

Micro Planetary Gearheads

0,88 mNm

For combination with
Brushless DC-Motors


Series 03A

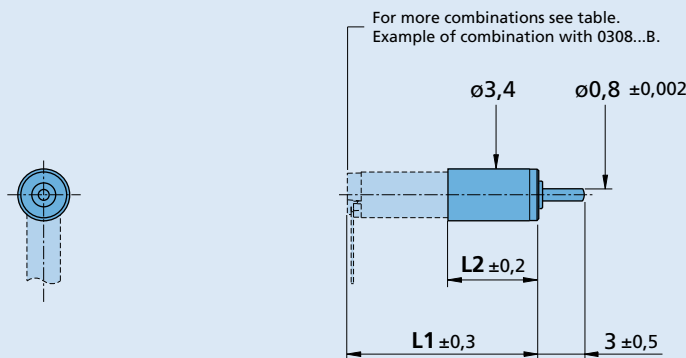
| | 03A |
|---|--------------------------|
| Housing material | plastic |
| Geartrain material | steel |
| Recommended max. input speed for: – continuous operation | 15 000 min ⁻¹ |
| Backlash, at no-load | ≤ 4 ° |
| Bearings on output shaft | bronze |
| Shaft load, max.: | |
| – radial (2 mm from mounting face) | ≤ 0,1 N |
| – axial | ≤ 0,2 N |
| Shaft press fit force, max. | ≤ 1 N |
| Shaft play | |
| – radial (2 mm from mounting face) | ≤ 0,07 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 60 °C |

Specifications

| | 2 | 3 |
|--|----------|-------|
| Number of gear stages | | |
| Continuous torque | mNm 0,28 | 0,88 |
| Intermittent torque | mNm 0,42 | 1,32 |
| Mass without motor, ca. | g 0,2 | 0,18 |
| Efficiency, max. | - | - |
| Direction of rotation, drive to output | = | = |
| Reduction ratio (exact) | 25:1 | 125:1 |
| L2 [mm] = length without motor | 6,0 | 6,0 |
| L1 [mm] = length with motor 0308A...B | 12,6 | 12,6 |

Note: These gearheads are available only with motors mounted.

Scale enlarged 



03A

Linear Actuators

2,8 N

For combination with
Brushless DC-Motors


Series 03A S3

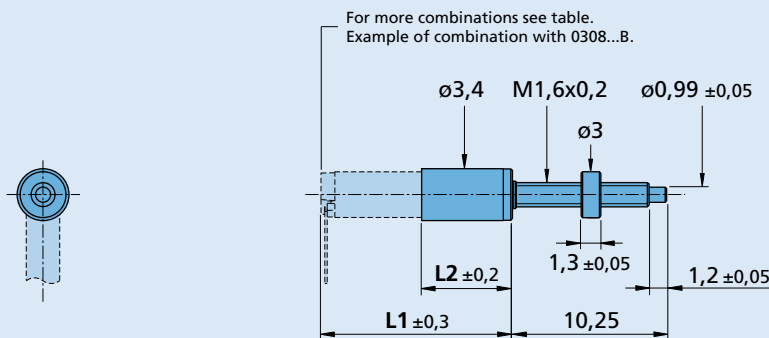
| | 03A S3 |
|---------------------------------------|--------------------------|
| Housing material | plastic |
| Geartrain material | steel |
| Screw material | steel |
| Nut material | bronze |
| Recommended max. input speed for: | |
| – continuous operation | 15 000 min ⁻¹ |
| Max. linear travel | 7 mm |
| Bearings on output shaft | bronze |
| Shaft play (2 mm from mounting face): | |
| – radial | ≤ 0,07 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 60 °C |

Specifications

| | 2 | 3 |
|--|------------|-------|
| Number of gear stages | | |
| Push force, continuous | N 0,47 | 2,8 |
| Push force, intermittent | N 0,7 | 4,2 |
| Weight without motor, ca. | g 0,36 | 0,34 |
| Max. speed | mm/min 120 | 24 |
| Direction of rotation, drive to output | = | = |
| Reduction ratio (exact) | 25:1 | 125:1 |
| L2 [mm] = length without motor | 6,0 | 6,0 |
| L1 [mm] = length with motor 0308A...B | 12,6 | 12,6 |

Note: These gearheads are available only with motors mounted.
Capability of pushing/pulling the nut requires a bearing at the end of the shaft.

Scale enlarged 



03A S3

Micro Planetary Gearheads

25 mNm

For combination with
Brushless DC-Motors


Series 06A

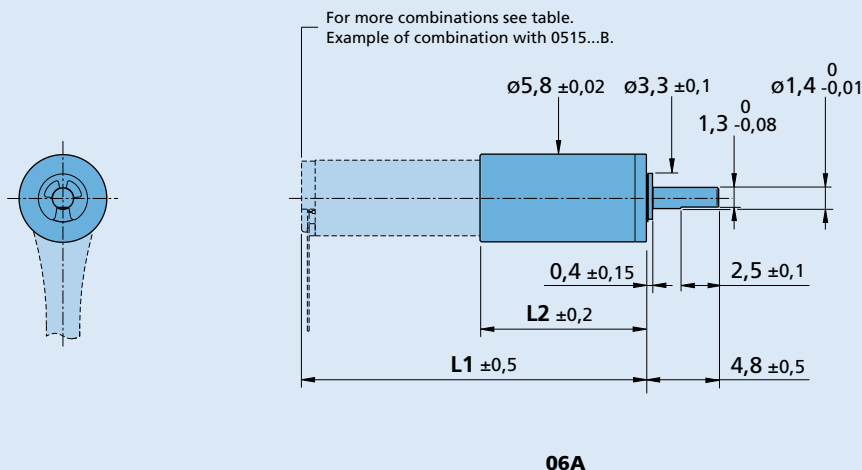
| | 06A |
|---|--------------------------|
| Housing material | plastic |
| Geartrain material | bronze |
| Recommended max. input speed for: – continuous operation | 15 000 min ⁻¹ |
| Backlash, at no-load | ≤ 4 ° |
| Bearings on output shaft | bronze |
| Shaft load, max.: | |
| – radial (3 mm from mounting face) | ≤ 0,3 N |
| – axial | ≤ 0,5 N |
| Shaft press fit force, max. | ≤ 2 N |
| Shaft play | |
| – radial (3 mm from mounting face) | ≤ 0,05 mm |
| – axial | ≤ 0,1 mm |
| Operating temperature range | - 20 ... + 60 °C |

Specifications

| | 2 | 3 | 3 |
|--|---------|-------|-------|
| Number of gear stages | 2 | 3 | 3 |
| Continuous torque | mNm 1,2 | 6 | 25 |
| Intermittent torque | mNm 1,8 | 9 | 37,5 |
| Mass without motor, ca. | g 1,24 | 1,32 | 1,4 |
| Efficiency, max. | - | - | - |
| Direction of rotation, drive to output | = | = | = |
| Reduction ratio (exact) | 25:1 | 125:1 | 625:1 |
| L2 [mm] = length without motor | 11,0 | 11,0 | 12,7 |
| L1 [mm] = length with motor 0515A...B | 22,8 | 22,8 | 24,5 |

Note: These gearheads are available only with motors mounted.

Scale enlarged 



For combination with
Brushless DC-Motors


Series 06A S2

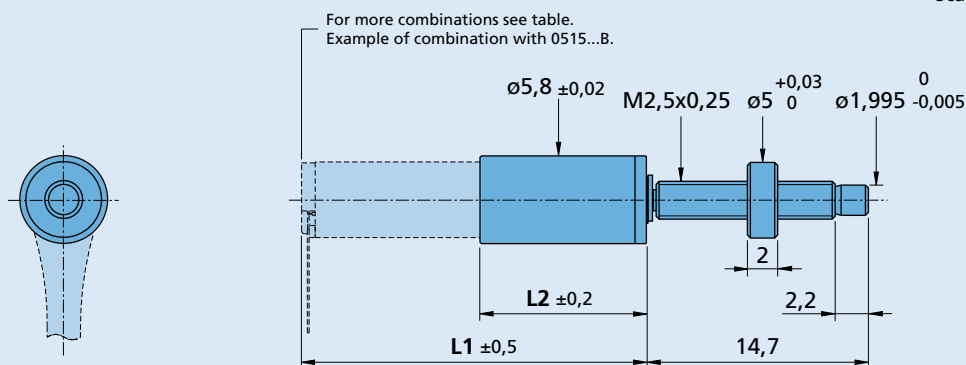
| | 06A S2 |
|---------------------------------------|--------------------------|
| Housing material | plastic |
| Geartrain material | bronze |
| Screw material | steel |
| Nut material | bronze |
| Recommended max. input speed for: | |
| – continuous operation | 15 000 min ⁻¹ |
| Max. linear travel | 12 mm |
| Bearings on output shaft | bronze |
| Shaft play (3 mm from mounting face): | |
| – radial | ≤ 0,05 mm |
| – axial | ≤ 0,1 mm |
| Operating temperature range | - 20 ... + 60 °C |

Specifications

| | 2 | 3 | 4 |
|--|------------|-------|-------|
| Number of gear stages | | | |
| Push force, continuous | N 1,6 | 15,7 | 41,2 |
| Push force, intermittent | N 2,4 | 23,6 | 61,8 |
| Weight without motor, ca. | g 1,79 | 1,92 | 2,05 |
| Max. speed | mm/min 150 | 30 | 6 |
| Direction of rotation, drive to output | = | = | = |
| Reduction ratio (exact) | 25:1 | 125:1 | 625:1 |
| L2 [mm] = length without motor | 11,0 | 11,0 | 12,7 |
| L1 [mm] = length with motor 0515A...B | 22,8 | 22,8 | 24,5 |

Note: These gearheads are available only with motors mounted.
Capability of pushing/pulling the nut requires a bearing at the end of the shaft.

Scale enlarged 



06A S2

Planetary Gearheads

25 mNm

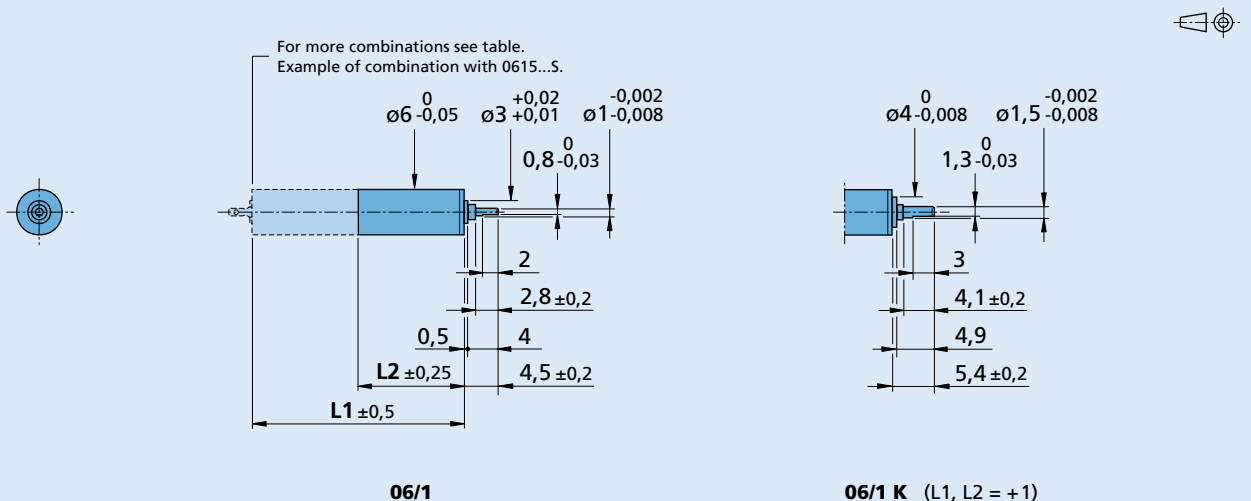
For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 06/1

| | 06/1 | 06/1K |
|--------------------------------------|-------------------------|-------------------------|
| Housing material | steel | steel |
| Geartrain material | steel | steel |
| Recommended max. input speed for: | | |
| – continuous operation | 8 000 min ⁻¹ | 8 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3 ° | ≤ 3 ° |
| Bearings on output shaft | sintered bearings | ball bearings |
| Shaft load, max.: | | |
| – radial (3,5 mm from mounting face) | ≤ 0,5 N | ≤ 5 N |
| – axial | ≤ 0,5 N | ≤ 3 N |
| Shaft press fit force, max. | ≤ 3,5 N | ≤ 5 N |
| Shaft play | | |
| – radial (3,5 mm from mounting face) | ≤ 0,06 mm | ≤ 0,06 mm |
| – axial | ≤ 0,1 mm | ≤ 0,05 mm |
| Operating temperature range | - 30 ... + 100 °C | - 30 ... + 100 °C |

Specifications

| | | 1 | 2 | 3 | 4 | 5 | 6 |
|--|---------------|------|------|------|-------|---------|---------|
| Number of gear stages | | | | | | | |
| Continuous torque | mNm | 25 | 25 | 25 | 25 | 25 | 25 |
| Intermittent torque | mNm | 35 | 35 | 35 | 35 | 35 | 35 |
| Mass without motor, ca. | g | 2 | 2,8 | 3,4 | 4 | 4,4 | 5 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 55 | 48 |
| Direction of rotation, drive to output | | = | = | = | = | = | = |
| Reduction ratio (exact) | | 4:1 | 16:1 | 64:1 | 256:1 | 1 024:1 | 4 096:1 |
| L2 [mm] = length without motor | | 9,2 | 11,9 | 14,6 | 17,3 | 20,0 | 22,7 |
| L1 [mm] = length with motor | 0615C...S | 24,2 | 26,9 | 29,6 | 32,3 | 35,0 | 37,7 |
| | 0515C...B | 23,8 | 26,5 | 29,2 | 31,9 | 34,6 | 37,3 |
| | 0620C...B | 29,2 | 31,9 | 34,6 | 37,3 | 40,0 | 42,7 |
| | FDM0620...-35 | 18,7 | 21,4 | 24,1 | 26,8 | 29,5 | 32,2 |



Planetary Gearheads

60 mNm

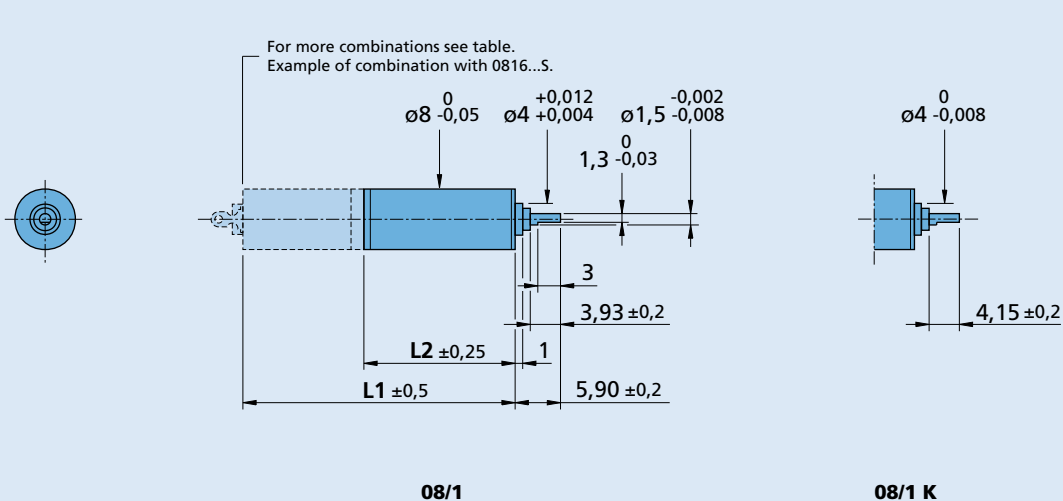
For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 08/1

| | 08/1 | 08/1K |
|--------------------------------------|-------------------------|-------------------------|
| Housing material | metal | metal |
| Geartrain material | steel | steel |
| Recommended max. input speed for: | | |
| – continuous operation | 8 000 min ⁻¹ | 8 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3 ° | ≤ 3 ° |
| Bearings on output shaft | sintered bearings | ball bearings |
| Shaft load, max.: | | |
| – radial (4,5 mm from mounting face) | ≤ 0,8 N | ≤ 5 N |
| – axial | ≤ 1 N | ≤ 3 N |
| Shaft press fit force, max. | ≤ 5 N | ≤ 5 N |
| Shaft play | | |
| – radial (4,5 mm from mounting face) | ≤ 0,06 mm | ≤ 0,06 mm |
| – axial | ≤ 0,1 mm | ≤ 0,05 mm |
| Operating temperature range | - 30 ... + 100 °C | - 30 ... + 100 °C |

Specifications

| | | 1 | 2 | 3 | 4 | 5 | 6 |
|--|--------------|------|------|------|-------|---------|---------|
| Number of gear stages | | | | | | | |
| Continuous torque | mNm | 60 | 60 | 60 | 60 | 60 | 60 |
| Intermittent torque | mNm | 120 | 120 | 120 | 120 | 120 | 120 |
| Mass without motor, ca. | g | 2,9 | 3,8 | 4,6 | 5,4 | 6,3 | 7,1 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 55 | 48 |
| Direction of rotation, drive to output | | = | = | = | = | = | = |
| Reduction ratio (exact) | | 4:1 | 16:1 | 64:1 | 256:1 | 1 024:1 | 4 096:1 |
| L2 [mm] = length without motor | | 9,6 | 12,3 | 15,0 | 17,7 | 20,4 | 23,1 |
| L1 [mm] = length with motor | | | | | | | |
| | 0816P...SR | 25,5 | 28,2 | 30,9 | 33,6 | 36,3 | 39,0 |
| | 0824P...B | 33,7 | 36,4 | 39,1 | 41,8 | 44,5 | 47,2 |
| | AM0820...-08 | 23,4 | 26,1 | 28,8 | 31,5 | 34,2 | 36,9 |



Planetary Gearheads

0,1 Nm

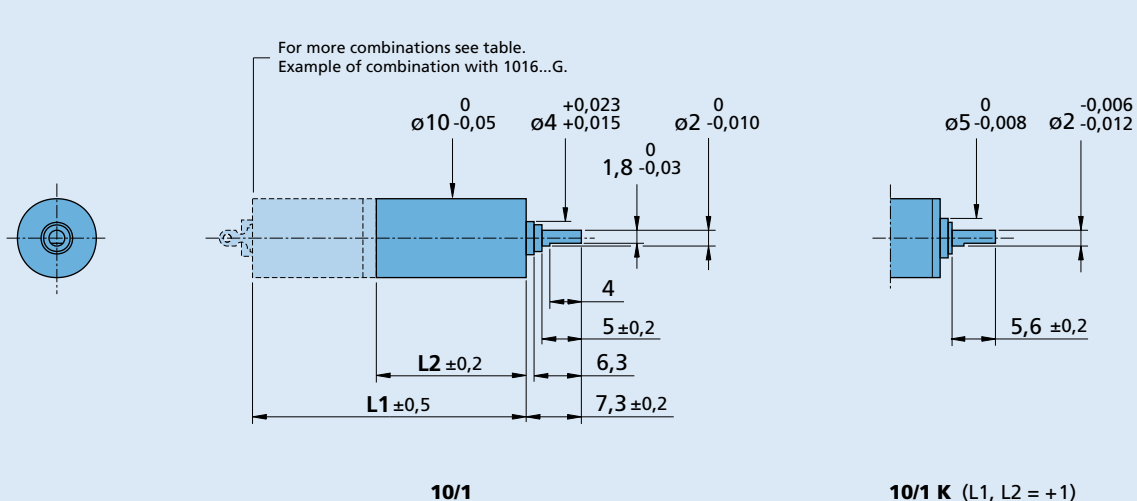
For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 10/1

| | 10/1 | 10/1K |
|------------------------------------|-------------------------|--------------------------|
| Housing material | metal | metal |
| Geartrain material | steel | steel |
| Recommended max. input speed for: | | |
| – continuous operation | 5 000 min ⁻¹ | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3 ° | ≤ 3 ° |
| Bearings on output shaft | sintered bearings | ball bearings, preloaded |
| Shaft load, max.: | | |
| – radial (5 mm from mounting face) | ≤ 1 N | ≤ 7 N |
| – axial | ≤ 2 N | ≤ 5 N |
| Shaft press fit force, max. | ≤ 10 N | ≤ 5 N |
| Shaft play | | |
| – radial (5 mm from mounting face) | ≤ 0,06 mm | ≤ 0,04 mm |
| – axial | ≤ 0,1 mm | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C | - 30 ... + 100 °C |

Specifications

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----------------|------|------|------|-------|---------|
| Number of gear stages | | | | | | |
| Continuous torque | mNm | 5 | 15 | 54 | 100 | 100 |
| Intermittent torque | mNm | 200 | 200 | 200 | 200 | 200 |
| Mass without motor, ca. | g | 6 | 7 | 8 | 10 | 11 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = |
| Reduction ratio (exact) | | 4:1 | 16:1 | 64:1 | 256:1 | 1 024:1 |
| | | | | | | 4 096:1 |
| L2 [mm] = length without motor | | 9,7 | 12,8 | 15,9 | 19,0 | 22,1 |
| L1 [mm] = length with motor | | | | | | |
| | 0816M...SR | 25,6 | 28,7 | 31,8 | 34,9 | 38,0 |
| | 1016M...G | 25,4 | 28,5 | 31,6 | 34,7 | 37,8 |
| | 1024M...S | 33,4 | 36,5 | 39,6 | 42,7 | 45,8 |
| | 1219M...G | 28,4 | 31,5 | 34,6 | 37,7 | 40,8 |
| | 1224M...SR | 33,9 | 37,0 | 40,1 | 43,2 | 46,3 |
| | 0824M...B | 33,8 | 36,9 | 40,0 | 43,1 | 46,2 |
| | 1028M...B | 37,8 | 40,9 | 44,0 | 47,1 | 50,2 |
| | 1218M...B | 27,7 | 30,8 | 33,9 | 37,0 | 40,1 |
| | 1226M...B | 35,7 | 38,8 | 41,9 | 45,0 | 48,1 |
| | ADM1220S...-55 | 27,1 | 30,2 | 33,3 | 36,4 | 39,5 |
| | AM0820...-10 | 23,5 | 26,6 | 29,7 | 32,8 | 35,9 |
| | AM1020...-08 | 25,6 | 28,7 | 31,8 | 34,9 | 38,0 |



Planetary Gearheads

0,3 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

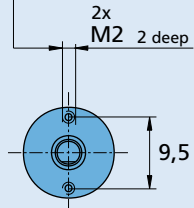
Series 12/4

| | 12/4 | 12/4K |
|------------------------------------|-------------------------|--------------------------|
| Housing material | metal | metal |
| Geartrain material | metal | metal |
| Recommended max. input speed for: | | |
| – continuous operation | 5 000 min ⁻¹ | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3 ° | ≤ 3 ° |
| Bearings on output shaft | sintered bearings | ball bearings, preloaded |
| Shaft load, max.: | | |
| – radial (6 mm from mounting face) | ≤ 4 N | ≤ 20 N |
| – axial | ≤ 3 N | ≤ 5 N |
| Shaft press fit force, max. | ≤ 15 N | ≤ 5 N |
| Shaft play | | |
| – radial (6 mm from mounting face) | ≤ 0,05 mm | ≤ 0,04 mm |
| – axial | ≤ 0,1 mm | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C | - 30 ... + 100 °C |

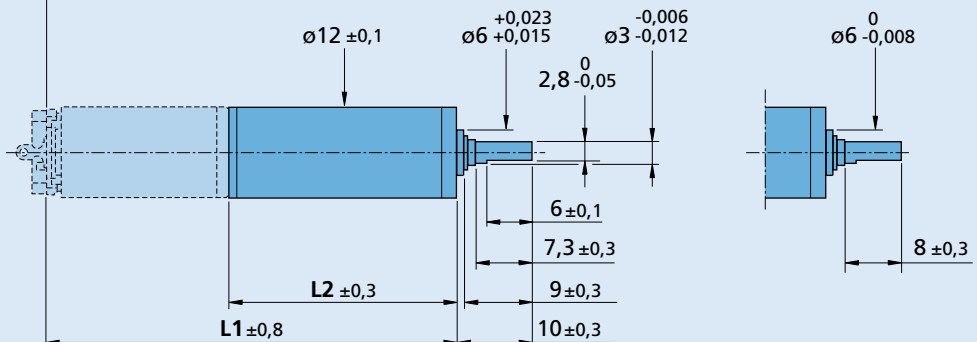
Specifications

| | | 1 | 2 | 3 | 4 | 5 |
|--|---------------|------|------|------|-------|---------|
| Number of gear stages | | | | | | |
| Continuous torque | mNm | 300 | 300 | 300 | 300 | 300 |
| Intermittent torque | mNm | 450 | 450 | 450 | 450 | 450 |
| Mass without motor, ca. | g | 12 | 15 | 18 | 21 | 24 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = |
| Reduction ratio (exact) | | 4:1 | 16:1 | 64:1 | 256:1 | 1 024:1 |
| L2 [mm] = length without motor | | 15,1 | 19,7 | 24,3 | 28,9 | 33,5 |
| L1 [mm] = length with motor | | | | | | |
| | 1024A...S | 38,8 | 43,4 | 48,0 | 52,6 | 57,2 |
| | 1224A...SR | 39,3 | 43,9 | 48,5 | 53,1 | 57,7 |
| | 1028A...B | 43,2 | 47,8 | 52,4 | 57,0 | 61,6 |
| | 1218A...B | 33,1 | 37,7 | 42,3 | 46,9 | 51,5 |
| | 1226A...B | 41,1 | 45,7 | 50,3 | 54,9 | 59,5 |
| | ADM1220S...59 | 32,5 | 37,1 | 41,7 | 46,3 | 50,9 |

Orientation with respect to motor terminals not defined



For more combinations see table.
Example of combination with 1224...SR.



12/4

12/4 K

Planetary Gearheads

0,18 Nm

For combination with
DC-Micromotors

Series 13A

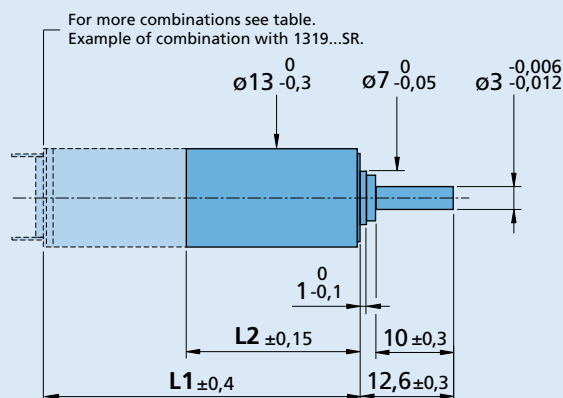
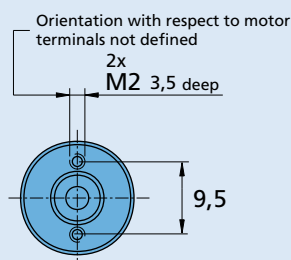
| | 13A | 13AC | 13AK |
|------------------------------------|-------------------------|-------------------------|-------------------------|
| Housing material | plastic/aluminium | plastic/aluminium | plastic/aluminium |
| Geartrain material | plastic | plastic | plastic |
| Recommended max. input speed for: | | | |
| – continuous operation | 5 000 min ⁻¹ | 5 000 min ⁻¹ | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 4 ° | ≤ 4 ° | ≤ 4 ° |
| Bearings on output shaft | sintered bearings | ceramic bearings | ball bearings |
| Shaft load, max.: | | | |
| – radial (5 mm from mounting face) | ≤ 3 N | ≤ 10 N | ≤ 15 N |
| – axial | ≤ 1 N | ≤ 2 N | ≤ 5 N |
| Shaft press fit force, max. | ≤ 10 N | ≤ 10 N | ≤ 10 N |
| Shaft play | | | |
| – radial (5 mm from mounting face) | ≤ 0,06 mm | ≤ 0,08 mm | ≤ 0,09 mm |
| – axial | ≤ 0,25 mm | ≤ 0,25 mm | ≤ 0,25 mm |
| Operating temperature range | - 30 ... + 65 °C | - 20 ... + 85 °C | - 30 ... + 85 °C |

Specifications

| | | 2 | 3 | 4 | 5 |
|--|-----|------|--------------|-------------------------|------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | mNm | 100 | 100 | 150 | 180 |
| Intermittent torque | mNm | 150 | 150 | 180 | 220 |
| Mass without motor, ca. | g | 5 | 5 | 5 | 6 |
| Efficiency, max. | % | 80 | 72 | 64 | 55 |
| Direction of rotation, drive to output | | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 16:1 | 50:1 64:1 | 158:1 201:1 256:1 | 497:1 632:1 805:1 1 024:1 |
| L2 [mm] = length without motor | | 18,8 | 22,0 | 25,2 | 28,4 |
| L1 [mm] = length with motor | | | | | |
| 1319C...SR | | 38,0 | 41,2 | 44,4 | 47,6 |
| 1331C...SR | | 50,0 | 53,2 | 56,4 | 59,6 |
| 1336C...CXR | | 53,8 | 57,0 | 60,2 | 63,4 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

Note: These gearheads are available only with motors mounted.
Vibrational load of up to 5 g at frequencies up to 500 Hz will not limit the function of the motor-gearhead combinations.



13A, 13AC, 13AK

Planetary Gearheads

0,3 Nm

For combination with
DC-Micromotors

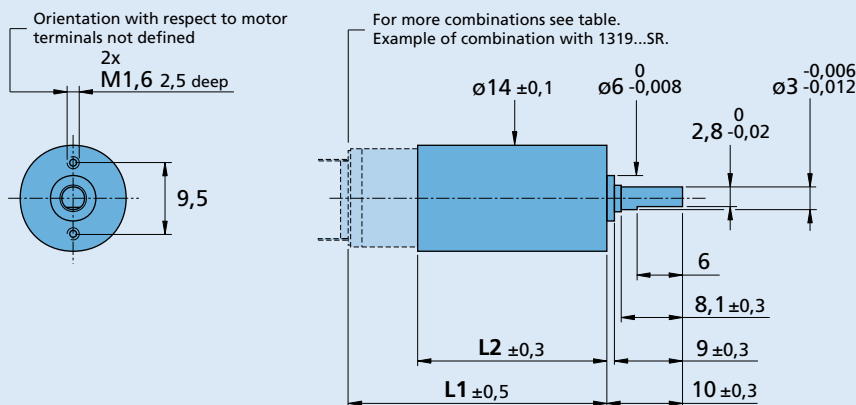
Series 14/1

| | 14/1 |
|--------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (6,5 mm from mounting face) | ≤ 20 N |
| – axial | ≤ 5 N |
| Shaft press fit force, max. | ≤ 15 N |
| Shaft play | |
| – radial (6,5 mm from mounting face) | ≤ 0,04 mm |
| – axial | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C |

Specifications

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|---------|---------------|--------------|---|------------------------------------|-------------------------------|
| Number of gear stages | | | | | | |
| Continuous torque | mNm 200 | 300 | 300 | 300 | 300 | 300 |
| Intermittent torque | mNm 300 | 450 | 450 | 450 | 450 | 450 |
| Mass without motor, ca. | g 17 | 20 | 24 | 27 | 30 | 34 |
| Efficiency, max. | % 90 | 80 | 70 | 60 | 55 | 50 |
| Direction of rotation, drive to output | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 3,71:1 | 9,7:1 14:1 | 43:1 66:1 | 94:1 112:1 134:1 159:1 190:1 246:1 | 415:1 592:1 989:1 1 526:1 | 2 608:1 4 365:1 5 647:1 |
| L2 [mm] = length without motor | 20,9 | 25,0 | 29,2 | 33,3 | 37,4 | 41,5 |
| L1 [mm] = length with motor | | | | | | |
| 1319T...SR | 34,1 | 38,2 | 42,4 | 46,5 | 50,6 | 54,7 |
| 1331T...SR | 46,1 | 50,2 | 54,4 | 58,5 | 62,6 | 66,7 |
| 1336U...CXR | 50,9 | 55,0 | 59,2 | 63,3 | 67,4 | 71,5 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



14/1

Planetary Gearheads

0,25 Nm

For combination with
DC-Micromotors
Stepper Motors

Series 15A

| | 15A | 15AC | 15AK |
|------------------------------------|-------------------------|-------------------------|-------------------------|
| Housing material | plastic | plastic | plastic |
| Geartrain material | plastic | plastic | plastic |
| Recommended max. input speed for: | | | |
| – continuous operation | 5 000 min ⁻¹ | 5 000 min ⁻¹ | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 4° | ≤ 4° | ≤ 4° |
| Bearings on output shaft | sintered bearings | ceramic bearings | ball bearings |
| Shaft load, max.: | | | |
| – radial (5 mm from mounting face) | ≤ 3 N | ≤ 10 N | ≤ 15 N |
| – axial | ≤ 1 N | ≤ 2 N | ≤ 5 N |
| Shaft press fit force, max. | ≤ 10 N | ≤ 10 N | ≤ 10 N |
| Shaft play | | | |
| – radial (5 mm from mounting face) | ≤ 0,06 mm | ≤ 0,08 mm | ≤ 0,09 mm |
| – axial | ≤ 0,25 mm | ≤ 0,25 mm | ≤ 0,25 mm |
| Operating temperature range | - 30 ... + 65 °C | - 20 ... + 85 °C | - 30 ... + 85 °C |

Specifications

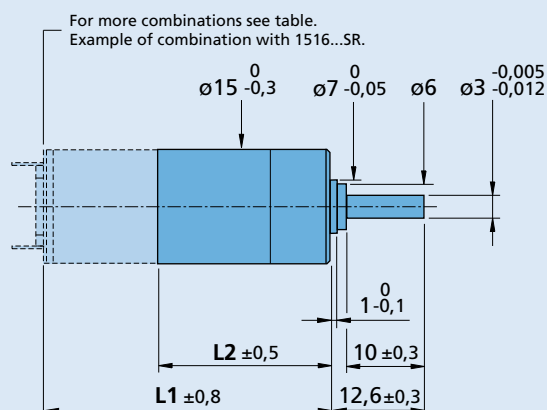
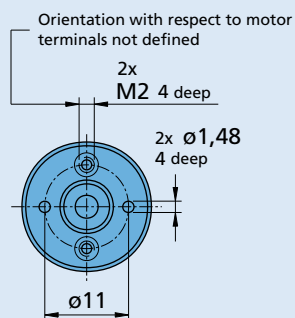
| | | 1 | 2 | 3 | 3 | 4 | 5 | 5 | 6 |
|--|----------------------|--------|--------------|--------------|-------|-------------------------|--------------------|--------------------|--|
| Number of gear stages | | | | | | | | | |
| Continuous torque | mNm | 50 | 100 | 100 | 150 | 200 | 200 | 250 | 250 |
| Intermittent torque | mNm | 100 | 200 | 200 | 300 | 400 | 400 | 400 | 400 |
| Mass without motor, ca. | g | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 |
| Efficiency, max. | % | 87 | 78 | 68 | 67 | 62 | 55 | 52 | 49 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | Code B ²⁾ | | 14:1 19:1 | 52:1 69:1 | | 249:1 | 896:1 | | 3 225:1 |
| | Code A ²⁾ | 5,33:1 | 28:1 | 102:1 | 152:1 | 369:1 546:1 809:1 | 1 327:1 1 966:1 | 2 913:1 4 315:1 | 4 778:1 7 078:1 10 486:1 15 534:1 23 014:1 |
| L2 [mm] = length without motor ³⁾ | | 14,1 | 17,7 | 21,3 | 21,3 | 24,9 | 28,5 | 28,5 | 32,1 |
| L1 [mm] = length with motor | 1516A/B...SR | 29,9 | 33,5 | 37,1 | 37,1 | 40,7 | 44,3 | 44,3 | 47,9 |
| | 1524A/B...SR | 37,9 | 41,5 | 45,1 | 45,1 | 48,7 | 52,3 | 52,3 | 55,9 |
| | 1624A/B...S | 37,9 | 41,5 | 45,1 | 45,1 | 48,7 | 52,3 | 52,3 | 55,9 |
| | 1717A/B...SR | 31,1 | 34,7 | 38,3 | 38,3 | 41,9 | 45,5 | 45,5 | 49,1 |
| | 1724A/B...SR | 38,1 | 41,7 | 45,3 | 45,3 | 48,9 | 52,5 | 52,5 | 56,1 |
| | AM1524...-70 | 30,5 | 34,1 | 37,7 | 37,7 | 41,3 | 44,9 | 44,9 | 48,5 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ Example of ordering information: 1516 B 012 SR + 15A 19:1, not for AM1524.

³⁾ L2 + 0,7 mm, in combination with 1516A/B...SR and 1524A/B...SR.

Note: These gearheads are available only with motors mounted.



15A, 15AC, 15AK

Planetary Gearheads

0,35 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

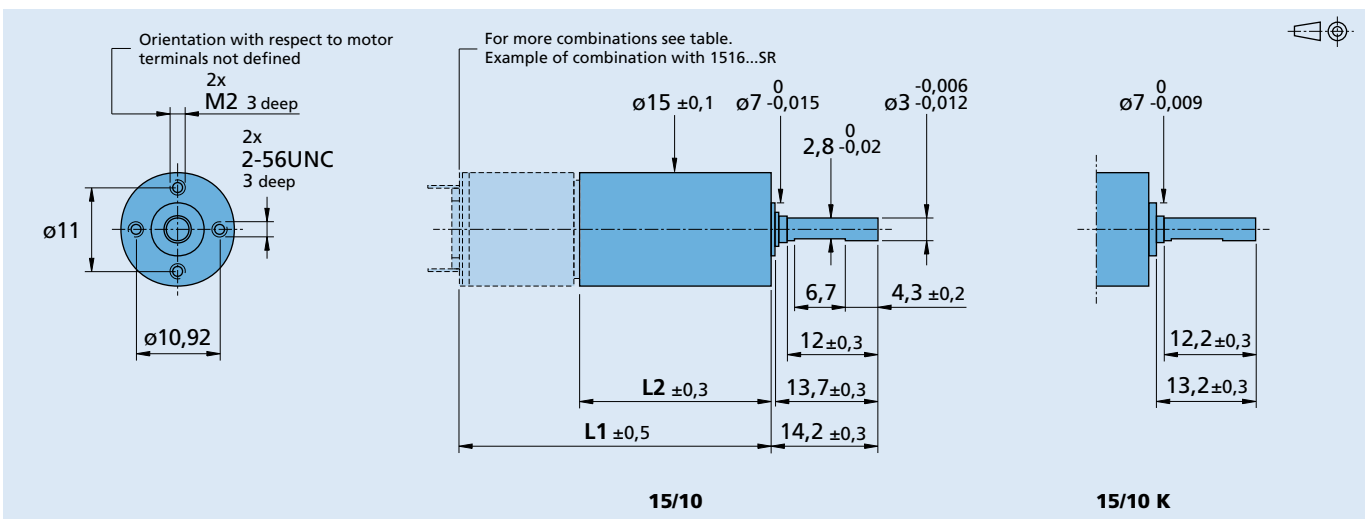
Series 15/10

| | 15/10 | 15/10K |
|---|-------------------------|--------------------------|
| Housing material | stainless steel | stainless steel |
| Geartrain material | steel | steel |
| Recommended max. input speed for: – continuous operation | 6 000 min ⁻¹ | 6 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1,5 ° | ≤ 1,5 ° |
| Bearings on output shaft | sintered bearings | ball bearings, preloaded |
| Shaft load, max.: | | |
| – radial (6,5 mm from mounting face) | ≤ 4 N | ≤ 30 N |
| – axial | ≤ 3 N | ≤ 5 N |
| Shaft press fit force, max. | ≤ 100 N | ≤ 25 N |
| Shaft play | | |
| – radial (6,5 mm from mounting face) | ≤ 0,05 mm | ≤ 0,03 mm |
| – axial | ≤ 0,1 mm | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C | - 30 ... + 100 °C |

Specifications

| | | 1 | 2 | 3 | 4 | 5 |
|--|-----|-----------------|----------------------|--|---|---|
| Number of gear stages | | | | | | |
| Continuous torque | mNm | 350 | 350 | 350 | 350 | 350 |
| Intermittent torque | mNm | 500 | 500 | 500 | 500 | 500 |
| Mass without motor, ca. | g | 19 | 23 | 27 | 31 | 35 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 50 |
| Direction of rotation, drive to output | | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 3,33:1 4,5:1 | 11:1 15:1 20:1 | 37:1 44:1 50:1 68:1 81:1 91:1 | 123:1 148:1 167:1 178:1 200:1 240:1 270:1 304:1 365:1 | 412:1 494:1 593:1 667:1 750:1 800:1 900:1 1 013:1 1 367:1 |
| L2 [mm] = length without motor | | 17,1 | 21,3 | 25,4 | 29,5 | 33,6 |
| L1 [mm] = length with motor | | | | | | |
| 1516T...SR | | 32,9 | 37,1 | 41,2 | 45,3 | 49,4 |
| 1524T...SR | | 40,9 | 45,1 | 49,2 | 53,3 | 57,4 |
| 1624T...S | | 40,9 | 45,1 | 49,2 | 53,3 | 57,4 |
| 1717T...SR | | 34,1 | 38,3 | 42,4 | 46,5 | 50,6 |
| 1724T...SR | | 41,1 | 45,3 | 49,4 | 53,5 | 57,6 |
| 1727U...CXR | | 44,3 | 48,5 | 52,6 | 56,7 | 60,8 |
| 1741U...CXR | | 58,3 | 62,5 | 66,6 | 70,7 | 74,8 |
| 1628T...B | | 45,1 | 49,3 | 53,4 | 57,5 | 61,6 |
| AM1524...-55 | | 33,5 | 37,7 | 41,8 | 45,9 | 50,0 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



Planetary Gearheads

0,3 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

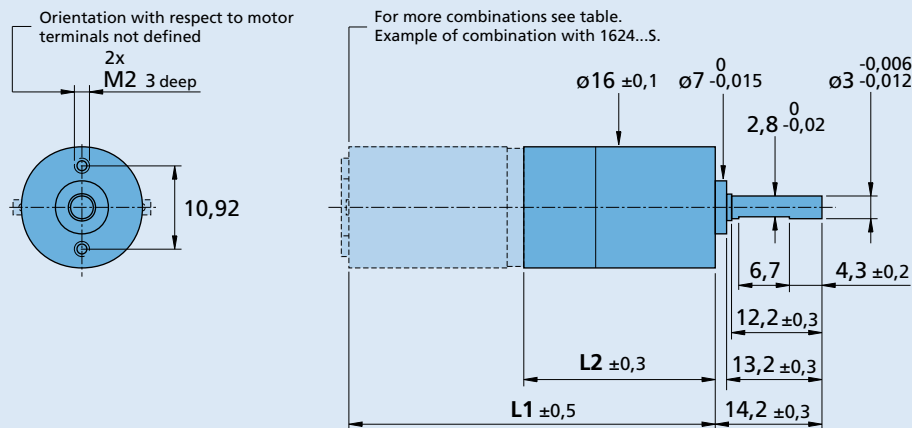
Series 16/7

| | 16/7 |
|--------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (6,5 mm from mounting face) | ≤ 30 N |
| – axial | ≤ 5 N |
| Shaft press fit force, max. | ≤ 25 N |
| Shaft play | |
| – radial (6,5 mm from mounting face) | ≤ 0,03 mm |
| – axial | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C |

Specifications

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--|-----|--------|---------------|--------------|---|------------------------------------|
| Number of gear stages | | | | | | |
| Continuous torque | mNm | 200 | 300 | 300 | 300 | 300 |
| Intermittent torque | mNm | 300 | 450 | 450 | 450 | 450 |
| Mass without motor, ca. | g | 18 | 23 | 28 | 33 | 38 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 3,71:1 | 9,7:1 14:1 | 43:1 66:1 | 94:1 112:1 134:1 159:1 190:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor | | 17,0 | 21,2 | 25,3 | 29,4 | 33,5 |
| L1 [mm] = length with motor | | | | | | |
| 1516T...SR | | 32,8 | 37,0 | 41,1 | 45,2 | 49,3 |
| 1524T...SR | | 40,8 | 45,0 | 49,1 | 53,2 | 57,3 |
| 1624T...S | | 40,8 | 45,0 | 49,1 | 53,2 | 57,3 |
| 1717T...SR | | 34,0 | 38,2 | 42,3 | 46,4 | 50,5 |
| 1724T...SR | | 41,0 | 45,2 | 49,3 | 53,4 | 57,5 |
| 1727U...CXR | | 44,2 | 48,4 | 52,5 | 56,6 | 60,7 |
| 1741U...CXR | | 58,2 | 62,4 | 66,5 | 70,6 | 74,7 |
| 1628T...B | | 45,0 | 49,2 | 53,3 | 57,4 | 61,5 |
| AM1524...-55 | | 33,4 | 37,6 | 41,7 | 45,8 | 49,9 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



16/7

Planetary Gearheads

0,55 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

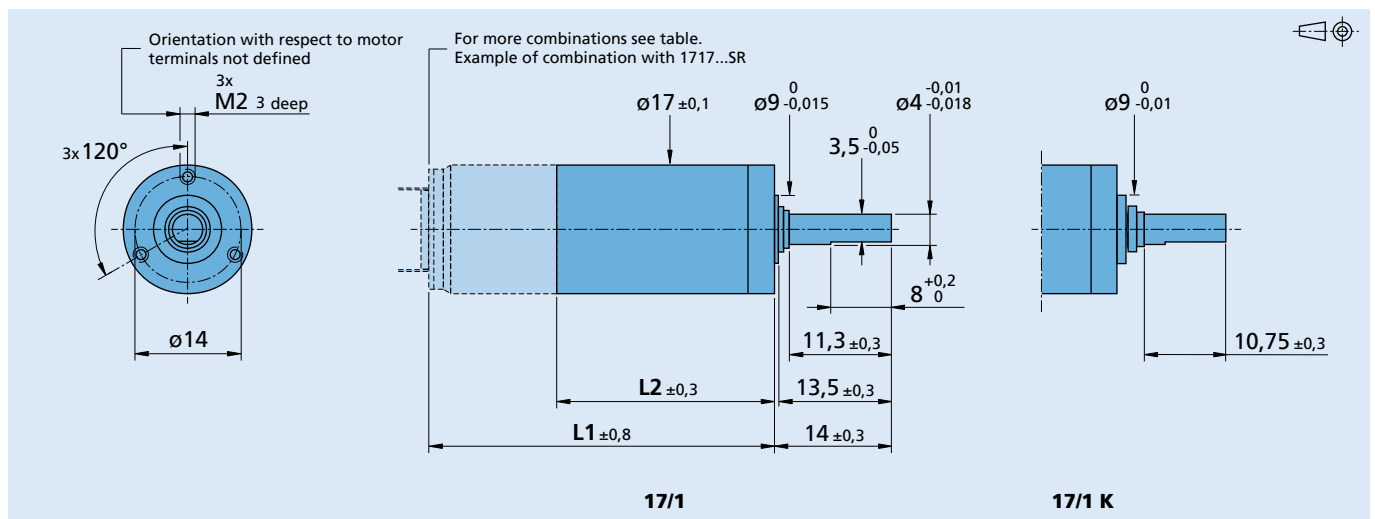
Series 17/1

| | 17/1 | 17/1 K |
|--------------------------------------|-------------------------|--------------------------|
| Housing material | stainless steel | stainless steel |
| Geartrain material | steel | steel |
| Recommended max. input speed for: | | |
| – continuous operation | 8 000 min ⁻¹ | 8 000 min ⁻¹ |
| Backlash, at no-load | ≤ 2 ° | ≤ 2 ° |
| Bearings on output shaft | sintered bearings | ball bearings, preloaded |
| Shaft load, max.: | | |
| – radial (6,5 mm from mounting face) | ≤ 5 N | ≤ 75 N |
| – axial | ≤ 3 N | ≤ 12 N |
| Shaft press fit force, max. | ≤ 100 N | ≤ 35 N |
| Shaft play | | |
| – radial (6,5 mm from mounting face) | ≤ 0,06 mm | ≤ 0,03 mm |
| – axial | ≤ 0,1 mm | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C | - 30 ... + 100 °C |

Specifications

| | | 1 | 2 | 3 | 4 | 5 |
|--|-----|-----------------|----------------------|--|---|---|
| Number of gear stages | | | | | | |
| Continuous torque | mNm | 550 | 550 | 550 | 550 | 550 |
| Intermittent torque | mNm | 800 | 800 | 800 | 800 | 800 |
| Mass without motor, ca. | g | 28 | 35 | 42 | 49 | 56 |
| Efficiency, max. | % | 90 | 80 | 70 | 60 | 50 |
| Direction of rotation, drive to output | | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 3,33:1 4,5:1 | 11:1 15:1 20:1 | 37:1 44:1 50:1 68:1 81:1 91:1 | 123:1 148:1 167:1 178:1 200:1 240:1 270:1 304:1 365:1 | 412:1 494:1 593:1 667:1 750:1 800:1 900:1 1 013:1 1 367:1 |
| L2 [mm] = length without motor | | 18,6 | 23,7 | 28,8 | 33,9 | 39,1 |
| L1 [mm] = length with motor | | | | | | |
| 1624T...S | | 42,4 | 47,5 | 52,6 | 57,7 | 62,9 |
| 1717T...SR | | 35,6 | 40,7 | 45,8 | 50,9 | 56,1 |
| 1724T...SR | | 42,6 | 47,7 | 52,8 | 57,9 | 63,1 |
| 1727U...CXR | | 45,8 | 50,9 | 56,0 | 61,1 | 66,3 |
| 1741U...CXR | | 59,8 | 64,9 | 70,0 | 75,1 | 80,3 |
| 1628T...B | | 46,6 | 51,7 | 56,8 | 61,9 | 67,1 |
| AM1524...-55 | | 35,0 | 40,1 | 45,2 | 50,3 | 55,5 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



Planetary Gearheads

0,5 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 20/1

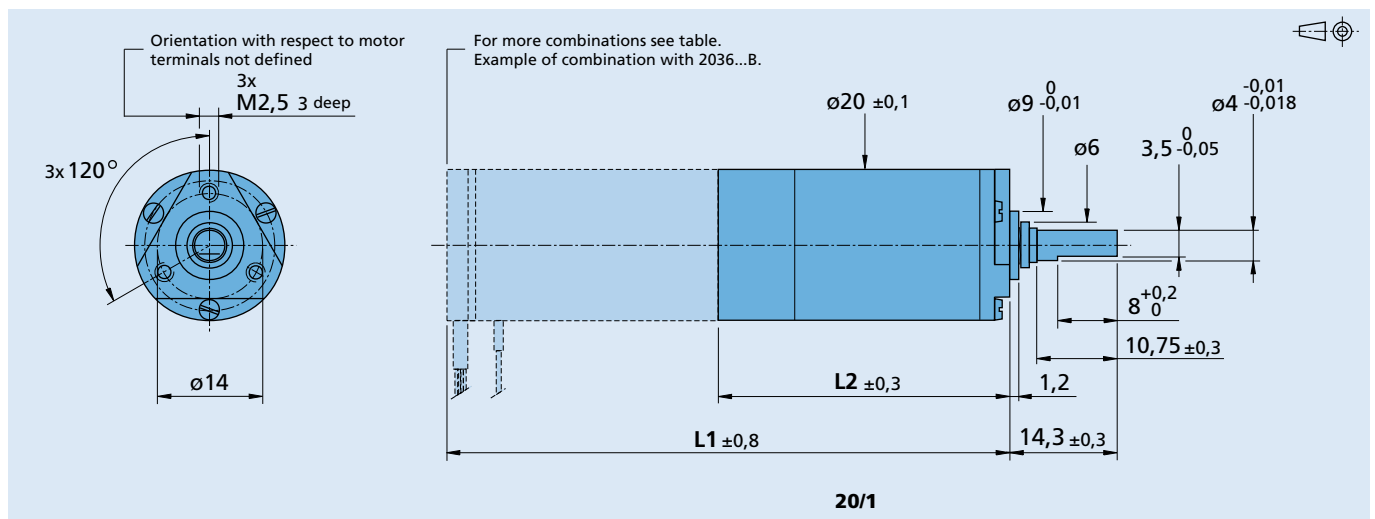
| | 20/1 |
|--------------------------------------|--------------------------|
| Housing material | steel |
| Geartrain material | metal |
| Recommended max. input speed for: | |
| – continuous operation | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (8,5 mm from mounting face) | ≤ 75 N |
| – axial | ≤ 20 N |
| Shaft press fit force, max. | ≤ 35 N |
| Shaft play | |
| – radial (8,5 mm from mounting face) | ≤ 0,03 mm |
| – axial | = 0 mm |
| Operating temperature range | - 30 ... + 100 °C |

Specifications

| | | 1 | 2 | 2 | 3 | 3 | 4 | 5 |
|--|-----|--------|---------------|------|--------------|------|---|------------------------------------|
| Number of gear stages | | | | | | | | |
| Continuous torque | mNm | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| Intermittent torque | mNm | 700 | 700 | 700 | 700 | 700 | 700 | 700 |
| Mass without motor, ca. | g | 28 | 38 | 38 | 48 | 48 | 58 | 68 |
| Efficiency, max. | % | 88 | 80 | 80 | 70 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 3,71:1 | 9,7:1 14:1 | 23:1 | 43:1 66:1 | 86:1 | 112:1 134:1 159:1 190:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ²⁾ | | 18,4 | 23,5 | 23,5 | 28,6 | 28,6 | 33,7 | 38,8 |
| L1 [mm] = length with motor | | | | | | | | |
| 1727U...CXR | | 45,6 | 50,7 | 50,7 | 55,8 | 55,8 | 60,9 | 66,0 |
| 1741U...CXR | | 59,6 | 64,7 | 64,7 | 69,8 | 69,8 | 74,9 | 80,0 |
| 2224U...SR | | 42,6 | 47,7 | 47,7 | 52,8 | 52,8 | 57,9 | 63,0 |
| 2230U...S | | 48,4 | 53,5 | 53,5 | 58,6 | 58,6 | 63,7 | 68,8 |
| 2232U...SR | | 50,6 | 55,7 | 55,7 | 60,8 | 60,8 | 65,9 | 71,0 |
| 2233U...S | | 51,0 | 56,1 | 56,1 | 61,2 | 61,2 | 66,3 | 71,4 |
| 2036U...B | | 54,4 | 59,5 | 59,5 | 64,6 | 64,6 | 69,7 | 74,8 |
| 2057S...B | | 77,3 | 82,4 | 87,9 | 87,5 | 93,0 | 92,6 | 97,7 |
| 2057S...BHS | | 77,3 | 82,4 | 87,9 | 87,5 | 93,0 | 92,6 | 97,7 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ L2 + 1,9 mm or 7,4 mm, in combination with 2057S...B and 2057S...BHS.



NEW

Planetary Gearheads

0,8 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 20/1R

| | 20/1R |
|---|--------------------------|
| Housing material | steel |
| Geartrain material | metal |
| Recommended max. input speed for: | |
| – continuous operation | 12 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (8,5 mm from mounting face) | ≤ 75 N |
| – axial | ≤ 20 N |
| Shaft press fit force, max. | ≤ 35 N |
| Shaft play | |
| – radial (8,5 mm from mounting face) | ≤ 0,03 mm |
| – axial | = 0 mm |
| Operating temperature range ¹⁾ | - 10 ... + 125 °C |

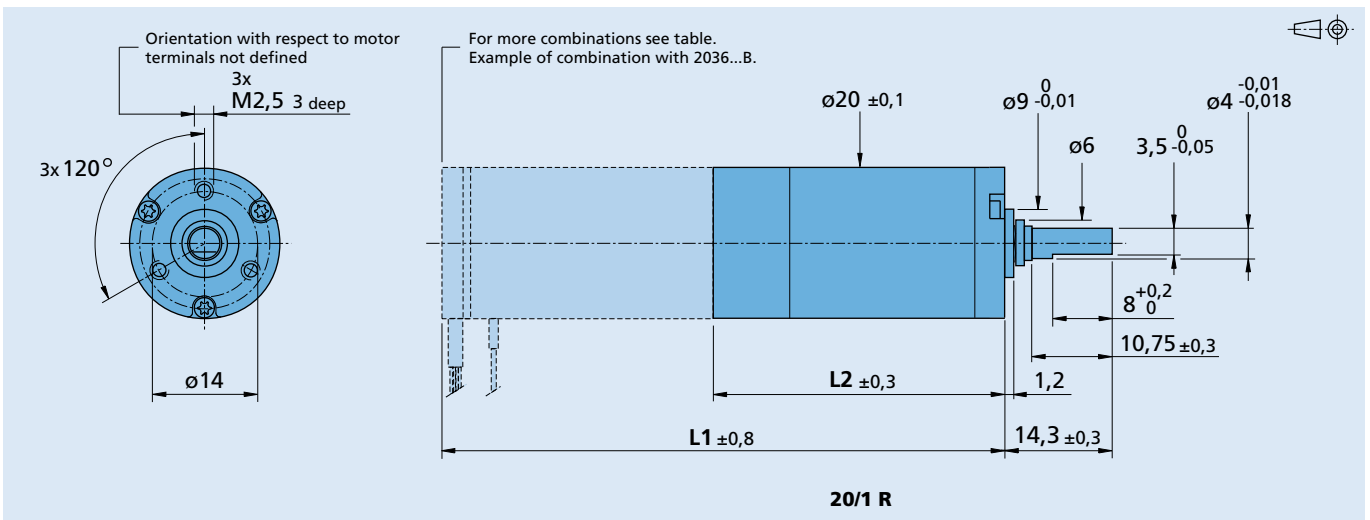
Specifications

| | | 1 | 2 | 2 | 3 | 3 | 4 | 5 |
|--|-----|--------|---------------|-------|--------------|-------|---|------------------------------------|
| Number of gear stages | | | | | | | | |
| Continuous torque | mNm | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| Intermittent torque | mNm | 1 100 | 1 100 | 1 100 | 1 100 | 1 100 | 1 100 | 1 100 |
| Mass without motor, ca. | g | 29 | 39 | 39 | 49 | 49 | 59 | 69 |
| Efficiency, max. | % | 88 | 80 | 80 | 70 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = |
| Reduction ratio ²⁾ (rounded) | | 3,71:1 | 9,7:1 14:1 | 23:1 | 43:1 66:1 | 86:1 | 112:1 134:1 159:1 190:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ³⁾ | | 18,4 | 23,5 | 23,5 | 28,6 | 28,6 | 33,7 | 38,8 |
| L1 [mm] = length with motor | | | | | | | | |
| 1741U...CXR | | 59,6 | 64,7 | 64,7 | 69,8 | 69,8 | 74,9 | 80,0 |
| 2224U...SR | | 42,6 | 47,7 | 47,7 | 52,8 | 52,8 | 57,9 | 63,0 |
| 2232U...SR | | 50,6 | 55,7 | 55,7 | 60,8 | 60,8 | 65,9 | 71,0 |
| 2036U...B | | 54,4 | 59,5 | 59,5 | 64,6 | 64,6 | 69,7 | 74,8 |
| 2057S...B | | 77,3 | 82,4 | 87,9 | 87,5 | 93,0 | 92,6 | 97,7 |
| 2057S...BHS | | 77,3 | 82,4 | 87,9 | 87,5 | 93,0 | 92,6 | 97,7 |
| AM2224...-10 | | 46,1 | 51,2 | 51,2 | 56,3 | 56,3 | 61,4 | 66,5 |

¹⁾ Low operating temperature range - 45 ... + 100 °C shall be ordered as option - K2823

²⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

³⁾ L2 + 1,9 mm or 7,4 mm, in combination with 2057S...B and 2057S...BHS.



Planetary Gearheads

0,6 Nm

For combination with
DC-Micromotors
Stepper Motors

Series 22E

| | 22E | 22EC | 22EK |
|------------------------------------|-------------------|------------------|------------------|
| Housing material | plastic | plastic | plastic |
| Geartrain material | plastic | plastic | plastic |
| Recommended max. input speed for: | | | |
| – continuous operation | 5 000 rpm | 5 000 rpm | 5 000 rpm |
| Backlash, at no-load | ≤ 3° | ≤ 3° | ≤ 3° |
| Bearings on output shaft | sintered bearings | ceramic bearings | ball bearings |
| Shaft load, max.: | | | |
| – radial (5 mm from mounting face) | ≤ 3 N | ≤ 15 N | ≤ 50 N |
| – axial | ≤ 3 N | ≤ 2 N | ≤ 5 N |
| Shaft press fit force, max. | ≤ 15 N | ≤ 15 N | ≤ 15 N |
| Shaft play | | | |
| – radial (5 mm from mounting face) | ≤ 0,05 mm | ≤ 0,06 mm | ≤ 0,07 mm |
| – axial | ≤ 0,25 mm | ≤ 0,25 mm | ≤ 0,25 mm |
| Operating temperature range | - 30 ... + 65 °C | - 20 ... + 85 °C | - 30 ... + 85 °C |

Specifications

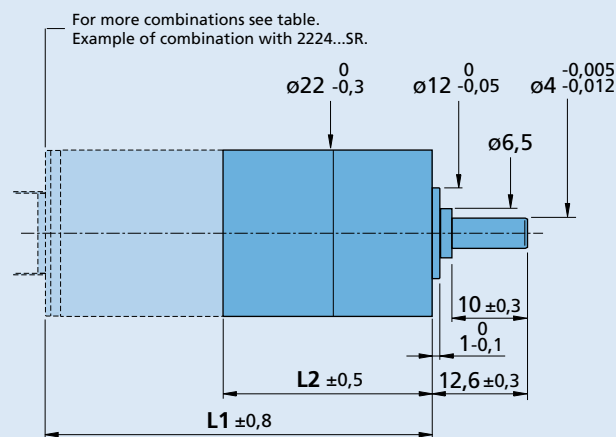
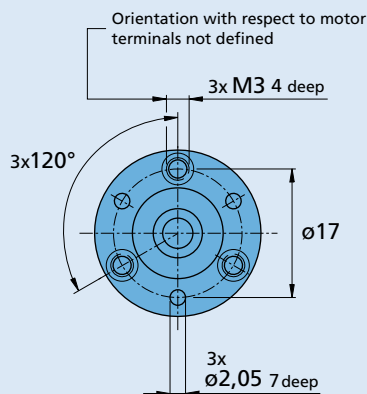
| | | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 6 |
|--|----------------------|------|-------|-------|-------|-------|----------------|--|--|
| Number of gear stages | | | | | | | | | |
| Continuous torque | mNm | 200 | 300 | 400 | 400 | 500 | 600 | 600 | 600 |
| Intermittent torque | mNm | 400 | 600 | 800 | 800 | 1 000 | 1 000 | 1 000 | 1 000 |
| Mass without motor, ca. | g | 17 | 19 | 19 | 20 | 20 | 20 | 22 | 24 |
| Efficiency, max. | % | 78 | 69 | 67 | 62 | 61 | 60 | 55 | 49 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | Code B ²⁾ | 19:1 | 69:1 | | 249:1 | | | 896:1 | 3 225:1 |
| | Code A ²⁾ | 28:1 | 102:1 | 152:1 | | 369:1 | 546:1 809:1 | 1 327:1 1 966:1 2 913:1 4 315:1 | 4 778:1 7 078:1 10 486:1 15 534:1 23 014:1 |
| L2 [mm] = length without motor ³⁾ | | 27,1 | 32,1 | 32,1 | 37,1 | 37,1 | 37,1 | 42,1 | 47,1 |
| L1 [mm] = length with motor | 2224A/B...SR | 51,3 | 56,3 | 56,3 | 61,3 | 61,3 | 61,3 | 66,3 | 71,3 |
| | 2230A/B...S | 57,1 | 62,1 | 62,1 | 67,1 | 67,1 | 67,1 | 72,1 | 77,1 |
| | 2232A/B...SR | 59,3 | 64,3 | 64,3 | 69,3 | 69,3 | 69,3 | 74,3 | 79,3 |
| | 2233A/B...S | 59,7 | 64,7 | 64,7 | 69,7 | 69,7 | 69,7 | 74,7 | 79,7 |
| | AM2224...-12 | 54,8 | 59,8 | 59,8 | 64,8 | 64,8 | 64,8 | 69,8 | 74,8 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ Example of ordering information: 2224 B 012 SR + 22E 19:1, not for AM2224.

³⁾ L2 + 0,7 mm, in combination with 2224A/B...SR and 2232A/B...SR.

Note: These gearheads are available only with motors mounted.



22E, 22EC, 22EK

Planetary Gearheads

1,2 Nm

For combination with
DC-Micromotors
Stepper Motors

Series 22EKV

| | 22EKV |
|---|-------------------------|
| Housing material | plastic |
| Geartrain material | plastic/steel/ceramic |
| Recommended max. input speed for: – continuous operation | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (5 mm from mounting face) | ≤ 50 N |
| – axial | ≤ 5 N |
| Shaft press fit force, max. | ≤ 15 N |
| Shaft play | |
| – radial (5 mm from mounting face) | ≤ 0,07 mm |
| – axial | ≤ 0,25 mm |
| Operating temperature range | - 30 ... + 85 °C |

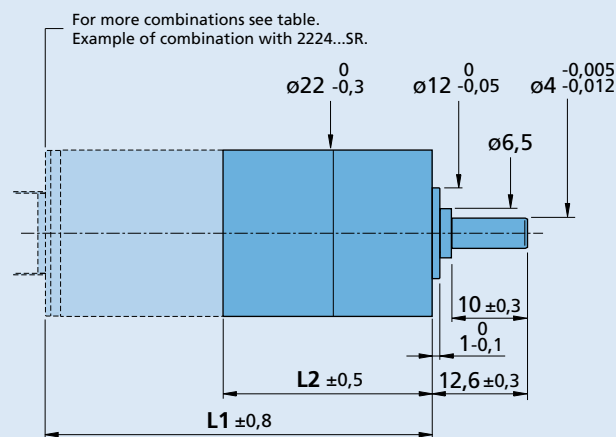
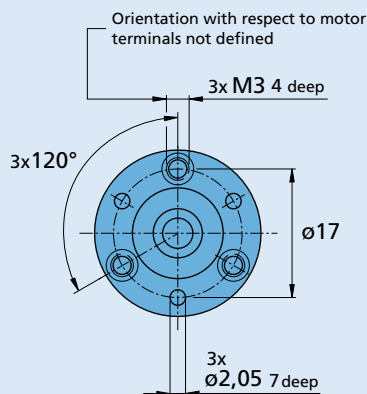
| Specifications | | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 6 |
|--|----------------------|------|-------|-------|-------|-------|----------------|--|--|
| Number of gear stages | | | | | | | | | |
| Continuous torque | Nm | 0,4 | 0,6 | 0,8 | 0,8 | 1 | 1,2 | 1,2 | 1,2 |
| Intermittent torque | Nm | 0,8 | 1,2 | 1,6 | 1,6 | 2 | 2 | 2 | 2 |
| Mass without motor, ca. | g | 27 | 29 | 29 | 30 | 30 | 30 | 32 | 34 |
| Efficiency, max. | % | 77 | 68 | 68 | 61 | 61 | 61 | 53 | 47 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | Code B ²⁾ | 19:1 | 69:1 | | 249:1 | | | 896:1 | 3 225:1 |
| | Code A ²⁾ | 28:1 | 102:1 | 152:1 | | 369:1 | 546:1 809:1 | 1 327:1 1 966:1 2 913:1 4 315:1 | 4 778:1 7 078:1 10 486:1 15 534:1 23 014:1 |
| L2 [mm] = length without motor ³⁾ | | 27,1 | 32,1 | 32,1 | 37,1 | 37,1 | 37,1 | 42,1 | 47,1 |
| L1 [mm] = length with motor | 2224A/B...SR | 51,3 | 56,3 | 56,3 | 61,3 | 61,3 | 61,3 | 66,3 | 71,3 |
| | 2230A/B...S | 57,1 | 62,1 | 62,1 | 67,1 | 67,1 | 67,1 | 72,1 | 77,1 |
| | 2232A/B...SR | 59,3 | 64,3 | 64,3 | 69,3 | 69,3 | 69,3 | 74,3 | 79,3 |
| | 2233A/B...S | 59,7 | 64,7 | 64,7 | 69,7 | 69,7 | 69,7 | 74,7 | 79,7 |
| | 2237A/B...CXR | 64,1 | 69,1 | 69,1 | 74,1 | 74,1 | 74,1 | 79,1 | 84,1 |
| | AM2224...-12 | 54,8 | 59,8 | 59,8 | 64,8 | 64,8 | 64,8 | 69,8 | 74,8 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ Example of ordering information: 2224 B 012SR + 22EKV 19:1, not for AM2224.

³⁾ L2 + 0,7 mm, in combination with 2224A/B...SR and 2232A/B...SR.

Note: These gearheads are available only with motors mounted.



22EKV

Planetary Gearheads

1 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

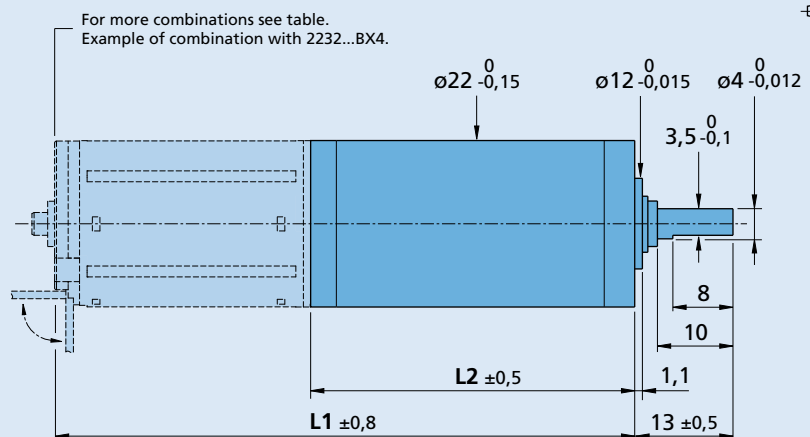
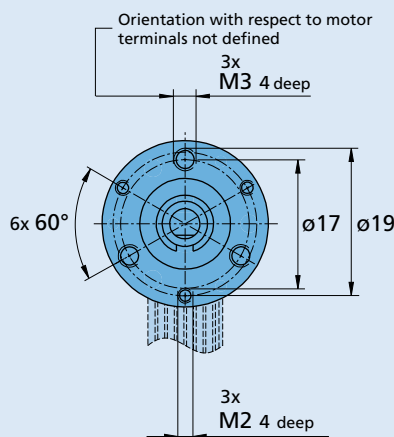
Series 22F

| | 22F |
|---|-------------------------|
| Housing material | steel |
| Geartrain material | metal |
| Recommended max. input speed for: – continuous operation | 6 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3,5 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 70 N |
| – axial | ≤ 100 N |
| Shaft press fit force, max. | ≤ 100 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,06 mm |
| – axial | ≤ 0,2 mm |
| Operating temperature range | - 30 ... + 100 °C |

Specifications

| | 1 | 2 | 3 | 4 |
|--|---------------------|------------------------------|--|---|
| Number of gear stages | | | | |
| Continuous torque | mNm 400 | 600 | 900 | 1 000 |
| Intermittent torque | mNm 600 | 900 | 1 350 | 1 500 |
| Mass without motor, ca. | g 41 | 57 | 75 | 90 |
| Efficiency, max. | % 80 | 75 | 70 | 60 |
| Direction of rotation, drive to output | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 4:1 | 14:1 16:1 19:1 25:1 | 51:1 59:1 68:1 71:1 93:1 100:1 107:1 130:1 169:1 | 189:1 218:1 252:1 264:1 292:1 305:1 344:1 |
| L2 [mm] = length without motor | 26,6 | 34,8 | 42,9 | 51,1 |
| L1 [mm] = length with motor | 2224U...SR 50,8 | 2232U...SR 59,0 | 2237S...CXR 67,1 | 2342S...CR 75,3 |
| | 2237S...CXR 58,8 | 2342S...CR 67,0 | 2232U...SR 75,1 | 2224U...SR 83,3 |
| | 2237S...CXR 63,6 | 2232U...SR 71,8 | 2237S...CXR 79,9 | 2237S...CXR 88,1 |
| | 2342S...CR 68,6 | 2232U...SR 76,8 | 2342S...CR 84,9 | 2342S...CR 93,1 |
| | 2232U...SR 60,4 | 2232U...SR 68,6 | 2232U...SR 76,7 | 2232U...SR 84,9 |
| | 2250S...BX4(S) 78,4 | 2250S...BX4(S) 86,6 | 2250S...BX4(S) 94,7 | 2250S...BX4(S) 102,9 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



22F

Planetary Gearheads

0,7 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 22/7

| | 22/7 |
|-------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 170 N |
| – axial | ≤ 150 N |
| Shaft press fit force, max. | ≤ 150 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,1 mm |
| Operating temperature range | - 30 ... + 100 °C |

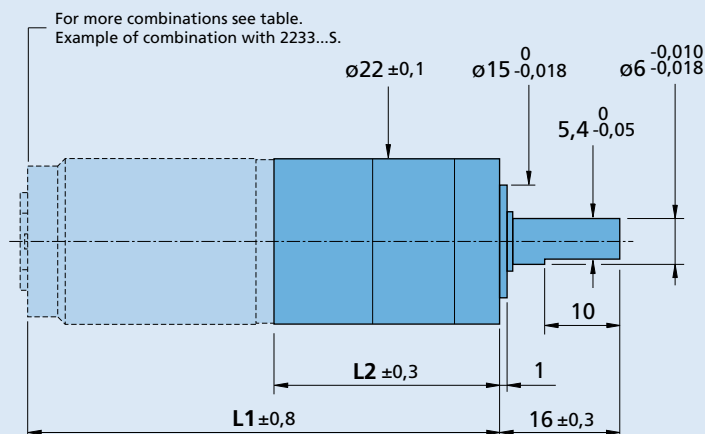
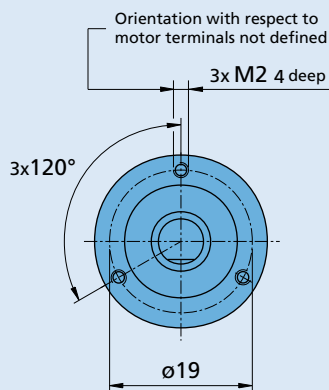
Specifications

| | 1 | 2 | 3 | 4 | 5 |
|--|---------------------|------------------|------------------|---|------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | mNm 200 | 300 | 700 | 700 | 700 |
| Intermittent torque | mNm 400 | 600 | 1 000 | 1 000 | 1 000 |
| Mass without motor, ca. | g 68 | 63 | 76 | 88 | 102 |
| Efficiency, max. | % 88 | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 3,71:1 | 9,7:1 14:1 | 43:1 66:1 | 94:1 112:1 134:1 159:1 190:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ²⁾ | 27,9 | 34,1 | 40,3 | 46,4 | 52,6 |
| L1 [mm] = length with motor | 2224U...SR 48,2 | 2230U...S 54,4 | 2232U...SR 60,6 | 2233U...S 66,7 | 2237S...CXR 72,9 |
| | 2342S...CR 54,0 | 2232U...SR 60,2 | 2233U...S 66,4 | 2237S...CXR 72,5 | 2342S...CR 78,7 |
| | 2232U...SR 56,2 | 2233U...S 62,4 | 2237S...CXR 68,6 | 2342S...CR 74,7 | 2232U...SR 80,9 |
| | 2233U...S 56,6 | 2237S...CXR 62,8 | 2342S...CR 69,0 | 2232U...SR 75,1 | 2233U...S 81,3 |
| | 2237S...CXR 64,9 | 2342S...CR 71,1 | 2232U...SR 77,3 | 2233U...S 83,4 | 2237S...CXR 89,6 |
| | 2342S...CR 69,9 | 2232U...SR 76,1 | 2233U...S 82,3 | 2237S...CXR 88,4 | 2342S...CR 94,6 |
| | 2232S...BX4(S) 61,7 | 2232U...SR 67,9 | 2233U...S 74,1 | 2237S...CXR 80,2 | 2232S...BX4(S) 86,4 |
| | 2250S...BX4(S) 79,7 | 2232U...SR 85,9 | 2233U...S 92,1 | 2237S...CXR 98,2 | 2250S...BX4(S) 104,4 |
| | 2444S...B 71,9 | 2232U...SR 78,1 | 2233U...S 84,3 | 2237S...CXR 90,4 | 2444S...B 96,6 |
| | AM2224...-10 55,6 | 2232U...SR 61,8 | 2233U...S 68,0 | 2237S...CXR 74,1 | AM2224...-10 80,3 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ L2 - 3,9 mm, in combination with 2224U...SR, 2230U...S, 2232U...SR, 2233U...S and AM2224.

Note: Reduction ratio 3,71:1 with motor types 2224U...SR, 2230U...S, 2232U...SR, 2233U...S and AM2224 shall be ordered as 22/7 3,71:1 - K288.



22/7

Planetary Gearheads

0,7 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 23/1

| | 23/1 |
|---|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 170 N |
| – axial | ≤ 150 N |
| Shaft press fit force, max. | ≤ 150 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,1 mm |
| Operating temperature range | - 30 ... + 100 °C |

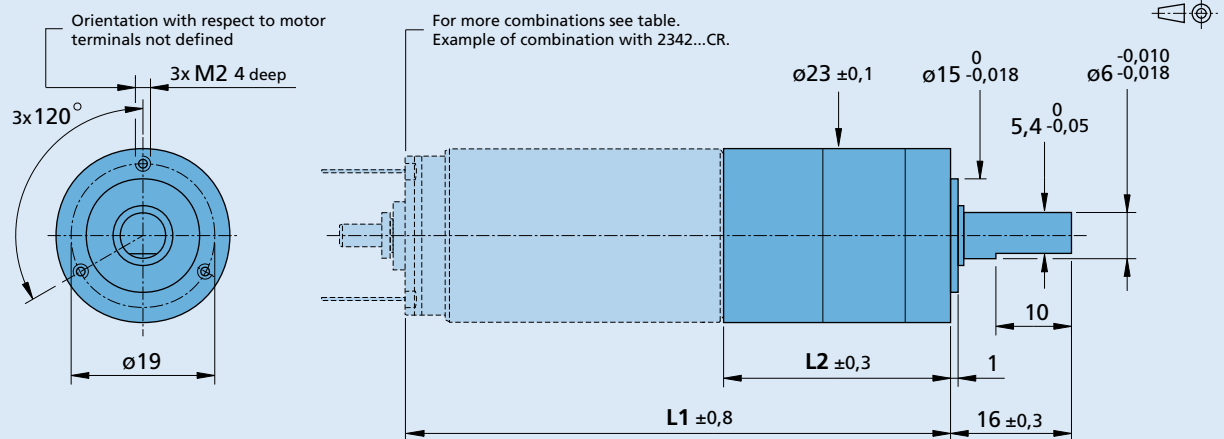
Specifications

| | 1 | 2 | 3 | 4 | 5 |
|--|-------------------|-------------------|-------------------|---|------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | mNm 200 | 300 | 700 | 700 | 700 |
| Intermittent torque | mNm 400 | 600 | 1 000 | 1 000 | 1 000 |
| Mass without motor, ca. | g 60 | 70 | 90 | 100 | 110 |
| Efficiency, max. | % 88 | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 3,71:1 | 9,7:1 14:1 | 43:1 66:1 | 94:1 112:1 134:1 159:1 190:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ²⁾ | 27,9 | 34,1 | 40,3 | 46,4 | 52,6 |
| L1 [mm] = length with motor | 2224U...SR 48,2 | 2230U...S 54,4 | 2232U...SR 60,6 | 2233U...S 66,7 | 2237S...CXR 72,9 |
| | 2342S...CR 54,0 | 2057S...B 60,2 | 2444S...B 66,4 | AM2224...-10 72,5 | |
| | 2232U...SR 56,2 | 2233U...S 62,4 | 2237S...CXR 68,6 | | |
| | 2233U...S 56,6 | 2342S...CR 62,8 | 2057S...B 69,0 | | |
| | 2237S...CXR 64,9 | 2057S...B 71,1 | 2444S...B 77,3 | | |
| | 2342S...CR 69,9 | 2057S...BHS 76,1 | 2444S...B 82,3 | | |
| | 2057S...B 84,9 | 2057S...BHS 91,1 | 2444S...B 88,4 | | |
| | 2057S...BHS 84,9 | 2444S...B 91,1 | 2444S...B 97,3 | | |
| | 2444S...B 71,9 | 2444S...B 78,1 | 2444S...B 84,3 | | |
| | AM2224...-10 55,6 | AM2224...-10 61,8 | AM2224...-10 68,0 | | |
| | | | | | |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ L2 - 3,9 mm, in combination with 2224U...SR, 2230U...S, 2232U...SR, 2233U...S and AM2224.

Note: Reduction ratio 3,71:1 with motor types 2224U...SR, 2230U...S, 2232U...SR, 2233U...S and AM2224 shall be ordered as 23/1 3,71:1 - K288.



23/1

Planetary Gearheads

1 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 26A

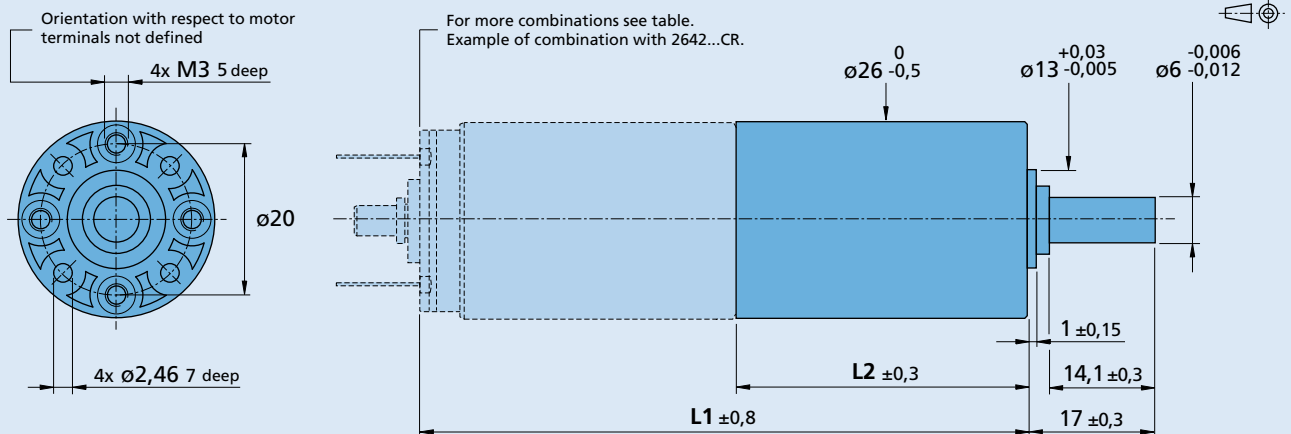
| | 26A | 26AK |
|-------------------------------------|-------------------------|-------------------------|
| Housing material | plastic | plastic |
| Geartrain material | plastic | plastic |
| Recommended max. input speed for: | | |
| – continuous operation | 5 000 min ⁻¹ | 5 000 min ⁻¹ |
| Backlash, at no-load | ≤ 3 ° | ≤ 3 ° |
| Bearings on output shaft | sintered bearings | ball bearings |
| Shaft load, max.: | | |
| – radial (10 mm from mounting face) | ≤ 4 N | ≤ 60 N |
| – axial | ≤ 4 N | ≤ 15 N |
| Shaft press fit force, max. | ≤ 20 N | ≤ 20 N |
| Shaft play | | |
| – radial (10 mm from mounting face) | ≤ 0,08 mm | ≤ 0,1 mm |
| – axial | ≤ 0,25 mm | ≤ 0,25 mm |
| Operating temperature range | - 30 ... + 65 °C | - 30 ... + 85 °C |

Specifications

| | 2 | 2 | 3 | 3 | 4 | 4 | |
|--|-----|-------|-------|-------|--------------|-------|-------------------------|
| Number of gear stages | | | | | | | |
| Continuous torque | mNm | 300 | 300 | 750 | 800 | 900 | 1 000 |
| Intermittent torque | mNm | 500 | 600 | 1 100 | 1 200 | 1 400 | 1 500 |
| Mass without motor, ca. | g | 21 | 21 | 23 | 23 | 25 | 25 |
| Efficiency, max. | % | 81 | 81 | 73 | 73 | 64 | 64 |
| Direction of rotation, drive to output | | = | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 13:1 | 16:1 | 40:1 | 50:1 64:1 | 124:1 | 158:1 201:1 256:1 |
| L2 [mm] = length without motor | | 32,7 | 32,7 | 38,5 | 38,5 | 44,3 | 44,3 |
| L1 [mm] = length with motor | | | | | | | |
| 2232U...SR | | 67,4 | 67,4 | 73,2 | 73,2 | 79,0 | 79,0 |
| 2237S...CXR | | 69,7 | 69,7 | 75,5 | 75,5 | 81,3 | 81,3 |
| 2342S...CR | | 74,7 | 74,7 | 80,5 | 80,5 | 86,3 | 86,3 |
| 2642W...CR | | 74,7 | 74,7 | 80,5 | 80,5 | 86,3 | 86,3 |
| 2642W...CXR | | 74,7 | 74,7 | 80,5 | 80,5 | 86,3 | 86,3 |
| 2657W...CR | | 89,7 | 89,7 | 95,5 | 95,5 | 101,3 | 101,3 |
| 2657W...CXR | | 89,7 | 89,7 | 95,5 | 95,5 | 101,3 | 101,3 |
| 2668W...CR | | 100,7 | 100,7 | 106,5 | 106,5 | 112,3 | 112,3 |
| 2232S...BX4(S) | | 66,5 | 66,5 | 72,3 | 72,3 | 78,1 | 78,1 |
| 2250S...BX4(S) | | 84,5 | 84,5 | 90,3 | 90,3 | 96,1 | 96,1 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

Note: These gearheads are available only with motors mounted.



26A, 26AK

Planetary Gearheads

3,5 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 26/1

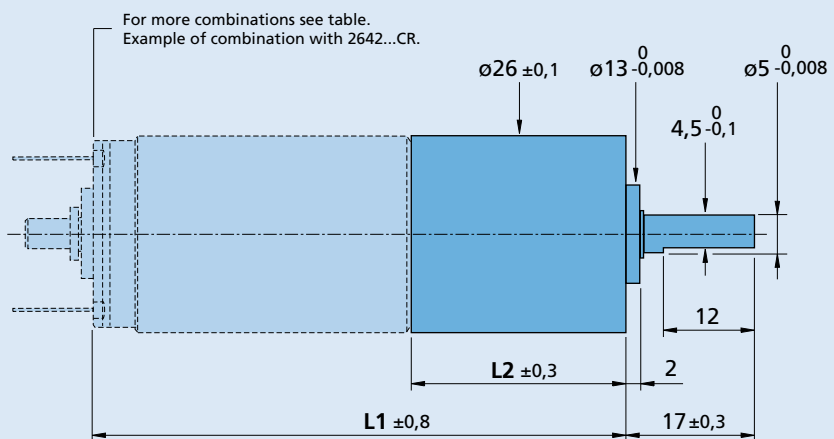
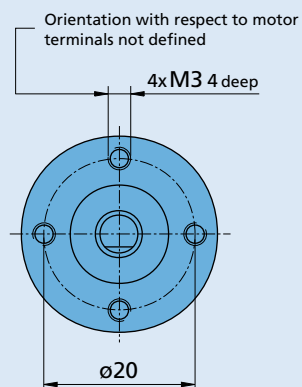
| | 26/1 |
|-------------------------------------|--------------------------|
| Housing material | steel |
| Geartrain material ¹⁾ | plastic/steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 150 N |
| – axial | ≤ 100 N |
| Shaft press fit force, max. | ≤ 150 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,1 mm |
| Operating temperature range | - 30 ... + 100 °C |

Specifications

| | | 1 | 2 | 3 | 3 | 4 | 4 | 5 |
|--|-----------------|--------|-------|-------|-------|-------|----------------|------------------------------------|
| Number of gear stages | | | | | | | | |
| Continuous torque | Nm | 1,1 | 0,3 | 1 | 1,5 | 2,5 | 3,5 | 3,5 |
| Intermittent torque | Nm | 2,3 | 0,4 | 1,2 | 1,8 | 3,5 | 4,5 | 4,5 |
| Mass without motor, ca. | g | 93 | 116 | 139 | 139 | 162 | 162 | 185 |
| Efficiency, max. | % | 88 | 80 | 70 | 70 | 60 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = |
| Reduction ratio ²⁾ (rounded) | | 3,71:1 | 14:1 | 43:1 | 66:1 | 134:1 | 159:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor | | 28,4 | 36,4 | 44,4 | 44,4 | 52,4 | 52,4 | 60,5 |
| L1 [mm] = length with motor | | 70,4 | 78,4 | 86,4 | 86,4 | 94,4 | 94,4 | 102,5 |
| | 2342S...CR | 70,4 | 78,4 | 86,4 | 86,4 | 94,4 | 94,4 | 102,5 |
| | 2642W...CR | 70,4 | 78,4 | 86,4 | 86,4 | 94,4 | 94,4 | 102,5 |
| | 2642W...CXR | 70,4 | 78,4 | 86,4 | 86,4 | 94,4 | 94,4 | 102,5 |
| | 2657W...CR | 85,4 | 93,4 | 101,4 | 101,4 | 109,4 | 109,4 | 117,5 |
| | 2657W...CXR | 85,4 | 93,4 | 101,4 | 101,4 | 109,4 | 109,4 | 117,5 |
| | 2668W...CR | 96,4 | 104,4 | 112,4 | 112,4 | 120,4 | 120,4 | 128,5 |
| | 2444S...B | 72,4 | 80,4 | 88,4 | 88,4 | 96,4 | 96,4 | 104,5 |
| | AM2224-R3...-30 | 59,3 | 67,3 | 75,3 | 75,3 | 83,3 | 83,3 | 91,4 |

¹⁾ Gearheads with ratios < 14:1 have all steel gears.

²⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



26/1

Planetary Gearheads

3,5 Nm

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 26/1 S

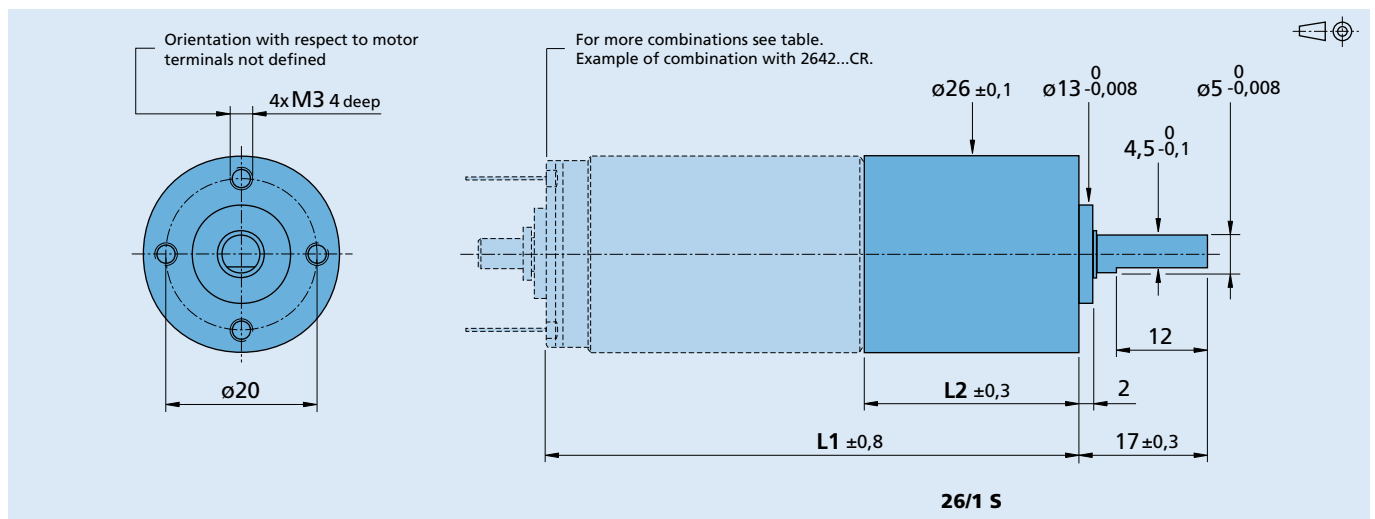
| | 26/1 S |
|-------------------------------------|--------------------------|
| Housing material | steel |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 150 N |
| – axial | ≤ 100 N |
| Shaft press fit force, max. | ≤ 150 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,1 mm |
| Operating temperature range | - 30 ... + 100 °C |

Specifications

| | | 2 | 3 | 4 | 5 |
|--|-----------------|-----------------------|----------------------|-------------------------|------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | Nm | 3,5 | 3,5 | 3,5 | 3,5 |
| Intermittent torque | Nm | 4,5 | 4,5 | 4,5 | 4,5 |
| Mass without motor, ca. | g | 116 | 139 | 162 | 185 |
| Efficiency, max. | % | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 9,7:1 14:1 23:1 | 43:1 66:1 86:1 | 134:1 159:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor | | 36,4 | 44,4 | 52,4 | 60,5 |
| L1 [mm] = length with motor | | 78,4 | 86,4 | 94,4 | 102,5 |
| | 2342S...CR | 78,4 | 86,4 | 94,4 | 102,5 |
| | 2642W...CR | 78,4 | 86,4 | 94,4 | 102,5 |
| | 2642W...CXR | 78,4 | 86,4 | 94,4 | 102,5 |
| | 2657W...CR | 93,4 | 101,4 | 109,4 | 117,5 |
| | 2657W...CXR | 93,4 | 101,4 | 109,4 | 117,5 |
| | 2668W...CR | 104,4 | 112,4 | 120,4 | 128,5 |
| | 2444S...B | 80,4 | 88,4 | 96,4 | 104,5 |
| | AM2224-R3...-30 | 67,3 | 75,3 | 83,3 | 91,4 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

Note: The gearheads as S-type have all steel gears and heavy duty lubricant for extended lifetime performance.



Planetary Gearheads

4,5 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 30/1

| | 30/1 |
|-------------------------------------|-------------------------|
| Housing material | metal |
| Geartrain material ¹⁾ | plastic/steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (15 mm from mounting face) | ≤ 150 N |
| – axial | ≤ 150 N |
| Shaft press fit force, max. | ≤ 200 N |
| Shaft play | |
| – radial (15 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 30 ... + 100 °C |

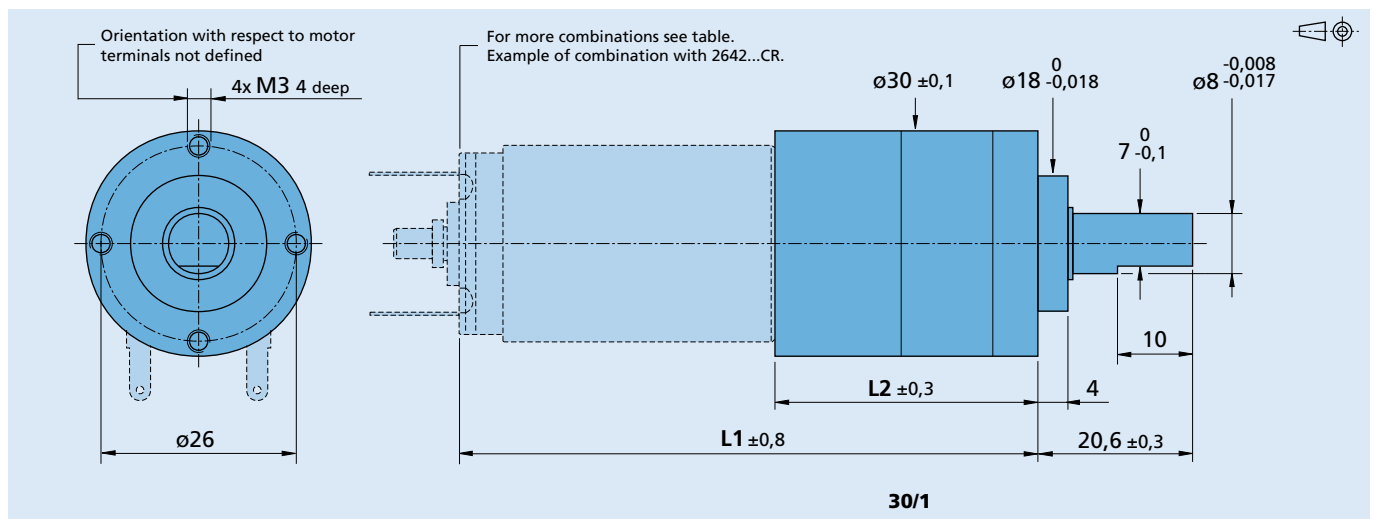
Specifications

| | | 1 | 2 | 3 | 3 | 4 | 4 | 5 |
|--|----|--------|-------|-------|-------|-------|----------------|------------------------------------|
| Number of gear stages | | | | | | | | |
| Continuous torque | Nm | 1,5 | 0,35 | 1,2 | 1,8 | 3,5 | 4,5 | 4,5 |
| Intermittent torque | Nm | 3 | 0,5 | 1,6 | 2,4 | 4,5 | 6 | 6 |
| Mass without motor, ca. | g | 107 | 139 | 171 | 171 | 203 | 203 | 235 |
| Efficiency, max. | % | 88 | 80 | 70 | 70 | 60 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = |
| Reduction ratio ²⁾ (rounded) | | 3,71:1 | 14:1 | 43:1 | 66:1 | 134:1 | 159:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ³⁾ | | 27,1 | 35,1 | 43,1 | 43,1 | 51,2 | 51,2 | 59,2 |
| L1 [mm] = length with motor | | | | | | | | |
| 2342S...CR | | 69,1 | 77,1 | 85,1 | 85,1 | 93,2 | 93,2 | 101,2 |
| 2642W...CR | | 69,1 | 77,1 | 85,1 | 85,1 | 93,2 | 93,2 | 101,2 |
| 2642W...CXR | | 69,1 | 77,1 | 85,1 | 85,1 | 93,2 | 93,2 | 101,2 |
| 2657W...CR | | 84,1 | 92,1 | 100,1 | 100,1 | 108,2 | 108,2 | 116,2 |
| 2657W...CXR | | 84,1 | 92,1 | 100,1 | 100,1 | 108,2 | 108,2 | 116,2 |
| 2668W...CR | | 95,1 | 103,1 | 111,1 | 111,1 | 119,2 | 119,2 | 127,2 |
| 2444S...B | | 71,1 | 79,1 | 87,1 | 87,1 | 95,2 | 95,2 | 103,2 |
| 3056K...B | | 84,5 | 92,5 | 100,5 | 100,5 | 108,6 | 108,6 | 116,6 |
| 3564K...B | | 92,5 | 100,5 | 108,5 | 108,5 | 116,6 | 116,6 | 124,6 |

¹⁾ Gearheads with ratios < 14:1 have all steel gears.

²⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

³⁾ L2 + 1,4 mm, in combination with 3056K...B and 3564K...B.



Planetary Gearheads

4,5 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 30/1 S

| | 30/1 S |
|-------------------------------------|-------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (15 mm from mounting face) | ≤ 150 N |
| – axial | ≤ 150 N |
| Shaft press fit force, max. | ≤ 200 N |
| Shaft play | |
| – radial (15 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 30 ... + 100 °C |

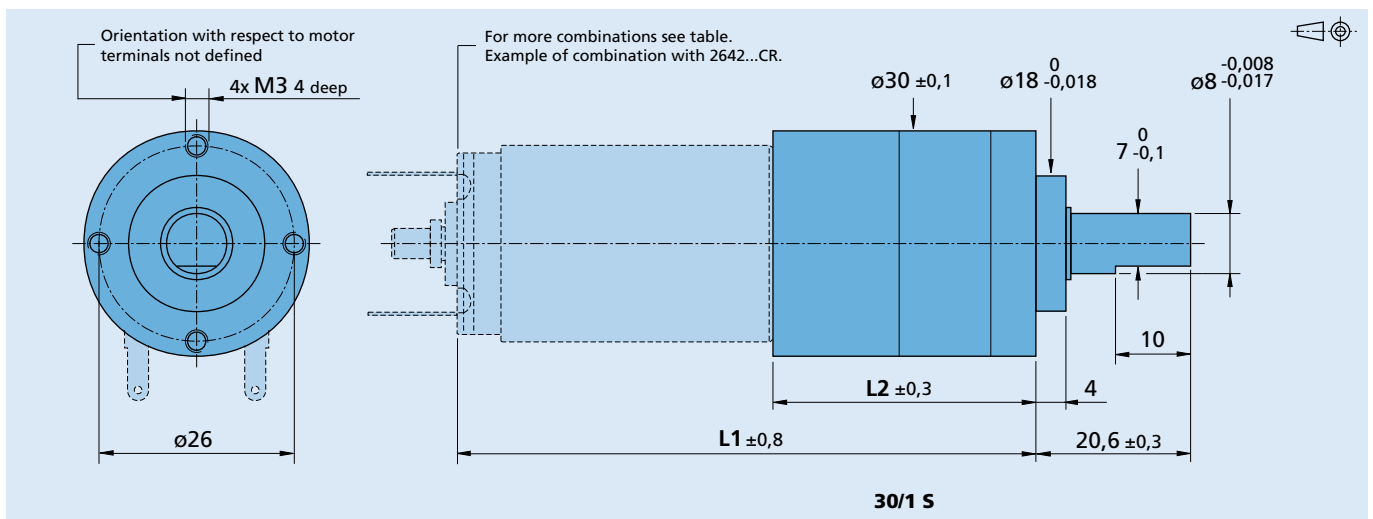
Specifications

| | | 2 | 3 | 4 | 5 |
|--|----|-----------------------|----------------------|-------------------------|------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | Nm | 4,5 | 4,5 | 4,5 | 4,5 |
| Intermittent torque | Nm | 6 | 6 | 6 | 6 |
| Mass without motor, ca. | g | 139 | 171 | 203 | 235 |
| Efficiency, max. | % | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 9,7:1 14:1 23:1 | 43:1 66:1 86:1 | 134:1 159:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ²⁾ | | 35,1 | 43,1 | 51,2 | 59,2 |
| L1 [mm] = length with motor | | | | | |
| 2342S...CR | | 77,1 | 85,1 | 93,2 | 101,2 |
| 2642W...CR | | 77,1 | 85,1 | 93,2 | 101,2 |
| 2642W...CXR | | 77,1 | 85,1 | 93,2 | 101,2 |
| 2657W...CR | | 92,1 | 100,1 | 108,2 | 116,2 |
| 2657W...CXR | | 92,1 | 100,1 | 108,2 | 116,2 |
| 2668W...CR | | 103,1 | 111,1 | 119,2 | 127,2 |
| 2444S...B | | 79,1 | 87,1 | 95,2 | 103,2 |
| 3056K...B | | 92,5 | 100,5 | 108,6 | 116,6 |
| 3564K...B | | 100,5 | 108,5 | 116,6 | 124,6 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ L2 + 1,4 mm, in combination with 3056K...B and 3564K...B.

Note: The gearheads as S-type have all steel gears and heavy duty lubricant for extended lifetime performance.



30/1 S

Planetary Gearheads

4,5 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

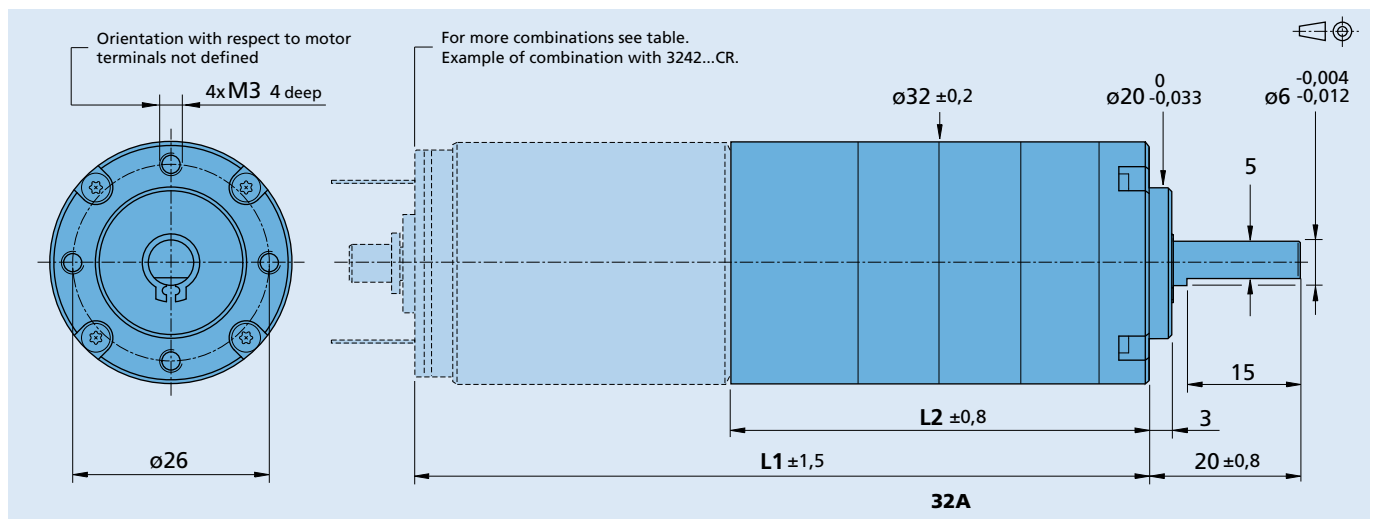
Series 32A

| | 32A |
|---|-------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: – continuous operation | 3 000 min ⁻¹ |
| Backlash, at no-load | ≤ 2 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 100 N |
| – axial | ≤ 30 N |
| Shaft press fit force, max. | ≤ 120 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,1 mm |
| – axial | ≤ 0,3 mm |
| Operating temperature range | - 25 ... + 80 °C |

Specifications

| | | 1 | 2 | 3 | 4 |
|--|-------------|------------|--------------------------------------|--|--------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | Nm | 0,75 | 2,25 | 4,5 | 4,5 |
| Intermittent torque | Nm | 1 | 3 | 6 | 6 |
| Mass without motor, ca. | g | 150 | 195 | 240 | 290 |
| Efficiency, max. | % | 88 | 85 | 75 | 65 |
| Direction of rotation, drive to output | | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 4:1 7:1 | 14:1 19:1 25:1 29:1 46:1 | 68:1 93:1 124:1 169:1 236:1 308:1 | 344:1 626:1 1 140:1 2 076:1 |
| L2 [mm] = length without motor | | 37,8 | 47,3 | 56,8 | 66,4 |
| L1 [mm] = length with motor | | | | | |
| | 2642W...CR | 79,8 | 89,3 | 98,8 | 108,4 |
| | 2642W...CXR | 79,8 | 89,3 | 98,8 | 108,4 |
| | 2657W...CR | 94,8 | 104,3 | 113,8 | 123,4 |
| | 2657W...CXR | 94,8 | 104,3 | 113,8 | 123,4 |
| | 2668W...CR | 105,8 | 115,3 | 124,8 | 134,4 |
| | 3242G...CR | 79,8 | 89,3 | 98,8 | 108,4 |
| | 3257G...CR | 94,8 | 104,3 | 113,8 | 123,4 |
| | 3272G...CR | 109,8 | 119,3 | 128,8 | 138,4 |
| | 3242G...BX4 | 82,0 | 91,5 | 101,0 | 110,6 |
| | 3268G...BX4 | 108,0 | 117,5 | 127,0 | 136,6 |
| | 3274G...BP4 | 111,8 | 121,3 | 130,8 | 140,4 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



Planetary Gearheads

4,5 Nm

Low noise

For combination with
DC-Micromotors
Brushless DC-Motors

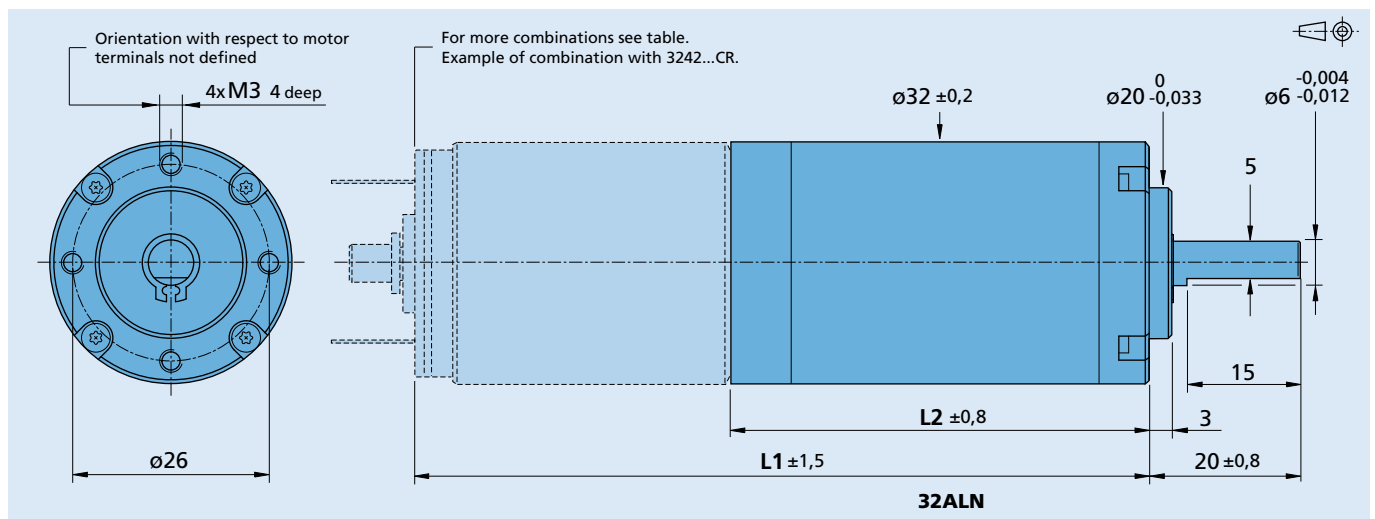
Series 32ALN

| | 32ALN |
|---|-------------------------|
| Housing material | metal |
| Geartrain material | plastic/steel |
| Recommended max. input speed for: – continuous operation | 3 000 min ⁻¹ |
| Backlash, at no-load | ≤ 2 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 100 N |
| – axial | ≤ 30 N |
| Shaft press fit force, max. | ≤ 120 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,1 mm |
| – axial | ≤ 0,3 mm |
| Operating temperature range | - 15 ... + 65 °C |

| Specifications | | | | | |
|--|-------------|------------|--------------------------------------|--|--------------------------------------|
| | | 1 | 2 | 3 | 4 |
| Number of gear stages | | | | | |
| Continuous torque | Nm | 0,75 | 2,25 | 4,5 | 4,5 |
| Intermittent torque | Nm | 1 | 3 | 6 | 6 |
| Mass without motor, ca. | g | 125 | 195 | 240 | 290 |
| Efficiency, max. | % | 88 | 85 | 75 | 65 |
| Direction of rotation, drive to output | | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 4:1 7:1 | 14:1 19:1 25:1 29:1 46:1 | 68:1 93:1 124:1 169:1 236:1 308:1 | 344:1 626:1 1 140:1 2 076:1 |
| L2 [mm] = length without motor | | 37,8 | 47,3 | 56,8 | 66,4 |
| L1 [mm] = length with motor | | | | | |
| | 2642W...CR | 79,8 | 89,3 | 98,8 | 108,4 |
| | 2657W...CR | 94,8 | 104,3 | 113,8 | 123,4 |
| | 2668W...CR | 105,8 | 115,3 | 124,8 | 134,4 |
| | 3242G...CR | 79,8 | 89,3 | 98,8 | 108,4 |
| | 3257G...CR | 94,8 | 104,3 | 113,8 | 123,4 |
| | 3272G...CR | 109,8 | 119,3 | 128,8 | 138,4 |
| | 3242G...BX4 | 82,0 | 91,5 | 101,0 | 110,6 |
| | 3268G...BX4 | 108,0 | 117,5 | 127,0 | 136,6 |
| | 3274G...BP4 | 111,8 | 121,3 | 130,8 | 140,4 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

Note: Motor option - 3888 is required for combination with 2642W...CR, 2657W...CR, 3242G...CR and 3257G...CR.



Planetary Gearheads

7 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

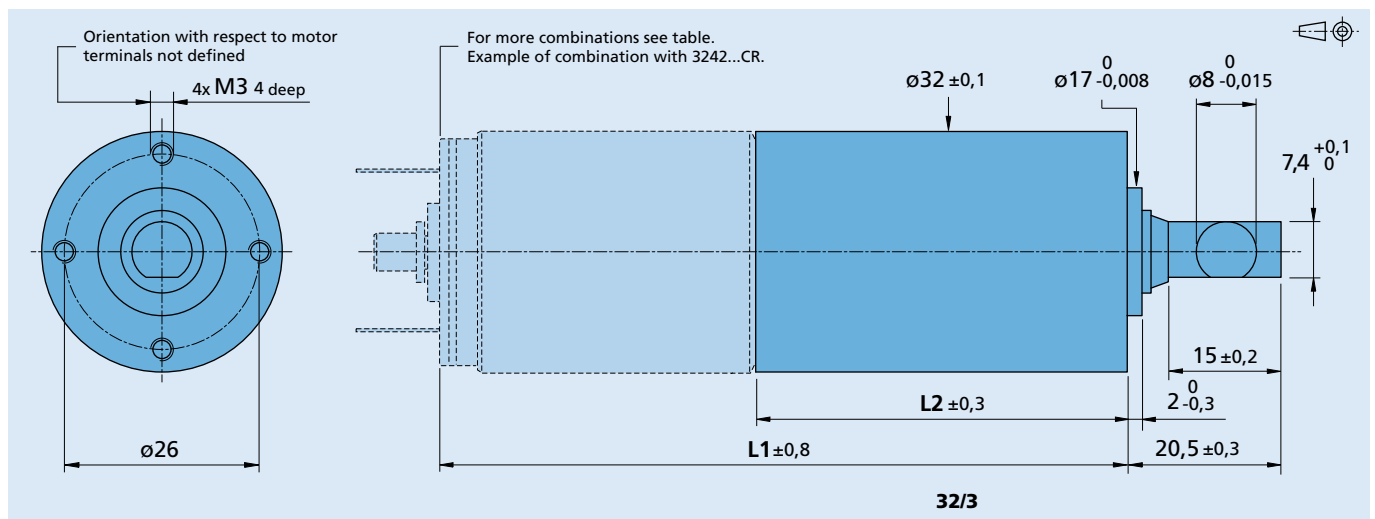
Series 32/3

| | 32/3 |
|-------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material ¹⁾ | plastic/steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 200 N |
| – axial | ≤ 200 N |
| Shaft press fit force, max. | ≤ 250 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 125 °C |

| Specifications | | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 5 |
|--|-------------|--------|-------|-------|-------|-------|-------|-------|-------------------------|---------|
| Number of gear stages | | | | | | | | | | |
| Continuous torque | Nm | 4,2 | 0,4 | 1,4 | 2 | 4 | 4,9 | 5,8 | 7 | 7 |
| Intermittent torque | Nm | 5,3 | 0,6 | 1,9 | 2,6 | 5,2 | 6,5 | 8 | 10 | 10 |
| Mass without motor, ca. | g | 160 | 190 | 230 | 230 | 260 | 260 | 260 | 290 | 300 |
| Efficiency, max. | % | 88 | 80 | 70 | 70 | 60 | 60 | 60 | 55 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = | = | = |
| Reduction ratio ²⁾ (rounded) | | 3,71:1 | 14:1 | 43:1 | 66:1 | 134:1 | 159:1 | 246:1 | 415:1 592:1 989:1 | 1 526:1 |
| L2 [mm] = length without motor | | 33,9 | 41,6 | 49,4 | 49,4 | 57,2 | 57,2 | 57,2 | 65,0 | 65,0 |
| L1 [mm] = length with motor | | | | | | | | | | |
| | 2668W...CR | 101,9 | 109,6 | 117,4 | 117,4 | 125,2 | 125,2 | 125,2 | 133,0 | 133,0 |
| | 3242G...CR | 75,9 | 83,6 | 91,4 | 91,4 | 99,2 | 99,2 | 99,2 | 107,0 | 107,0 |
| | 3257G...CR | 90,9 | 98,6 | 106,4 | 106,4 | 114,2 | 114,2 | 114,2 | 122,0 | 122,0 |
| | 3272G...CR | 105,9 | 113,6 | 121,4 | 121,4 | 129,2 | 129,2 | 129,2 | 137,0 | 137,0 |
| | 3242G...BX4 | 78,1 | 85,8 | 93,6 | 93,6 | 101,4 | 101,4 | 101,4 | 109,2 | 109,2 |
| | 3268G...BX4 | 104,1 | 111,8 | 119,6 | 119,6 | 127,4 | 127,4 | 127,4 | 135,2 | 135,2 |
| | 3274G...BP4 | 107,9 | 115,6 | 123,4 | 123,4 | 131,2 | 131,2 | 131,2 | 139,0 | 139,0 |
| | 3564K...B | 97,9 | 105,6 | 113,4 | 113,4 | 121,2 | 121,2 | 121,2 | 129,0 | 129,0 |

¹⁾ Gearheads with ratios < 14:1 have all steel gears.

²⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



Planetary Gearheads

7 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 32/3 S

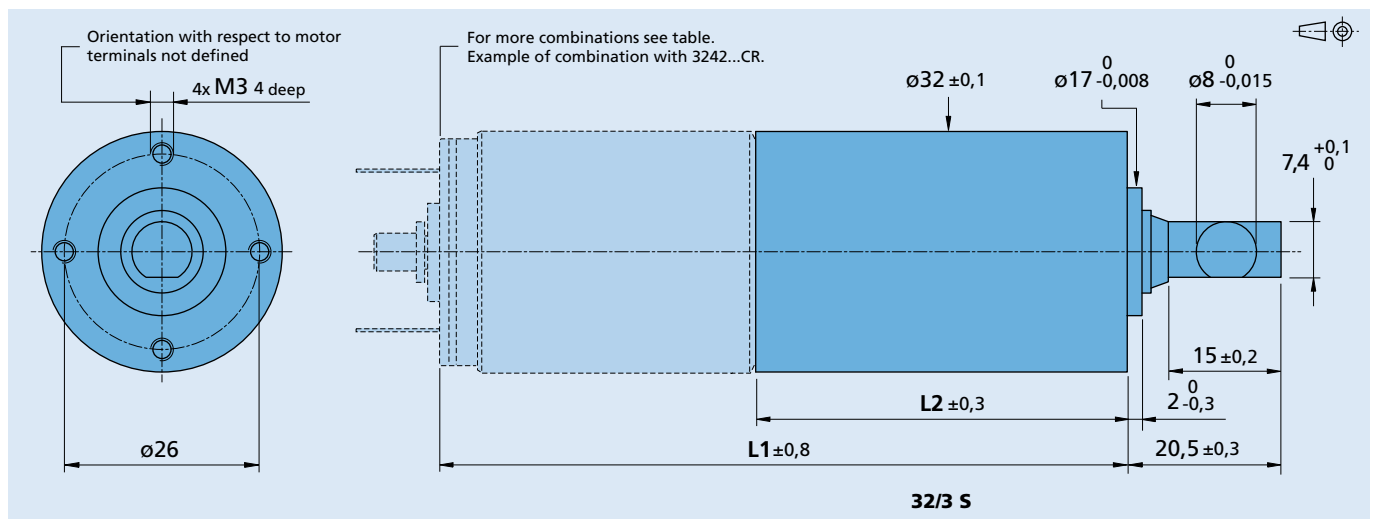
| | 32/3 S |
|-------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 200 N |
| – axial | ≤ 200 N |
| Shaft press fit force, max. | ≤ 250 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 125 °C |

Specifications

| | 2 | 3 | 4 | 5 | 5 |
|--|-------------------|----------------------|-------------------------|-------------------------|---------|
| Number of gear stages | | | | | |
| Continuous torque | Nm 7 | 7 | 7 | 7 | 7 |
| Intermittent torque | Nm 10 | 10 | 10 | 10 | 10 |
| Mass without motor, ca. | g 190 | 230 | 260 | 290 | 300 |
| Efficiency, max. | % 80 | 70 | 60 | 55 | 55 |
| Direction of rotation, drive to output | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 14:1 23:1 | 43:1 66:1 86:1 | 134:1 159:1 246:1 | 415:1 592:1 989:1 | 1 526:1 |
| L2 [mm] = length without motor | 41,6 | 49,4 | 57,2 | 65,0 | 65,0 |
| L1 [mm] = length with motor | 2668W...CR 109,6 | 117,4 | 125,2 | 133,0 | 133,0 |
| | 3242G...CR 83,6 | 91,4 | 99,2 | 107,0 | 107,0 |
| | 3257G...CR 98,6 | 106,4 | 114,2 | 122,0 | 122,0 |
| | 3272G...CR 113,6 | 121,4 | 129,2 | 137,0 | 137,0 |
| | 3242G...BX4 85,8 | 93,6 | 101,4 | 109,2 | 109,2 |
| | 3268G...BX4 111,8 | 119,6 | 127,4 | 135,2 | 135,2 |
| | 3274G...BP4 115,6 | 123,4 | 131,2 | 139,0 | 139,0 |
| | 3564K...B 105,6 | 113,4 | 121,2 | 129,0 | 129,0 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

Note: The gearheads as S-type have all steel gears and heavy duty lubricant for extended lifetime performance.



Planetary Gearheads

20 Nm

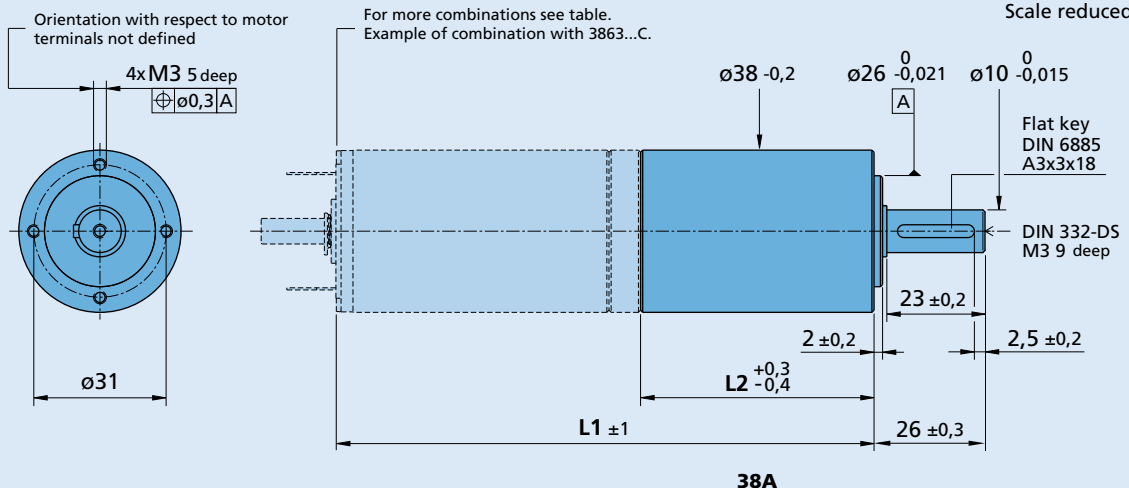
For combination with
DC-Micromotors
Brushless DC-Motors

Series 38A

| | 38A |
|---------------------------------------|-------------------------|
| Housing material | steel |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 500 min ⁻¹ |
| Backlash, at no-load | ≤ 0,6 ° |
| Bearings on output shaft | ball bearings |
| Shaft load, max.: | |
| – radial (14,5 mm from mounting face) | ≤ 200 N |
| – axial | ≤ 200 N |
| Shaft press fit force, max. | ≤ 490 N |
| Shaft play | |
| – radial (14,5 mm from mounting face) | ≤ 0,02 mm |
| – axial | ≤ 0,3 mm |
| Operating temperature range | - 25 ... + 90 °C |

Specifications

| | 1 | 2 | 2 | 3 | 3 | 4 | 4 |
|--|------------|----------------------|-------|---|-------|----------------------------------|---------|
| Number of gear stages | | | | | | | |
| Continuous torque | Nm 6 | 20 | 18 | 20 | 18 | 20 | 18 |
| Intermittent torque | Nm 9,6 | 32 | 29 | 32 | 29 | 32 | 29 |
| Mass without motor, ca. | g 190 | 260 | 260 | 330 | 330 | 410 | 410 |
| Efficiency, max. | % 96 | 94 | 94 | 90 | 90 | 80 | 80 |
| Direction of rotation, drive to output | = | = | = | = | = | = | = |
| Reduction ratio (exact) | 4:1 5:1 | 12:1 16:1 20:1 | 25:1 | 36:1 45:1 60:1 80:1 100:1 120:1 160:1 | 200:1 | 240:1 360:1 480:1 800:1 | 1 600:1 |
| L2 [mm] = length without motor | 42,2 | 55,0 | 55,0 | 67,6 | 67,6 | 80,2 | 80,2 |
| L1 [mm] = length with motor | | | | | | | |
| 3242G...CR | 78,8 | 91,6 | 91,6 | 104,2 | 104,2 | 116,8 | 116,8 |
| 3257G...CR | 93,8 | 106,6 | 106,6 | 119,2 | 119,2 | 131,8 | 131,8 |
| 3272G...CR | 108,8 | 121,6 | 121,6 | 134,2 | 134,2 | 146,8 | 146,8 |
| 3863H...CR | 113,6 | 126,4 | 126,4 | 139,0 | 139,0 | 151,6 | 151,6 |
| 3890H...CR | 139,6 | 152,4 | 152,4 | 165,0 | 165,0 | 177,6 | 177,6 |
| 3274G...BP4 | 110,8 | 123,6 | 123,6 | 136,2 | 136,2 | 148,8 | 148,8 |
| 3564K...B | 106,2 | 119,0 | 119,0 | 131,6 | 131,6 | 144,2 | 144,2 |
| 4490H...B | 139,6 | 152,4 | 152,4 | 165,0 | 165,0 | 177,6 | 177,6 |
| 4490H...BS | 139,6 | 152,4 | 152,4 | 165,0 | 165,0 | 177,6 | 177,6 |



Planetary Gearheads

10 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 38/1

| | 38/1 |
|-------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material ¹⁾ | plastic/steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 300 N |
| – axial | ≤ 300 N |
| Shaft press fit force, max. | ≤ 350 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 125 °C |

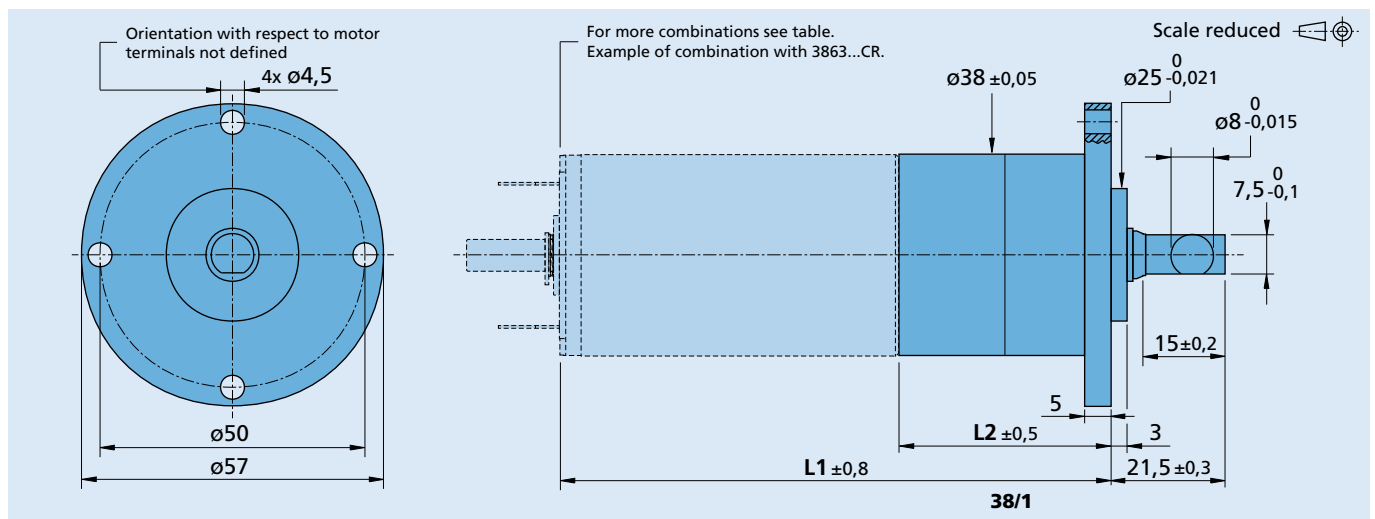
| Specifications | | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 5 |
|--|----|-------------|-------|-------|-------|-------|-------|-------|------------------------------------|
| Number of gear stages | | | | | | | | | |
| Continuous torque | Nm | 6 | 0,4 | 1,4 | 2,2 | 4,5 | 5,3 | 8,2 | 10 |
| Intermittent torque | Nm | 8 | 0,6 | 1,9 | 2,9 | 6 | 7 | 11 | 15 |
| Mass without motor, ca. | g | 166 | 215 | 268 | 268 | 320 | 320 | 320 | 375 |
| Efficiency, max. | % | 88 | 80 | 70 | 70 | 60 | 60 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = | = |
| Reduction ratio ²⁾ (rounded) | | 3,71:1 | 14:1 | 43:1 | 66:1 | 134:1 | 159:1 | 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ³⁾ | | 32,3 | 40,1 | 47,9 | 47,9 | 55,7 | 55,7 | 55,7 | 63,5 |
| L1 [mm] = length with motor | | 73,5 | 81,3 | 89,1 | 89,1 | 96,9 | 96,9 | 96,9 | 104,7 |
| | | 3257G...CR | 88,5 | 96,3 | 104,1 | 104,1 | 111,9 | 111,9 | 119,7 |
| | | 3272G...CR | 103,5 | 111,3 | 119,1 | 119,1 | 126,9 | 126,9 | 134,7 |
| | | 3863A...CR | 91,3 | 99,1 | 106,9 | 106,9 | 114,7 | 114,7 | 122,5 |
| | | 3890A...CR | 117,3 | 125,1 | 132,9 | 132,9 | 140,7 | 140,7 | 148,5 |
| | | 3056K...B | 88,3 | 96,1 | 103,9 | 103,9 | 111,7 | 111,7 | 119,5 |
| | | 3242G...BX4 | 75,7 | 83,5 | 91,3 | 91,3 | 99,1 | 99,1 | 106,9 |
| | | 3268G...BX4 | 101,7 | 109,5 | 117,3 | 117,3 | 125,1 | 125,1 | 132,9 |
| | | 3274G...BP4 | 106,3 | 114,1 | 121,9 | 121,9 | 129,7 | 129,7 | 137,5 |
| | | 3564K...B | 96,3 | 104,1 | 111,9 | 111,9 | 119,7 | 119,7 | 127,5 |

¹⁾ Gearheads with ratios < 14:1 have all steel gears.

²⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

³⁾ L2 - 0,8 mm, in combination with 3242G...CR, 3257G...CR, 3272G...CR, 3242G...BX4 and 3268G...BX4.

L2 - 5 mm, in combination with 3863A...CR and 3890A...CR.



Planetary Gearheads

10 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 38/1 S

| | 38/1 S |
|-------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 300 N |
| – axial | ≤ 300 N |
| Shaft press fit force, max. | ≤ 350 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 125 °C |

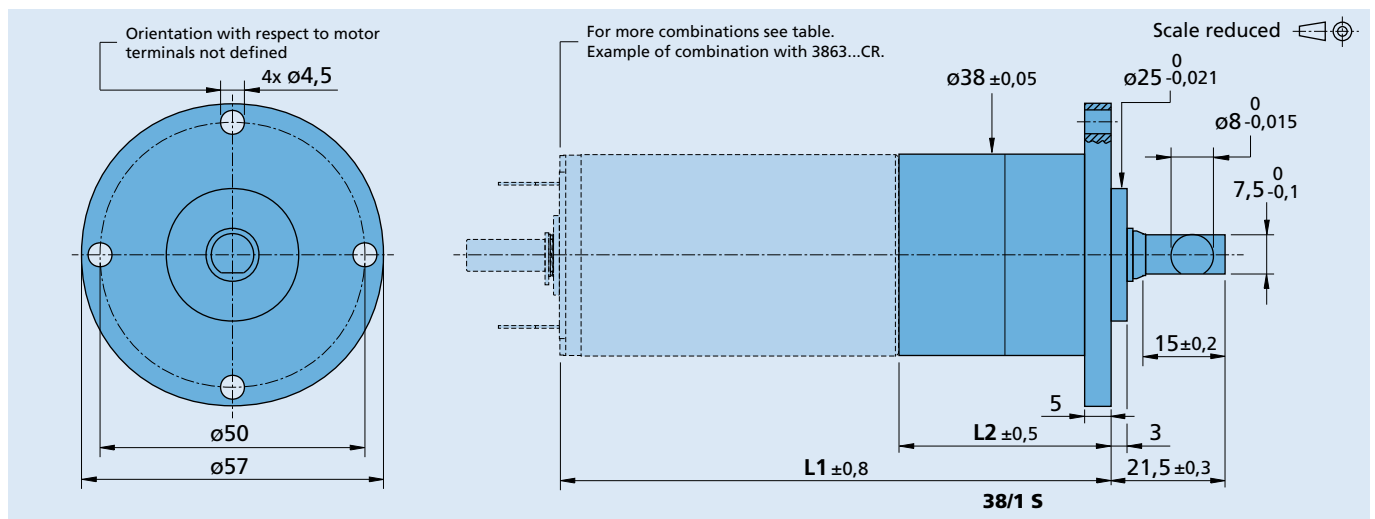
Specifications

| | 2 | 3 | 4 | 5 |
|--|-------|--------------|-------------------------|------------------------------------|
| Number of gear stages | | | | |
| Continuous torque | Nm 10 | 10 | 10 | 10 |
| Intermittent torque | Nm 15 | 15 | 15 | 15 |
| Mass without motor, ca. | g 215 | 268 | 320 | 375 |
| Efficiency, max. | % 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 14:1 | 43:1 66:1 | 134:1 159:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ²⁾ | 40,1 | 47,9 | 55,7 | 63,5 |
| L1 [mm] = length with motor | | | | |
| 3242G...CR | 81,3 | 89,1 | 96,9 | 104,7 |
| 3257G...CR | 96,3 | 104,1 | 111,9 | 119,7 |
| 3272G...CR | 111,3 | 119,1 | 126,9 | 134,7 |
| 3863A...CR | 99,1 | 106,9 | 114,7 | 122,5 |
| 3890A...CR | 125,1 | 132,9 | 140,7 | 148,5 |
| 3056K...B | 96,1 | 103,9 | 111,7 | 119,5 |
| 3242G...BX4 | 83,5 | 91,3 | 99,1 | 106,9 |
| 3268G...BX4 | 109,5 | 117,3 | 125,1 | 132,9 |
| 3274G...BP4 | 114,1 | 121,9 | 129,7 | 137,5 |
| 3564K...B | 104,1 | 111,9 | 119,7 | 127,5 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ L2 - 0,8 mm, in combination with 3242G...CR, 3257G...CR, 3272G...CR, 3242G...BX4 and 3268G...BX4.
L2 - 5 mm, in combination with 3863A...CR and 3890A...CR.

Note: The gearheads as S-type have all steel gears and heavy duty lubricant for extended lifetime performance.



Planetary Gearheads

10 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 38/2

| | 38/2 |
|---|--------------------------|
| Housing material | metal |
| Geartrain material ¹⁾ | plastic/steel |
| Recommended max. input speed for: – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 300 N |
| – axial | ≤ 300 N |
| Shaft press fit force, max. | ≤ 350 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 125 °C |

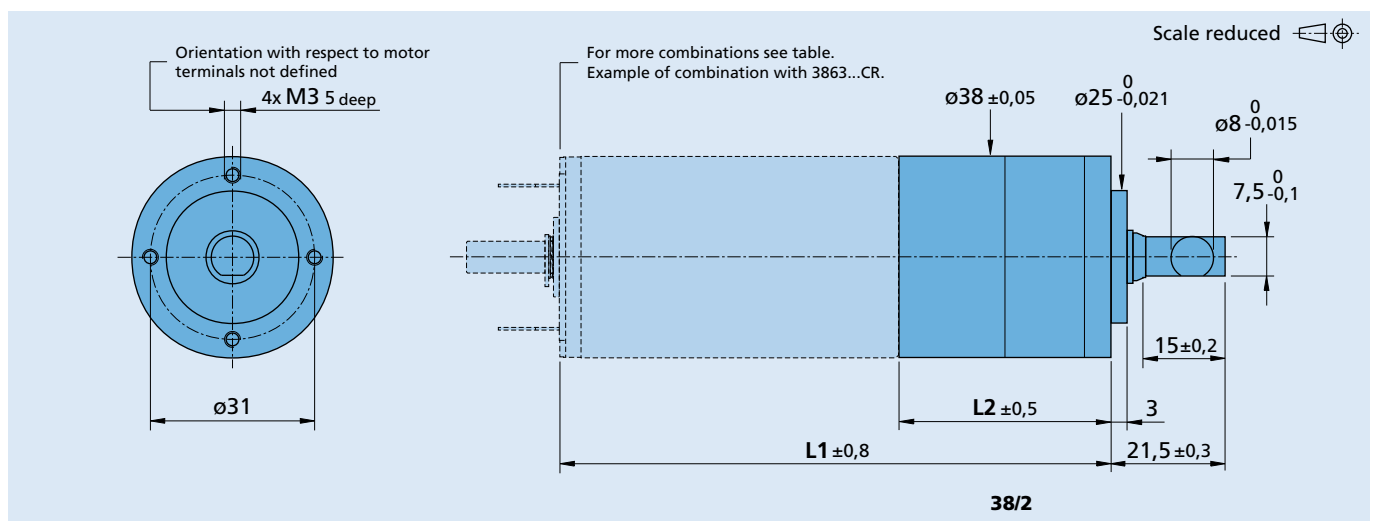
| Specifications | | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 5 |
|--|----|--------|-------|-------|-------|-------|-------|-------|------------------------------------|
| Number of gear stages | | | | | | | | | |
| Continuous torque | Nm | 6 | 0,4 | 1,4 | 2,2 | 4,5 | 5,3 | 8,2 | 10 |
| Intermittent torque | Nm | 8 | 0,6 | 1,9 | 2,9 | 6 | 7 | 11 | 15 |
| Mass without motor, ca. | g | 145 | 195 | 245 | 245 | 296 | 296 | 296 | 348 |
| Efficiency, max. | % | 88 | 80 | 70 | 70 | 60 | 60 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = | = | = | = | = |
| Reduction ratio ²⁾ (rounded) | | 3,71:1 | 14:1 | 43:1 | 66:1 | 134:1 | 159:1 | 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ³⁾ | | 32,3 | 40,1 | 47,9 | 47,9 | 55,7 | 55,7 | 55,7 | 63,5 |
| L1 [mm] = length with motor | | | | | | | | | |
| 3242G...CR | | 73,5 | 81,3 | 89,1 | 89,1 | 96,9 | 96,9 | 96,9 | 104,7 |
| 3257G...CR | | 88,5 | 96,3 | 104,1 | 104,1 | 111,9 | 111,9 | 111,9 | 119,7 |
| 3272G...CR | | 103,5 | 111,3 | 119,1 | 119,1 | 126,9 | 126,9 | 126,9 | 134,7 |
| 3863A...CR | | 91,3 | 99,1 | 106,9 | 106,9 | 114,7 | 114,7 | 114,7 | 122,5 |
| 3890A...CR | | 117,3 | 125,1 | 132,9 | 132,9 | 140,7 | 140,7 | 140,7 | 148,5 |
| 3056K...B | | 88,3 | 96,1 | 103,9 | 103,9 | 111,7 | 111,7 | 111,7 | 119,5 |
| 3242G...BX4 | | 75,7 | 83,5 | 91,3 | 91,3 | 99,1 | 99,1 | 99,1 | 106,9 |
| 3268G...BX4 | | 101,7 | 109,5 | 117,3 | 117,3 | 125,1 | 125,1 | 125,1 | 132,9 |
| 3274G...BP4 | | 106,3 | 114,1 | 121,9 | 121,9 | 129,7 | 129,7 | 129,7 | 137,5 |
| 3564K...B | | 96,3 | 104,1 | 111,9 | 111,9 | 119,7 | 119,7 | 119,7 | 127,5 |

¹⁾ Gearheads with ratios < 14:1 have all steel gears.

²⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

³⁾ L2 - 0,8 mm, in combination with 3242G...CR, 3257G...CR, 3272G...CR, 3242G...BX4 and 3268G...BX4.

L2 - 5 mm, in combination with 3863A...CR and 3890A...CR.



Planetary Gearheads

10 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 38/2 S

| | 38/2 S |
|-------------------------------------|--------------------------|
| Housing material | metal |
| Geartrain material | steel |
| Recommended max. input speed for: | |
| – continuous operation | 4 000 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (10 mm from mounting face) | ≤ 300 N |
| – axial | ≤ 300 N |
| Shaft press fit force, max. | ≤ 350 N |
| Shaft play | |
| – radial (10 mm from mounting face) | ≤ 0,03 mm |
| – axial | ≤ 0,15 mm |
| Operating temperature range | - 20 ... + 125 °C |

Specifications

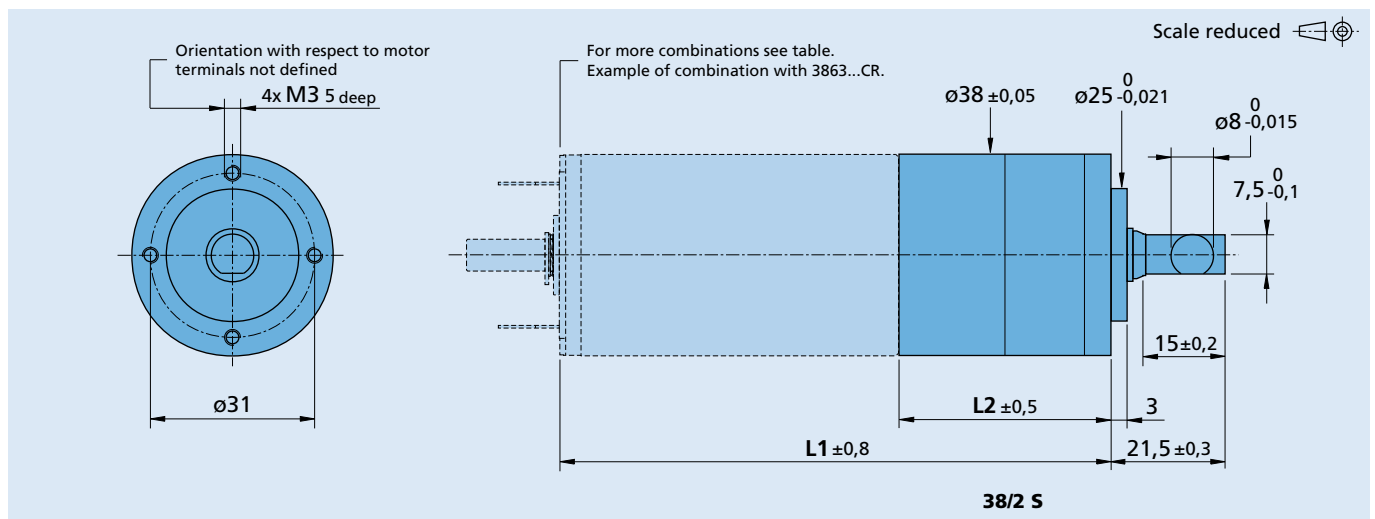
| | | 2 | 3 | 4 | 5 |
|--|----|-------|--------------|-------------------------|------------------------------------|
| Number of gear stages | | | | | |
| Continuous torque | Nm | 10 | 10 | 10 | 10 |
| Intermittent torque | Nm | 15 | 15 | 15 | 15 |
| Mass without motor, ca. | g | 195 | 245 | 296 | 348 |
| Efficiency, max. | % | 80 | 70 | 60 | 55 |
| Direction of rotation, drive to output | | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | | 14:1 | 43:1 66:1 | 134:1 159:1 246:1 | 415:1 592:1 989:1 1 526:1 |
| L2 [mm] = length without motor ²⁾ | | 40,1 | 47,9 | 55,7 | 63,5 |
| L1 [mm] = length with motor | | | | | |
| 3242G...CR | | 81,3 | 89,1 | 96,9 | 104,7 |
| 3257G...CR | | 96,3 | 104,1 | 111,9 | 119,7 |
| 3272G...CR | | 111,3 | 119,1 | 126,9 | 134,7 |
| 3863A...CR | | 99,1 | 106,9 | 114,7 | 122,5 |
| 3890A...CR | | 125,1 | 132,9 | 140,7 | 148,5 |
| 3056K...B | | 96,1 | 103,9 | 111,7 | 119,5 |
| 3242G...BX4 | | 83,5 | 91,3 | 99,1 | 106,9 |
| 3268G...BX4 | | 109,5 | 117,3 | 125,1 | 132,9 |
| 3274G...BP4 | | 114,1 | 121,9 | 129,7 | 137,5 |
| 3564K...B | | 104,1 | 111,9 | 119,7 | 127,5 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

²⁾ L2 - 0,8 mm, in combination with 3242G...CR, 3257G...CR, 3272G...CR, 3242G...BX4 and 3268G...BX4.

L2 - 5 mm, in combination with 3863A...CR and 3890A...CR.

Note: The gearheads as S-type have all steel gears and heavy duty lubricant for extended lifetime performance.



Planetary Gearheads

16 Nm

For combination with
DC-Micromotors
Brushless DC-Motors

Series 44/1

| | 44/1 |
|---|--------------------------|
| Housing material | metal |
| Geartrain material | metal |
| Recommended max. input speed for: – continuous operation | 3 500 min ⁻¹ |
| Backlash, at no-load | ≤ 1 ° |
| Bearings on output shaft | ball bearings, preloaded |
| Shaft load, max.: | |
| – radial (12 mm from mounting face) | ≤ 400 N |
| – axial | ≤ 350 N |
| Shaft press fit force, max. | ≤ 500 N |
| Shaft play | |
| – radial (12 mm from mounting face) | ≤ 0,03 mm |
| – axial | = 0 mm |
| Operating temperature range | - 30 ... + 125 °C |

Specifications

| | 1 | 2 | 3 | 4 | 5 |
|--|-------|-------|-------|-------|---------|
| Number of gear stages | | | | | |
| Continuous torque | Nm 16 | 16 | 16 | 16 | 16 |
| Intermittent torque | Nm 20 | 20 | 20 | 20 | 20 |
| Mass without motor, ca. | g 480 | 600 | 720 | 840 | 960 |
| Efficiency, max. | % 90 | 80 | 70 | 65 | 60 |
| Direction of rotation, drive to output | = | = | = | = | = |
| Reduction ratio ¹⁾ (rounded) | 4,8:1 | 23:1 | 111:1 | 531:1 | 2 548:1 |
| L2 [mm] = length without motor | 62,2 | 77,8 | 93,2 | 108,6 | 124,0 |
| L1 [mm] = length with motor | | | | | |
| 3863H...CR | 126,2 | 141,8 | 157,2 | 172,6 | 188,0 |
| 3890H...CR | 152,2 | 167,8 | 183,2 | 198,6 | 214,0 |
| 4490H...B | 152,2 | 167,8 | 183,2 | 198,6 | 214,0 |
| 4490H...BS | 152,2 | 167,8 | 183,2 | 198,6 | 214,0 |

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.

