



FUTURE IN MOTION

LOW BACKLASH PLANETARY



New generation of low backlash planetary gearboxes MPR(N)



- Complete new design.
- Backlash lower than 1 arcmin.
- Low noise.
- High output torque.
- Quick motor mounting.
- High degree of flexibility.

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Technical data of the MPR(N)



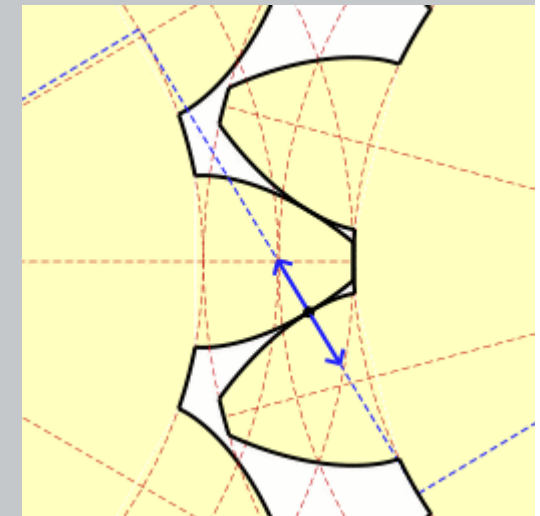
- Tooth design: helical
- Sizes: 05, 100, 200, 300
- Torque Md_2 : up to 400 Nm
- Ratio 1-stage: 3,0 - 4,0 - 5,0 – 7,0 – 10,0
- Ratio 2-stage: 12,0 up to 100,0
- Backlash
1 stage: 3 arcmin / 1 arcmin optional
- Backlash
2 stage: 5 arcmin / 3 arcmin optional
- Lubrication: Synthetic oil for life time.
- Life time: 20.000 h
- IP code: 65

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Technical:

Helical tooth design

- Advantages: better quiet running and lower noise (approx. 5 dB (A) from the helical gearing, since each gear runs with continuous contact in mesh and thus the transmission of the torque is smooth. Compared to straight teeth with same module and the same number of teeth, a higher power can be transmitted (approx. 20%+) because the contact length increases.
- Disadvantages: helical gearing introduces axial forces which have to be compensated by the bearings in the gearbox..



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Technical data:

Size NEW	Size OLD
050	00
100	01
200	02
300	03

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Technical data:

Size	Nominal output torque Nm
050	29
100	83
200	200
300	390

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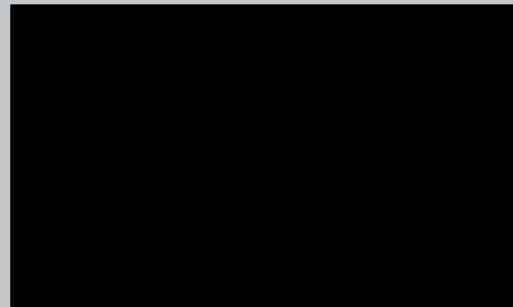


Technical data:

- Lubrication:
 - Synthetic oil filling for life time.
 - Bearing life time 20.000 h
 - At limited input speed for 90° C

Painting:

- Black RAL 9005 Nitrocell.



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Technical data:

Seals

- Input oil seal according DIN 3760 material FKM (**Viton**)
- Position of the oil seal direct on the oil chamber
 - Advantage better lubrication of the oil seal lips.
 - The heat is better dissipated through the oil.
- Smaller contact pattern
 - Lower heat generated through lower friction.



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Technical data:

Seals

- Output oil seal according DIN 3760 material FKM (**Viton**) with additional dust seal lip (AS)
- Smaller contact pattern
 - Lower heat generated through lower friction





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Technical data:

- IP code 65
- The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

0—	No protection against contact and ingress of objects
1>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2>12.5 mm	Fingers or similar objects
3>2.5 mm	Tools, thick wires, etc.
4>1 mm	Most wires, screws, etc.
5	dust protected Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact
6 	dust tight No ingress of dust; complete protection against contact 

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Technical data:

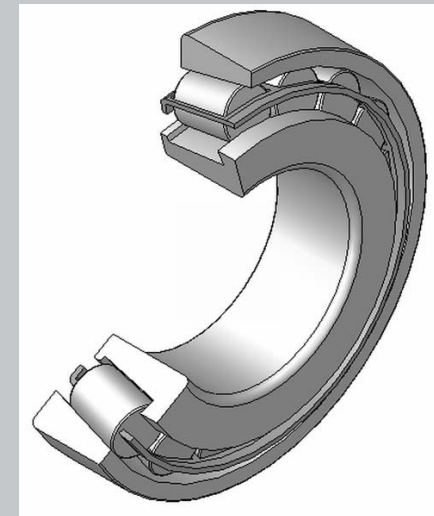
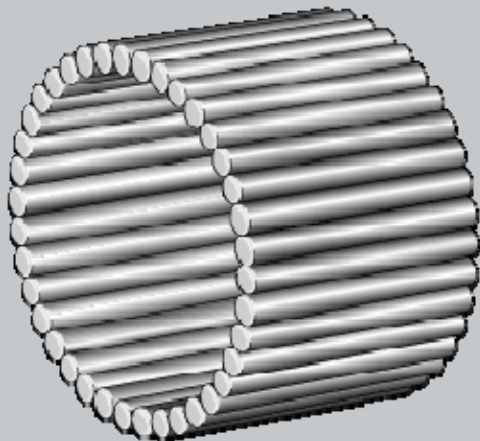
- IP code 65
 - The second digit indicates protection of the equipment inside the enclosure against harmful ingress of water.
- | | |
|----------|---|
| 0 | not protected— |
| 1 | dripping waterDripping water (vertically falling drops) shall have no harmful effect. |
| 2 | dripping water when tilted up to 15°Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position. |
| 3 | spraying waterWater falling as a spray at any angle up to 60° from the vertical shall have no harmful effect. |
| 4 | splashing waterWater splashing against the enclosure from any direction shall have no harmful effect. |
| 5 | water jets water projected by a nozzle against enclosure from any direction shall have no harmful effects. |
| 6 | powerful water jetsWater projected in powerful jets against the enclosure from any direction shall have no harmful effects. |

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Technical data:

- Output bearings
 - Re-enforced output bearings:
 - Support for higher radial load →

- Planetary bearings
 - Full needle bearings ↓



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Motor mounting:

- **Shaft connection by friction locking**
 - Difference is that the locking is achieved with one screw instead of two:
 - Quicker mounting than before.
 - For each motor shaft diameter a bore size will be assigned.

- **Clamp screw hole has to be sealed with a screwed plug.**



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Thank you very much for your attention:





V I E L E N D A N K F Ü R I H R E
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