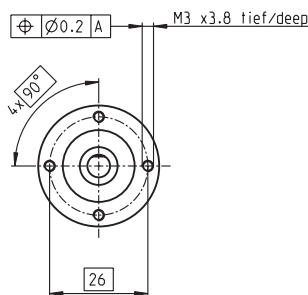
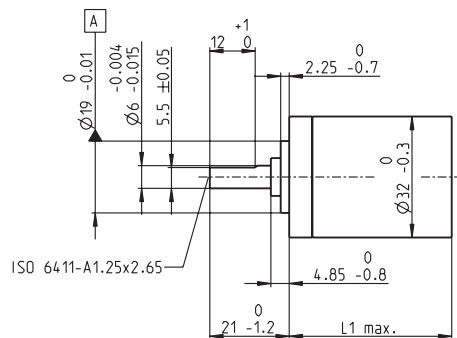


# Planetary Gearhead GP 32 A Ø32 mm, 0.75–4.5 Nm



M 1:2

## Technical Data

|  |                              |
|--|------------------------------|
| Planetary Gearhead                     | straight teeth               |
| Output shaft                           | stainless steel              |
| Shaft diameter as option               | 8 mm                         |
| Bearing at output                      | ball bearing                 |
| Radial play, 5 mm from flange          | max. 0.14 mm                 |
| Axial play                             | max. 0.4 mm                  |
| Max. axial load (dynamic)              | 120 N                        |
| Max. force for press fits              | 120 N                        |
| Direction of rotation, drive to output | =                            |
| Max. continuous input speed            | 6000 rpm                     |
| Recommended temperature range          | -40...+100°C                 |
| Number of stages                       | 1 2 3 4 5                    |
| Max. radial load, 10 mm from flange    | 90 N 140 N 200 N 220 N 220 N |

Option: Low-noise version

maxon gear

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

## Part Numbers

### Gearhead Data

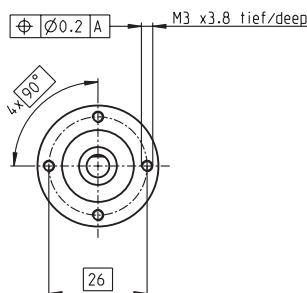
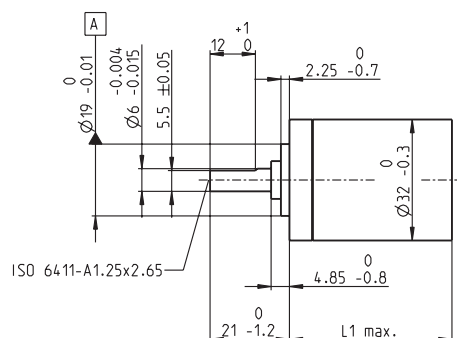
|   | 166155           | 166158        | 166163 | 166164        | 166169        | 166174        | 166179        | 166184        | 166187        | 166192        | 166197        | 166202        |
|---|------------------|---------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 Reduction                               | 3.7:1            | 14:1          | 33:1   | 51:1          | 111:1         | 246:1         | 492:1         | 762:1         | 1181:1        | 1972:1        | 2829:1        | 4380:1        |
| 2 Absolute reduction                      | 26/7             | 676/49        | 529/16 | 17576/343     | 13824/125     | 421824/1715   | 86112/175     | 19044/25      | 10123776/8575 | 8626176/4375  | 495144/175    | 109503/25     |
| 3 Max. motor shaft diameter               | mm 6             | 6             | 3      | 6             | 4             | 4             | 3             | 3             | 4             | 4             | 3             | 3             |
| <b>Part Numbers</b>                       | <b>166156</b>    | <b>166159</b> |        | <b>166165</b> | <b>166170</b> | <b>166175</b> | <b>166180</b> | <b>166185</b> | <b>166188</b> | <b>166193</b> | <b>166198</b> | <b>166203</b> |
| 1 Reduction                               | 4.8:1            | 18:1          |        | 66:1          | 123:1         | 295:1         | 531:1         | 913:1         | 1414:1        | 2189:1        | 3052:1        | 5247:1        |
| 2 Absolute reduction                      | 24/5             | 624/35        |        | 16224/245     | 6877/56       | 101062/343    | 331776/625    | 36501/40      | 2425488/1715  | 536406/245    | 1907712/625   | 839523/160    |
| 3 Max. motor shaft diameter               | mm 4             | 4             |        | 4             | 3             | 3             | 4             | 3             | 3             | 3             | 3             | 3             |
| <b>Part Numbers</b>                       | <b>166157</b>    | <b>166160</b> |        | <b>166166</b> | <b>166171</b> | <b>166176</b> | <b>166181</b> | <b>166186</b> | <b>166189</b> | <b>166194</b> | <b>166199</b> | <b>166204</b> |
| 1 Reduction                               | 5.8:1            | 21:1          |        | 79:1          | 132:1         | 318:1         | 589:1         | 1093:1        | 1526:1        | 2362:1        | 3389:1        | 6285:1        |
| 2 Absolute reduction                      | 23/4             | 299/14        |        | 3887/49       | 3312/25       | 389376/1225   | 20631/35      | 279841/256    | 9345024/6125  | 2066688/875   | 474513/140    | 643634/1024   |
| 3 Max. motor shaft diameter               | mm 3             | 3             |        | 3             | 3             | 4             | 3             | 3             | 4             | 3             | 3             | 3             |
| <b>Part Numbers</b>                       |                  | <b>166161</b> |        | <b>166167</b> | <b>166172</b> | <b>166177</b> | <b>166182</b> |               | <b>166190</b> | <b>166195</b> | <b>166200</b> |               |
| 1 Reduction                               |                  | 23:1          |        | 86:1          | 159:1         | 411:1         | 636:1         |               | 1694:1        | 2548:1        | 3656:1        |               |
| 2 Absolute reduction                      |                  | 576/25        |        | 14976/175     | 1587/10       | 359424/875    | 79488/125     |               | 1162213/686   | 7962624/3125  | 457056/125    |               |
| 3 Max. motor shaft diameter               |                  | mm 4          |        | 4             | 3             | 4             | 3             |               | 3             | 4             | 3             |               |
| <b>Part Numbers</b>                       |                  | <b>166162</b> |        | <b>166168</b> | <b>166173</b> | <b>166178</b> | <b>166183</b> |               | <b>166191</b> | <b>166196</b> | <b>166201</b> |               |
| 1 Reduction                               |                  | 28:1          |        | 103:1         | 190:1         | 456:1         | 706:1         |               | 1828:1        | 2623:1        | 4060:1        |               |
| 2 Absolute reduction                      |                  | 138/5         |        | 3588/35       | 12167/64      | 89401/96      | 158171/224    |               | 2238912/1225  | 2056223/784   | 3637933/896   |               |
| 3 Max. motor shaft diameter               |                  | mm 3          |        | 3             | 3             | 3             | 3             |               | 3             | 3             | 3             |               |
| 4 Number of stages                        |                  | 1             | 2      | 3             | 3             | 4             | 4             | 4             | 5             | 5             | 5             | 5             |
| 5 Max. continuous torque                  | Nm               | 0.75          | 2.25   | 2.25          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          |
| 6 Max. intermittent torque at gear output | Nm               | 1.1           | 3.4    | 3.4           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           |
| 7 Max. efficiency                         | %                | 80            | 75     | 75            | 70            | 70            | 60            | 60            | 60            | 50            | 50            | 50            |
| 8 Weight                                  | g                | 118           | 162    | 162           | 194           | 194           | 226           | 226           | 258           | 258           | 258           | 258           |
| 9 Average backlash no load                | °                | 0.7           | 0.8    | 0.8           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           |
| 10 Mass inertia                           | gcm <sup>2</sup> | 1.5           | 0.8    | 0.8           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           |
| 11 Gearhead length L1                     | mm               | 26.5          | 36.4   | 36.4          | 43.1          | 43.1          | 49.8          | 49.8          | 49.8          | 56.5          | 56.5          | 56.5          |



## maxon Modular System

| + Motor     | Page    | + Sensor/Brake  | Page    | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |       |       |       |       |       |       |       |       |       |
|-------------|---------|-----------------|---------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RE 25       | 179/181 |                 |         | 81.1   | 91.0  | 91.0  | 97.7  | 97.7  | 104.4 | 104.4 | 104.4 | 111.1 | 111.1 |
| RE 25       | 179/181 | MR              | 392     | 92.1   | 102.0 | 102.0 | 108.7 | 108.7 | 115.4 | 115.4 | 115.4 | 122.1 | 122.1 |
| RE 25       | 179/181 | Enc 22          | 398     | 95.2   | 105.1 | 105.1 | 111.8 | 111.8 | 118.5 | 118.5 | 118.5 | 125.2 | 125.2 |
| RE 25       | 179/181 | HED_ 5540       | 399/401 | 101.9  | 111.8 | 111.8 | 118.5 | 118.5 | 125.2 | 125.2 | 125.2 | 131.9 | 131.9 |
| RE 25       | 179/181 | DCT 22          | 411     | 103.4  | 113.3 | 113.3 | 120.0 | 120.0 | 126.7 | 126.7 | 126.7 | 133.4 | 133.4 |
| RE 25, 20 W | 180     |                 |         | 69.6   | 79.5  | 79.5  | 86.2  | 86.2  | 92.9  | 92.9  | 92.9  | 99.6  | 99.6  |
| RE 25, 20 W | 180     | MR              | 392     | 80.6   | 90.5  | 90.5  | 97.2  | 97.2  | 103.9 | 103.9 | 103.9 | 110.6 | 110.6 |
| RE 25, 20 W | 180     | HED_ 5540       | 400/403 | 90.4   | 100.3 | 100.3 | 107.0 | 107.0 | 113.7 | 113.7 | 113.7 | 120.4 | 120.4 |
| RE 25, 20 W | 180     | DCT22           | 411     | 91.9   | 101.8 | 101.8 | 108.5 | 108.5 | 115.2 | 115.2 | 115.2 | 121.9 | 121.9 |
| RE 25, 20 W | 180     | AB 28           | 446     | 103.7  | 113.6 | 113.6 | 120.3 | 120.3 | 127.0 | 127.0 | 127.0 | 133.7 | 133.7 |
| RE 25, 20 W | 180     | HED_ 5540/AB 28 | 400/446 | 120.9  | 130.8 | 130.8 | 137.5 | 137.5 | 144.2 | 144.2 | 144.2 | 150.9 | 150.9 |
| RE 25, 20 W | 181     | AB 28           | 446     | 115.2  | 125.1 | 125.1 | 131.8 | 131.8 | 138.5 | 138.5 | 138.5 | 145.2 | 145.2 |
| RE 25, 20 W | 181     | HED_ 5540/AB 28 | 399/446 | 132.4  | 142.3 | 142.3 | 149.0 | 149.0 | 155.7 | 155.7 | 155.7 | 162.4 | 162.4 |
| A-max 26    | 205-212 |                 |         | 71.3   | 81.2  | 81.2  | 87.9  | 87.9  | 94.6  | 94.6  | 94.6  | 101.3 | 101.3 |
| A-max 26    | 206-212 | MEnc 13         | 410     | 78.4   | 88.3  | 88.3  | 95.0  | 95.0  | 101.7 | 101.7 | 101.7 | 108.4 | 108.4 |
| A-max 26    | 206-212 | MR              | 392     | 80.1   | 90.0  | 90.0  | 96.7  | 96.7  | 103.4 | 103.4 | 103.4 | 110.1 | 110.1 |
| A-max 26    | 206-212 | Enc 22          | 398     | 85.7   | 95.6  | 95.6  | 102.3 | 102.3 | 109.0 | 109.0 | 109.0 | 115.7 | 115.7 |
| A-max 26    | 206-212 | HED_ 5540       | 400/402 | 89.7   | 99.6  | 99.6  | 106.3 | 106.3 | 113.0 | 113.0 | 113.0 | 119.7 | 119.7 |
| RE-max 29   | 227-230 |                 |         | 71.3   | 81.2  | 81.2  | 87.9  | 87.9  | 94.6  | 94.6  | 94.6  | 101.3 | 101.3 |
| RE-max 29   | 228/230 | MR              | 392     | 80.1   | 90.0  | 90.0  | 96.7  | 96.7  | 103.4 | 103.4 | 103.4 | 110.1 | 110.1 |

# Planetary Gearhead GP 32 A Ø32 mm, 0.75–4.5 Nm



M 1:2

## Technical Data

|  |                              |
|--|------------------------------|
| Planetary Gearhead                     | straight teeth               |
| Output shaft                           | stainless steel              |
| Shaft diameter as option               | 8 mm                         |
| Bearing at output                      | ball bearing                 |
| Radial play, 5 mm from flange          | max. 0.14 mm                 |
| Axial play                             | max. 0.4 mm                  |
| Max. axial load (dynamic)              | 120 N                        |
| Max. force for press fits              | 120 N                        |
| Direction of rotation, drive to output | =                            |
| Max. continuous input speed            | 6000 rpm                     |
| Recommended temperature range          | -40...+100°C                 |
| Number of stages                       | 1 2 3 4 5                    |
| Max. radial load, 10 mm from flange    | 90 N 140 N 200 N 220 N 220 N |

Option: Low-noise version

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

## Part Numbers

### Gearhead Data

|   | 166155               | 166158    | 166163    | 166164     | 166169     | 166174       | 166179       | 166184       | 166187        | 166192       | 166197       | 166202    |
|---|----------------------|-----------|-----------|------------|------------|--------------|--------------|--------------|---------------|--------------|--------------|-----------|
| 1 Reduction                               | 3.7:1                | 14:1      | 33:1      | 51:1       | 111:1      | 246:1        | 492:1        | 762:1        | 1181:1        | 1972:1       | 2829:1       | 4380:1    |
| 2 Absolute reduction                      | 26/7                 | 676/49    | 529/16    | 17576/343  | 13824/125  | 421824/1715  | 86112/175    | 19044/25     | 10123776/8575 | 8626176/4375 | 495144/175   | 109503/25 |
| 3 Max. motor shaft diameter               | 6 mm                 | 6         | 3         | 6          | 4          | 4            | 3            | 3            | 4             | 4            | 3            | 3         |
| Part Numbers                              | 166156               | 166159    | 166165    | 166170     | 166175     | 166180       | 166185       | 166188       | 166193        | 166198       | 166203       |           |
| 1 Reduction                               | 4.8:1                | 18:1      | 66:1      | 123:1      | 295:1      | 531:1        | 913:1        | 1414:1       | 2189:1        | 3052:1       | 5247:1       |           |
| 2 Absolute reduction                      | 24/5                 | 624/35    | 16224/245 | 6877/56    | 101062/343 | 331776/625   | 36501/40     | 2425488/1715 | 536406/245    | 1907712/625  | 839523/160   |           |
| 3 Max. motor shaft diameter               | 4 mm                 | 4         | 4         | 3          | 3          | 4            | 3            | 3            | 3             | 3            | 3            |           |
| Part Numbers                              | 166157               | 166160    | 166166    | 166171     | 166176     | 166181       | 166186       | 166189       | 166194        | 166199       | 166204       |           |
| 1 Reduction                               | 5.8:1                | 21:1      | 79:1      | 132:1      | 318:1      | 589:1        | 1093:1       | 1526:1       | 2362:1        | 3389:1       | 6285:1       |           |
| 2 Absolute reduction                      | 23/4                 | 299/14    | 3887/49   | 3312/25    | 38976/1225 | 2063/35      | 27984/256    | 9345024/6125 | 2066688/875   | 474513/140   | 6436343/1024 |           |
| 3 Max. motor shaft diameter               | 3 mm                 | 3         | 3         | 3          | 4          | 3            | 3            | 4            | 3             | 3            | 3            |           |
| Part Numbers                              | 166161               | 166167    | 166172    | 166177     | 166182     | 166190       | 166195       | 166200       |               |              |              |           |
| 1 Reduction                               | 23:1                 | 86:1      | 159:1     | 411:1      | 636:1      | 1694:1       | 2548:1       | 3656:1       |               |              |              |           |
| 2 Absolute reduction                      | 576/25               | 14976/175 | 1587/10   | 359424/875 | 79488/125  | 1162213/686  | 7962624/3125 | 457056/125   |               |              |              |           |
| 3 Max. motor shaft diameter               | 4 mm                 | 4         | 3         | 4          | 3          | 3            | 4            | 3            |               |              |              |           |
| Part Numbers                              | 166162               | 166168    | 166173    | 166178     | 166183     | 166191       | 166196       | 166201       |               |              |              |           |
| 1 Reduction                               | 28:1                 | 103:1     | 190:1     | 456:1      | 706:1      | 1828:1       | 2623:1       | 4060:1       |               |              |              |           |
| 2 Absolute reduction                      | 138/5                | 3588/35   | 12167/64  | 89401/196  | 15817/224  | 2238912/1225 | 2056223/784  | 3637933/896  |               |              |              |           |
| 3 Max. motor shaft diameter               | 3 mm                 | 3         | 3         | 3          | 3          | 3            | 3            | 3            |               |              |              |           |
| 4 Number of stages                        | 1                    | 2         | 2         | 3          | 3          | 4            | 4            | 5            | 5             | 5            | 5            |           |
| 5 Max. continuous torque                  | 0.75 Nm              | 2.25      | 2.25      | 4.50       | 4.50       | 4.50         | 4.50         | 4.50         | 4.50          | 4.50         | 4.50         |           |
| 6 Max. intermittent torque at gear output | 1.1 Nm               | 3.4       | 3.4       | 6.5        | 6.5        | 6.5          | 6.5          | 6.5          | 6.5           | 6.5          | 6.5          |           |
| 7 Max. efficiency                         | 80 %                 | 75        | 75        | 70         | 70         | 60           | 60           | 60           | 50            | 50           | 50           |           |
| 8 Weight                                  | 118 g                | 162       | 162       | 194        | 194        | 226          | 226          | 258          | 258           | 258          | 258          |           |
| 9 Average backlash no load                | 0.7 °                | 0.8       | 0.8       | 1.0        | 1.0        | 1.0          | 1.0          | 1.0          | 1.0           | 1.0          | 1.0          |           |
| 10 Mass inertia                           | 1.5 gcm <sup>2</sup> | 0.8       | 0.8       | 0.7        | 0.7        | 0.7          | 0.7          | 0.7          | 0.7           | 0.7          | 0.7          |           |
| 11 Gearhead length L1*                    | 26.5 mm              | 36.4      | 36.4      | 43.1       | 43.1       | 49.8         | 49.8         | 49.8         | 56.5          | 56.5         | 56.5         |           |

\*for EC 32 flat L1 is + 2.0 mm



## maxon Modular System

| + Motor               | Page    | + Sensor/Brake  | Page    | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |       |       |       |       |       |       |       |       |       |
|-----------------------|---------|-----------------|---------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RE 30, 15 W           | 182     |                 |         | 94.6   | 104.5 | 104.5 | 111.2 | 111.2 | 117.9 | 117.9 | 117.9 | 124.6 | 124.6 |
| RE 30, 15 W           | 182     | MR              | 393     | 106.0  | 115.9 | 115.9 | 122.6 | 122.6 | 129.3 | 129.3 | 129.3 | 136.0 | 136.0 |
| RE 30, 15 W           | 182     | HED_ 5540       | 399/401 | 115.4  | 125.3 | 125.3 | 132.0 | 132.0 | 138.7 | 138.7 | 138.7 | 145.4 | 145.4 |
| RE 30, 60 W           | 183     |                 |         | 94.6   | 104.5 | 104.5 | 111.2 | 111.2 | 117.9 | 117.9 | 117.9 | 124.6 | 124.6 |
| RE 30, 60 W           | 183     | MR              | 393     | 106.0  | 115.9 | 115.9 | 122.6 | 122.6 | 129.3 | 129.3 | 129.3 | 136.0 | 136.0 |
| RE 30, 60 W           | 183     | HED_ 5540       | 399/401 | 115.4  | 125.3 | 125.3 | 132.0 | 132.0 | 138.7 | 138.7 | 138.7 | 145.4 | 145.4 |
| RE 35, 90 W           | 184     |                 |         | 97.6   | 107.5 | 107.5 | 114.2 | 114.2 | 120.9 | 120.9 | 120.9 | 127.6 | 127.6 |
| RE 35, 90 W           | 184     | MR              | 393     | 109.0  | 118.9 | 118.9 | 125.6 | 125.6 | 132.3 | 132.3 | 132.3 | 139.0 | 139.0 |
| RE 35, 90 W           | 184     | HED_ 5540       | 399/401 | 118.3  | 128.2 | 128.2 | 134.9 | 134.9 | 141.6 | 141.6 | 141.6 | 148.3 | 148.3 |
| RE 35, 90 W           | 184     | DCT 22          | 411     | 115.7  | 125.6 | 125.6 | 132.3 | 132.3 | 139.0 | 139.0 | 139.0 | 145.7 | 145.7 |
| RE 35, 90 W           | 184     | AB 28           | 446     | 133.7  | 143.6 | 143.6 | 150.3 | 150.3 | 157.0 | 157.0 | 157.0 | 163.7 | 163.7 |
| RE 35, 90 W           | 184     | HEDS 5540/AB 28 | 399/446 | 150.9  | 160.8 | 160.8 | 167.5 | 167.5 | 174.2 | 174.2 | 174.2 | 180.9 | 180.9 |
| A-max 32              | 213/215 |                 |         | 89.5   | 99.4  | 99.4  | 106.1 | 106.1 | 112.8 | 112.8 | 112.8 | 119.5 | 119.5 |
| A-max 32              | 214/216 |                 |         | 88.1   | 98.0  | 98.0  | 104.7 | 104.7 | 111.4 | 111.4 | 111.4 | 118.1 | 118.1 |
| A-max 32              | 214/216 | MR              | 393     | 99.3   | 109.2 | 109.2 | 115.9 | 115.9 | 122.6 | 122.6 | 122.6 | 129.3 | 129.3 |
| A-max 32              | 214/216 | HED_ 5540       | 400/402 | 108.9  | 118.8 | 118.8 | 125.5 | 125.5 | 132.2 | 132.2 | 132.2 | 138.9 | 138.9 |
| EC 32, 80 W           | 251     |                 |         | 86.6   | 96.5  | 96.5  | 103.2 | 103.2 | 109.9 | 109.9 | 109.9 | 116.6 | 116.6 |
| EC 32, 80 W           | 251     | HED_ 5540       | 400/403 | 105.0  | 114.9 | 114.9 | 121.6 | 121.6 | 128.3 | 128.3 | 128.3 | 135.0 | 135.0 |
| EC 32, 80 W           | 251     | Res 26          | 412     | 106.7  | 116.6 | 116.6 | 123.3 | 123.3 | 130.0 | 130.0 | 130.0 | 136.7 | 136.7 |
| EC 32 flat, 15 W      | 296     |                 |         | 44.5   | 54.4  | 54.4  | 61.1  | 61.1  | 67.8  | 67.8  | 67.8  | 74.5  | 74.5  |
| EC 32 flat, IE, IP 00 | 297     |                 |         | 54.6   | 64.5  | 64.5  | 71.2  | 71.2  | 77.9  | 77.9  | 77.9  | 84.6  | 84.6  |
| EC 32 flat, IE, IP 40 | 297     |                 |         | 56.3   | 66.2  | 66.2  | 72.9  | 72.9  | 79.6  | 79.6  | 79.6  | 86.3  | 86.3  |