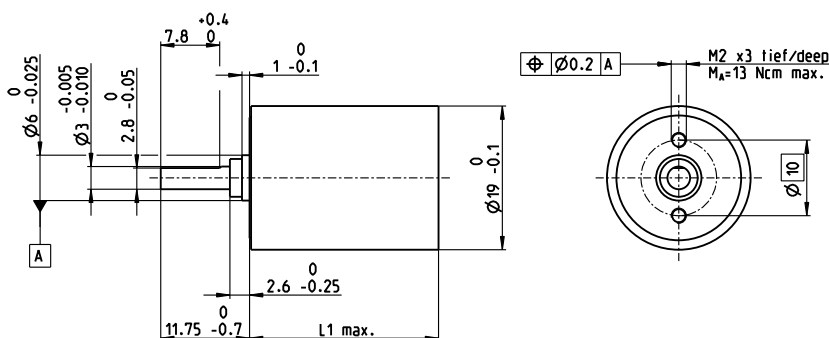


# Planetary Gearhead GP 19 B Ø19 mm, 0.1–0.3 Nm

gear



## Technical data

|                                        |                           |
|----------------------------------------|---------------------------|
| Planetary Gearhead                     | straight teeth            |
| Output shaft                           | stainless steel, hardened |
| Bearing at output                      | sleeve bearing            |
| Radial play, 6 mm from flange          | max. 0.08 mm              |
| Axial play                             | 0.02–0.12 mm              |
| Max. axial load (dynamic)              | 8 N                       |
| Max. force for press fits              | 100 N                     |
| Direction of rotation, drive to output | =                         |
| Max. continuous input speed            | 8000 rpm                  |
| Recommended temperature range          | –30...+100°C              |
| Extended range as option               | –40...+100°C              |
| Number of stages                       | 1 2 3 4 5                 |
| Max. radial load, 6 mm from flange     | 8 N 12 N 16 N 20 N 20 N   |

- Stock program
- Standard program
- Special program (on request)

## Part numbers

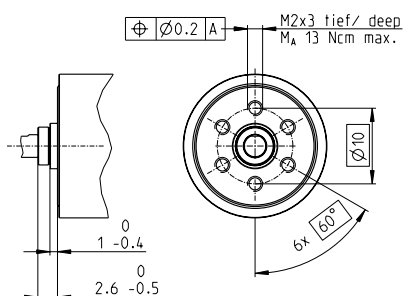
| Gearhead data                             | 149039                | 149041        | 149044        | 149047        | 149048         | 149051           | 149053           | 149056         |
|-------------------------------------------|-----------------------|---------------|---------------|---------------|----------------|------------------|------------------|----------------|
| 1 Reduction                               | 4.4:1                 | 19:1          | 84:1          | 157:1         | 370:1          | 690:1            | 1621:1           | 3027:1         |
| 2 Absolute reduction                      | 57/13                 | 3249/169      | 185193/2197   | 19683/125     | 10556001/28561 | 1121931/1625     | 601692057/371293 | 63950067/21125 |
| 3 Max. motor shaft diameter               | mm 2                  | 2             | 2             | 1.5           | 2              | 2                | 2                | 2              |
| <b>Part numbers</b>                       | <b>149040</b>         | <b>149042</b> | <b>149045</b> | <b>149049</b> | <b>149052</b>  | <b>149054</b>    | <b>149057</b>    | <b>149058</b>  |
| 1 Reduction                               | 5.4:1                 | 24:1          | 104:1         | 455:1         | 850:1          | 1996:1           | 3728:1           |                |
| 2 Absolute reduction                      | 27/5                  | 1539/65       | 87723/845     | 5000211/10985 | 531441/625     | 285012027/142805 | 30292137/6125    |                |
| 3 Max. motor shaft diameter               | mm 1.5                | 2             | 2             | 2             | 1.5            | 2                | 2                |                |
| <b>Part numbers</b>                       |                       | <b>149043</b> | <b>149046</b> | <b>149050</b> |                | <b>149055</b>    | <b>149058</b>    |                |
| 1 Reduction                               |                       | 29:1          | 128:1         | 561:1         |                | 2458:1           | 4592:1           |                |
| 2 Absolute reduction                      |                       | 729/25        | 41553/325     | 2368522/4225  |                | 135005697/54925  | 14348907/3125    |                |
| 3 Max. motor shaft diameter               | mm                    | 1.5           | 2             | 2             |                | 2                | 1.5              |                |
| 4 Number of stages                        | 1                     | 2             | 3             | 3             | 4              | 4                | 5                | 5              |
| 5 Max. continuous torque                  | Nm 0.10               | 0.15          | 0.20          | 0.20          | 0.25           | 0.25             | 0.30             | 0.30           |
| 6 Max. intermittent torque at gear output | Nm 0.150              | 0.225         | 0.300         | 0.300         | 0.375          | 0.375            | 0.450            | 0.450          |
| 7 Max. efficiency                         | % 90                  | 81            | 73            | 73            | 65             | 65               | 59               | 59             |
| 8 Weight                                  | g 26                  | 31            | 36            | 36            | 41             | 41               | 46               | 46             |
| 9 Average backlash no load                | ° 1.4                 | 1.6           | 2.0           | 2.0           | 2.4            | 2.4              | 3.0              | 3.0            |
| 10 Mass inertia                           | gcm <sup>2</sup> 0.07 | 0.05          | 0.05          | 0.05          | 0.05           | 0.05             | 0.05             | 0.05           |
| 11 Gearhead length L1                     | mm 15.9               | 19.5          | 23.1          | 23.1          | 26.7           | 26.7             | 30.3             | 30.3           |



## Modular system

| + Motor         | Page    | + Sensor/Brake | Page | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |      |      |      |      |      |      |      |
|-----------------|---------|----------------|------|----------------------------------------------------------------------------------------|------|------|------|------|------|------|------|
| A-max 19        | 175–176 |                |      | 44.9                                                                                   | 48.5 | 52.1 | 52.1 | 55.7 | 55.7 | 59.3 | 59.3 |
| A-max 19, 1.5 W | 176     | ENX 13 GAMA    | 498  | 52.4                                                                                   | 56.0 | 59.6 | 59.6 | 63.2 | 63.2 | 66.8 | 66.8 |
| A-max 19, 1.5 W | 176     | ENX 19 IMR     | 503  | 50.0                                                                                   | 53.6 | 57.2 | 57.2 | 60.8 | 60.8 | 64.4 | 64.4 |
| A-max 19, 1.5 W | 176     | MR             | 533  | 50.0                                                                                   | 53.6 | 57.2 | 57.2 | 60.8 | 60.8 | 64.4 | 64.4 |
| A-max 19, 2.5 W | 177–178 |                |      | 47.5                                                                                   | 51.1 | 54.7 | 54.7 | 58.3 | 58.3 | 61.9 | 61.9 |
| A-max 19, 2.5 W | 178     | ENX 13 GAMA    | 498  | 55.0                                                                                   | 58.6 | 62.2 | 62.2 | 65.8 | 65.8 | 69.4 | 69.4 |
| A-max 19, 2.5 W | 178     | ENX 19 IMR     | 503  | 51.8                                                                                   | 55.4 | 59.0 | 59.0 | 62.6 | 62.6 | 66.2 | 66.2 |
| A-max 19, 2.5 W | 178     | MR             | 533  | 51.8                                                                                   | 55.4 | 59.0 | 59.0 | 62.6 | 62.6 | 66.2 | 66.2 |

## Option ball bearing



## Part numbers

|       |        |        |        |
|-------|--------|--------|--------|
| 4.4:1 | 227632 | 455:1  | 227642 |
| 5.4:1 | 227633 | 561:1  | 227643 |
| 19:1  | 227634 | 690:1  | 227644 |
| 24:1  | 227635 | 850:1  | 227645 |
| 29:1  | 227636 | 1621:1 | 227646 |
| 84:1  | 227637 | 1996:1 | 227647 |
| 104:1 | 227638 | 2458:1 | 227648 |
| 128:1 | 227639 | 3027:1 | 227649 |
| 157:1 | 227640 | 3728:1 | 227650 |
| 370:1 | 227641 | 4592:1 | 227651 |

## Technical data

|                                                     |                           |
|-----------------------------------------------------|---------------------------|
| Planetary Gearhead                                  | straight teeth            |
| Output shaft                                        | stainless steel, hardened |
| Bearing at output                                   | preloaded ball bearings   |
| Radial play, 6 mm from flange                       | max. 0.08 mm              |
| Axial play at axial load                            | < 4 N 0 mm                |
|                                                     | > 4 N max. 0.05 mm        |
| Max. axial load (dynamic)                           | 8 N                       |
| Max. force for press fits                           | 25 N                      |
| Direction of rotation, drive to output              | =                         |
| Max. continuous input speed                         | 8000 rpm                  |
| Recommended temperature range                       | –40...+100°C              |
| Number of stages                                    | 1 2 3 4 5                 |
| Max. radial load, 6 mm from flange                  | 10 N 15 N 20 N 20 N 20 N  |
| Gearhead values according to sleeve bearing version |                           |