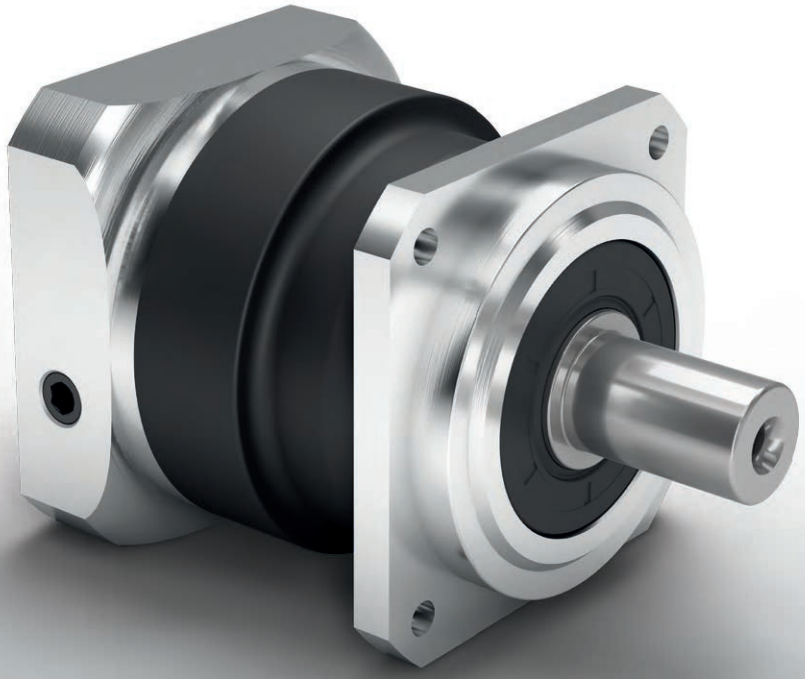
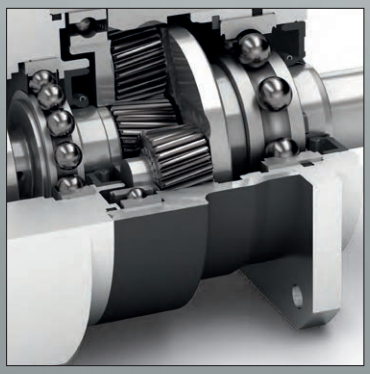
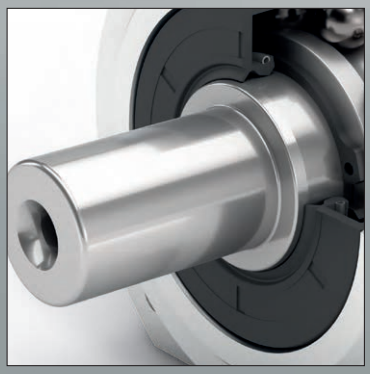
NEUGART

PSBN

The high-performance precision planetary gearbox with helical teeth for a particularly quiet drive







- The highest speed for the best performance
- Optimal, homogeneous helical teeth synchronism for enhanced quality
- Particularly quiet drive

PSBN Highly precise, fast and quiet

Our new precision planetary gearbox at a glance:

Particularly quiet drive

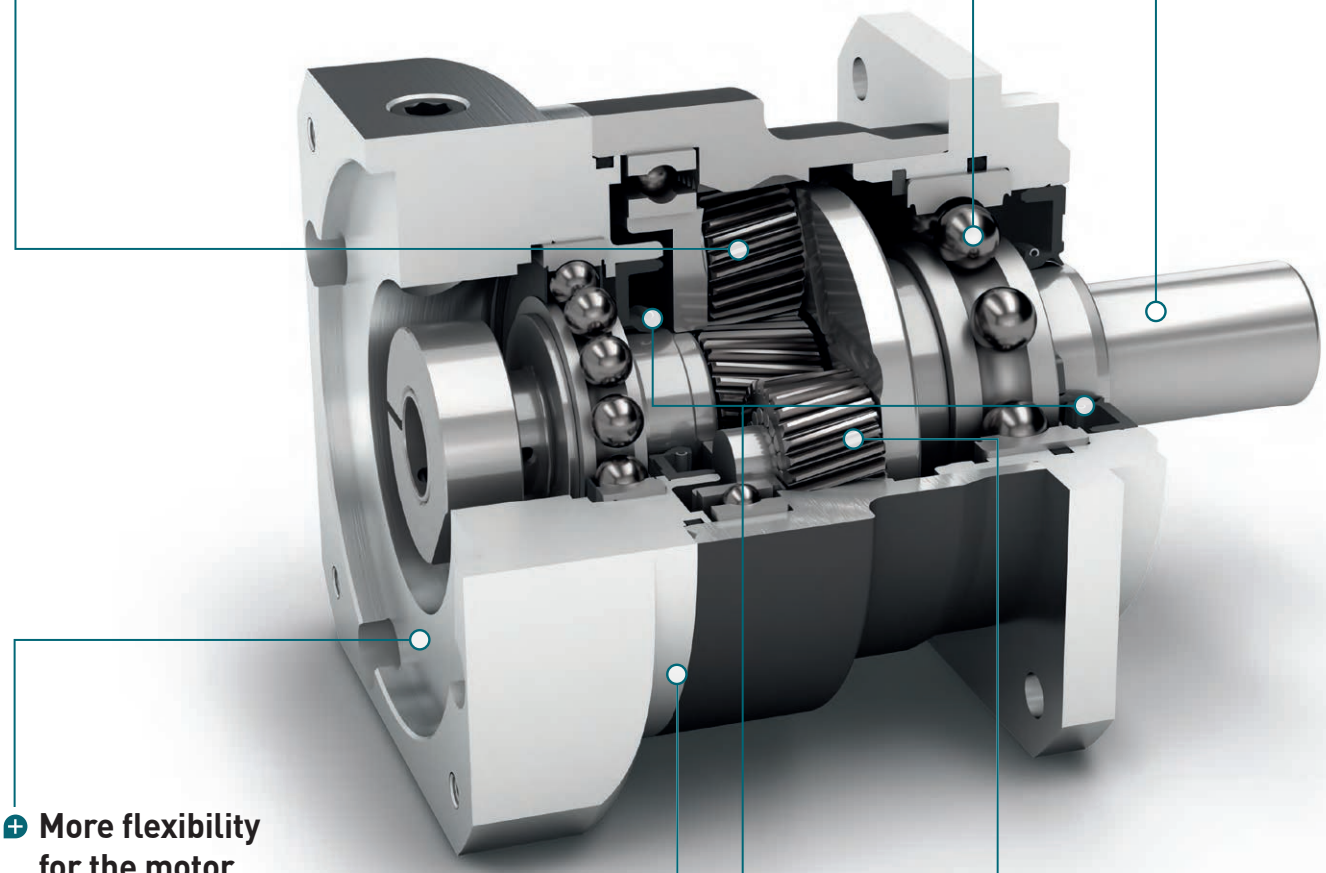
Our Neugart-developed helical teeth save you money. With the **PSBN** your machine does not need expensive sound absorption measures. The value of the whole system increases as a result.

The highest speed for the best performance

Thanks to its low-friction bearing design and optimized lubrication, the **PSBN** operates with particular reliability and low heat generation – even in complex production cycles.

Helical teeth for enhanced quality

This is progress: The innovative helical teeth of the **PSBN** safeguard the optimal, homogeneous synchronism. Vibrations are minimized for greater workpiece surface and printed quality.



More flexibility for the motor

The **PSBN** input flange can be individually adapted to your motor to improve your flexibility.

For any mounting position

Our lifetime lubricated maintenance-free precision planetary gearbox extracts the most out of little space. The **PSBN** can be installed virtually anywhere, giving you greater freedom.

Perfectly sealed

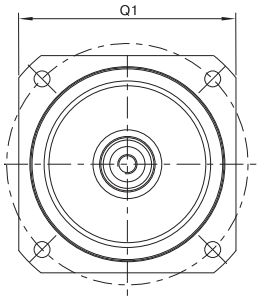
This gearbox resists dust and water jets. Thanks to its radial shaft seal, the **PSBN** is also ideal in the most grueling conditions. Perfect IP 65 protection class, due to its intelligent design.

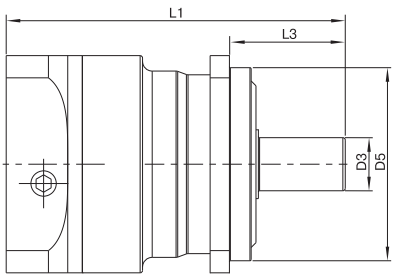
Minimized backlash for maximized precision

Thanks to the high gear tooth quality, the **PSBN** also exhibits minimized backlash (< 1 arcmin).
This increases your machine's precision and provides you with a high precision drive solution.

PSBN Technical highlights

Gearbox characteristics			PSBN070	PSBN090	PSBN115	PSBN142	z[1]
Service life[2]	t_L	h	20,000				
Service life[2] at T_{2N} x 0.88			30,000				
Efficiency at full load[3]	η	%	98				1
			96				2
Operating temperature	T_{min}/T_{max}	°C	- 25 / + 90				
Protection class			IP 65				
Standard backlash	j_t	arcmin	< 3				1
			< 5				2
Reduced backlash			< 2	< 1	< 1	< 1	
Torsional stiffness[3]	c_g	Nm/arcmin	3.7 - 5.0	7.7 - 10.5	21.0 - 29.0	37.0 - 51.0	
Gearbox weight	m_G	kg	1.4	2.7	5.6	13	1
			2.2	3.7	7.1	14.3	2
Running noise[4]	Q_g	dB(A)	57	58	63	66	
Output shaft loads							
Radial force[2][5]	F_r	N	850 - 1600	1700 - 3100	2000 - 4500	3700 - 9500	
Axial force[2][5]	F_a		1300 - 1500	2500 - 3000	3700 - 4500	7700 - 9600	
Tilting moment[2][6]	M_K	Nm	58 - 68	138 - 154	197 - 226	495 - 794	
Moment of inertia							
Mass moment of inertia[3]	J	kgcm²	0.126 - 0.250	0.324 - 0.760	0.862 - 2.520	6.539 - 14.440	1
			0.123 - 0.175	0.124 - 0.200	0.321 - 0.600	0.841 - 2.003	2
Output torques							
Nominal output torque[3]	T_{2N}	Nm	28 - 40	54 - 80	135 -180	305 - 470	1
			28 - 40	54 -80	135 - 180	305 - 470	2
Max. output torque[3][7]	T_{2max}	Nm	45 - 64	86 - 128	216 - 288	488 - 752	1
			45 - 64	86 - 128	216 - 288	488 - 752	2
Emergency stop torque[3][8]	T_{2Stop}	Nm	80 - 130	175 - 280	340 - 650	600 - 1650	1
			80 - 150	175 - 300	340 - 650	600 - 1650	2
Input speeds							
Average thermal input speed at T_{2N} and S1[3][9]	n_{1N}	rpm	3400 - 5000	3200 - 4500	2700 - 4000	1450 - 3500	1
			5000	5000	4500	2800 - 4000	2
Max. mechanical input speed[9]	n_{1Limit}	rpm	14000	10000	8500	6500	1
			14000	14000	10000	8500	2





Drawing corresponds to a PSBN090 / 1-stage / smooth output shaft / 14 mm clamping system / motor adaptation – 2-part – round universal flange / B5 flange type motor

All other variants can be retrieved in the Tec Data Finder at: **www.neugart.com**

Geometry*			PSBN070	PSBN090	PSBN115	PSBN142	z[1]
Shaft diameter output	D3	j6	16	22	32	40	
Centering diameter output	D5	g6	50	80	110	130	
Flange cross section output	Q1	■	60	90	115	140	
Min. total length	L1		116.5	140.5	182.5	247.5	1
			145	162.5	204.5	278.5	2
Shaft length output	L3		37	48	65	97	
Output shaft with feather key (DIN 6885-1)			**Code A**				
Smooth output shaft			**Code B**				

* Dimensions in mm

(1) Number of stages

(2) Other (sometimes higher) values following changes to T_{2N}, F_r, F_a, cycle, and service life of bearing. Application specific configuration with NCP – www.neugart.com

(3) The ratio-dependent values can be retrieved in Tec Data Finder – www.neugart.com

(4) Sound pressure level from 1 m, measured on input running at n_1 = 3000 rpm no load; i = 5

(5) Based on center of output shaft

(6) These values are based on an output shaft speed of n_2=100 rpm

(7) 30,000 rotations of the output shaft permitted

(8) Permitted 1000 times

(9) Application-specific speed configurations with NCP – www.neugart.com

PSBN Large number of variants for any field

Our **PSBN** is the ideal combination of a precision planetary gearbox and efficient bearing technology. It has been developed specifically for delivering maximum performance at high speeds.
Its helical teeth safeguard particularly homogeneous – and above-average – quiet running noise.

The product code shows the numerous variants of the **PSBN**. You can select the gearbox variant most suited to your requirements.

PSBN	090	–	004	–	S	S	S	B	3	A	D	–	Z	14 / 30 / 80 / 100 / B5 / M6

Series

Frame size

070	Frame size	70
090	Frame size	90
115	Frame size	115
142	Frame size	142

Ratio

1-stage

003	Ratio	i = 3
004	Ratio	i = 4
005	Ratio	i = 5
007	Ratio	i = 7
008	Ratio	i = 8
010	Ratio	i = 10

2-stage

012	Ratio	i = 12
015	Ratio	i = 15
016	Ratio	i = 16
020	Ratio	i = 20
025	Ratio	i = 25
035	Ratio	i = 35
040	Ratio	i = 40
050	Ratio	i = 50
070	Ratio	i = 70
100	Ratio	i = 100

Torsional backlash

S	Standard backlash
R	Reduced backlash

More motor details

Input design

Motor adaptation – 2-part – round universal flange		**Z**

Clamping system diameter input

11 mm	Clamping system diameter	**C**
14 mm	Clamping system diameter	**D**
19 mm	Clamping system diameter	**E**
24 mm	Clamping system diameter	**F**
35 mm	Clamping system diameter	**G**
42 mm	Clamping system diameter	**H**

Input system

Standard input system	**A**

Output flange design

Standard output flange	**3**

Output shaft design

Output shaft with feather key (DIN 6885-1)	**A**
Smooth output shaft	**B**

Surface

Standard surface	**S**

Lubrication

Standard lubrication	**S**
Food grade lubrication	**F**
Low temperature lubrication	**L**

The Neugart Tec Data Finder lets you configure your high-performance precision planetary gearbox quite simply yourself.
The product code helps you to quickly and directly request a quote.

TDF 2749 TEC DATA FINDER

Use **Tec Data Finder** to easily generate all the relevant information about your gearbox online. This includes the specific and geometrical data in the form of a dimension sheet as well as the CAD models in all of the usual formats.

NCP NEUGART CALCULATION PROGRAM

The **NCP** configuration software enables you to determine the optimum motor-gearbox combination for your application with the relevant dynamics data and loads.
A huge number of possible applications and over 11,000 motors are available to you.

Do you still have unanswered questions or want more information?
We would be happy to advise on all matters relating to drive technology.

You can find your local sales contact at **www.neugart.com**

Neugart USA Corp.
14325 South Lakes Drive
Charlotte, NC 28273
USA
Phone: +1 980 299-9800
Fax: +1 980 299-9799
Email: sales@neugartusa.com

Neugart Planetary Gearboxes (Shenyang) Co., Ltd.
10A No.2, No.8 Road
E&T Development Zone Shenyang, PC 110141
PR China
Phone: +86 24 2537-4959
Fax: +86 24 2537-2552
Email: admin@neugart.net.cn

Neugart GmbH
Keltenstraße 16
77971 Kippenheim
Germany
Phone: +49 7825 847-0
Fax: +49 7825 847-2999
Email: sales@neugart.com

100324439 PSBN Product brochure 06.2017 ■ Subject to modifications