

HDB-M1 Component Sets

Differential Phasing Pancake Type Harmonic Gearing

Features

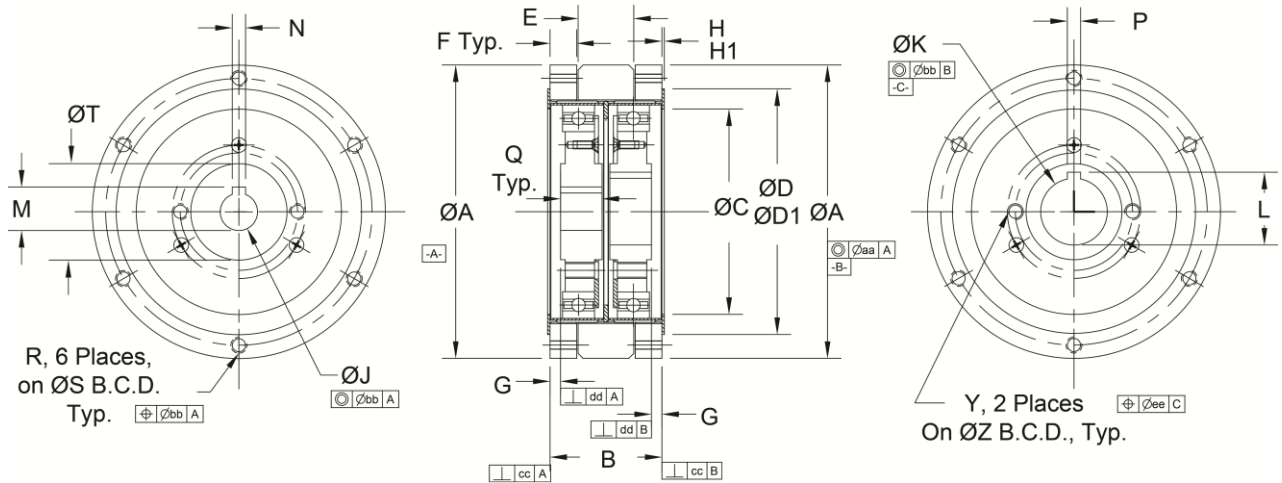
- 1:1 through ratio differential
- Developed for print registration or phase shifting applications
- Available as an enclosed shaft-mount gearbox
- Trim ratios of 50 to 200:1
- High positional accuracy with low velocity ripples offers excellent registration control
- Customizable



Standard Specifications

| Size | Ratio | Rated Speed rpm | Torque at Rated Speed | | Repeated Torque Limit | | Momentary Torque Limit | | Maximum Input Speed | |
|------|-------|--------------------|-----------------------|-------|-----------------------|-------|------------------------|-------|---------------------|--------|
| | | | Nm | in lb | Nm | in lb | Nm | in lb | Oil | Grease |
| 20 | 50 | 3000 | 10 | 89 | 20 | 177 | 25 | 221 | 5000 | 3500 |
| | 60 | | 12 | 106 | 24 | 212 | 30 | 266 | | |
| | 80 | | 15 | 133 | 30 | 266 | 38 | 332 | | |
| | 84 | | 15 | 133 | 30 | 266 | 38 | 332 | | |
| | 100 | | 18 | 159 | 36 | 319 | 45 | 398 | | |
| | 120 | | 20 | 177 | 40 | 354 | 50 | 443 | | |
| | 126 | | 20 | 177 | 40 | 354 | 50 | 443 | | |
| | 160 | | 20 | 177 | 40 | 354 | 50 | 443 | | |
| 25 | 50 | 3000 | 18 | 159 | 36 | 319 | 45 | 398 | 5000 | 3000 |
| | 60 | | 20 | 177 | 40 | 354 | 50 | 443 | | |
| | 80 | | 25 | 221 | 50 | 443 | 63 | 553 | | |
| | 100 | | 30 | 266 | 60 | 531 | 75 | 664 | | |
| | 120 | | 32 | 283 | 64 | 566 | 80 | 708 | | |
| | 150 | | 36 | 319 | 72 | 637 | 90 | 797 | | |
| | 160 | | 36 | 319 | 72 | 637 | 90 | 797 | | |
| | 200 | | 36 | 319 | 72 | 637 | 90 | 797 | | |
| 32 | 50 | 3000 | 40 | 354 | 80 | 708 | 100 | 885 | 4500 | 3000 |
| | 60 | | 45 | 398 | 90 | 797 | 113 | 996 | | |
| | 66 | | 45 | 398 | 90 | 797 | 113 | 996 | | |
| | 80 | | 55 | 487 | 110 | 974 | 138 | 1217 | | |
| | 100 | | 70 | 620 | 140 | 1239 | 175 | 1549 | | |
| | 135 | | 80 | 708 | 160 | 1416 | 200 | 1770 | | |
| | 160 | | 85 | 752 | 170 | 1505 | 213 | 1881 | | |
| | 200 | | 85 | 752 | 170 | 1505 | 213 | 1881 | | |
| 40 | 50 | 3000 | 75 | 664 | 150 | 1328 | 188 | 1660 | 4500 | 3000 |
| | 62 | | 85 | 752 | 170 | 1505 | 213 | 1881 | | |
| | 80 | | 100 | 885 | 200 | 1770 | 250 | 2213 | | |
| | 84 | | 100 | 885 | 200 | 1770 | 250 | 2213 | | |
| | 100 | | 120 | 1062 | 240 | 2124 | 300 | 2655 | | |
| | 120 | | 135 | 1195 | 270 | 2390 | 338 | 2987 | | |
| | 125 | | 135 | 1195 | 270 | 2390 | 338 | 2987 | | |
| | 160 | | 150 | 1328 | 300 | 2655 | 375 | 3319 | | |
| | 168 | | 150 | 1328 | 300 | 2655 | 375 | 3319 | | |
| | 200 | | 150 | 1328 | 300 | 2655 | 375 | 3319 | | |
| 50 | 50 | 3000 | 150 | 1328 | 300 | 2655 | 375 | 3319 | 3500 | 2500 |
| | 60 | | 160 | 1416 | 320 | 2832 | 400 | 3540 | | |
| | 80 | | 180 | 1593 | 360 | 3186 | 450 | 3983 | | |
| | 100 | | 220 | 1947 | 440 | 3894 | 550 | 4868 | | |
| | 120 | | 250 | 2213 | 500 | 4425 | 625 | 5532 | | |
| | 150 | | 280 | 2478 | 560 | 4956 | 700 | 6196 | | |
| | 160 | | 280 | 2478 | 560 | 4956 | 700 | 6196 | | |
| | 200 | | 280 | 2478 | 560 | 4956 | 700 | 6196 | | |

Dimensions



| | 20 | 25 | 32 | 40 | 50 |
|----------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| ØA | 70 ⁺⁰ _{-0.018} | 85 ⁺⁰ _{-0.022} | 110 ⁺⁰ _{-0.025} | 134 ⁺⁰ _{-0.025} | 170 ⁺⁰ _{-0.025} |
| B | 26.5 ^{+0.25} ₊₀ | 34.8 ^{+0.25} ₊₀ | 42 ^{+0.6} ₊₀ | 56.5 ^{+0.8} ₊₀ | 60.22 ^{+0.76} ₊₀ |
| ØC | 47 ±0.51 | 59 ±0.51 | 77 ±0.51 | 95 ±0.51 | 119 ±0.51 |
| ØD | 54 ±0.51 | 69.4 ±0.51 | 92.1 ±0.51 | 111.1 ±0.51 | 134.4 ±0.51 |
| ØD1 | 54.7 ^{+0.51} ₊₀ | 70.2 ^{+0.51} ₊₀ | 92.9 ^{+0.38} ₊₀ | 92.9 ^{+0.38} ₊₀ | 135.2 ^{+0.38} ₊₀ |
| E | 14 ±0.1 | 18 ±0.1 | 20.9 ±0.1 | 28 ±0.1 | 35 ±0.2 |
| F | 6 ±0.1 | 8 ±0.2 | 10 ±0.2 | 13 ±0.2 | 13 ±0.2 |
| G | 1.8 ±0.51 | 3.27 ±0.51 | 3.95 ±0.51 | 1.95 ±0.51 | 1.4 ±0.51 |
| H | 0.81 ±0.13 | 0.81 ±0.13 | 0.81 ±0.13 | 1.57 ±0.13 | 1.57 ±0.13 |
| H1 | 0.94 ^{+0.13} ₊₀ | 0.94 ^{+0.13} ₊₀ | 0.94 ^{+0.13} ₊₀ | 1.69 ^{+0.13} ₊₀ | 1.69 ^{+0.13} ₊₀ |
| ØJ | 9 ^{+0.15} ₊₀ | 11 ^{+0.18} ₊₀ | 14 ^{+0.02} _{-0.02} | 14 ^{+0.02} _{-0.02} | 19 ^{+0.02} _{-0.02} |
| ØK | 16 ^{+0.013} ₊₀ | 19 ^{+0.013} ₊₀ | 25 ^{+0.02} ₊₀ | 25 ^{+0.02} ₊₀ | 35 ^{+0.023} ₊₀ |
| L | 17.4 ±0.1 | 20.8 ±0.1 | 27.3 ±0.2 | 27.3 ±0.2 | 38.3 ±0.2 |
| M | 10.4 ^{+0.1} ₊₀ | 12.8 ^{+0.1} ₊₀ | 16.3 ^{+0.1} ₊₀ | 16.3 ^{+0.1} ₊₀ | 21.8 ^{+0.1} ₊₀ |
| N | 3 ±0.0125 | 4 ±0.013 | 5 ±0.013 | 5 ±0.013 | 6 ±0.013 |
| P | 3 ±0.0125 | 4 ±0.013 | 5 ±0.013 | 5 ±0.013 | 10 ±0.023 |
| Q | 11.4 | 12.8 | 15.6 | 19.4 | 23.2 |
| R | M4x0.7 | M5x0.8 | M6x1 | M8x1.25 | M10x1.5 |
| ØS | 60 | 75 | 100 | 120 | 150 |
| ØT | 20 | 28 | 36 | 32 | 50 |
| Y | M4x0.7 | M4x0.7 | M6x1 | M8x1.25 | M8x1.25 |
| ØZ | 27 | 35 | 44 | 48 | 65 |
| aa | 0.07 | 0.076 | 0.078 | 0.088 | 0.098 |
| bb | 0.013 | 0.015 | 0.015 | 0.018 | 0.02 |
| cc | 0.018 | 0.023 | 0.025 | 0.025 | 0.025 |
| dd | 0.01 | 0.013 | 0.013 | 0.013 | 0.015 |
| ee | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Weight kg (lb) | 0.7 (1.50) | 1.23 (2.70) | 2.14 (4.70) | 4.09 (9.00) | 6.9 (15.3) |

Ordering Codes

HDB-AAA-BBB-M1-CCCCC

Size: 020, 025, 032, 040, 050

Ratio: 080, 084, 100, 120, 125, 126, 135, 150, 160, 168, 200

Special Designator: by factory for non-standard units