

# Product data sheet

XP<sup>+</sup>

Low backlash planetary gearbox



| Gearbox data            |                          |
|-------------------------|--------------------------|
| Designation:            | XP050S-MF1-3-1N1-2S      |
| Gearbox type            | XP <sup>+</sup>          |
| Gearbox size            | 050                      |
| Design keyword          | Standard                 |
| Gearbox variation       | Motor attachment gearbox |
| Gearbox stages          | 1                        |
| Gearbox ratio i         | 3                        |
| Output design           | Key                      |
| Clamping hub diameter   | 55 mm                    |
| Gearbox backlash        | Standard                 |
| Gearbox material number | 20069561                 |

| Motor mounting parts (included in delivery) |   |
|---|---|
| Incl. mounting parts for servo motor        | TBD   |
| Adapter plate                               | Configure with provided cymex <sup>®</sup> 5 file |

| Order designation                                 |
|---|
| XP050S-MF1-3-1N1-2S / Specify your motor P/N here |

Confirm motor compatibility with cymex<sup>®</sup> 5. Download your pre-configured file and base 3D model here!<sup>d)</sup>



| Technical specifications   |                    |                         |
|--|--------------------|-------------------------|
| Max. output torque<br>(Depending on the specific boundary conditions of the application)                           | T <sub>2α</sub>    | 2544 Nm                 |
| Max. acceleration torque<br>(max. 1000 cycles per hour)  | T <sub>2B</sub>    | 2040 Nm                 |
| Nominal output torque<br>(with n <sub>IN</sub> )   | T <sub>2N</sub>    | 513 Nm                  |
| Emergency stop torque (permitted 1000 times during the service life of the gearbox)                                | T <sub>2Not</sub>  | 3445 Nm                 |
| Nominal input speed<br>(with T <sub>2N</sub> and 20 °C ambient temperature) <sup>a)</sup>                          | n <sub>1N</sub>    | 1500 min <sup>-1</sup>  |
| Max. input speed   | n <sub>1Max</sub>  | 4500 min <sup>-1</sup>  |
| Mean no load running torque<br>(with n <sub>1</sub> =3000 min <sup>-1</sup> and 20 °C gearbox temp.) <sup>b)</sup> | T <sub>012</sub>   | 14 Nm                   |
| Max. torsional backlash  | j <sub>t</sub>     | ≤ 3 arcmin              |
| Torsional rigidity <sup>b)</sup>   | C <sub>t21</sub>   | 160 Nm/arcmin           |
| Tilting rigidity   | C <sub>2K</sub>    | 1900 Nm/arcmin          |
| Max. axial force <sup>c)</sup>   | F <sub>2AMax</sub> | 17725 N                 |
| Max. radial force <sup>c)</sup>  | F <sub>2RMax</sub> | 18000 N                 |
| Max. tilting moment  | M <sub>2KMax</sub> | 3256 Nm                 |
| Efficiency at full load  | η                  | 97 %                    |
| Service life (for calculation, see the Chapter "Information" in our product catalogue)                             | L <sub>h</sub>     | > 20000 h               |
| Weight incl. standard adapter plate  | m                  | 34 kg                   |
| Operating noise<br>(with n <sub>1</sub> =3000 min <sup>-1</sup> no load)   | L <sub>PA</sub>    | ≤ 77 dB(A)              |
| Max. permitted housing temperature   |                    | 90 °C                   |
| Ambient temperature  |                    | -15 °C to 40 °C         |
| Lubrication  |                    | lubricated for life     |
| Paint  |                    | Innovation blue         |
| Protection class   |                    | IP 65                   |
| Inertia<br>(relates to the drive)  | J <sub>1</sub>     | 77.93 kgcm <sup>2</sup> |

a) For higher ambient temperatures, please reduce input speed

b) Depends on clamping hub diameter

c) Refers to center of the output shaft or flange

d) Use cymex<sup>®</sup> 5 to confirm adapter plate dimensions and motor compatibility

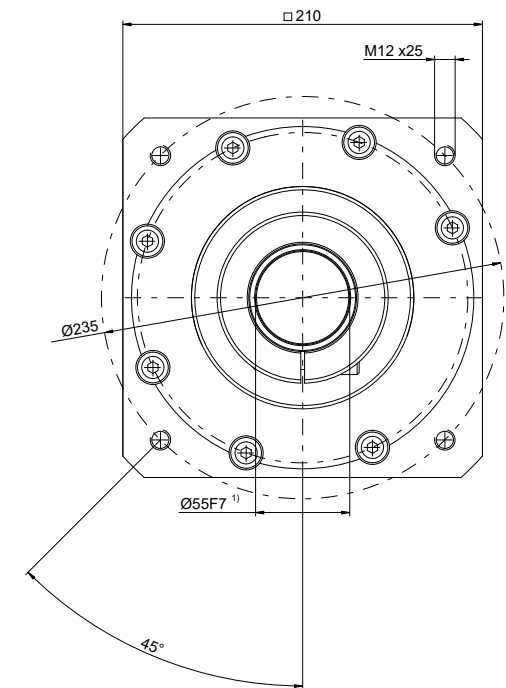
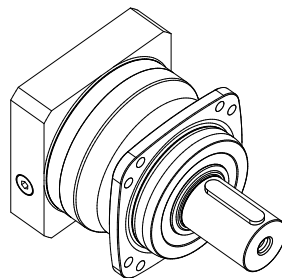
Don't have cymex<sup>®</sup> 5? Get your Premium license here!





New to cymex<sup>®</sup> 5? Learn how to check motor compatibility quickly with a simple tutorial.



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|   |          |   |   |                                      |
|---|----------|---|---|--------------------------------------|
| gez/draft   |          | <br>Massstab<br>Scale<br><b>auto</b> | <br><b>WITTENSTEIN</b> | <b>alpha</b>                         |
| Datum/date  |          |   |   |                                      |
| Eigentumsvorbehalt nach                      Observe copyright note<br>DIN 34 beachten !                      according to DIN 34 ! |          |   |   |                                      |
| Benenn. <b>XP 050S-MF1- 3-1N1-2S</b><br>Descr.  |          |   |   |                                      |
| Kommentar <b>Motor specified by user - compatibility check required</b><br>Note   |          |   |   |                                      |
| MN  | 20069561 | DIN A3  | Urspr./Ref-Drwg:  | CAD-Generator V2.0<br>Blatt/Sheet: 1 |

nicht vertraulich

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