

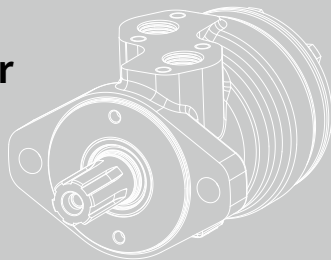
1.1


Hengli®

HRD series

Orbital hydraulic motor

HRD Series Orbital Hydraulic Motor, it is a spool distribution motor, adopts needle tooth ring and star design, low start-up pressure, high efficiency and high reliability.



目 录

| | |
|---------------------------------------|-------|
| Overview | 02 |
| Advantages | 02 |
| Standard structure | 02 |
| Specification | 03 |
| Displacement performance | 04-08 |
| Installation size | 09-11 |
| Shaft end dimensions | 11-13 |
| Allowable shaft load/bearing curve | 14 |
| Permissible shaft seal pressure | 14 |
| Hydraulic diagram | 14 |
| Rotation direction | 14 |
| Ordering information | 15 |



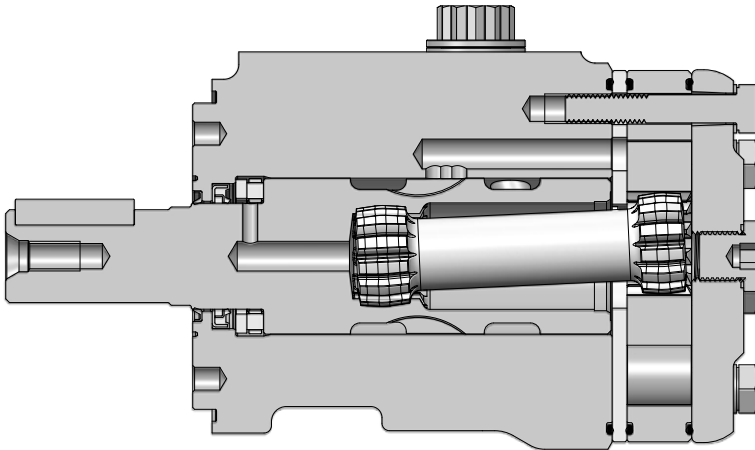
Overview

HRD Series Orbital Hydraulic Motor, it is a spool distribution motor, adopts needle tooth ring and star design, low start-up pressure, high efficiency and high reliability. High-pressure shaft seals and check valves are used as standard options, so the HRD series hydraulic motors can withstand high back pressure without the use of case drain ports, and have excellent use option performance in series circuits that require synchronous drive.

Advantages

- It adopts spool distribution structure, small size and light weight.
- The high-pressure shaft seal can carry high back pressure and allow series and parallel use.
- It adopts advanced rotary stator parameter design, low starting pressure, high efficiency, and high reliability and smooth operation.
- Reinforced drive link design for long service life.
- Multiple displacements and mounting sizes are available.

Standard structure



P-0061

Specification

| | | | | | | | | | | |
|--------------------------------------|------------------|------|------|------|-------|-------|-------|-------|-------|-------|
| Type | | 50 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 375 |
| Displacement (cm ³ /rev.) | | 51.6 | 80.3 | 99.8 | 124.1 | 155.4 | 198.2 | 248.1 | 310.1 | 363.5 |
| Max.flow (L/min) | Continuous | 40 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Intermittent | 50 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Max.speed (rpm) | Continuous | 769 | 755 | 604 | 481 | 381 | 302 | 242 | 198 | 168 |
| | Intermittent | 965 | 946 | 756 | 605 | 477 | 378 | 303 | 247 | 206 |
| Max.pressure drop (bar) | Continuous | 150 | 200 | 200 | 200 | 180 | 150 | 125 | 100 | 80 |
| | Intermittent | 175 | 225 | 225 | 225 | 215 | 195 | 170 | 140 | 115 |
| Max.torque (Nm) | Continuous | 98 | 218 | 278 | 332 | 382 | 402 | 405 | 405 | 393 |
| | Intermittent | 117 | 238 | 303 | 362 | 436 | 481 | 544 | 555 | 554 |
| Max.output (kW) | Continuous | 7.0 | 14.0 | 14.0 | 14.0 | 12.6 | 10.5 | 8.8 | 7.0 | 5.6 |
| | Intermittent | 8.8 | 15.8 | 17.5 | 17.5 | 15.8 | 13.1 | 10.5 | 8.9 | 7.8 |
| Max.no-load starting pressure (bar) | | 10 | 10 | 10 | 10 | 10 | 10 | 7 | 7 | 7 |
| Min.starting torque (Nm) | Max.continuous | 86 | 179 | 222 | 277 | 312 | 331 | 346 | 346 | 324 |
| | Max.Intermittent | 101 | 201 | 250 | 311 | 372 | 431 | 470 | 484 | 466 |

T - 0041

- Intermittent working condition: The working time should be less than 6 seconds per minute under the intermittent working condition.
- Peak differential pressure: At peak differential pressure, the operating time is less than 0.6 seconds per minute.
- It is not recommended for the motor to work at simultaneous maximum torque and maximum speed.
- The filtration standard of ISO 4406 cleaning standard 20/18/15 is recommended.
- High quality anti-wear hydraulic fluids are recommended.
- When the temperature is 50°, the minimum viscosity of the oil is recommended to be 20mm²/s.
- The recommended maximum operating temperature is 82°C.
- To assure best motor life, run motor 10-15 minutes in low speed high torque mode at approximately 50% of continuous pressure and 50% of continuous flow.

Displacement performance

| | | Pressure(bar) | | | | | | Max.Cont | Max.Inter |
|-----------------|--|----------------------------|------------|------------|------------|------------|------------|------------|------------|
| | | 30 | 60 | 80 | 100 | 120 | 140 | 150 | 175 |
| 50 | | 51.6 cm ³ /rev. | | | | | | | |
| | | Torque(Nm), Speed(rpm) | | | | | | | |
| 5 | | 16 | 37 | 52 | 66 | 79 | 93 | 96 | 112 |
| | | 93 | 84 | 77 | 70 | 54 | 41 | 35 | 13 |
| 10 | | 17 | 39 | 53 | 67 | 81 | 95 | 97 | 115 |
| | | 190 | 182 | 173 | 166 | 150 | 140 | 131 | 108 |
| 15 | | 18 | 39 | 53 | 68 | 82 | 96 | 98 | 115 |
| | | 288 | 282 | 273 | 265 | 252 | 237 | 232 | 210 |
| 20 | | 18 | 39 | 53 | 68 | 82 | 96 | 98 | 116 |
| | | 388 | 376 | 371 | 358 | 347 | 331 | 325 | 302 |
| 25 | | 17 | 38 | 53 | 68 | 82 | 95 | 98 | 117 |
| | | 479 | 473 | 464 | 453 | 446 | 429 | 426 | 398 |
| 30 | | 16 | 37 | 52 | 68 | 82 | 96 | 98 | 116 |
| | | 579 | 573 | 564 | 551 | 542 | 528 | 517 | 501 |
| 35 | | 15 | 36 | 51 | 66 | 81 | 94 | 96 | 114 |
| | | 677 | 670 | 659 | 656 | 637 | 623 | 614 | 597 |
| Max.Cont 40 | | 13 | 35 | 50 | 65 | 79 | 93 | 95 | 113 |
| | | 769 | 764 | 758 | 746 | 735 | 723 | 713 | 688 |
| 45 | | 12 | 33 | 48 | 64 | 78 | 93 | 94 | 112 |
| | | 871 | 860 | 855 | 840 | 833 | 820 | 810 | 779 |
| Max.Inter 50 | | 10 | 32 | 47 | 62 | 77 | 90 | 93 | 110 |
| | | 965 | 954 | 952 | 944 | 936 | 912 | 909 | 886 |

Overall Efficiency: 70-100% 40-69% 0-39%

T - 0068

| | | Pressure(bar) | | | | | | | | Max.Cont | Max.Inter |
|-----------------|--|----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | 30 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 225 |
| 80 | | 80.3 cm ³ /rev. | | | | | | | | | |
| | | Torque(Nm), Speed(rpm) | | | | | | | | | |
| 5 | | 27 | 58 | 80 | 102 | 124 | 145 | | | | |
| | | 56 | 51 | 42 | 43 | 19 | 7 | | | | |
| 10 | | 28 | 61 | 83 | 104 | 126 | 148 | 168 | 188 | | |
| | | 122 | 112 | 103 | 93 | 80 | 64 | 44 | 20 | | |
| 20 | | 29 | 62 | 85 | 105 | 129 | 151 | 172 | 191 | 218 | 229 |
| | | 247 | 236 | 226 | 217 | 206 | 192 | 173 | 149 | 116 | 54 |
| 30 | | 29 | 61 | 86 | 106 | 129 | 152 | 174 | 193 | 211 | 232 |
| | | 373 | 363 | 353 | 341 | 328 | 309 | 294 | 271 | 234 | 175 |
| 40 | | 26 | 58 | 82 | 105 | 128 | 150 | 173 | 191 | 211 | 238 |
| | | 495 | 486 | 476 | 464 | 455 | 435 | 420 | 395 | 356 | 296 |
| 50 | | 22 | 54 | 77 | 101 | 124 | 147 | 169 | 191 | 210 | 230 |
| | | 619 | 607 | 594 | 589 | 576 | 561 | 543 | 522 | 480 | 424 |
| Max.Cont 60 | | 15 | 49 | 73 | 95 | 119 | 143 | 165 | 189 | 210 | 228 |
| | | 755 | 729 | 723 | 712 | 702 | 687 | 666 | 640 | 635 | 543 |
| 70 | | 8 | 43 | 66 | 92 | 114 | 139 | 162 | 186 | 209 | 224 |
| | | 865 | 855 | 844 | 834 | 826 | 805 | 792 | 765 | 743 | 672 |
| Max.Inter 75 | | 4 | 39 | 60 | 88 | 112 | 137 | 160 | 182 | 206 | 222 |
| | | 946 | 919 | 907 | 897 | 887 | 871 | 851 | 826 | 809 | 730 |

Overall Efficiency: 70-100% 40-69% 0-39%

T - 0070

Displacement performance

| | | Pressure(bar) | | | | | | | Max.Cont | Max.Inter |
|------------|----|----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | 30 | 60 | 80 | 100 | 120 | 140 | 175 | 200 | 225 |
| 100 | | 99.8 cm ³ /rev. | | | | | | | | |
| | | Torque(Nm), Speed(rpm) | | | | | | | | |
| 5 | | 32 | 72 | 99 | 126 | 154 | 181 | | | |
| | | 49 | 41 | 36 | 33 | 23 | 13 | | | |
| 10 | | 35 | 73 | 100 | 129 | 161 | 186 | 232 | 263 | |
| | | 97 | 93 | 87 | 80 | 73 | 64 | 34 | 8 | |
| 20 | | 38 | 75 | 106 | 132 | 161 | 189 | 236 | 278 | 296 |
| | | 197 | 190 | 183 | 181 | 174 | 162 | 132 | 105 | 66 |
| 30 | | 35 | 77 | 104 | 133 | 161 | 188 | 237 | 267 | 303 |
| | | 295 | 290 | 289 | 280 | 274 | 264 | 234 | 205 | 186 |
| 40 | | 32 | 73 | 102 | 129 | 158 | 186 | 233 | 268 | 296 |
| | | 398 | 391 | 382 | 381 | 374 | 361 | 334 | 306 | 266 |
| 50 | | 24 | 66 | 94 | 124 | 153 | 183 | 232 | 264 | 296 |
| | | 496 | 495 | 486 | 481 | 474 | 460 | 434 | 404 | 366 |
| Max.Cont | 60 | 16 | 58 | 87 | 119 | 146 | 177 | 227 | 258 | 289 |
| | | 604 | 590 | 585 | 580 | 575 | 562 | 534 | 505 | 469 |
| 70 | | 6 | 49 | 79 | 111 | 140 | 171 | 221 | 256 | 284 |
| | | 694 | 691 | 686 | 683 | 670 | 661 | 634 | 606 | 566 |
| Max.Inter | 75 | 3 | 45 | 76 | 106 | 136 | 167 | 218 | 253 | 283 |
| | | 756 | 743 | 737 | 730 | 722 | 711 | 686 | 656 | 616 |

Overall Efficiency: 70-100% 40-69% 0-39%

T - 0071

| | | Pressure(bar) | | | | | | | Max.Cont | Max.Inter |
|------------|----|----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | 30 | 60 | 80 | 100 | 120 | 140 | 175 | 200 | 225 |
| 125 | | 124.1cm ³ /rev. | | | | | | | | |
| | | Torque(Nm), Speed(rpm) | | | | | | | | |
| 5 | | 43 | 94 | 129 | 166 | 203 | 239 | | | |
| | | 38 | 33 | 32 | 27 | 22 | 11 | | | |
| 10 | | 40 | 94 | 129 | 165 | 203 | 238 | 294 | | |
| | | 76 | 75 | 70 | 67 | 60 | 52 | 32 | | |
| 20 | | 41 | 94 | 131 | 166 | 203 | 239 | 295 | 332 | |
| | | 158 | 155 | 153 | 146 | 142 | 127 | 96 | 54 | |
| 30 | | 39 | 92 | 129 | 166 | 203 | 236 | 294 | 327 | 362 |
| | | 240 | 234 | 233 | 229 | 221 | 210 | 175 | 135 | 63 |
| 40 | | 34 | 89 | 125 | 164 | 198 | 234 | 289 | 324 | 352 |
| | | 318 | 318 | 312 | 309 | 301 | 290 | 257 | 215 | 142 |
| 50 | | 31 | 84 | 119 | 157 | 193 | 229 | 283 | 319 | 347 |
| | | 397 | 393 | 392 | 385 | 381 | 371 | 337 | 293 | 228 |
| Max.Cont | 60 | 23 | 75 | 111 | 151 | 188 | 221 | 277 | 313 | 343 |
| | | 481 | 478 | 473 | 471 | 462 | 452 | 418 | 374 | 305 |
| 70 | | 13 | 67 | 105 | 142 | 179 | 212 | 272 | 305 | 332 |
| | | 559 | 558 | 552 | 549 | 543 | 532 | 493 | 430 | 389 |
| Max.Inter | 75 | 10 | 62 | 100 | 136 | 173 | 209 | 266 | 300 | 329 |
| | | 605 | 596 | 592 | 587 | 583 | 569 | 539 | 494 | 429 |

Overall Efficiency: 70-100% 40-69% 0-39%

T - 0072

Displacement performance

| | | Pressure(bar) | | | | | | | Max.Cont | Max.Inter |
|-----------------------------|--------------|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | 30 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 215 |
| 160 | | | | | | | | | | |
| 155.4 cm ³ /rev. | | Torque(Nm), Speed(rpm) | | | | | | | | |
| 5 | Flow (L/min) | 49 | 116 | 160 | 204 | 246 | | | | |
| | | 30 | 27 | 23 | 16 | 9 | | | | |
| 10 | Flow (L/min) | 53 | 121 | 164 | 210 | 252 | 293 | 333 | | |
| | | 62 | 58 | 53 | 48 | 40 | 29 | 14 | | |
| 20 | Flow (L/min) | 58 | 123 | 169 | 213 | 256 | 299 | 338 | 382 | 423 |
| | | 126 | 122 | 117 | 110 | 101 | 91 | 77 | 58 | 13 |
| 30 | Flow (L/min) | 55 | 123 | 165 | 210 | 259 | 297 | 339 | 372 | 436 |
| | | 189 | 184 | 181 | 178 | 168 | 154 | 145 | 122 | 76 |
| 40 | Flow (L/min) | 49 | 112 | 160 | 205 | 250 | 292 | 336 | 369 | 422 |
| | | 255 | 249 | 244 | 241 | 231 | 220 | 205 | 185 | 140 |
| 50 | Flow (L/min) | 40 | 107 | 152 | 199 | 243 | 286 | 325 | 362 | 416 |
| | | 316 | 311 | 307 | 304 | 295 | 284 | 270 | 251 | 205 |
| 60 | Max.Cont | 27 | 95 | 142 | 186 | 230 | 278 | 315 | 353 | 408 |
| | | 381 | 379 | 371 | 369 | 359 | 348 | 333 | 318 | 268 |
| 70 | Max.Cont | 16 | 81 | 133 | 176 | 222 | 265 | 308 | 346 | 401 |
| | | 446 | 441 | 438 | 431 | 424 | 413 | 399 | 379 | 335 |
| 75 | Max.Inter | 10 | 76 | 126 | 173 | 218 | 264 | 304 | 338 | 396 |
| | | 477 | 474 | 470 | 465 | 457 | 445 | 433 | 409 | 366 |

Overall Efficiency: 70-100% 40-69% 0-39%

T - 0073

| | | Pressure(bar) | | | | | | Max.Cont | Max.Inter |
|----------------------------|--------------|------------------------|------------|------------|------------|------------|------------|------------|-----------|
| | | 30 | 60 | 80 | 100 | 120 | 150 | 195 | |
| 200 | | | | | | | | | |
| 198.2cm ³ /rev. | | Torque(Nm), Speed(rpm) | | | | | | | |
| 5 | Flow (L/min) | 70 | 156 | 208 | 263 | 316 | | | |
| | | 24 | 22 | 19 | 17 | 8 | | | |
| 10 | Flow (L/min) | 74 | 156 | 213 | 269 | 319 | 387 | | |
| | | 51 | 48 | 44 | 39 | 32 | 17 | | |
| 20 | Flow (L/min) | 75 | 160 | 216 | 267 | 322 | 402 | 481 | |
| | | 98 | 98 | 94 | 90 | 82 | 69 | 33 | |
| 30 | Flow (L/min) | 71 | 154 | 211 | 264 | 317 | 387 | 473 | |
| | | 151 | 150 | 146 | 138 | 135 | 118 | 81 | |
| 40 | Flow (L/min) | 62 | 146 | 202 | 259 | 310 | 378 | 467 | |
| | | 200 | 197 | 197 | 192 | 185 | 167 | 130 | |
| 50 | Flow (L/min) | 50 | 136 | 194 | 252 | 296 | 371 | 457 | |
| | | 251 | 247 | 246 | 240 | 233 | 216 | 184 | |
| 60 | Max.Cont | 37 | 122 | 181 | 233 | 288 | 358 | 445 | |
| | | 302 | 299 | 294 | 292 | 283 | 270 | 233 | |
| 70 | Max.Cont | 24 | 112 | 172 | 222 | 274 | 345 | 438 | |
| | | 350 | 350 | 346 | 340 | 335 | 319 | 284 | |
| 75 | Max.Inter | 22 | 105 | 161 | 216 | 269 | 341 | 432 | |
| | | 378 | 374 | 371 | 368 | 360 | 346 | 309 | |

Overall Efficiency: 70-100% 40-69% 0-39%

T - 0074

Displacement performance

| | | Pressure(bar) | | | | Max.Cont | | Max.Inter | | |
|----------------------------|--|------------------------|------------|------------|------------|------------|------------|------------|--|--|
| | | 30 | 60 | 80 | 100 | 125 | 150 | 170 | | |
| 250 | | | | | | | | | | |
| 248.1cm ³ /rev. | | Torque(Nm), Speed(rpm) | | | | | | | | |
| 5 | | 90 | 194 | 260 | 326 | 401 | | | | |
| | | 19 | 18 | 16 | 12 | 4 | | | | |
| 10 | | 92 | 200 | 263 | 328 | 403 | 477 | | | |
| | | 39 | 39 | 37 | 32 | 22 | 10 | | | |
| 20 | | 96 | 198 | 268 | 334 | 405 | 482 | 544 | | |
| | | 80 | 78 | 76 | 71 | 63 | 50 | 37 | | |
| 30 | | 93 | 195 | 263 | 327 | 404 | 475 | 528 | | |
| | | 119 | 118 | 116 | 111 | 104 | 90 | 78 | | |
| 40 | | 80 | 185 | 251 | 314 | 393 | 464 | 514 | | |
| | | 160 | 159 | 156 | 152 | 144 | 131 | 117 | | |
| 50 | | 66 | 167 | 237 | 301 | 380 | 450 | 500 | | |
| | | 200 | 198 | 198 | 193 | 184 | 171 | 158 | | |
| Max.Cont 60 | | 49 | 153 | 221 | 282 | 365 | 435 | 486 | | |
| | | 242 | 239 | 237 | 232 | 226 | 211 | 197 | | |
| 70 | | 32 | 137 | 206 | 266 | 350 | 421 | 467 | | |
| | | 283 | 280 | 277 | 274 | 266 | 252 | 237 | | |
| Max.Inter 75 | | 32 | 132 | 203 | 263 | 344 | 411 | 460 | | |
| | | 303 | 298 | 297 | 291 | 283 | 270 | 257 | | |

T - 0075

Overall Efficiency: 70-100% 40-69% 0-39%

| | | Pressure(bar) | | | Max.Cont | | Max.Inter | | |
|----------------------------|--|------------------------|------------|------------|------------|------------|------------|--|--|
| | | 30 | 60 | 80 | 100 | 120 | 140 | | |
| 315 | | | | | | | | | |
| 310.1cm ³ /rev. | | Torque(Nm), Speed(rpm) | | | | | | | |
| 5 | | 108 | 241 | 317 | 396 | | | | |
| | | 15 | 13 | 10 | 5 | | | | |
| 10 | | 113 | 241 | 327 | 405 | 480 | 547 | | |
| | | 32 | 30 | 26 | 23 | 17 | 9 | | |
| 20 | | 115 | 239 | 323 | 403 | 478 | 555 | | |
| | | 63 | 60 | 57 | 54 | 47 | 39 | | |
| 30 | | 107 | 235 | 318 | 397 | 473 | 542 | | |
| | | 96 | 93 | 90 | 86 | 80 | 73 | | |
| 40 | | 100 | 221 | 307 | 387 | 457 | 516 | | |
| | | 128 | 125 | 122 | 118 | 112 | 104 | | |
| 50 | | 86 | 205 | 290 | 367 | 444 | 496 | | |
| | | 161 | 157 | 154 | 150 | 144 | 137 | | |
| Max.Cont 60 | | 64 | 188 | 269 | 353 | 426 | 472 | | |
| | | 198 | 189 | 187 | 183 | 177 | 169 | | |
| 70 | | 49 | 173 | 256 | 332 | 408 | 467 | | |
| | | 224 | 222 | 219 | 216 | 209 | 202 | | |
| Max.Inter 75 | | 37 | 165 | 244 | 323 | 398 | 460 | | |
| | | 247 | 239 | 235 | 232 | 217 | 201 | | |

T - 0076

Overall Efficiency: 70-100% 40-69% 0-39%

Displacement performance

| | | Pressure(bar) | | Max.Cont | Max.Inter |
|----------------------------|----|------------------------|-------------------|-------------------|-------------------|
| 375 | | 30 | 60 | 80 | 115 |
| 363.5cm ³ /rev. | | Torque(Nm), Speed(rpm) | | | |
| Flow (L/min) | 5 | 130 13 | 286 12 | 386 11 | 540 3 |
| | 10 | 135 27 | 289 27 | 393 24 | 544 18 |
| | 20 | 134 55 | 288 53 | 390 52 | 554 44 |
| | 30 | 130 83 | 280 81 | 382 78 | 534 71 |
| | 40 | 113 109 | 268 109 | 367 106 | 520 97 |
| Max.Cont | 50 | 96 137 | 248 135 | 348 135 | 498 126 |
| | 60 | 73 168 | 225 163 | 328 160 | 476 153 |
| | 70 | 53 191 | 203 190 | 306 187 | 455 182 |
| Max.Inter | 75 | 42 206 | 196 204 | 293 202 | 444 195 |

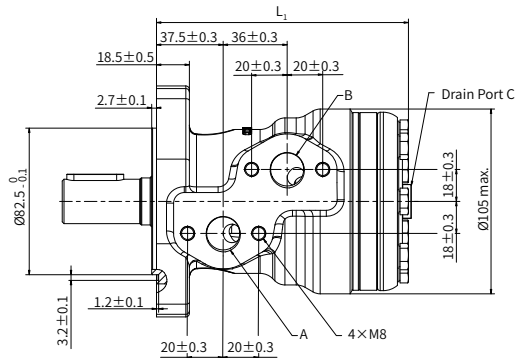
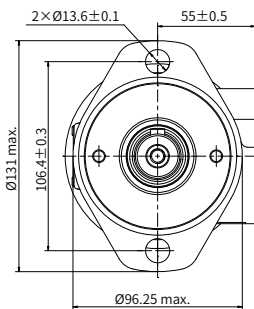
Torque (Nm):520
Speed (rpm):97

T - 0077

Overall Efficiency: 70-100% 40-69% 0-39%

Installation size

2-HOLE, SAE A MOUNT

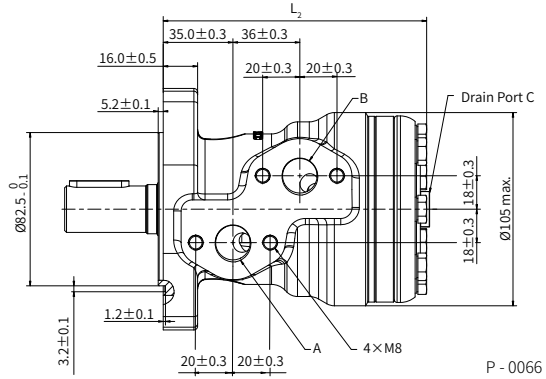
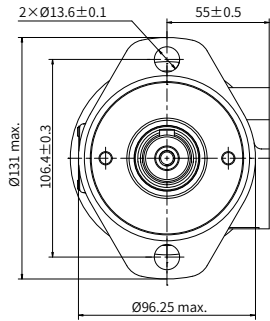


P - 0052

A23 Main Port A, B: G1/2, Drain Port C: G1/4

Installation size

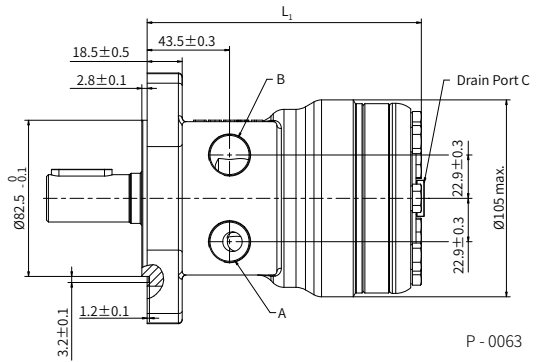
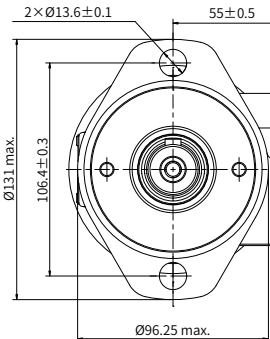
2-HOLE, SAE A MOUNT



P - 0066

A24 Main Port A, B: G1/2, Drain Port C: G1/4

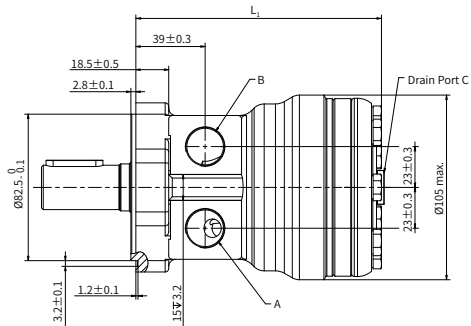
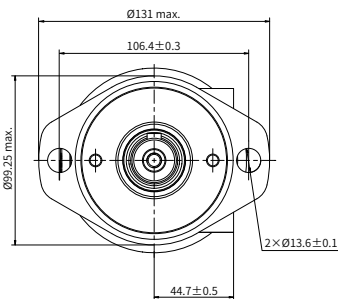
2-HOLE, SAE A MOUNT



P - 0063

A50 Main Port A, B: 7/8-14UNF, Drain Port C: 7/16-20UNF

2-HOLE, SAE A MOUNT

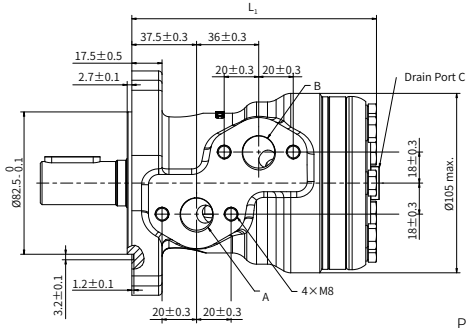
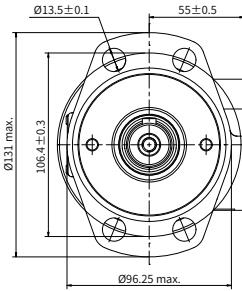


P - 0064

A51 Main Port A, B: 7/8-14UNF, Drain Port C: 7/16-20UNF

Installation size

4-HOLE, MAGNETO MOUNT

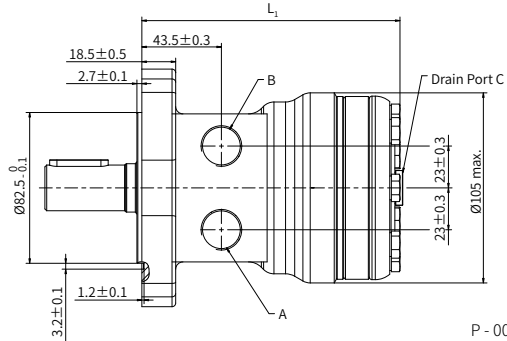
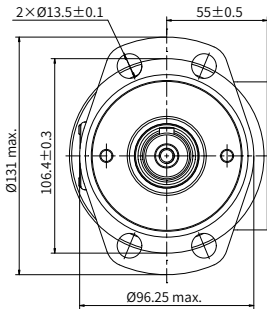


P - 0065

M01 Main Port A, B: G1/2, Drain Port C: G1/4

M02 Main Port A, B: 7/8-14UNF, Drain Port C: 7/16-20UNF

4-HOLE, MAGNETO MOUNT

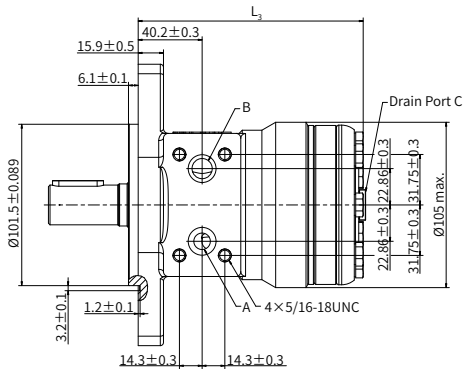
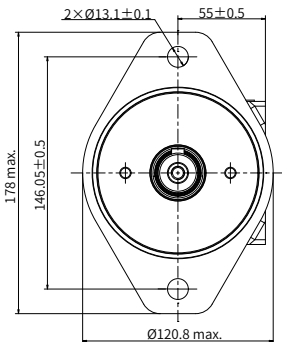


P - 0067

M11 Main Port A, B: G1/2, Drain Port C: G1/4

M12 Main Port A, B: 7/8-14UNF, Drain Port C: 7/16-20UNF

2-HOLE, SAE B MOUNT

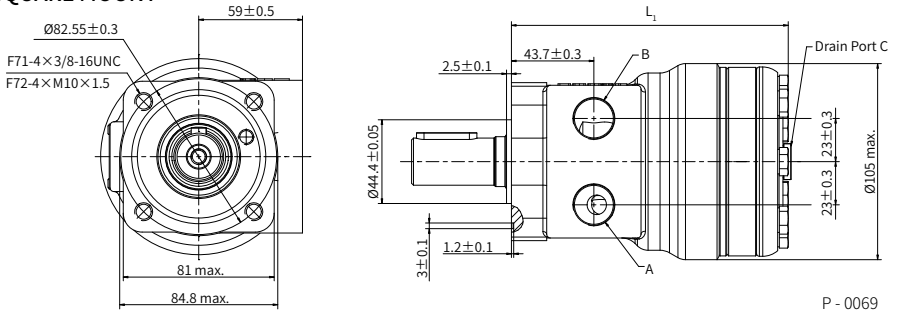


P - 0068

B22 Main Port A, B: Ø10.8 Hole, Drain Port C: 7/16-20UNF

Installation size

SQUARE MOUNT



P - 0069

F71 **F72** Main Port A, B: 7/8-14UNF, Drain Port C: 7/16-20UNF

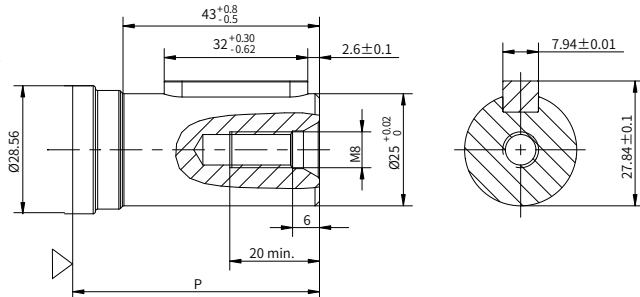
| Displacement $cm^3/rev.$ | L_1 mm | L_2 mm | L_3 mm |
|--------------------------|----------|----------|----------|
| 50 | 140.4 | 137.9 | 137.0 |
| 80 | 145.5 | 143.0 | 142.1 |
| 100 | 145.5 | 143.0 | 142.1 |
| 130 | 148.9 | 146.4 | 145.5 |
| 160 | 153.3 | 150.8 | 149.9 |
| 200 | 159.2 | 156.7 | 155.8 |
| 250 | 166.2 | 163.7 | 162.8 |
| 315 | 174.9 | 172.4 | 171.5 |
| 375 | 182.4 | 179.9 | 179.0 |

T - 0079

Note: Dimensions L_1 、 L_2 、 L_3 are the length from the flange mounting surface to the rear end of the motor, and the tolerance is ± 0.75 mm.

Shaft end dimensions

S2
 $\varnothing 25$ mm Straight
 Parallel key $8 \times 7 \times 32$
 Max. Torque: 678Nm

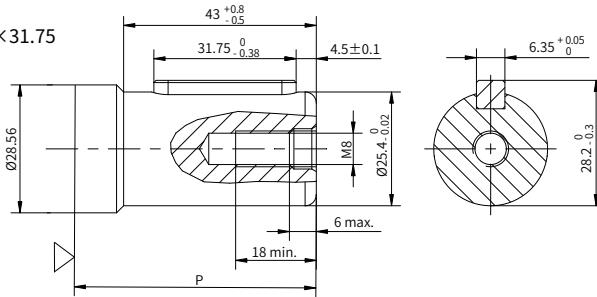


P - 0070

Shaft end dimensions

S4

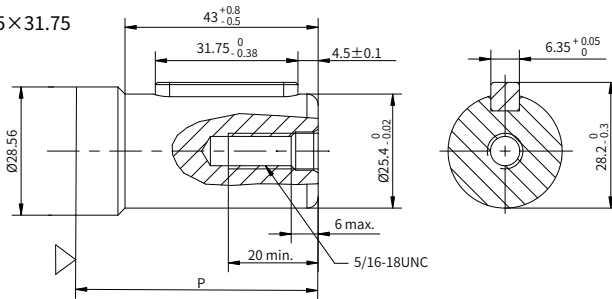
Ø25.4mm Straight
Parallel key 6.35×6.35×31.75
Max. Torque: 655Nm



P - 0071

S6

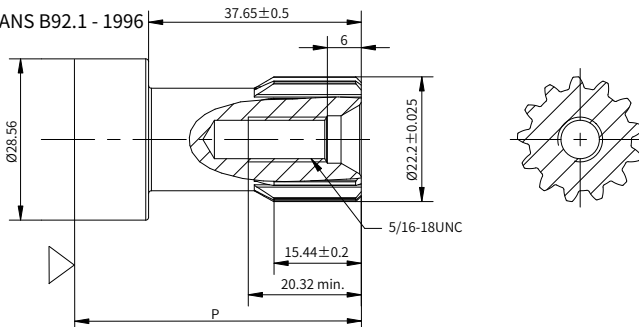
Ø25.4mm Straight
Parallel key 6.35×6.35×31.75
Max. Torque: 655Nm



P - 0072

R2

Ø22.2mm
Spline 13-DP16/32, ANS B92.1 - 1996
Max. Torque: 170Nm

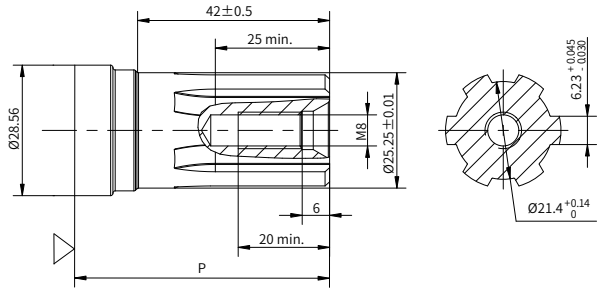


P - 0075

Shaft end dimensions

R1

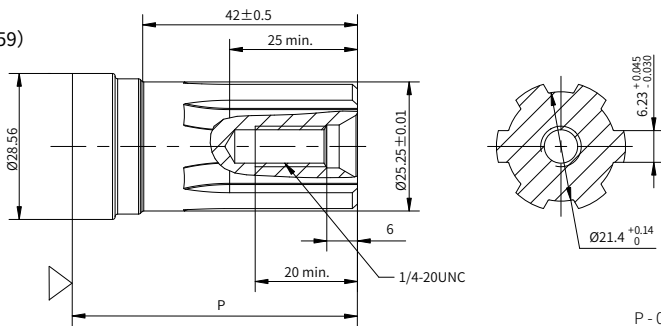
Ø25.4mm
Spline SAE 6B (B.S.2059)
Max. Torque: 678Nm



P - 0073

R8

Ø25.4mm
Spline SAE 6B (B.S.2059)
Max. Torque: 678Nm



P - 0074

| P mm | Pilot 3mm | Pilot 5.2mm | Pilot 6.1mm |
|------|-----------|-------------|-------------|
| S2 | 53.0 | 55.5 | 56.4 |
| S4 | 53.0 | 55.5 | 56.4 |
| S6 | 53.0 | 55.5 | 56.4 |
| R1 | 48.0 | 50.5 | 51.4 |
| R2 | 40.7 | 43.2 | 44.1 |
| R8 | 48.0 | 50.5 | 51.4 |

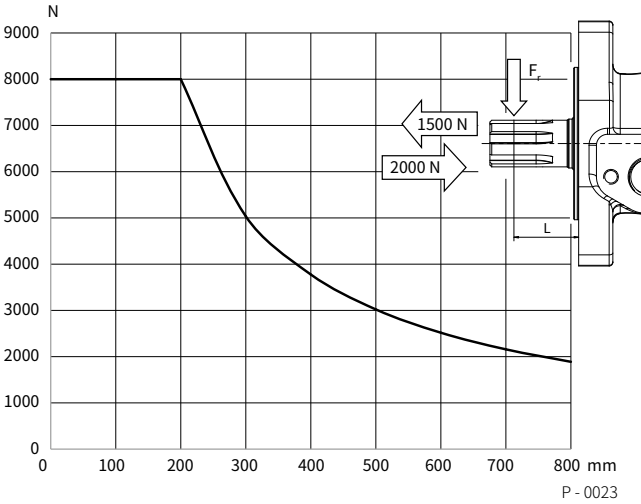
T - 0085

Note: Dimension A is the overall distance from the flange mounting surface to the end of the shaft, and the tolerance is $\pm 0.79\text{mm}$.

Allowable shaft load/bearing curve

HRD series products adopt optimized output shaft design, improve the wear resistance between output shaft and housing, when not exceeding its rated load for continuous operation, the life of dynamic pressure bearings can fully meet customer use.

Note: For frequent start-stop working conditions, you need to contact Hengli's sales or technical personnel for consultation. in the fixed position, the comparison between the side load and the rotational speed is referred to the figure below.



$$F_r = \frac{800}{n} \cdot \frac{250000}{102.4 + L} \text{ N}$$

F_r = Radial force (N)

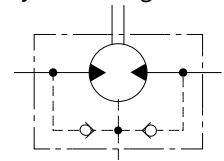
L = Distance (mm)

n = Speed (rpm)

Diamond flange $L=30\text{mm}$

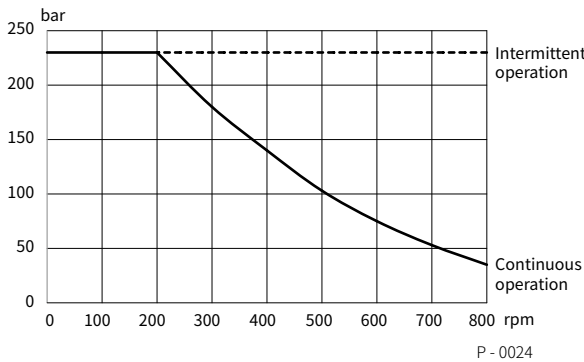
Square mount $L=24\text{mm}$

Hydraulic diagram



P - 0021

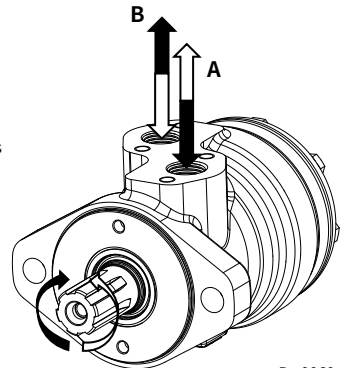
Permissible shaft seal pressure



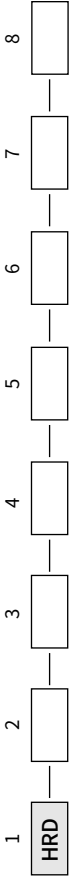
When case drain port is not working, the pressure on the output shaft seal is slightly higher than the pressure in the return line. When using a drain line, the pressure on the shaft seal of the output shaft is the same as the pressure in the drain line.

Rotation direction: CW

When facing the motor shaft extension direction, port A is high pressure oil, the output shaft rotates CW; Otherwise, it rotates CCW.



Ordering information



| Pos.1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------|--------------|---|--------------|--------------------|--------------|------------------|
| Series code | Displacement | Mount, Port | Output shaft | Rotation direction | Paint option | Special features |
| A23 | 050 | SAE A 2×Ø13.6 MountØ106.4, pilot Ø82.5×2.7, Port G1/2, Drain Port G1/4 | S2 | A | No Paint | Standard |
| A24 | 080 | SAE A 2×Ø13.6 MountØ106.4, pilot Ø82.5×5.2, Port G1/2, Drain Port G1/4 | S4 | R | Black | Free running |
| A50 | 100 | SAE A 2×Ø13.6 MountØ106.4, pilot Ø82.5×2.8, Port 7/8-14UNF, Drain Port 7/16-20UNF | S6 | C | Hengli blue | High temperature |
| A51 | 125 | SAE A 2×Ø13.6 MountØ106.4, pilot Ø82.5×2.8, Port 7/8-14UNF, Drain Port 7/16-20UNF | R2 | | | Low temperature |
| M01 | 160 | 4×13.5 Magneto Mount Ø106.4, pilot Ø82.5×2.7, Port G1/2, Drain Port G1/4 | R1 | | | |
| M02 | 200 | 4×13.5 Magneto Mount Ø106.4, pilot Ø82.5×2.7, Port 7/8-14UNF, Drain Port 7/16-20UNF | R8 | | | |
| M11 | 250 | 4×13.5 Magneto Mount Ø106.4, pilot Ø82.5×2.7, Port G1/2, Drain Port G1/4 | | | | |
| M12 | 315 | 4×13.5 Magneto Mount Ø106.4, pilot Ø82.5×2.7, Port 7/8-14UNF, Drain Port 7/16-20UNF | | | | |
| B22 | 375 | SAE B 2×Ø13.1 MountØ146.05, pilot Ø101.5×6.1 Port Ø10.8 hole, Drain Port 7/16-20UNF | | | | |
| F71 | | 4×3/8-16UNC Square Mount Ø82.55, pilot Ø44.4×2.5, Port 7/8-14UNF, Drain Port 7/16-20UNF | | | | |
| F72 | | 4×M10 Square Mount Ø82.55, pilot Ø44.4×2.5, Port 7/8-14UNF, Drain Port 7/16-20UNF | | | | |

T - 0038

Note: When using the order information, the user can select the motor series, displacement, installation flange, port, shaft and other information. If the selected specification is not in the table or has special requirements, please contact us.

