



GTP2G Two-Speed Gearbox

 German Tech Precision Manufacturing Co., Ltd.

Add: Floor 1, No.28, Fenggong Zhong Rd., Shengang Dist., Taichung City, Taiwan (R.O.C.)

Postal code: 42942

Tel: +886-4-25150566

Fax: +886-4-25152413

Email: shokayu@zfgta.com.tw

Chief representative in Taiwan:

German Tech Auto Co., Ltd.

Chief representative in P.R.China:
Dynamic Power Transmission Co., Ltd.

Add: No. 255 Shuangbang Road, Xujing, Qingpu District, Shanghai, P.R.China

Postal code: 201702

Tel: 86-21-59883978

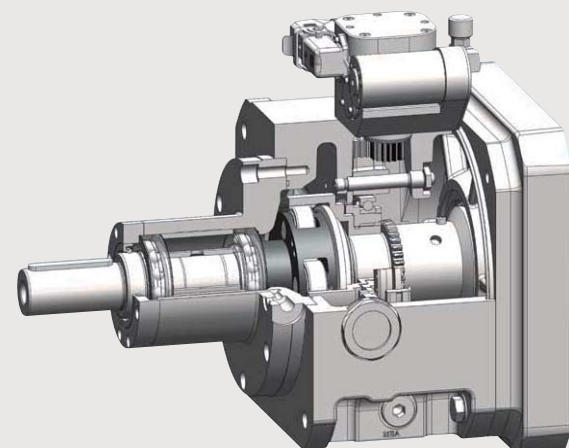
Fax: 86-21-59883979

Email: evguan@zfgta.com.tw

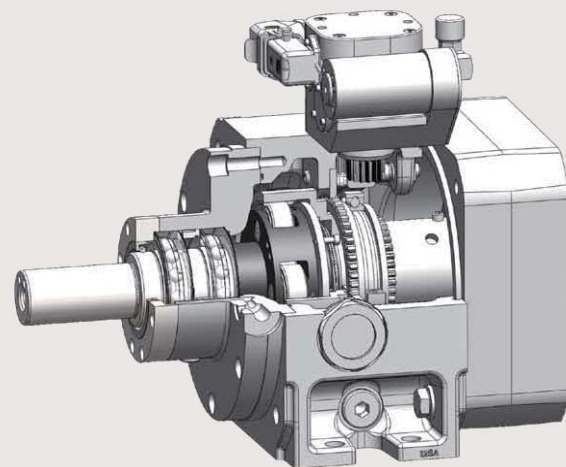
Website: www.gtadtc.com



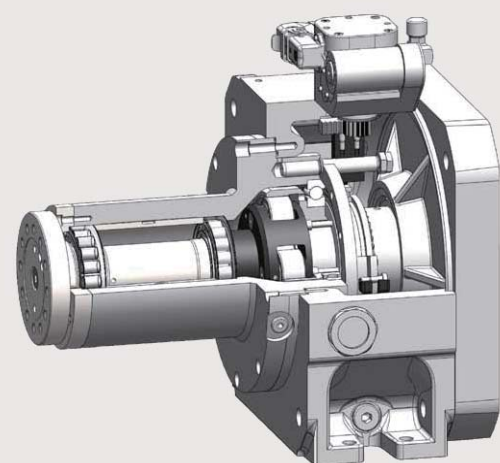
GTP-2G Shaft output for gear drives



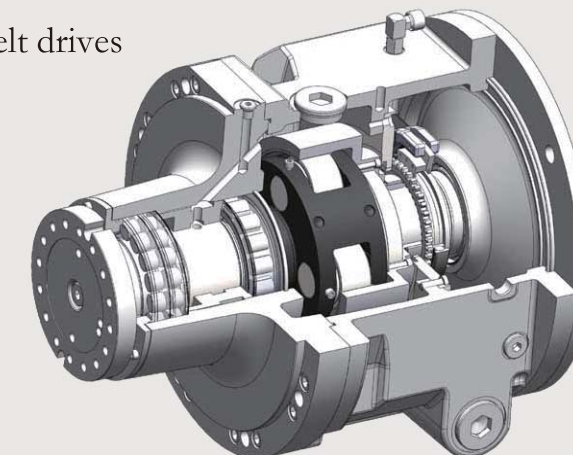
GTP-2G INLINE Direct mounting to Spindle



GTP-2G Standard long output shaft for belt drives



GTP-2G Standard for belt drives



Innovative Technology, Great Value

Our development and production are focused on high precision and high productivity.

Our innovative product is high precision two-speed gearbox (GTP-2G) for machine tools as well as customer specific applications.

| | |
|--------------------------------|-------|
| Application, Benefits, Design | 3-4 |
| Modular design | 5-6 |
| Technical data | 7-8 |
| Motor connection | 9 |
| Motor output shaft | 10-11 |
| Adaptions | 12 |
| Bearing life | 13-14 |
| Torsional backlash | 15 |
| Lubrication | 16 |
| Connections for lubrication | 17-18 |
| Overview Installation Drawings | 20-27 |
| Odering information | 28-31 |

Application

GTP-2G Two-speed gearboxes are mainly used in machine tool main-spindle drives, test benches and applications which high torque is needed.

The gearbox can be used in turning machines and machining centers thanks to its variable installation position. The gearbox is also suitable for many systems which torque increases and/or speed reduction is needed.

Benefits

- Energy Saving : with precise reduction mechanism and high efficiency, decrease or extend the input speed of motor to achieve machining requirement and save energy;
- Wide machining range : wide output speed, increase the flexibilities of machine tool and has no influence on machining precision;
- Increase machining torque: extend the output power and increase the output torque of motor effectively;
- Wide range of machining material: low output speed and high output torque for hard materials, and high output speed for soft materials;
- High efficiency: compact design of helical gearing , provide better efficiency than spur gear with lowest noise and optimized Space;
- Modular design: with different adapter design suitable for different brands of motors.

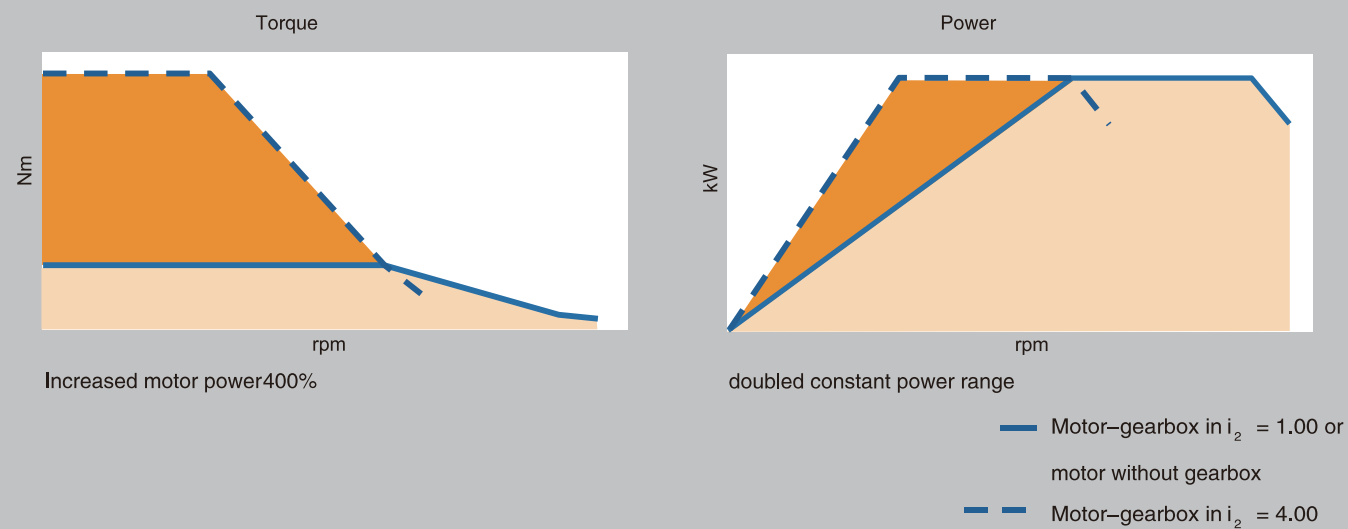
GTP-2G Standard

Wide bearing base for high radial force

Torque-Power curve

Speed ranges 1:4/1:5.5 are available, constant power of main spindle can be achieved with the gearbox, depending on the controllable range of motor. This provides high torque at low speed on the one hand and high power at high speed on the other, allowing the cutting power of modern tools to be fully utilized.

Torque-Power Curve – e.g. **GTP-2G-250**



Machining Center

Design

GTP-2G is an innovative two speed gear box for machine tools, characterized by extremely low noise and vibration as well as excellent shifting mechanism. German Engineering! GTP-2G is designed and developed by GTP's R&D center located in Germany based on state of the art technology and abundant experience in machine tool industry.

GTP-2G adopts single stage planetary gear concept with two speed shifting mechanism in order to meet various demands from worldwide machine tool industries.

In contrast to conventional spur gearboxes, this planetary gearbox captivates by benefits of the division of power to 4 planetary gears, thus achieving an extremely compact and space saving design.

In Addition, the four simultaneously meshing helical planetary gears assure low-noise operation at high speed.

Misalignments and concentricity issues are ideally concentrated by the floating design of the sun gear. Thus such a planetary gearbox is much less sensitive to tolerance.

The motor-gearbox unit is commonly fixed to the machine frame or bed by using the gearbox foot mount (Available for 2G120, 2G250, 2G300, 2G600 only).

Each gearbox has available an output side pilot for flange mounts.

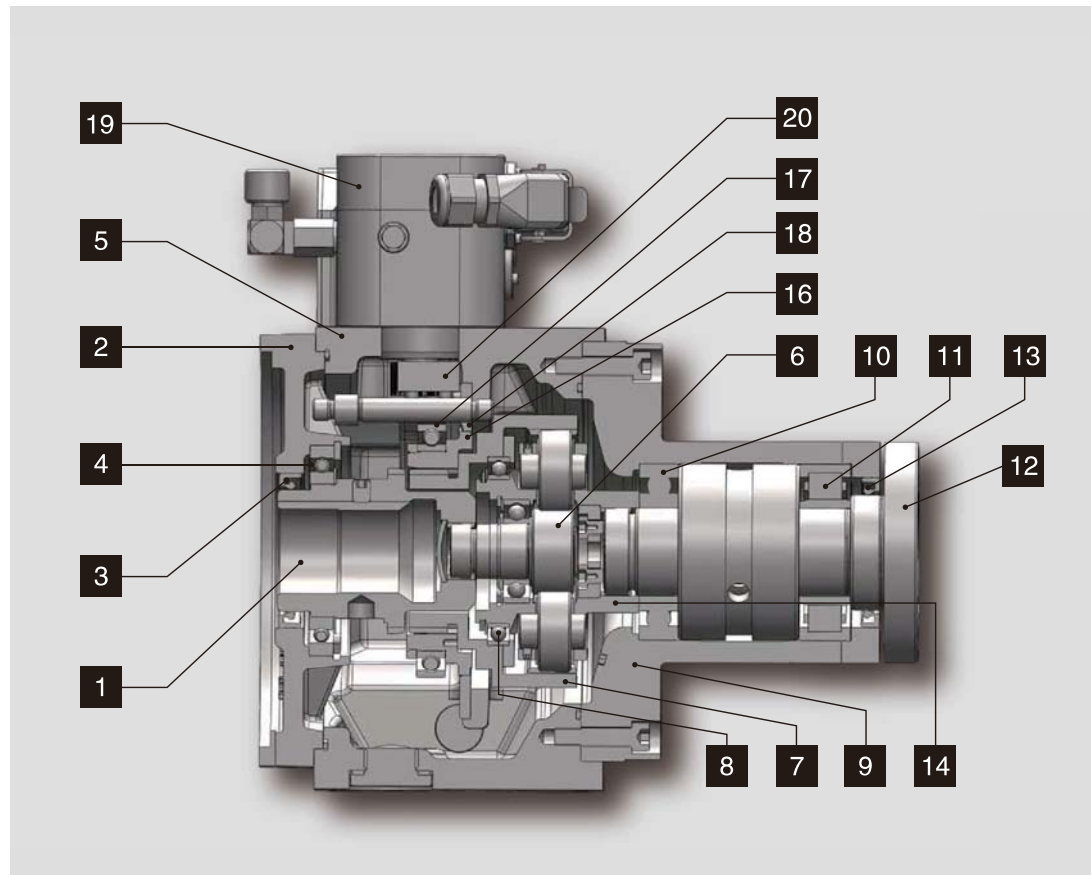
For each application there is an ideal choice of output bearing with a wide bearing base.

Variable output housings suitable for different main spindle design:

e.g. GTP -2G STANDARD with wide bearing base for belt drives allowing high radial load. GTP-2G INLINE with short output housing and angular contact bearings for direct drive.

GTP-2G INLINE
Short output housing for direct mounting to spindle.

GTP-2G121 Standard



Main components of gearbox:

Adapter parts:

- 1: Drive hub
- 2: Adapter plate
- 3: Shaft seal
- 4: hub bearing

Housing:

- 5: Gearbox housing

Input:

- 6: Sun gear
- 7: Ring gear
- 8: Ring gear bearing

Output:

- 9: Output housing
- 10: Output bearing
- 11: Output bearing
- 12: Output shaft
- 13: Shaft seal
- 14: Planetary carrier
- 15: Axial bearing with cup spring

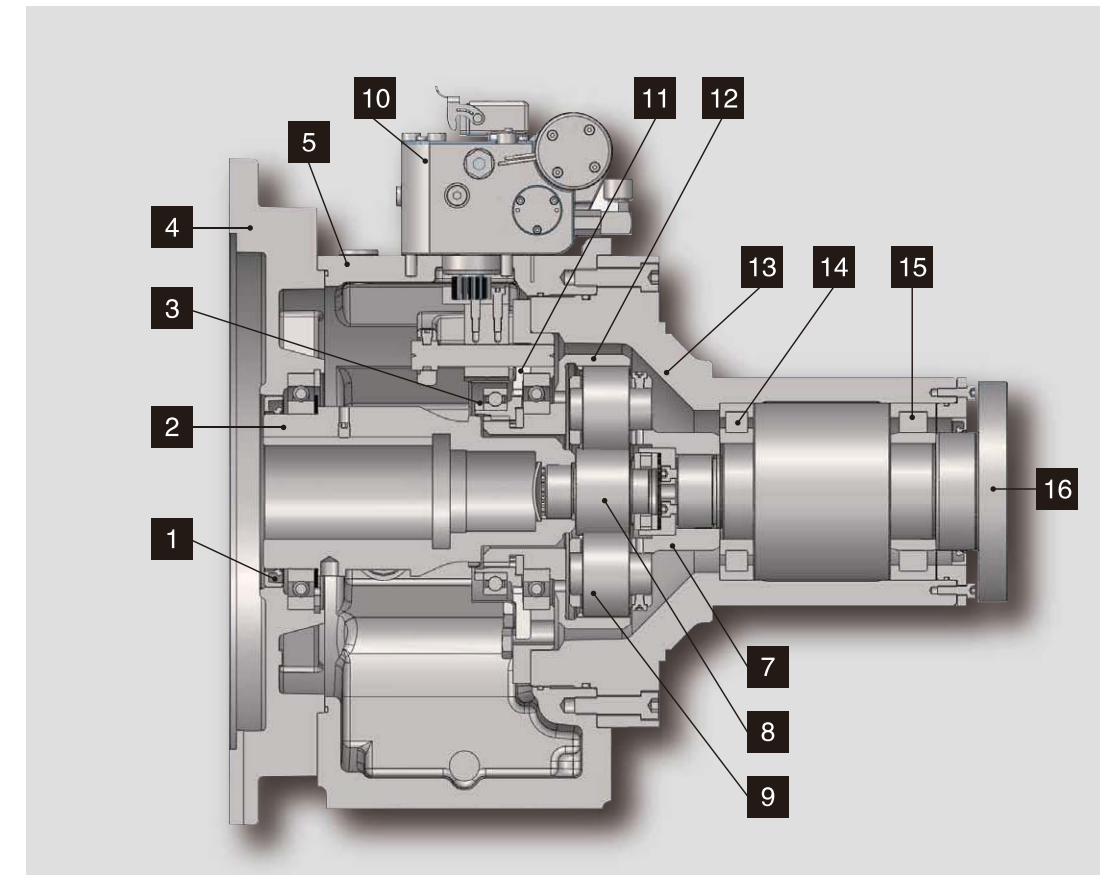
Gear shifting unit:

- 16: Sliding sleeve
- 17: Sliding sleeve bearing
- 18: Brake disc

Shift unit

- 19: Shifting unit
- 20: Rack

GTP-2G600 Standard



Main components of gearbox:

Adapter parts:

- 1: Hub seal
- 2: Drivehub
- 4: Adapter plate

Housing:

- 5: Drivehub

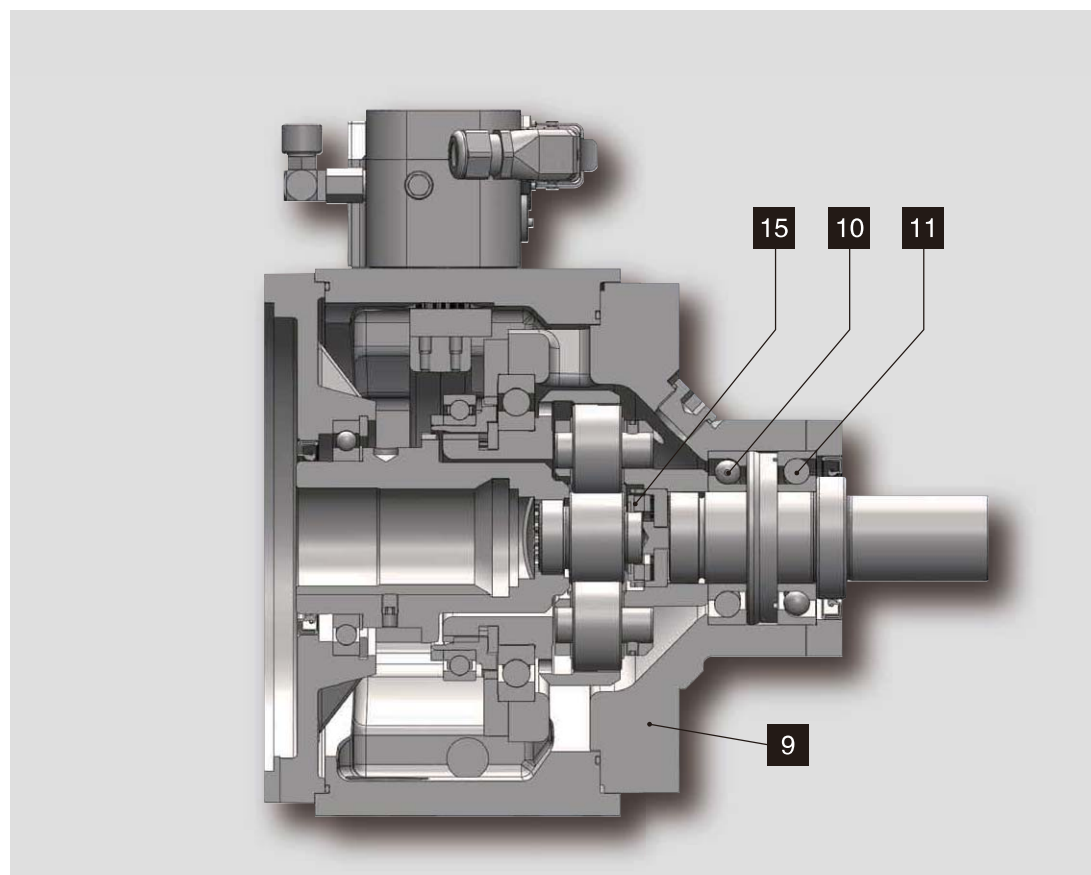
Input:

- 8: Sun gear
- 12: Ring gear

Output:

- 13: Output housing
- 14: Output bearing
- 15: Output bearing
- 16: Output shaft
- 7 : Planetary carrier
- 9 : Planetary gear

GTP-2G250 / 300 INLINE



Gearbox shifting unit:

- 3: Sliding sleeve
- 11: Brake disc

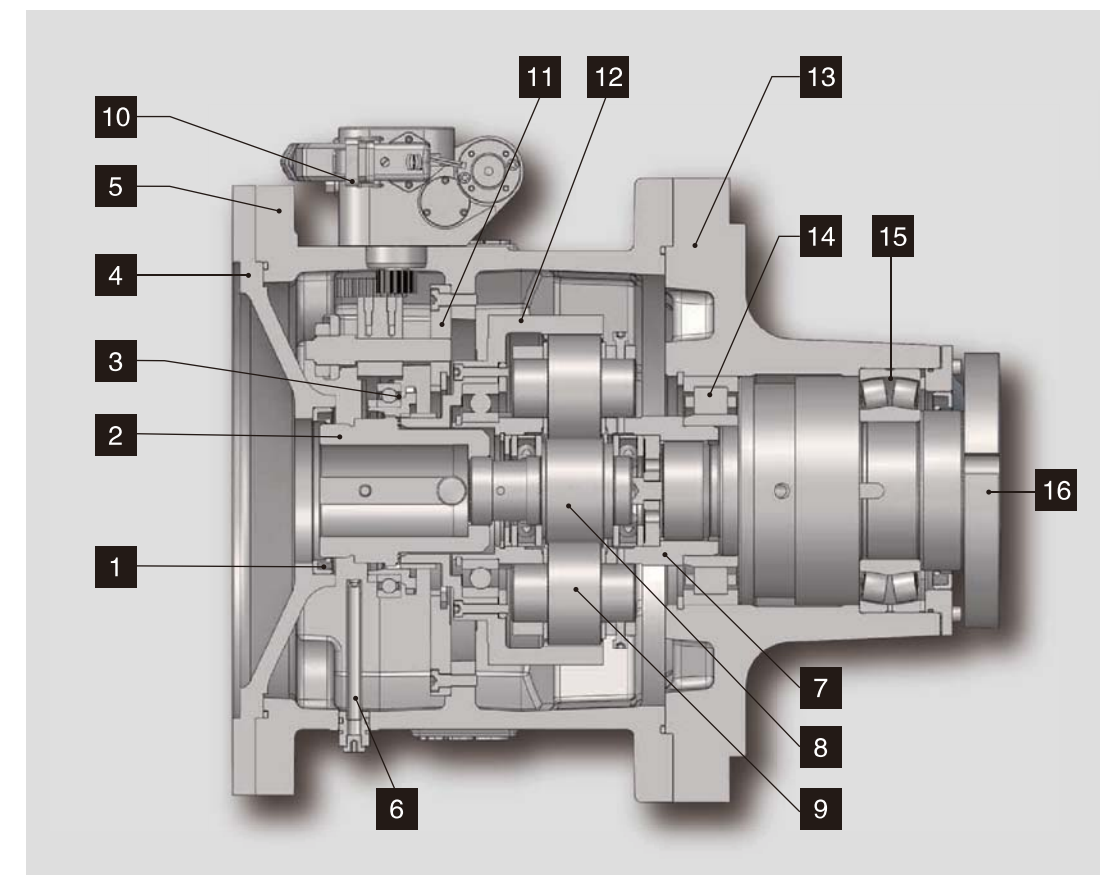
Gear shifting unit

- 10: Shifting unit

Lubrication:

- 6: Oil inlet pipe

GTP-2G800 Standard



Technical Data

| | | Ratio | 2G120 2G121 | 2G250 | 2G300 | 2G600 |
|---|---------------------------|---------------|--|-----------------------|-----------------------|----------|
| Nominal data: | | | | | | |
| Motor frame size | (mm) | | 100/112 | 132 | 160 | 180 |
| Nominal power | (KW) | | 19 | 39 | 47 | 63 |
| Nominal speed | (min ⁻¹) | | 1500 | 1500 | 1500 | 1000 |
| Nominal input speed (continuous operation S1) | (Nm) | | 120 | 250 | 300/250* | 600 |
| Output torque | (Nm) | 1.00 | 120 | 250 | 300/ | 600 |
| | (Nm) | 4.00 | 480 | 1000 | 1200/ | 2400 |
| | (Nm) | 4.91 | 589 | | / | |
| | (Nm) | 5.00 | | | | 3000 |
| | (Nm) | 5.50 | | 1375 | /1375 | |
| | | | | | | |
| maximum data: | | | | | | |
| Max. Torque in Nm (Intermitted loading S6 cycle duration 10 min, ED. max. 60%) | | | | | | |
| Input | (Nm) | | 140 | 400 | 400 | 840 |
| Output(max. accelerating torque) | (Nm) | 1.00 | 140 | 400 | 400 | 840 |
| | (Nm) | 4.00 | 560 | 1600 | 1600 | 3360 |
| | (Nm) | 4.91 | 687 | | | |
| | (Nm) | 5.00 | | | | 4200 |
| | (Nm) | 5.50 | | 2200 | 2200 | |
| | | | | | | |
| Max. permitted input speed | (min ⁻¹) | | | | | |
| in reduction ratio $i \neq 1$ | (min ⁻¹) | $\neq 1^{1)}$ | 8000 | 6300 | 6300 | 5000 |
| direct drive $i = 1$ | (min ⁻¹) | $1^{1)}$ | 12000 ³⁾ | 10000 ³⁾²⁾ | 10000 ³⁾²⁾ | 5000 |
| Max. vibration value | (mm/s) | \leq | 1.0 | 1.0 | 1.0 | 2.5 |
| at reference speed | (min ⁻¹) | | 6000 | 5000 | 5000 | 4000 |
| Max. axial force in reduction ratio in counter clockwise(ccw) operation running and max. input torque see permissible axial force for motor shaft | (N) | 4.00 | | 3964 | 4756 | 7253 |
| | (N) | 4.91 | | | | |
| | (N) | 5.00 | | | | 9519 |
| | (N) | 5.50 | | 5288 | 5288 | |
| Mass moment of inertia ¹⁾ | (J in kgcm ²) | 1.00 | 110 | 270 | 270 | |
| Output | | 4.00 | 144 | 570 | 570 | |
| Input | | | 9 | 36 | 36 | |
| Operating data: | | | | | | |
| Oil fill volume in dm ³ | Horizontal (B5) | | 1.0/1.4 | 1.5 | 2.7 | 5.4 |
| Approx oil fill in dm ³ Oil level in middle of oil sight glass is most accurate reading | Vertical (V1/V3) | | recirculating lubrication | | | |
| Oil level | | | HLP 68 as per ISO VG 68 | | | |
| splash lubrication | | | HLP 46 as per ISO VG 46 | | | |
| recirculating lubrication | | | HLP 32 as per ISO VG 32 | | | |
| recirculating lubrication with heat exchanger | | | HLP 22 as per ISO VG 22 | | | |
| recirculating lubrication with CLS | | | for V1 and V3 installation position oil recirculating system is necessary | | | |
| Oil change interval | | | Every six months or 2000hours | | | |
| Oil temperature | | | max.120° C, depending on application, installation position, lubrication and cooling condition | | | |
| Weight: | | | | | | |
| Standard | (approx.kg) | | 43/53 | 69 | 93 | 177 |
| Electrical Connection: | | | | | | |
| for shifting unit | | | | | | |
| power consumption | W | | 120 | 120 | 120 | 120 |
| Supply voltage (at shift unit) | V | | 24 ± 10% | 24 ± 10% | 24 ± 10% | 24 ± 10% |
| current supply at 24V | A | | 5 | 5 | 5 | 5 |

Customer can define bearing load and lifetime. See installation drawings or page 13 for bearing data.

1) Admissible with oil cooler, otherwise n_{max} for reduction ratio.

3) Max. speed only permitted with integrated oil channel versions.

2) Max. speed only permitted with oil connection at port K.

* i=5.5: reduced input torque.

Technical Data

| | | Ratio | 2G800 2G801/2G802 |
|---|---------------------------|----------|---|
| Nominal data: | | | |
| Motor frame size | (mm) | | 180/200/225 |
| Nominal power | (KW) | | 84 |
| Nominal speed | (min ⁻¹) | | 1000 |
| Nominal input speed (continuous operation S1) | (Nm) | | 800 |
| Output torque | (Nm) | 1.00 | 800 |
| | (Nm) | 4.00 | 3200 |
| Maximum data: | | | |
| Max. Torque in Nm (Intermitted loading S6 cycle duration 10 min, ED. max. 60%) | | | |
| Input | (Nm) | | 900 |
| Output(max. accelerating torque) | (Nm) | 1.00 | 900 |
| | (Nm) | 4.00 | 3600 |
| Max. permitted input speed | (min ⁻¹) | | 5000 |
| in reduction ratio $i \neq 1$ | (min ⁻¹) | $\neq 1$ | |
| for direct drive $i = 1^{1)}$ | (min ⁻¹) | $1^{1)}$ | |
| max. vibration value | (mm/s) | | 3.0 |
| at reference speed | (min ⁻¹) | | 4000 |
| Max. axial force in reduction ratio | (N) | | |
| Max. axial force in reduction ratio in counter clockwise(ccw) operation running and max. input torque see permissible axial force for motor shaft | (N) | 4.00 | |
| Mass moment of inertia | (J in kgcm ²) | 1.00 | 1956 |
| Output | | 4.00 | 1766 |
| Input | | | 110 |
| Operating data: | | | |
| Oil fill volume in dm ³ | Horizontal (B5) | | |
| Approx oil fill in dm ³ Oil level in middle of oil sight glass is most accurate reading | Vertical (V1/V3) | | recirculating lubrication |
| Oil level | | | |
| splash lubrication | | | HLP 68 as per ISO VG 68 |
| recirculating lubrication | | | HLP 46 as per ISO VG 46 |
| recirculating lubrication with heat exchanger | | | HLP 32 as per ISO VG 32 |
| recirculating lubrication with CLS | | | HLP 22 as per ISO VG 22 |
| | | | for V1 and V3 installation position oil recirculating system is necessary |
| Oil change interval | | | Every six months or 2000hours |
| Oil temperature | | | max.120°C, depending on application, installation position, lubrication and cooling |
| Weight: | (approx.kg) | | 180 |
| Standard | | | |
| Electrical connection for shifting unit: | | | |
| power consumption | W | | 120 |
| Supply voltage (at shift unit) | V | | 24 ± 10% |
| current supply at 24V | A | | 5 |

Customer can define bearing load and lifetime. See installation drawings or page 13 for bearing data.

1) Admissible with oil cooler, otherwise n_{max} for reduction ratio.

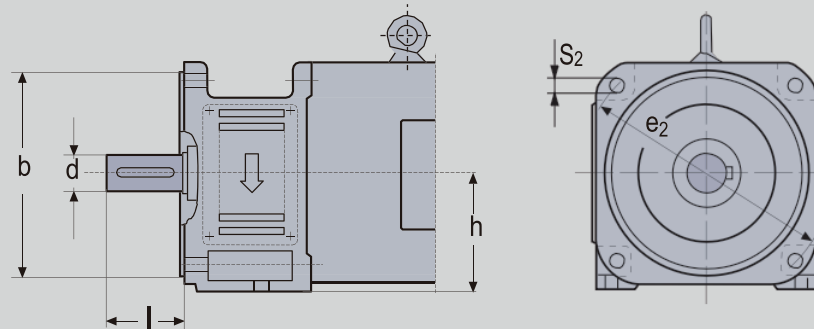
Standard Motor connection Dimensions

Gearbox sizes:

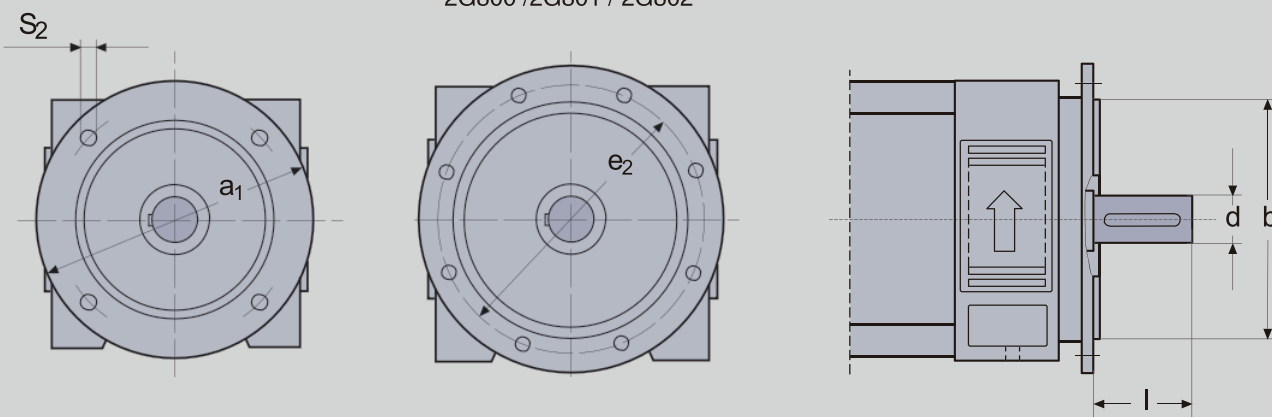
| | 2G120 | 2G121 | 2G250 | 2G300 | 2G600 | 2G801 | 2G802 |
|--------------------------------------|----------------|-----------|-----------|-----------|------------------------|------------------------|-----------|
| Motor frame size: | 100 | 112 | 132 | 160 | 180 | 200 | 225 |
| Standard motor connection dimensions | EN 50347: 2001 | | | | | | |
| h | 100 | 112 | 132 | 160 | 180 | 200 | 225 |
| d | 32/38/48 | 42/48 | 42/48/55 | 55/60 | 65/80 | 65/75/80 | 75/80 |
| l | 80 ± 0.1 | 110 ± 0.1 | 110 - 0.2 | 110 - 0.2 | 140 - 0.2 170 ± 0.2 | 140 - 0.2 170 ± 0.2 | 140 ± 0.2 |
| b | 180 | 230/250 | 230/250 | 300 | 300 | 350 | 450 |
| e ₂ | 215 | 265 | 300 | 350 | 400 | 400 | 500 |
| a ₁ | - | - | - | - | 450 | 450 | 550 |
| | 14 | 15 | 18 | 18 | 18 | 19 | 19 |

All the dimensions are in mm

2G120/ 2G121/ 2G250/ 2G300/ 2G600



2G800 /2G801 / 2G802



Motor output shaft with standard key

| Gearbox sizes GTP-2G | Shaft diameter [mm] | Key | Key length |
|--------------------------------|------------------------|-------|------------|
| 2G120/121 | 38 | 10x8 | 70 |
| | 32 | 10x8 | 70 |
| 2G250 | 42 | 12x8 | 90 |
| | 48 | 14x9 | 90 |
| 2G300 | 55 | 16x10 | 90 |
| | 48 | 14x9 | 90 |
| 2G600 | 60 | 18x11 | 125 |
| | 65 | 18x11 | 125 |
| 2G800 | 60/65 | 18x11 | 125 |
| 2G801 | 75 | 20x12 | 125 |
| 2G802 | 80 | 22x14 | 150 |

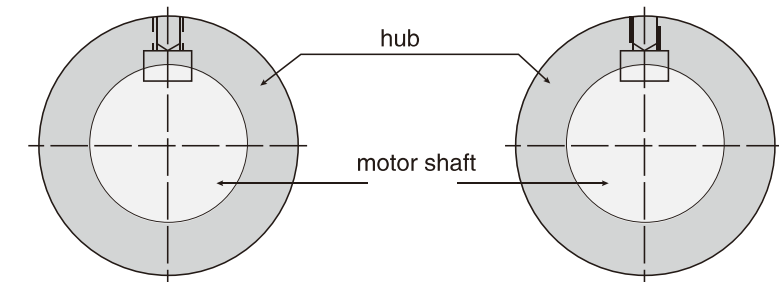
See DIN ISO 8821

For a full-key balanced motorshaft both types can be used.

For Siemens motors, only full-key balanced motorshaft can be used.

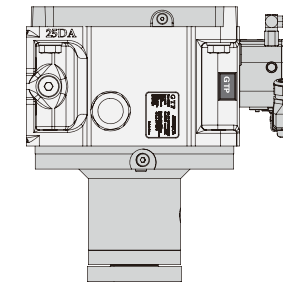
Half-key balancing

Full-key balancing

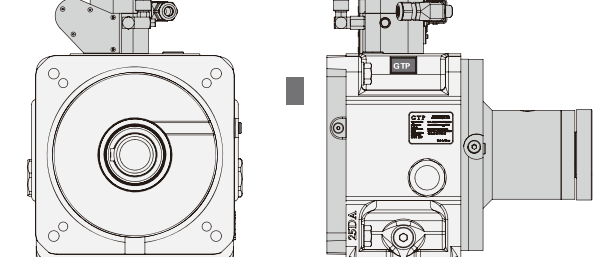


Installation positions

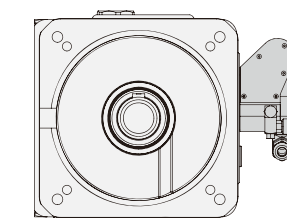
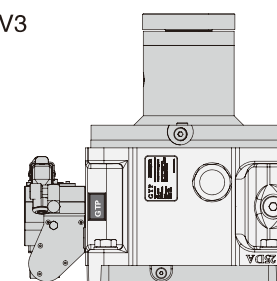
Vertical V1



Horizontal B5



Vertical V3



Horizontal B5
Shift unit on right side
(view from output)

Gearbox rotated along
longitudinal axis
(for 2G120/2G250
2G300/2G121/2G600)

Output/Motor interface

Gearbox sizes:

| GTP-2G | 2G120 | 2G121 | 2G250 | 2G300 | 2G600 | 2G800 | 2G801 | 2G802 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Gearbox output | | | | | | | | |
| Ø 100 | + | + | | | | | | |
| Ø 118 | | | + | 0 | | | | |
| Ø 130 | | | 0 | + | | | | |
| Ø 140 | | | | | | | | |
| Ø 150 | | | | | + | | | |
| Ø 38 | 0 | 0 | | | | | | |
| Ø 42 | | | 0 | 0 | | | | |
| Ø 55 | | | 0 | 0 | | | | |
| Ø 60 | | | | | | | | |
| Ø 65 | | | | | | 0 | 0 | 0 |
| Ø 90 | | | | | | | | |
| Ø 180 | | | | | | + | + | + |
| Ø without output | | | | | | 0 | 0 | 0 |
| Ø 38 INLINE | 0 | 0 | | | | | | |
| Ø 42 INLINE | | | 0 | 0 | | | | |

+ = Standard
0 = Option

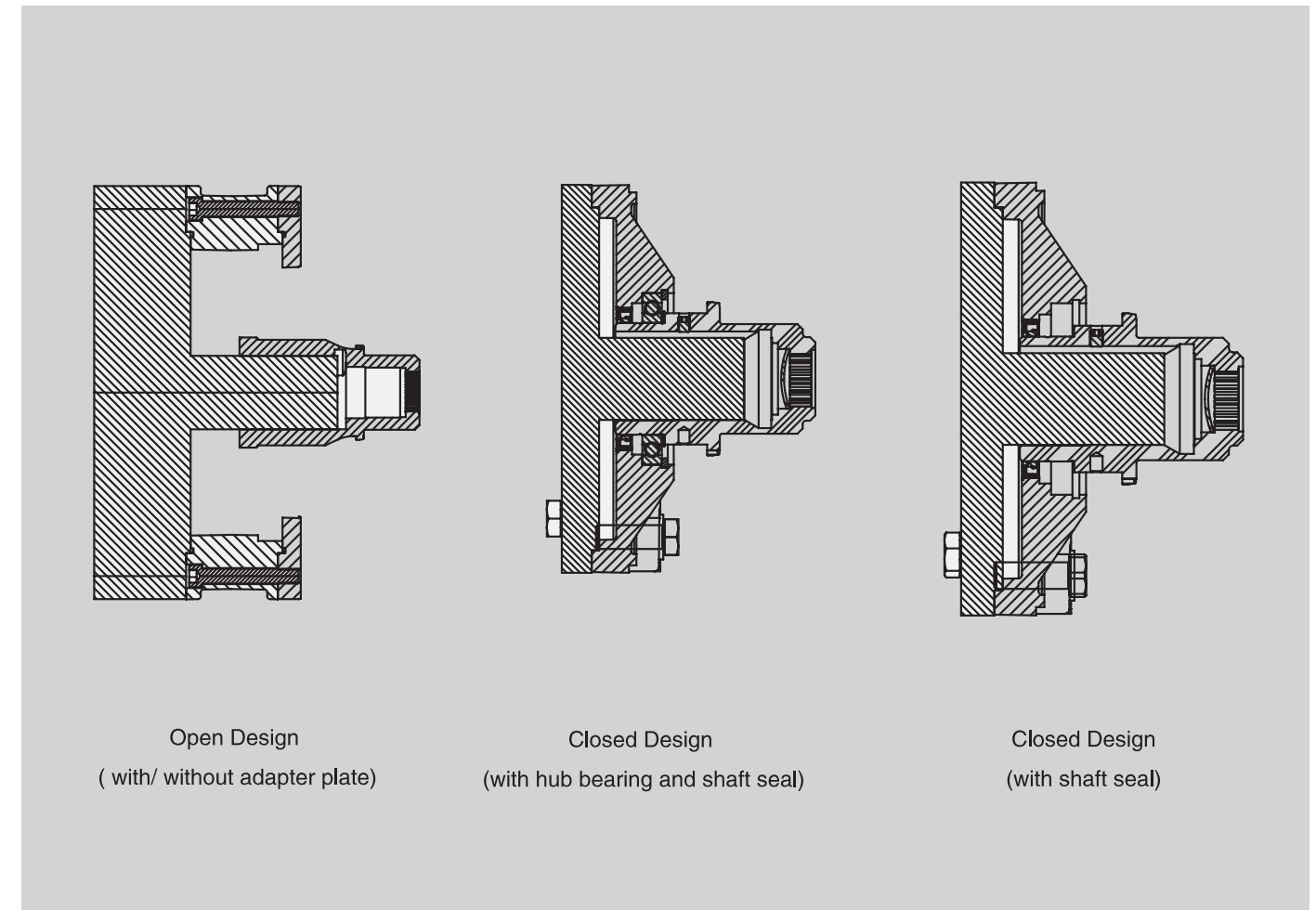
There are choice of three different output variants. The standard long bearing base output flange version is used for belt drives, allowing high cantilever forces. For 2G300/2G800, and extended output version is optional for even higher belt forces. Further options include short output housings as **GTP-2G INLINE** for space saving direct drives. This version is supplied as a standard with angular contact bearings.

There are two types of balancing: Half-key and full-key. In the case of full-key balancing, the motor shaft is balanced with a fitted key, the hub without. The length of the fitted key is unimportant in this instance. In the case of half-key balance, however, the key-way is filled out with a balance compensator. The shape, length, and position of the keyway must be adapted. For this reason, it is necessary to provide us with details of the motor- including the relevant dimensions and balancing type-when ordering.

Note

For motor gearbox units that are fixed in the machine with the gearbox output housing/flange only, no preload support on motor B-side is permitted.

Connection options



Open Design
(with/ without adapter plate)

Closed Design
(with hub bearing and shaft seal)

Closed Design
(with shaft seal)

Gearbox interface:

Closed design (with hub bearing and shaft seal)

There is a version with ball bearing available for certain motors. The hub in this version is also fixed by the bearing to prevent axial hub movement, resp. prevent axial forces from the helical gearing on to the motor shaft(see technical data page 8). Assembly onto spindle motor is made easier due to a fixed hub position as supplied by the factory.

Closed version (with shaft seal)

This version incorporates an adapter plate with shaft seal, which means that the gearbox forms a compact, closed unit.

Open design

The open version gearbox is with or without adapter plate. Sealing is achieved with motor shaft seal.

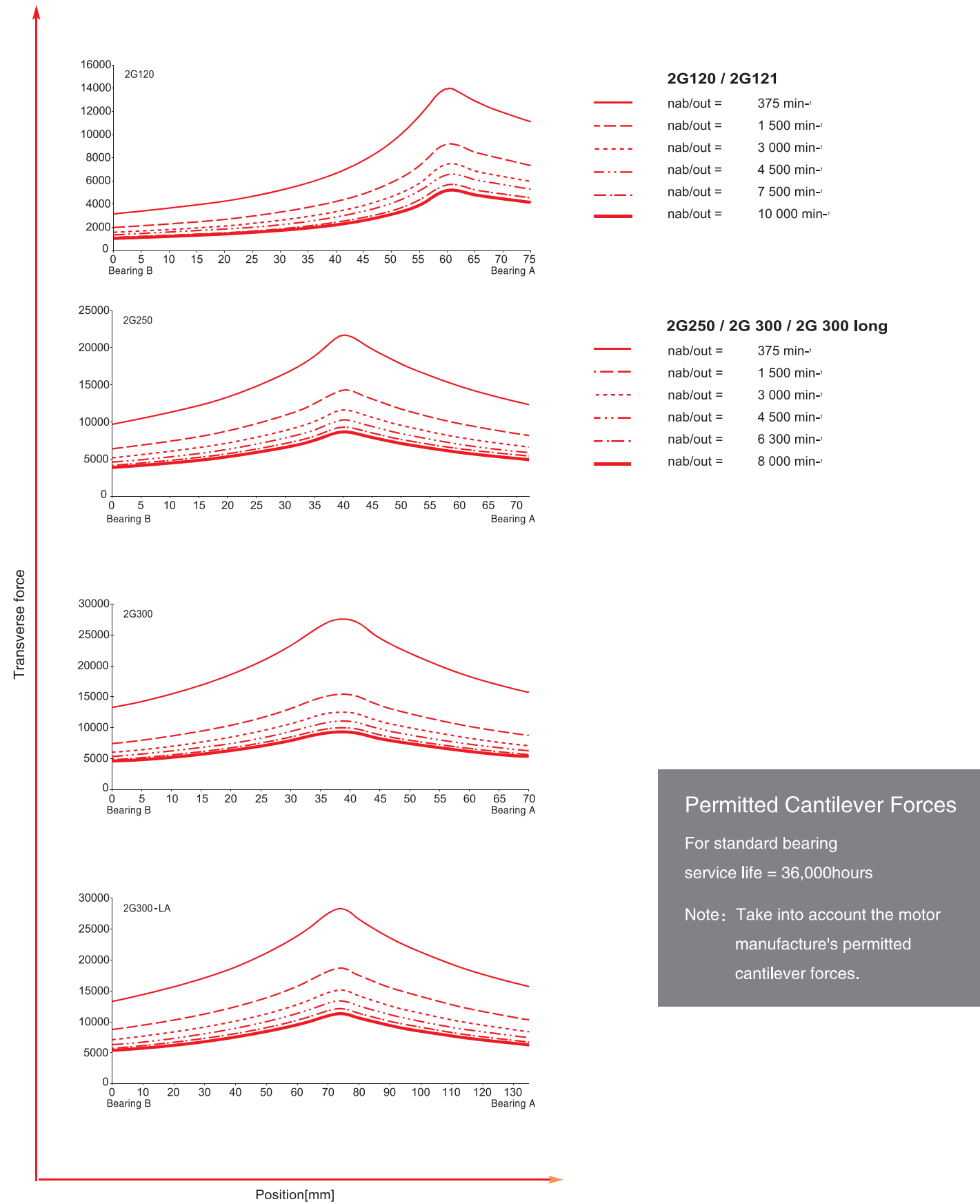
Input flange: (2G250 / 2G600 /2G800)

Besides the classic motor - gearbox - adaptation (motor shaft, key way, hub) we offer- on request- a gearbox with input flange to mount a pulley.

The output bearings vary depending on the type and level of load on the output shaft. Cylindrical roller bearings are used to cope with high radial forces, e.g. in belt pulley drives. In contrast, angular-contact ball bearings are suitable for coaxial drives, low radial backlash or axial forces. The flexible design of the output housing and shafts allows a range of selections.

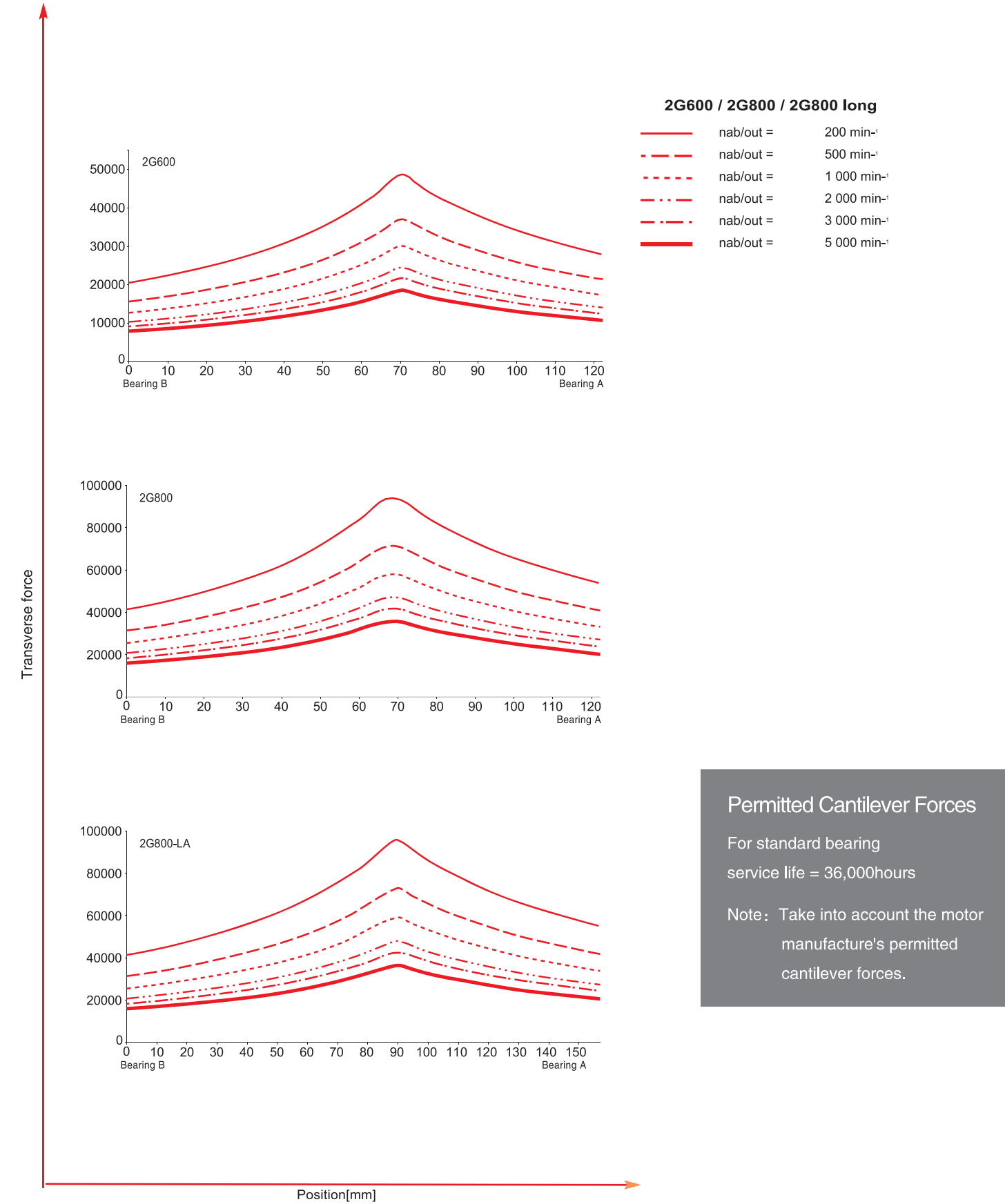
Versions and Lifetime Calculation based on XY-method

Belt must be between output bearings

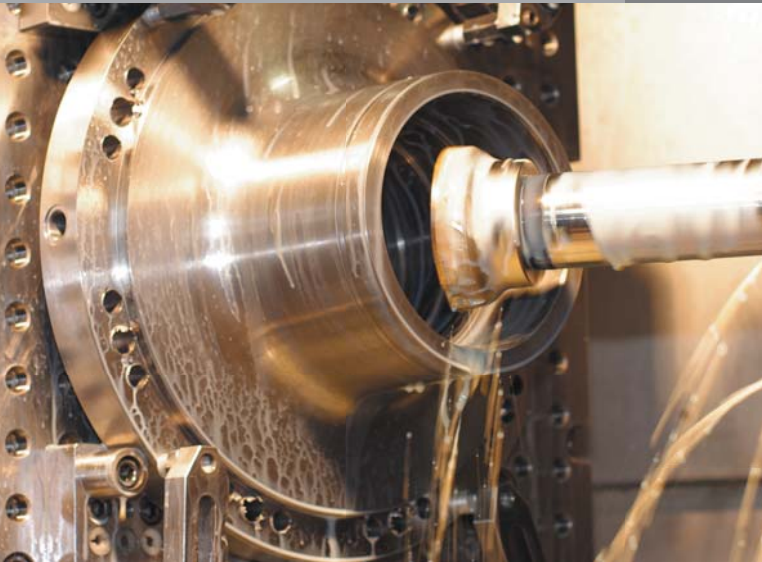


Versions and Lifetime Calculation based on XY-method

Belt must be between output bearings



Application and Examples



Extreme Milling Work

Class 2: Normal torsional backlash < 20 arcmin
For Lathes, milling machines and machining centers used to execute extreme milling work, e. g. tool side milling cutters with very coarse index/division (interrupted cutting), workpieces made from tough material, milling of ribbed workpieces.

Highly-dynamic Machine tools

Class 1: Reduced torsional backlash < 15 arcmin as class 2; except in lightweight highly-dynamic machine tools incorporating components with high internal elasticity; designed to prevent resonance vibration.

Torsional backlash

Two backlash classes in reduction mode are available:

Class 2;

Normal torsional backlash < 20 arcmin

Class 1;

Reduced torsional backlash < 15 arcmin

*Torsional backlash in 2G800 / 801 / 802

Class 3;

Normal torsional backlash < 40 arcmin

Lubrication

Splash type lubrication

The standard gearbox version B5 has splash type lubrication. Splash type lubrication is suitable for intermittent operation. In this instance, frequent gear changes, varying speeds and idle time (e. g. due to retooling) are prerequisite.

Recirculating lubrication

The 2G120/2G121/2G250/2G300/2G600 gearboxes (vertical V1 and V3 installation positions) require recirculating lubrication. In this instance, the type of recirculating lubrication depends on the operating temperature levels required.

The 2G800/2G801/2G802 gearboxes must always be operated with recirculating lubrication (refer to installation drawings).

Forced recirculating lubrication

Some applications require a very low operating temperature level. Forced recirculating lubrication is recommended in such instances. Figures on page 17/18 show the possible oil inlet and outlet positions on the gearbox. Please refer to the relevant installation drawings for detailed dimensions.

Standard recirculating lubrication in V1/B5 with oil tank installation

The oil inlet is attached in place of the oil drain plug.

The oil flow rate is 2.5dm³/min. (only for 2G120/2G121/2G250/2G300) ; 3.0dm³/min. (only for 2G600) ; 3.0dm³/min. (only for 2G800). In the case of V3 vertical installation position, the lubrication oil can be supplied in either radial direction or centrally.

The tank of the pump unit must be ventilated. Oil back pressure in the return pipe to the gearbox must be avoided (min. 20mm). The tank capacity should be at least ten times the recirculating oil quantity. A 60 μm filter and pressure limitation valve should also be used as a safeguard.

A heat exchanger is installed in the recirculating lubrication system to assure additional temperature reduction. For best cooling results without any influence on lubrication, various connection parts for different installation positions and operating modes are provided.

Note

For continuous operation in direct drive on gear change per hour is mandatory with a short turn in reduction ratio. If this is impossible please request special solution.

Connections for recirculating lubrication

2G120 / 2G121

| Installation position | Oil inlet* | Max. pressure | Oil outlet* |
|-----------------------|---|---------------|-------------|
| V1 (closed version) | M (1.0 dm ³ /min) K/R and/or L/S (1.5 dm ³ /min) | 1.5 bar | D/E |
| V3 | K/R and/or L/S (1.5 dm ³ /min) P (1.0 dm ³ /min) | 1.5 bar | H |
| B5 | G (2.5 dm ³ /min) or F (2.5 dm ³ /min) | 1.5 bar | D/E |
| B5 turned* | G or F (2.5 dm ³ /min) | 1.5 bar | H |

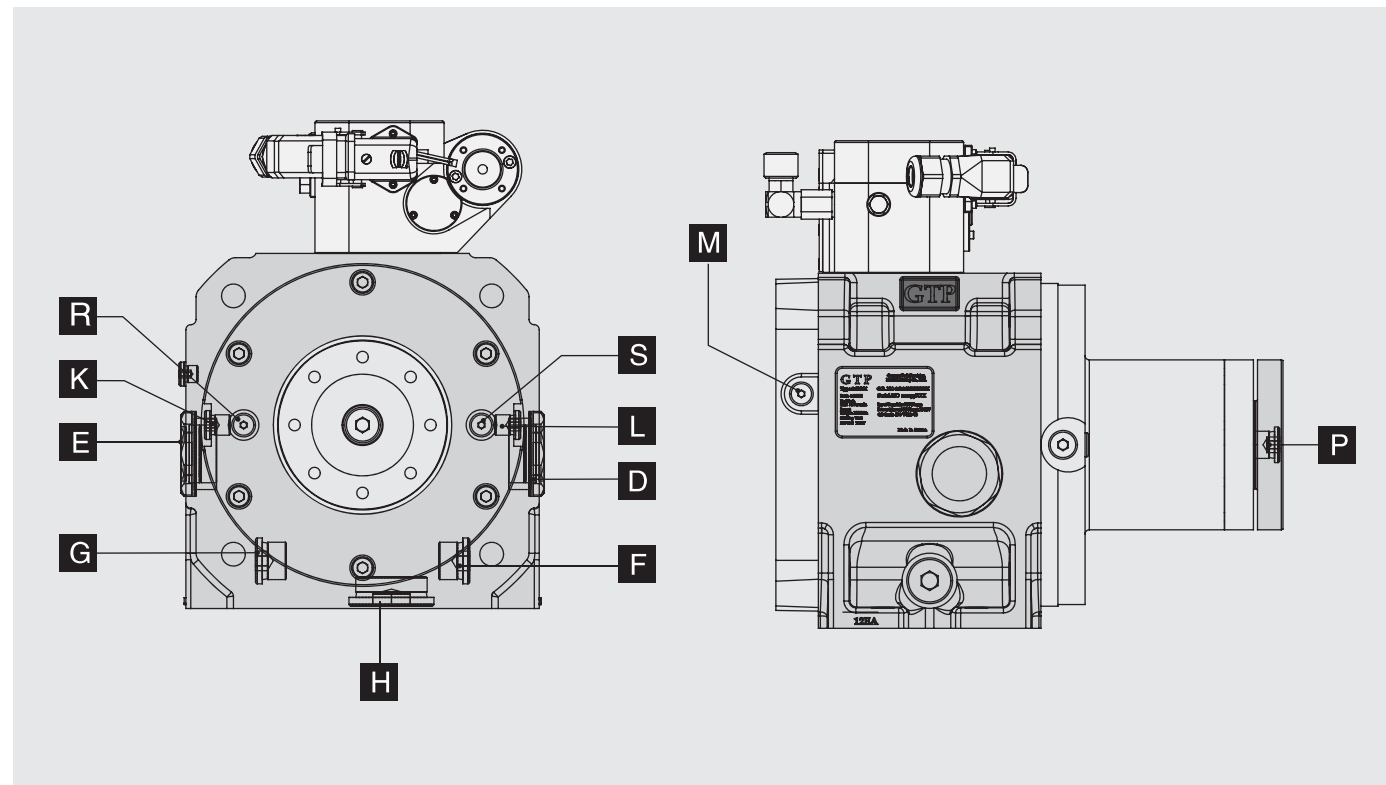
***View toward gearbox output:**

D/G = Mainly counter clockwise rotation

E/F = Mainly clockwise rotation

Note: For applications using max. speed of 12 000rpm, it is mandatory to use port K and/or L with 2.5 dm³/min.

In addition, at least one oil chiller is required to be used in a oil recirculating system.



Connections for recirculating lubrication

| Installation Position | 2G250 / 2G300 / 2G600 | | | 2G800 | | |
|---------------------------|---|--------------------|-------------|--|----------------|------------------|
| | Oli inlet* | Max. pressure | Oil outlet* | Oil inlet* | Max. pressure | Oil outlet* |
| V1, V3 (closed version) | M (1.0 dm ³ /min) K or R (1.5 dm ³ /min) L additional possible | 1.5 bar | D/E | M (0.5 dm ³ /min) K (2.5 dm ³ /min) | 3 bar 5 bar | D/E or G/F |
| V1, V3 (open version) | X | X | X | idem | idem | idem |
| B5 | G(2.5 dm ³ /min) or F (2.5 dm ³ /min) | 1.5 bar 1.5 bar | D/E | M (0.5 dm ³ /min) K (2.5 dm ³ /min) | 3 bar 5 bar | G/F or D |
| B5 turned* | G or F | 1.5 bar | H | idem | idem | idem |
| V3 | P (1.0 dm ³ /min) K or R (1.5 dm ³ /min) L additional possible | 1.5 bar | H | X | X | X |

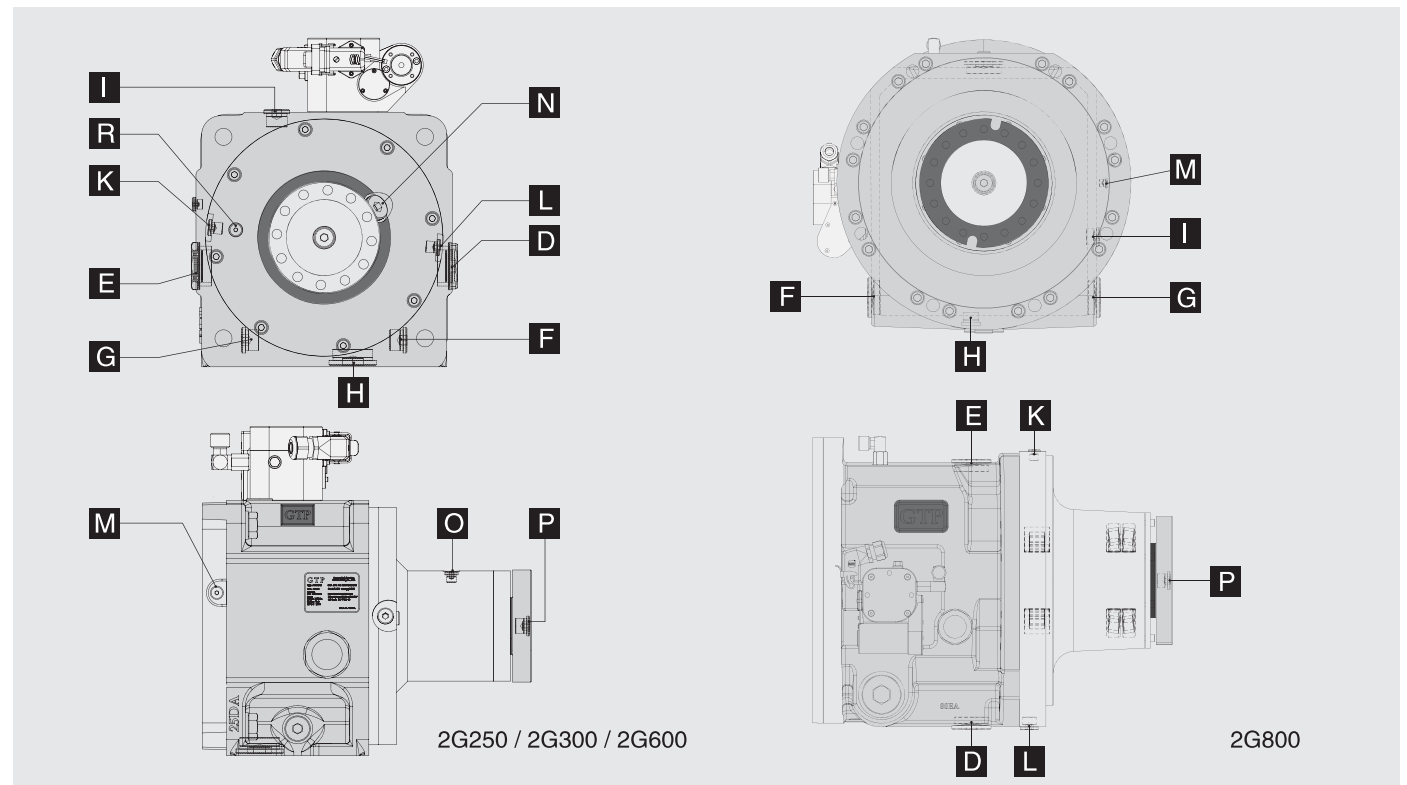
***View toward gearbox output:**

D/G = Mainly counter clockwise rotation

E/F = Mainly clockwise rotation

Note: For applications using max. speed of 12 000rpm, it is mandatory to use port K and/or L with 2.5 dm³/min.

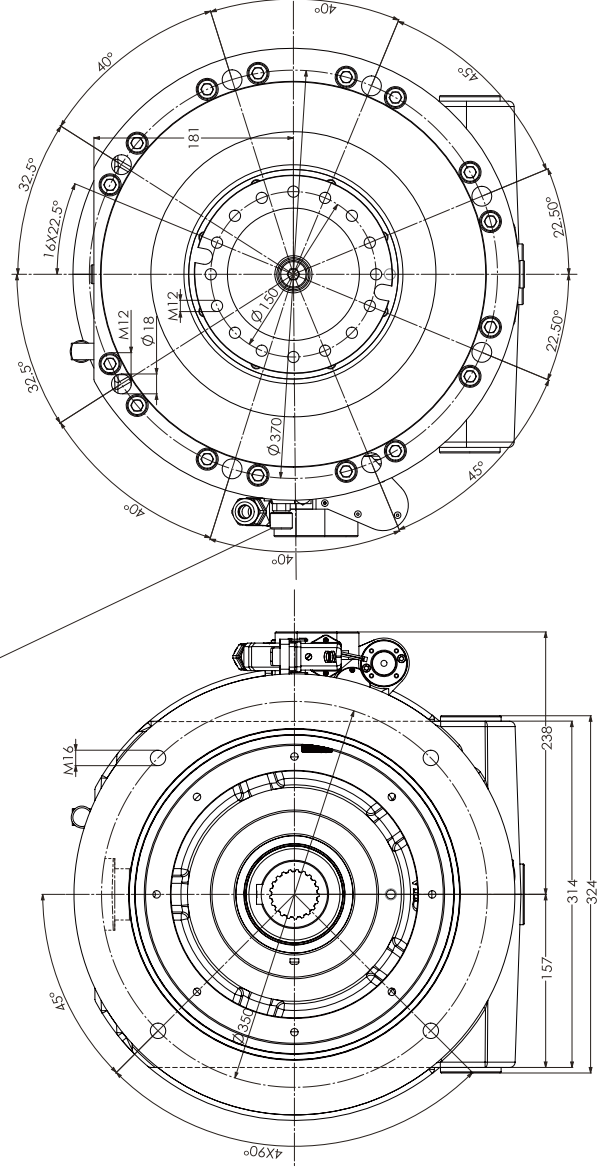
In V1/V3 recirculating lubrication is necessary for 2G250/300.



Installation Drawing : 2G800 Standard

STANDARD
SHIFT UNIT WITHOUT NEUTRAL POSITION
SHIFTING UNITWATTAGE 120W AT 24 VDC

OPTION
SHIFT UNIT WITH NEUTRAL POSITION
SHIFTING UNITWATTAGE 120W AT 24VDC



2G800

OIL GRADE: HLP 46 ACC. TO ISO VG 46 WITH RECIRCULATING LUBRICATION
HLP 32 ACC. TO ISO VG 32 WITH RECIRCULATING LUBRICATION

STANDARD

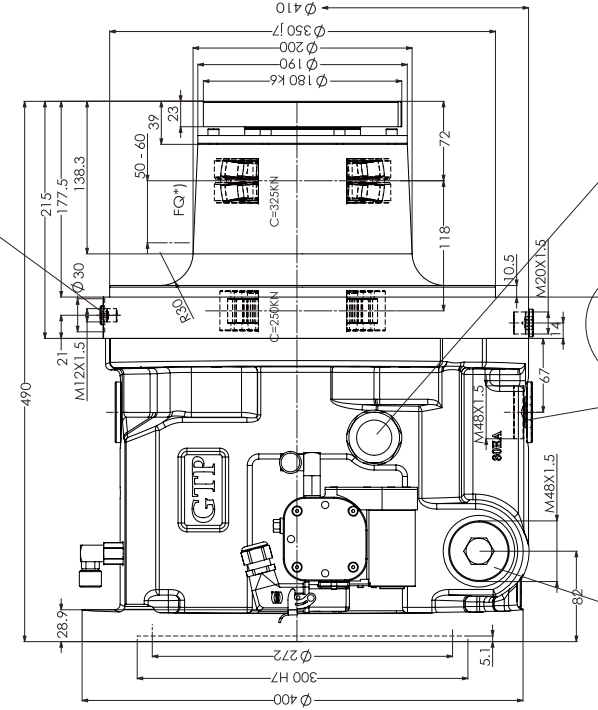
TRANSMISSION RATIO: $i_1=4.0$
 $i_2=1.0$

WEIGHT: Ca.175Kg

*) ASSUMED OF RESULTING PULLEY FORCE FOR BEARING CALCULATION

HAN 8U
HARTING PLUG
SLEEVE UNION,
SOCKET INSERT AND CONTACT BUSHINGS ARE SUPPLIED LOOSE

LUBE OIL SUPPLY B5/V1
Ca. 2.5dm³/min
AND 5 bar PRESSURE



OIL OUTLET IN VERTICAL INSTALLATION EITHER LEFT OR RIGHT

OIL OUTLET IN VERTICAL INSTALLATION V1

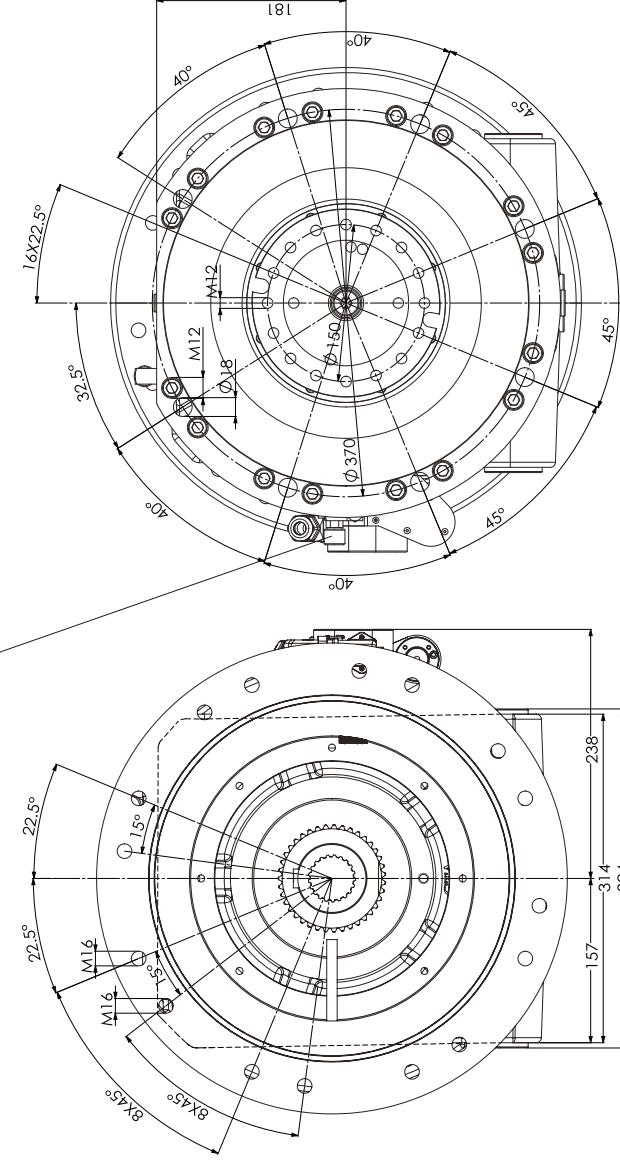
TRANSMISSION MOUNTING AT MACHINE

OIL LEVEL SIGHT GLASS

Installation Drawing: 2G801 Standard

STANDARD
SHIFT UNIT WITHOUT NEUTRAL POSITION
SHIFTING UNITWATTAGE 120W AT 24 VDC

OPTION
SHIFT UNIT WITH NEUTRAL POSITION
SHIFTING UNITWATTAGE 120W AT 24VDC



2G801

OIL GRADE: HLP 46 ACC. TO ISO VG 46 WITH RECIRCULATING LUBRICATION
HLP 32 ACC. TO ISO VG 32 WITH RECIRCULATING LUBRICATION

STANDARD

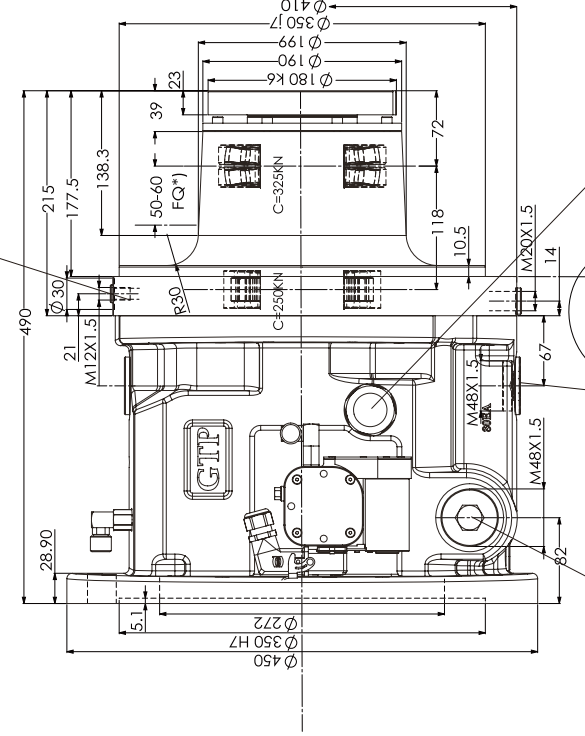
TRANSMISSION RATIO : $i_1=4.0$
 $i_2=1.0$

WEIGHT: Ca.175Kg

*) ASSUMED OF RESULTING PULLEY FORCE FOR BEARING CALCULATION

HAN 8U
HARTING PLUG
SLEEVE UNION,
SOCKET INSERT AND CONTACT BUSHINGS ARE SUPPLIED LOOSE

LUBE OIL SUPPLY B5/V1
Ca. 2.5dm³/min
AND 5 bar PRESSURE



OIL OUTLET IN VERTICAL INSTALLATION EITHER LEFT OR RIGHT

OIL OUTLET IN VERTICAL INSTALLATION V1

TRANSMISSION MOUNTING AT MACHINE

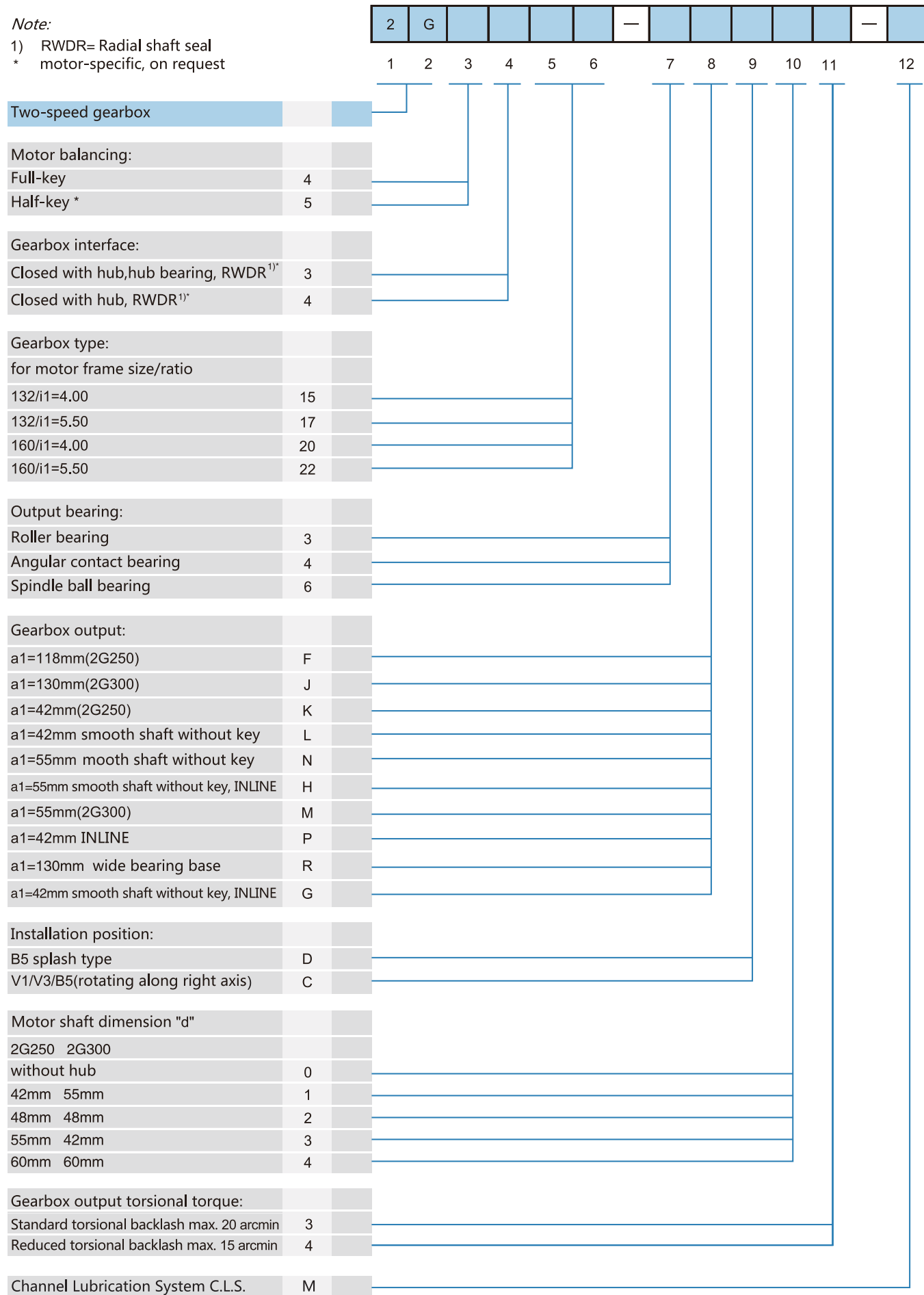
OIL LEVEL SIGHT GLASS

GTP-2G Standard , INLINE

Ordering numbers for gearbox types : 2G250/2G300

Note:

- 1) RWDR= Radial shaft seal
* motor-specific, on request

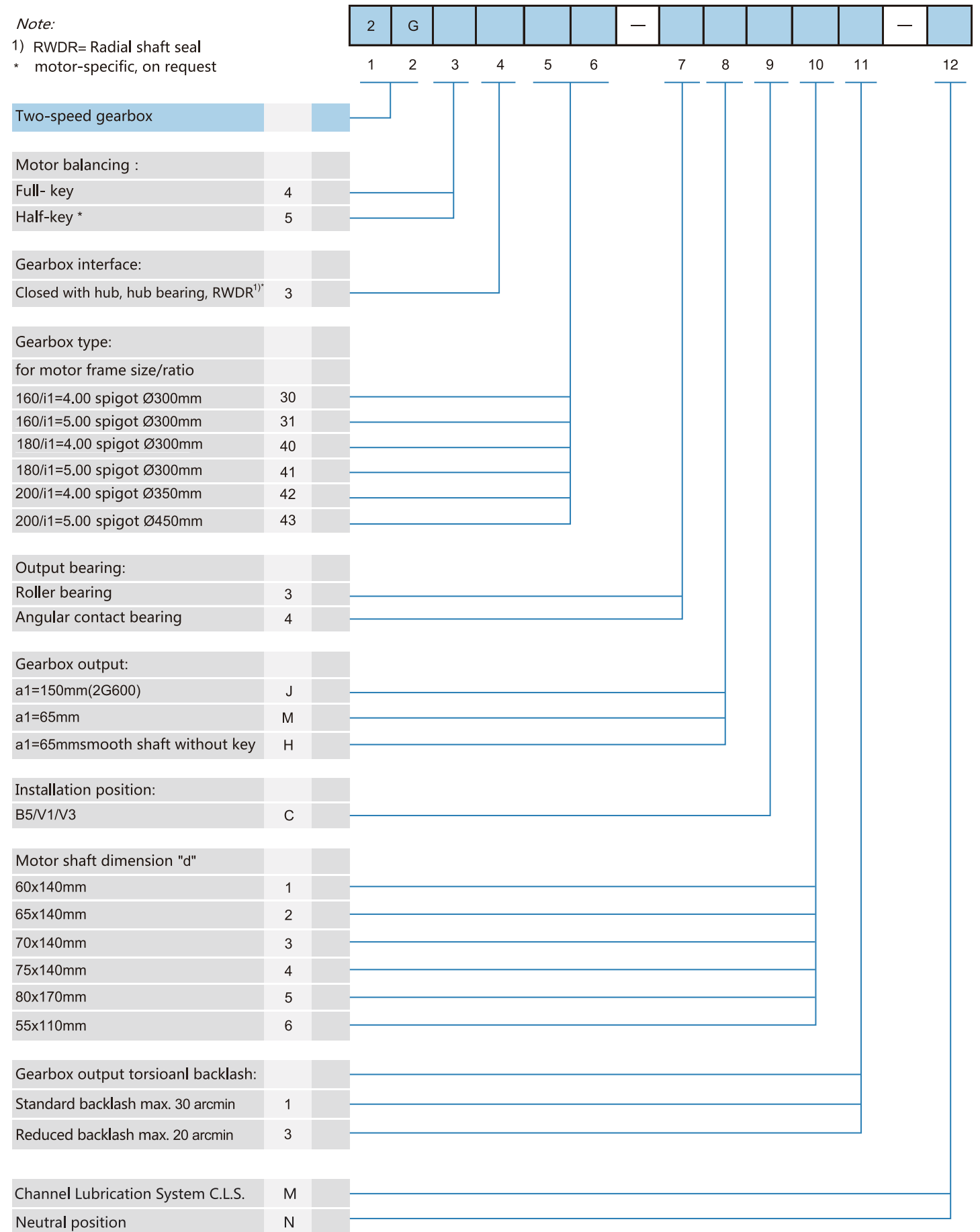


GTP-2G Standard, INLINE

Ordering numbers for gearbox types : 2G600

Note:

- 1) RWDR= Radial shaft seal
* motor-specific, on request



GTP-2G Standard, INLINE

Ordering number for 2G800/801/802

1)RWDR= Radial shaft seal
* motor data, on request

| | 1 | 2 | 4 | 5 | 6 | 7 | — | 8 | 9 | 10 | 11 | 12 | — | 13 |
|--|---|----|---|---|---|---|---|---|---|----|----|----|---|----|
| Two-speed gearbox | | | | | | | | | | | | | | |
| Motor balancing: | | | | | | | | | | | | | | |
| Full-key | | 4 | | | | | | | | | | | | |
| Half-key * | | 5 | | | | | | | | | | | | |
| Gearbox interface | | | | | | | | | | | | | | |
| Open with hub | | 2 | | | | | | | | | | | | |
| Closed with hub and RWDR ¹⁾ | | 4 | | | | | | | | | | | | |
| Open with hub and adapter plate* | | 5 | | | | | | | | | | | | |
| Input flange(Ø=180k6) | | 9 | | | | | | | | | | | | |
| Gearbox type: | | | | | | | | | | | | | | |
| motor frame size/ratio | | | | | | | | | | | | | | |
| 180/i1=4.00 spigot Ø300mm | | 50 | | | | | | | | | | | | |
| 200/i1=4.00 spigot Ø350mm | | 60 | | | | | | | | | | | | |
| 225/i1=4.00 spigot Ø450mm | | 70 | | | | | | | | | | | | |
| Brake: | | | | | | | | | | | | | | |
| without brake | | 1 | | | | | | | | | | | | |
| Gearbox output: | | | | | | | | | | | | | | |
| a1=65mm | | H | | | | | | | | | | | | |
| a1=65mm without key | | L | | | | | | | | | | | | |
| a1=180mm | | J | | | | | | | | | | | | |
| a1=180mm wide bearing base | | R | | | | | | | | | | | | |
| Installation position: | | | | | | | | | | | | | | |
| V1/B5 | | C | | | | | | | | | | | | |
| V3 | | B | | | | | | | | | | | | |
| Motor shaft diameter "d" | | | | | | | | | | | | | | |
| 60mm | | 1 | | | | | | | | | | | | |
| 65mm | | 2 | | | | | | | | | | | | |
| 75mm | | 3 | | | | | | | | | | | | |
| 80mm | | 4 | | | | | | | | | | | | |
| 70mm | | 5 | | | | | | | | | | | | |
| Backlash on gearbox output: | | | | | | | | | | | | | | |
| Normal backlash max.40 arcmin | | 1 | | | | | | | | | | | | |
| Neutral position: | | N | | | | | | | | | | | | |

Check list

For quick response to your inquiry please provide us the following data by:

Fax: +886-4-25152413

E-Mail : marcolin@zfgta.com.tw info@zfgta.com.tw

1. Motor (with motor data sheet)

motor brand: _____

type: _____

size: _____

nominal power (kW): _____

max. torque (Nm): _____

motor operating speed $n_1 - n_2$ (rpm) at constant power: _____

max. speed (rpm): _____

motor shaft diameter d (mm): _____

motor shaft length l (mm): _____

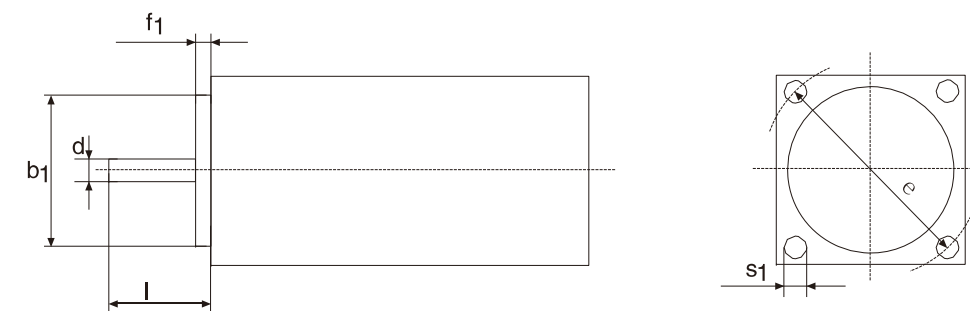
pilot diameter b_1 (mm): _____

pilot width f_1 (mm): _____

pcd e_1 (mm): _____

hole diameter s_1 (mm): _____

fitting key lxbxh (mm): _____



Motor shaft with keyway

Motor shaft without shaft seal

Motor shaft with shaft seal

Half-key balanced motor shaft

Full-key balanced motor shaft

2. GTP-2G type:

2G120

2G121

2G250

2G300

2G600

2G800

2G801

2G802

