



# Customer Information on the Conversion of

**Planetary Gears P(A) / PH(A) / PHQ(A)  
Generation 2 to Generation 3**

J.Kübler, 24<sup>th</sup> September 2019

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## 1. General

The development of Generation 3 of the STÖBER planetary gearheads was based on the high standards of the STÖBER mission statement. We want to be the preferred partner for the perfect movement. The perfect movement is supple, fast, accurate and reliable. It demands dedicated employees, seamless processes and excellent products. Together with our customers and partners, we want to strive for innovative developments and top performance. We supply system solutions for drive and automation. We develop and manufacture these with passion and thus secure the future of our company and our customers.

## 2. Schedule

Generation 3 planetary gears are gradually being released for sale. With this step-by-step plan, the changeover should take place as smoothly as possible and with the lowest possible residual quantities of the G2 components.

P2-P4 and PH (Q) 3-PH (Q) 4:	01.10.2019
P5-P7 and PH (Q) 5-PH (Q) 7:	01.03.2020
P8-P9 and PH (Q) 8:	01.05.2020

Dates apply to order entry in SAP

### 3. Geometric Dimensions

**The mechanical interfaces on the output are almost 100% compatible with the G2.**

Except for the P2, all G3 gearboxes have become significantly shorter. With frame size P2, no reduction in the overall length could be implemented.

Thus, collisions with the machine contour cannot be expected.

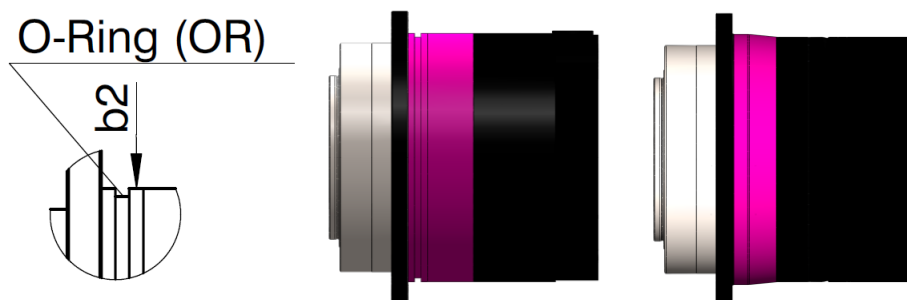
In general, however, we recommend an interference contour test based on the new 3D solid models.

You will receive this

- together with the offer from our order department (OD)
- by configuring your product with the STÖBER Configurator  
<https://configurator.stoeber.de/de-DE/?shop=SAT>

In the PH(Q) series, there are small differences in the compatibility of the interface with your design:

**3.1 PH (Q) gearbox: The second centering diameter  $b_2$  is omitted on the housing.**



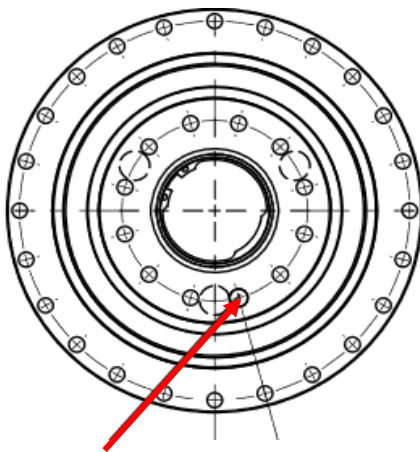
### 3.2 PH (Q) gearbox: The fixing bore is replaced by a taped hole on the rotating flanged shaft (planet carrier).

The additional taped hole increases the transmittable torque of the screw connection.

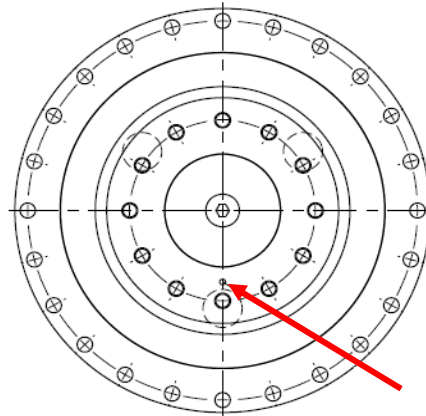
Do you need the fixing hole? You can simply drill one of the threads down to the specified thread depth.

Example: For the PH5 we have M6x11 threads deep, in this case drill with  $\varnothing 8H7$  max. 11mm deep, for a cylindrical pin  $\varnothing 8m6$ . We recommend drilling and rubbing together with your attachment.

Since the fixing hole was the position orientation for the planets in the gearbox for reversing applicaitons, all G3 PH(Q) gears will now be marked in the form of a small hole.



G2: Example with fixing hole s2



G3: without fixing hole, with additional taped hole and marking for the position orientation of the planets

## 4. Technical Data

Through innovative design and the use of state-of-the-art materials, heat treatments and production technologies, the technical data of the planetary gearboxes of the G3 have been significantly increased.

Here some examples:

- Torque increases by up to 67%
- Speed increases by up to 45%
- Increases in torsional rigidity of up to 50%

You can find the technical data in detail in the new servo gearbox catalog ID 443054. Enter the ID 443054 in our Downloadcenter

<https://www.stoeber.de/en/downloads/#/>

## 5. Type Code

Gear Type	Size	Generation#	Number of stages	Housing Design	Shaft Design	Bearing Design	Backlash	Ratio Code	Input-option
P	4	3	1	S	G	S	S	0050	ME
PH(Q)	4	3	1	S	F	S	S	0050	ME
Variants:									
P				S	G	S	S		ME(L)
				X	P	D	R		MF(L)
						Z			MB
PH(Q)				S	F	S	S		ME(L)
				X		V	R		MF(L)
									MB

Option

Change in the Type Code

Special

### Changes G3 vs. G2:

- Gearbox type: Reduced backlash is only an option in G3. This can be seen from the type code - see above
- Size: no change
- Generation number: 3

- Number of steps: no change
- Housing design (new for PH(Q)): S ... standard
- X ... special housing, e.g. milled flange segment on PH(Q)
- Number of stages: no change
- Housing Design (new at PH(Q)):
  - P Line:
    - S ... standard deep groove ball bearing (was at G2 "R")
    - D ... double skew bearings (like G2)
    - Z ... cylindrical roller bearings (like G2)
  - PH (Q) transmissions:
    - S ... Standard PH (Q) 3-PH (Q) 5 Angular contact ball bearings - PH(Q)7 and PH(Q)8 Tapered roller bearings
    - V ... Reinforced storage. Only for PH(Q)3 - PH(Q)5 helical roller bearings
- Backlash - New at P and PH(Q). Replaces the A-series of the G2
  - S ... standard Backlash
  - R ... Reduced Backlash
- Ratio code: no change
- Motor Adapter:
  - ME .... EasyAdapt in G3 freely selectable for gearboxes with standard and red. Backlash
  - MF ... .FlexiAdapt in G3 freely selectable for gearboxes with standard and red. Backlash
- PH9 & PH10 and PHQ9-PHQ12 retain their old typing code. You get the new generation and type code after revision

Do you have anymore questions? Our Sales Engineers will be pleased to answer you.

The contact details can be found on our homepage

<https://www.stoeber.de/en/contact/>





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