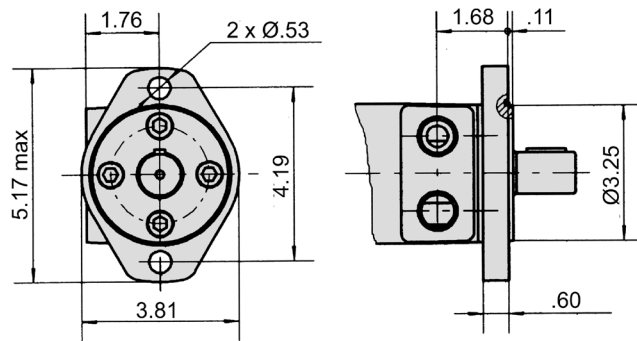


Manifold Mount

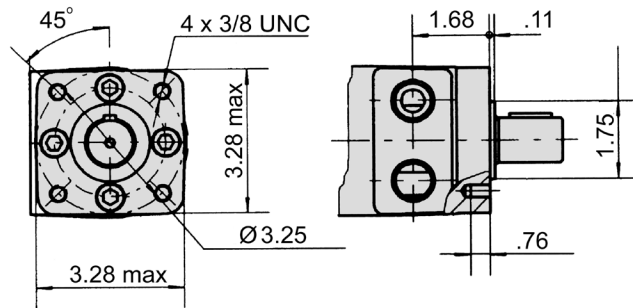


| MODEL | L | L1 |
|----------|-------|-------|
| BMPH 36 | 5.55" | .28" |
| BMPH 50 | 5.55" | .28" |
| BMPH 80 | 5.69" | .41" |
| BMPH 100 | 5.79" | .51" |
| BMPH 125 | 5.91" | .63" |
| BMPH 160 | 6.10" | .83" |
| BMPH 200 | 6.30" | 1.02" |
| BMPH 250 | 6.54" | 1.26" |
| BMPH 315 | 6.93" | 1.65" |
| BMPH 400 | 7.32" | 2.05" |

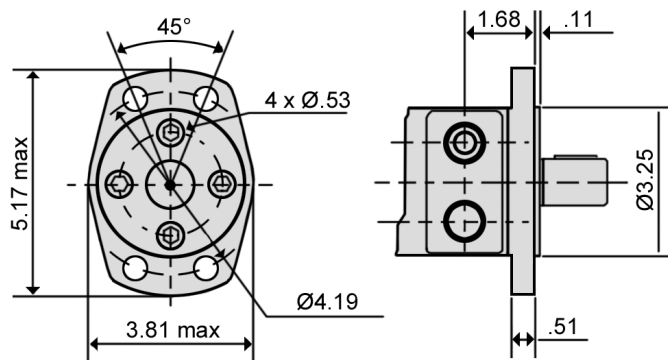
H2 - SAE "A" 2-Bolt



H4 - 4-Bolt



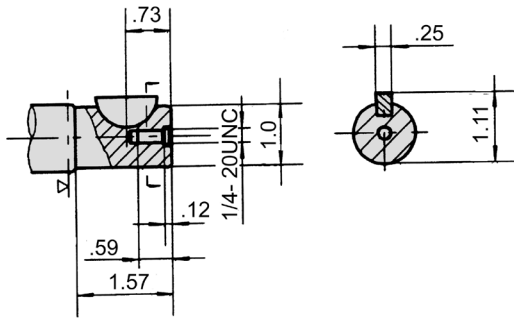
H6 - Magneto



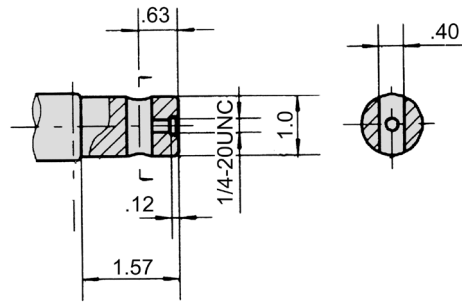
| Ports | SAE Sizes | NPT Sizes |
|----------|---------------|---------------|
| P (A, B) | 7/8 - 14 SAE | 1/2 - 14 NPTF |
| T | 7/16 - 20 SAE | 7/16 - 20 SAE |

BMPH Drive Shaft Data

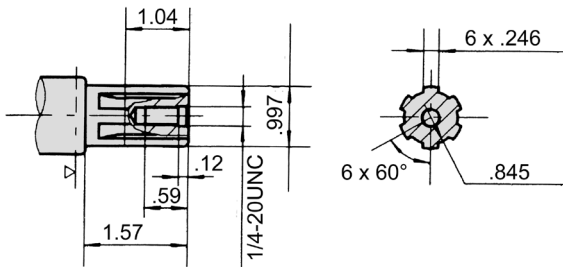
K - 1" Woodruff Key



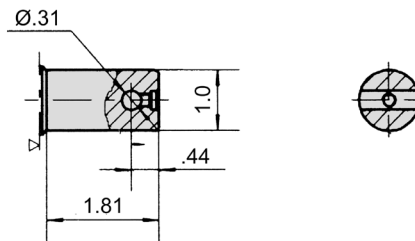
H - 1" Parallel .40 Dia. Cross Hole



S - SAE 6B Spline



H1 - 1" Parallel .31 Dia. Cross Hole



Ordering Example: Model Frame Size Flange Drive Shaft Ports Options

BMPH - 100 - H2 - K - P -

| Model | Frame Size | Mounting Flange** | Drive Shaft** | Port Size | Options |
|-------|-------------|---------------------|---------------------------|-----------------|-----------------------|
| BMPH | 36 (2.20) | H2 = SAE "A" 2-Bolt | K = 1" Woodruff Key | P = 1/2 NPTF | F* = Free Running |
| | 50 (3.15) | H4 = SAE "A" 4-Bolt | S = SAE 6B Spline | S = 7/8 -14 SAE | N* = 1800 lb. Radial |
| | 80 (4.74) | H6 = Magneto | H = 1" Parallel .40 dia. | F = Manifold | Load Bearings |
| | 100 (5.87) | | Cross Hole | | R* = Reverse Rotation |
| | 125 (7.34) | | H1 = 1" Parallel .31 dia. | | |
| | 160 (9.59) | | Cross Hole | | |
| | 200 (11.87) | | | | |
| | 250 (14.66) | | | | |
| | 315 (19.19) | | | | |
| | 400 (23.77) | | | | |

*Special Order

**Additional flange and drive shaft options available please consult factory.

Seal kits for BMPH Motors are available for purchase. Order seal kit using item description: "BMPH Seal Kit".

BMPH Flow Data

| BMPH 36 | | 2.20 in³/rev (36 cm³/rev) | | | | | | <i>Max Cont.</i> | <i>Max Int.</i> |
|----------------------------------|--------------|--------------------------------------------------------|------------|-------------|-------------|-------------|-------------|------------------|-----------------|
| Pressure (psi →) | | 435 | 870 | 1015 | 1160 | 1450 | 1595 | 1813 | 2393 |
| F L O W | (gpm ↓) | Torque (in·lbf) Speed Specification | | | | | | | |
| | 2.11 | 115.00 | 221 | 257 | 301 | 381 | 425 | | |
| | | 214 rpm | 205 rpm | 200 rpm | 194 rpm | 187 rpm | 179 rpm | | |
| | 3.96 | 115 | 221 | 257 | 301 | 381 | 425 | 496 | 664 |
| | | 406 rpm | 398 rpm | 391 rpm | 383 rpm | 374 rpm | 366 rpm | 353 rpm | 324 rpm |
| | 5.28 | 115 | 212 | 257 | 301 | 381 | 425 | 496 | 673 |
| | | 541 rpm | 534 rpm | 528 rpm | 521 rpm | 513 rpm | 500 rpm | 486 rpm | 458 rpm |
| | 7.93 | 106 | 212 | 257 | 301 | 381 | 425 | 496 | 673 |
| | | 814 rpm | 804 rpm | 792 rpm | 778 rpm | 763 rpm | 749 rpm | 726 rpm | 701 rpm |
| | 9.25 | 106 | 204 | 248 | 301 | 381 | 425 | 496 | 673 |
| | | 952 rpm | 944 rpm | 930 rpm | 913 rpm | 897 rpm | 879 rpm | 858 rpm | 833 rpm |
| | 10.57 | 106 | 204 | 248 | 283 | 363 | 416 | 487 | 664 |
| 1090 rpm | | 1078 rpm | 1064 rpm | 1048 rpm | 1024 rpm | 998 rpm | 977 rpm | 943 rpm | |
| 11.89 | 97 | 195 | 230 | 283 | 363 | 407 | 478 | 655 | |
| | 1232 rpm | 1218 rpm | 1196 rpm | 1175 rpm | 1149 rpm | 1118 rpm | 1080 rpm | 1044 rpm | |
| 14.53 <i>Max Cont.</i> | 53 | 133 | 195 | 248 | 327 | 389 | 460 | 628 | |
| | 1505 rpm | 1494 rpm | 1480 rpm | 1466 rpm | 1438 rpm | 1406 rpm | 1367 rpm | 1309 rpm | |
| 15.85 <i>Max Int.</i> | 27 | 97 | 159 | 177 | 266 | 336 | 434 | 593 | |
| | 1650 rpm | 1640 rpm | 1626 rpm | 1603 rpm | 1571 rpm | 1536 rpm | 1502 rpm | 1446 rpm | |

| BMPH 50 | | 3.15 in³/rev (51.7 cm³/rev) | | | | | | <i>Max Cont.</i> | <i>Max Int.</i> |
|----------------------------------|--------------|----------------------------------------------------------|------------|-------------|-------------|-------------|-------------|------------------|-----------------|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 |
| F L O W | (gpm ↓) | Torque (in·lbf) Speed Specification | | | | | | | |
| | 2.11 | 177 | 363 | 496 | 611 | 788 | 841 | | |
| | | 151 rpm | 134 rpm | 115 rpm | 90 rpm | 56 rpm | 42 rpm | | |
| | 3.96 | 168 | 354 | 496 | 628 | 805 | 885 | 991 | 1062 |
| | | 286 rpm | 274 rpm | 261 rpm | 243 rpm | 204 rpm | 182 rpm | 139 rpm | 102 rpm |
| | 5.28 | 159 | 345 | 487 | 628 | 814 | 894 | 1036 | 1133 |
| | | 382 rpm | 373 rpm | 361 rpm | 348 rpm | 318 rpm | 309 rpm | 287 rpm | 251 rpm |
| | 7.93 | 150 | 336 | 487 | 628 | 805 | 867 | 1027 | 1097 |
| | | 573 rpm | 568 rpm | 558 rpm | 535 rpm | 503 rpm | 488 rpm | 462 rpm | 440 rpm |
| | 9.25 | 150 | 336 | 478 | 611 | 788 | 867 | 1036 | 1097 |
| | | 670 rpm | 661 rpm | 652 rpm | 640 rpm | 606 rpm | 589 rpm | 562 rpm | 548 rpm |
| | 11.89 | 124 | 319 | 469 | 593 | 779 | 867 | 1009 | 1089 |
| 863 rpm | | 858 rpm | 849 rpm | 837 rpm | 807 rpm | 788 rpm | 764 rpm | 746 rpm | |
| 14.53 | 106 | 292 | 443 | 575 | 752 | 850 | 982 | 1071 | |
| | 1055 rpm | 1042 rpm | 1028 rpm | 1010 rpm | 979 rpm | 963 rpm | 947 rpm | 920 rpm | |
| 15.85 <i>Max Cont.</i> | 89 | 283 | 416 | 566 | 735 | 832 | 956 | 1053 | |
| | 1150 rpm | 1143 rpm | 1126 rpm | 1111 rpm | 1079 rpm | 1065 rpm | 1043 rpm | 1015 rpm | |
| 19.82 <i>Max Int.</i> | 53 | 221 | 372 | 496 | 673 | 770 | 894 | 991 | |
| | | 1430 rpm | 1416 rpm | 1395 rpm | 1367 rpm | 1351 rpm | 1335 rpm | 1312 rpm | |

| BMPH 80 | | 4.74 in³/rev (77.7 cm³/rev) | | | | | | <i>Max Cont.</i> | | <i>Max Int.</i> |
|----------------------------------|--------------|----------------------------------------------------------|---------|---------|---------|---------|---------|------------------|---------|-----------------|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 | |
| FLOW | (gpm ↓) | Torque (in•lbf) Speed Specification | | | | | | | | |
| | 2.11 | 283 | 549 | 752 | 920 | 1142 | 1275 | | | |
| | | 97 rpm | 87 rpm | 74 rpm | 55 rpm | 33 rpm | 22 rpm | | | |
| | 3.96 | 283 | 558 | 743 | 947 | 1115 | 1275 | 1460 | | |
| | | 186 rpm | 181 rpm | 170 rpm | 154 rpm | 132 rpm | 118 rpm | 86 rpm | | |
| | 5.28 | 274 | 558 | 743 | 947 | 1168 | 1292 | 1487 | 1637 | |
| | | 251 rpm | 243 rpm | 236 rpm | 225 rpm | 207 rpm | 196 rpm | 178 rpm | 155 rpm | |
| | 7.93 | 274 | 549 | 735 | 938 | 1159 | 1292 | 1487 | 1646 | |
| | | 381 rpm | 379 rpm | 368 rpm | 355 rpm | 332 rpm | 316 rpm | 285 rpm | 263 rpm | |
| | 9.25 | 266 | 522 | 717 | 903 | 1151 | 1275 | 1478 | 1637 | |
| | | 443 rpm | 435 rpm | 426 rpm | 415 rpm | 397 rpm | 383 rpm | 361 rpm | 342 rpm | |
| | 11.89 | 221 | 513 | 699 | 885 | 1115 | 1257 | 1460 | 1611 | |
| | | 570 rpm | 564 rpm | 554 rpm | 543 rpm | 526 rpm | 509 rpm | 483 rpm | 458 rpm | |
| | 14.53 | 204 | 504 | 690 | 859 | 1097 | 1239 | 1425 | 1584 | |
| 696 rpm | | 685 rpm | 672 rpm | 656 rpm | 643 rpm | 630 rpm | 602 rpm | 579 rpm | | |
| 15.85 <i>Max Cont.</i> | 177 | 469 | 664 | 832 | 1062 | 1213 | 1416 | 1567 | | |
| | 761 rpm | 753 rpm | 744 rpm | 736 rpm | 720 rpm | 706 rpm | 681 rpm | 660 rpm | | |
| 19.82 <i>Max Int.</i> | 124 | 389 | 593 | 770 | 991 | 1336 | 1496 | 1496 | | |
| | 948 rpm | 940 rpm | 931 rpm | 920 rpm | 906 rpm | 890 rpm | 871 rpm | 854 rpm | | |

| BMPH 100 | | 5.87 in³/rev (96.2 cm³/rev) | | | | | | <i>Max Cont.</i> | | <i>Max Int.</i> |
|----------------------------------|--------------|----------------------------------------------------------|---------|---------|---------|---------|---------|------------------|---------|-----------------|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 | |
| FLOW | (gpm ↓) | Torque (in•lbf) Speed Specification | | | | | | | | |
| | 2.11 | 354 | 682 | 929 | 1151 | 1425 | 1593 | | | |
| | | 81 rpm | 75 rpm | 69 rpm | 57 rpm | 36 rpm | 24 rpm | | | |
| | 3.96 | 345 | 682 | 938 | 1151 | 1416 | 1593 | 1841 | | |
| | | 152 rpm | 149 rpm | 145 rpm | 140 rpm | 122 rpm | 103 rpm | 81 rpm | | |
| | 5.28 | 319 | 655 | 920 | 1133 | 1425 | 1584 | 1814 | 2009 | |
| | | 204 rpm | 200 rpm | 195 rpm | 190 rpm | 177 rpm | 166 rpm | 148 rpm | 133 rpm | |
| | 7.93 | 292 | 637 | 912 | 1106 | 1416 | 1567 | 1797 | 1991 | |
| | | 308 rpm | 304 rpm | 298 rpm | 290 rpm | 280 rpm | 268 rpm | 255 rpm | 231 rpm | |
| | 9.25 | 266 | 620 | 867 | 1080 | 1407 | 1558 | 1788 | 1983 | |
| | | 360 rpm | 352 rpm | 343 rpm | 331 rpm | 320 rpm | 306 rpm | 294 rpm | 275 rpm | |
| | 11.89 | 257 | 593 | 841 | 1044 | 1372 | 1540 | 1770 | 1947 | |
| | | 462 rpm | 458 rpm | 451 rpm | 443 rpm | 433 rpm | 419 rpm | 402 rpm | 383 rpm | |
| | 14.53 | 221 | 566 | 823 | 1027 | 1345 | 1505 | 1752 | 1921 | |
| 566 rpm | | 558 rpm | 549 rpm | 540 rpm | 529 rpm | 515 rpm | 498 rpm | 478 rpm | | |
| 15.85 <i>Max Cont.</i> | 195 | 531 | 805 | 1009 | 1319 | 1478 | 1717 | 1885 | | |
| | 618 rpm | 611 rpm | 601 rpm | 589 rpm | 580 rpm | 570 rpm | 558 rpm | 540 rpm | | |
| 19.82 <i>Max Int.</i> | 133 | 478 | 735 | 938 | 1248 | 1416 | 1646 | 1814 | | |
| | 771 rpm | 763 rpm | 755 rpm | 744 rpm | 735 rpm | 724 rpm | 708 rpm | 693 rpm | | |

| BMPH 125 | | 7.34 in³/rev (120.2 cm³/rev) | | | | | | <i>Max Cont.</i> | | <i>Max Int.</i> | |
|---------------------------------|----------------------------------|-----------------------------------------------------------|------------|-------------|-------------|-------------|-------------|------------------|-------------|-----------------|--|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 | | |
| F L O W | (gpm ↓) | Torque (in•lbf) Speed Specification | | | | | | | | | |
| | 2.11 | 451 | 867 | 1213 | 1487 | 1841 | 2089 | | | | |
| | | 63 rpm | 60 rpm | 55 rpm | 47 rpm | 28 rpm | 15 rpm | | | | |
| | 3.96 | 451 | 894 | 1221 | 1487 | 1850 | 2089 | 2363 | | | |
| | | 121 rpm | 116 rpm | 110 rpm | 102 rpm | 89 rpm | 73 rpm | 48 rpm | | | |
| | 5.28 | 425 | 867 | 1195 | 1478 | 1867 | 2098 | 2381 | 2567 | | |
| | | 162 rpm | 158 rpm | 153 rpm | 148 rpm | 137 rpm | 128 rpm | 109 rpm | 94 rpm | | |
| | 7.93 | 407 | 850 | 1168 | 1452 | 1850 | 2053 | 2337 | 2540 | | |
| | | 243 rpm | 239 rpm | 234 rpm | 227 rpm | 216 rpm | 202 rpm | 189 rpm | 176 rpm | | |
| | 9.25 | 372 | 814 | 1151 | 1416 | 1823 | 2027 | 2301 | 2514 | | |
| | | 284 rpm | 279 rpm | 274 rpm | 269 rpm | 259 rpm | 247 rpm | 231 rpm | 222 rpm | | |
| | 11.89 | 327 | 788 | 1106 | 1390 | 1779 | 1983 | 2310 | 2487 | | |
| | | 370 rpm | 362 rpm | 355 rpm | 348 rpm | 340 rpm | 327 rpm | 310 rpm | 296 rpm | | |
| | 14.53 | 292 | 743 | 1080 | 1345 | 1735 | 1929 | 2230 | 2434 | | |
| | | 452 rpm | 446 rpm | 438 rpm | 431 rpm | 420 rpm | 412 rpm | 402 rpm | 384 rpm | | |
| | 15.85 <i>Max Cont.</i> | 257 | 690 | 1036 | 1292 | 1690 | 1903 | 2195 | 2407 | | |
| 490 rpm | | 482 rpm | 475 rpm | 468 rpm | 459 rpm | 448 rpm | 439 rpm | 427 rpm | | | |
| 19.82 <i>Max Int.</i> | 159 | 584 | 947 | 1177 | 1584 | 1788 | 2089 | 2301 | | | |
| | 615 rpm | 606 rpm | 598 rpm | 586 rpm | 575 rpm | 563 rpm | 549 rpm | 528 rpm | | | |

| BMPH 160 | | 9.59 in³/rev (157.2 cm³/rev) | | | | | | <i>Max Cont.</i> | | <i>Max Int.</i> | |
|---------------------------------|----------------------------------|-----------------------------------------------------------|------------|-------------|-------------|-------------|-------------|------------------|-------------|-----------------|--|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 | | |
| F L O W | (gpm ↓) | Torque (in•lbf) Speed Specification | | | | | | | | | |
| | 2.11 | 549 | 1062 | 1505 | 1876 | 2328 | 2567 | | | | |
| | | 49 rpm | 48 rpm | 46 rpm | 42 rpm | 26 rpm | 14 rpm | | | | |
| | 3.96 | 531 | 1080 | 1522 | 1903 | 2337 | 2602 | 3009 | | | |
| | | 93 rpm | 91 rpm | 88 rpm | 85 rpm | 76 rpm | 68 rpm | 48 rpm | | | |
| | 5.28 | 504 | 1062 | 1505 | 1894 | 2319 | 2567 | 3009 | 3284 | | |
| | | 125 rpm | 123 rpm | 120 rpm | 117 rpm | 110 rpm | 106 rpm | 92 rpm | 81 rpm | | |
| | 7.93 | 469 | 1018 | 1452 | 1823 | 2292 | 2549 | 2965 | 3257 | | |
| | | 187 rpm | 184 rpm | 181 rpm | 178 rpm | 175 rpm | 168 rpm | 155 rpm | 139 rpm | | |
| | 9.25 | 434 | 974 | 1416 | 1788 | 2257 | 2514 | 2903 | 3204 | | |
| | | 220 rpm | 216 rpm | 213 rpm | 209 rpm | 205 rpm | 202 rpm | 192 rpm | 176 rpm | | |
| | 11.89 | 389 | 903 | 1363 | 1735 | 2195 | 2460 | 2841 | 3169 | | |
| | | 283 rpm | 280 rpm | 276 rpm | 272 rpm | 267 rpm | 260 rpm | 250 rpm | 238 rpm | | |
| | 14.53 | 354 | 876 | 1310 | 1690 | 2151 | 2407 | 2797 | 3107 | | |
| | | 345 rpm | 342 rpm | 340 rpm | 336 rpm | 331 rpm | 328 rpm | 320 rpm | 303 rpm | | |
| | 15.85 <i>Max Cont.</i> | 292 | 832 | 1275 | 1664 | 2089 | 2363 | 2726 | 3053 | | |
| 377 rpm | | 374 rpm | 371 rpm | 367 rpm | 363 rpm | 359 rpm | 353 rpm | 342 rpm | | | |
| 19.82 <i>Max Int.</i> | 168 | 708 | 1097 | 1505 | 1912 | 2230 | 2620 | 2876 | | | |
| | 473 rpm | 469 rpm | 465 rpm | 459 rpm | 453 rpm | 447 rpm | 440 rpm | 424 rpm | | | |

| BMPH 200 | | 11.87 in³/rev (194.5 cm³/rev) | | | | | | <i>Max Cont.</i> | | <i>Max Int.</i> |
|----------------------------------|--------------|------------------------------------------------------------|---------|---------|---------|---------|---------|------------------|---------|-----------------|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 | |
| FLOW | (gpm ↓) | Torque (in·lbf) Speed Specification | | | | | | | | |
| | 2.11 | 699 | 1452 | 1832 | 2213 | 2832 | 3186 | | | |
| | | 40 rpm | 39 rpm | 38 rpm | 35 rpm | 28 rpm | 22 rpm | | | |
| | 3.96 | 690 | 1434 | 1814 | 2213 | 2850 | 3195 | 3629 | | |
| | | 76 rpm | 75 rpm | 74 rpm | 71 rpm | 66 rpm | 61 rpm | 51 rpm | | |
| | 5.28 | 673 | 1398 | 1797 | 2186 | 2832 | 3169 | 3567 | 3735 | |
| | | 100 rpm | 98 rpm | 97 rpm | 95 rpm | 92 rpm | 89 rpm | 73 rpm | 57 rpm | |
| | 7.93 | 620 | 1354 | 1770 | 2168 | 2788 | 3098 | 3523 | 3691 | |
| | | 151 rpm | 149 rpm | 147 rpm | 145 rpm | 142 rpm | 139 rpm | 131 rpm | 120 rpm | |
| | 9.25 | 584 | 1319 | 1717 | 2053 | 2629 | 3036 | 3416 | 3673 | |
| | | 177 rpm | 175 rpm | 173 rpm | 171 rpm | 168 rpm | 166 rpm | 160 rpm | 149 rpm | |
| | 11.89 | 558 | 1292 | 1682 | 2036 | 2602 | 3009 | 3390 | 3629 | |
| | | 228 rpm | 226 rpm | 224 rpm | 221 rpm | 218 rpm | 215 rpm | 210 rpm | 198 rpm | |
| | 14.53 | 478 | 1239 | 1602 | 1983 | 2531 | 2956 | 3284 | 3540 | |
| 280 rpm | | 278 rpm | 276 rpm | 274 rpm | 271 rpm | 269 rpm | 263 rpm | 250 rpm | | |
| 15.85 <i>Max Cont.</i> | 336 | 1124 | 1452 | 1876 | 2390 | 2876 | 3151 | 3496 | | |
| | 304 rpm | 302 rpm | 300 rpm | 297 rpm | 294 rpm | 291 rpm | 286 rpm | 272 rpm | | |
| 19.82 <i>Max Int.</i> | 195 | 850 | 1283 | 1699 | 2080 | 2593 | 2841 | 3248 | | |
| | 382 rpm | 378 rpm | 374 rpm | 371 rpm | 368 rpm | 364 rpm | 360 rpm | 350 rpm | | |

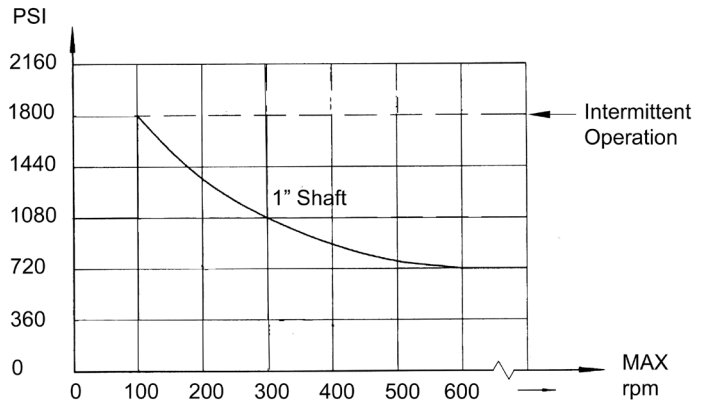
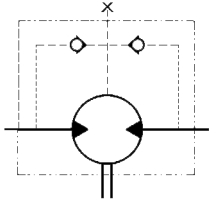
| BMPH 250 | | 14.66 in³/rev (240.3 cm³/rev) | | | | | | <i>Max Cont.</i> | | <i>Max Int.</i> |
|----------------------------------|--------------|------------------------------------------------------------|---------|---------|---------|---------|---------|------------------|---------|-----------------|
| Pressure (psi →) | | 435 | 870 | 1160 | 1450 | 1813 | 2031 | 2321 | 2538 | |
| FLOW | (gpm ↓) | Torque (in·lbf) Speed Specification | | | | | | | | |
| | 2.11 | 850 | 1682 | 2372 | 2885 | 3567 | | | | |
| | | 30 rpm | 28 rpm | 24 rpm | 21 rpm | 11 rpm | | | | |
| | 3.96 | 867 | 1717 | 2390 | 2894 | 3585 | 3983 | 4514 | | |
| | | 60 rpm | 58 rpm | 54 rpm | 50 rpm | 40 rpm | 30 rpm | 12 rpm | | |
| | 5.28 | 814 | 1664 | 2363 | 2876 | 3585 | 4036 | 4549 | 5001 | |
| | | 82 rpm | 80 rpm | 77 rpm | 76 rpm | 69 rpm | 64 rpm | 52 rpm | 38 rpm | |
| | 7.93 | 752 | 1593 | 2292 | 2832 | 3540 | 3965 | 4540 | 4965 | |
| | | 123 rpm | 120 rpm | 118 rpm | 114 rpm | 106 rpm | 98 rpm | 87 rpm | 76 rpm | |
| | 9.25 | 682 | 1558 | 2230 | 2753 | 3443 | 3859 | 4461 | 4930 | |
| | | 143 rpm | 141 rpm | 139 rpm | 135 rpm | 128 rpm | 122 rpm | 112 rpm | 101 rpm | |
| | 11.89 | 620 | 1487 | 2151 | 2655 | 3337 | 3788 | 4381 | 4806 | |
| | | 185 rpm | 182 rpm | 178 rpm | 174 rpm | 168 rpm | 161 rpm | 152 rpm | 139 rpm | |
| | 14.53 | 558 | 1407 | 2098 | 2567 | 3266 | 3691 | 4275 | 4700 | |
| 226 rpm | | 223 rpm | 218 rpm | 213 rpm | 209 rpm | 202 rpm | 193 rpm | 185 rpm | | |
| 15.85 <i>Max Cont.</i> | 531 | 1328 | 2018 | 2478 | 3169 | 3602 | 4186 | 4602 | | |
| | 248 rpm | 246 rpm | 243 rpm | 239 rpm | 233 rpm | 226 rpm | 215 rpm | 207 rpm | | |
| 19.82 <i>Max Int.</i> | 301 | 1133 | 1788 | 2337 | 3027 | 3425 | 3965 | 4319 | | |
| | 309 rpm | 306 rpm | 302 rpm | 297 rpm | 292 rpm | 286 rpm | 278 rpm | 264 rpm | | |

| BMPH 315 | | 19.19 in³/rev (314.5 cm³/rev) | | | | | <i>Max Cont.</i> | <i>Max Int.</i> |
|----------------------------------|--------------|------------------------------------------------------------|------------|-------------|-------------|-------------|------------------|-----------------|
| Pressure (psi →) | | 435 | 725 | 1015 | 1305 | 1450 | 1813 | 2031 |
| F L O W | (gpm ↓) | Torque (in·lbf) Speed Specification | | | | | | |
| | 2.11 | 1089 | 1903 | 2584 | 3257 | 3585 | | |
| | | 25 rpm | 23 rpm | 21 rpm | 17 rpm | 11 rpm | | |
| | 3.96 | 1044 | 1867 | 2540 | 3248 | 3576 | 4381 | 5027 |
| | | 47 rpm | 46 rpm | 44 rpm | 40 rpm | 28 rpm | 21 rpm | 10 rpm |
| | 5.28 | 974 | 1814 | 2460 | 3186 | 3496 | 4372 | 5009 |
| | | 62 rpm | 61 rpm | 60 rpm | 57 rpm | 46 rpm | 40 rpm | 36 rpm |
| | 7.93 | 894 | 1735 | 2399 | 3089 | 3434 | 4337 | 5001 |
| | | 94 rpm | 93 rpm | 91 rpm | 88 rpm | 76 rpm | 68 rpm | 65 rpm |
| | 9.25 | 850 | 1664 | 2337 | 3018 | 3381 | 4231 | 4930 |
| | | 109 rpm | 107 rpm | 106 rpm | 104 rpm | 96 rpm | 89 rpm | 84 rpm |
| | 11.89 | 788 | 1593 | 2248 | 2983 | 3292 | 4142 | 4894 |
| | | 141 rpm | 140 rpm | 138 rpm | 135 rpm | 127 rpm | 120 rpm | 115 rpm |
| | 14.53 | 673 | 1469 | 2115 | 2876 | 3204 | 4045 | 4850 |
| 173 rpm | | 172 rpm | 170 rpm | 167 rpm | 160 rpm | 152 rpm | 143 rpm | |
| 15.85 <i>Max Cont.</i> | 575 | 1363 | 2009 | 2726 | 3080 | 3921 | 4682 | |
| | 188 rpm | 186 rpm | 184 rpm | 182 rpm | 178 rpm | 172 rpm | 163 rpm | |
| 19.82 <i>Max Int.</i> | 354 | 1062 | 1779 | 2469 | 2859 | 3700 | 4399 | |
| | 236 rpm | 234 rpm | 232 rpm | 228 rpm | 226 rpm | 223 rpm | 214 rpm | |

| BMPH 400 | | 23.77 in³/rev (389.5 cm³/rev) | | | | | <i>Max Cont.</i> | <i>Max Int.</i> |
|----------------------------------|--------------|------------------------------------------------------------|------------|------------|------------|-------------|------------------|-----------------|
| Pressure (psi →) | | 435 | 653 | 798 | 943 | 1160 | 1450 | 1813 |
| F L O W | (gpm ↓) | Torque (in·lbf) Speed Specification | | | | | | |
| | 2.11 | 1469 | 2053 | 2540 | 3009 | 3700 | | |
| | | 20 rpm | 19 rpm | 18 rpm | 16 rpm | 12 rpm | | |
| | 3.96 | 1460 | 2018 | 2452 | 2983 | 3691 | 4390 | 5417 |
| | | 38 rpm | 36 rpm | 35 rpm | 33 rpm | 31 rpm | 27 rpm | 21 rpm |
| | 5.28 | 1434 | 1974 | 2416 | 2930 | 3655 | 4381 | 5381 |
| | | 50 rpm | 49 rpm | 49 rpm | 48 rpm | 45 rpm | 41 rpm | 35 rpm |
| | 7.93 | 1363 | 1912 | 2354 | 2815 | 3585 | 4301 | 5310 |
| | | 76 rpm | 75 rpm | 74 rpm | 73 rpm | 71 rpm | 67 rpm | 60 rpm |
| | 9.25 | 1292 | 1859 | 2266 | 2761 | 3496 | 4248 | 5204 |
| | | 88 rpm | 87 rpm | 87 rpm | 86 rpm | 83 rpm | 80 rpm | 75 rpm |
| | 11.89 | 1168 | 1744 | 2151 | 2655 | 3390 | 4107 | 5098 |
| | | 114 rpm | 113 rpm | 112 rpm | 110 rpm | 108 rpm | 106 rpm | 99 rpm |
| | 14.53 | 1036 | 1629 | 2009 | 2505 | 3213 | 3983 | 4886 |
| 139 rpm | | 137 rpm | 136 rpm | 135 rpm | 135 rpm | 132 rpm | 123 rpm | |
| 15.85 <i>Max Cont.</i> | 903 | 1443 | 1903 | 2407 | 3071 | 3859 | 4709 | |
| | 153 rpm | 152 rpm | 150 rpm | 148 rpm | 146 rpm | 143 rpm | 138 rpm | |
| 19.82 <i>Max Int.</i> | 469 | 1133 | 1611 | 2071 | 2815 | 3461 | 4284 | |
| | 191 rpm | 189 rpm | 187 rpm | 185 rpm | 183 rpm | 180 rpm | 176 rpm | |

BMPH Technical Data

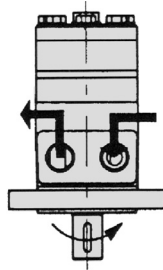
Shaft Seal Rated Pressure



Case Drain

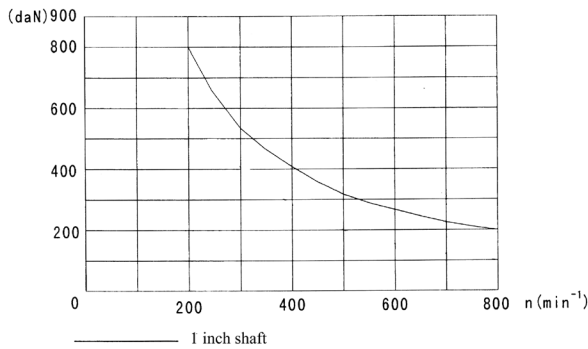
In applications without a motor drain line, the pressure exerted on the shaft seal is marginally in excess of the return line pressure. When the drain line is used, the pressure exerted on the shaft seal is equal to the return line pressure.

Shaft Rotation Direction

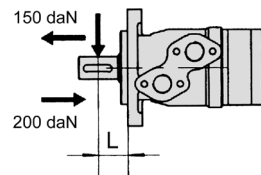


Radial Forces

Status of the shaft's radial force



$$F_r = \frac{800}{n} * \frac{2500}{95 + L}$$



F_r = Radial Force (daN)
 L = Distance (mm)
 n = Speed (rpm)

Rhomb Flange $L=30\text{mm}$
 Square Flange $L=24\text{mm}$