



高精度减速机

Gearbox brochure

E

经济型同轴减速机

Economy Line coaxial gearboxes



PLE



PLQE



PLPE



PLHE



PLFE



PFHE

E

经济型直角减速机

Economy Line right angle gearboxes



WPLE



WPLQE



WPLPE



WPLHE



WPLFE

P

精密型同轴减速机

Precision Line coaxial gearboxes



PSBN



PSN



PLN



PSFN



PLFN

P

精密型直角减速机

Precision Line right angle gearboxes



WPLN



WPSFN



WGN



装有小齿轮的高精度减速机

Planetary gearboxes with mounted pinion



PK1



PM1



PM2



针对特定应用的减速机
Application-specific gearboxes



HLAE



NGV

客户定制减速机
Custom made gearboxes



经济型同轴减速机

PLE



Economy Line coaxial gearbox

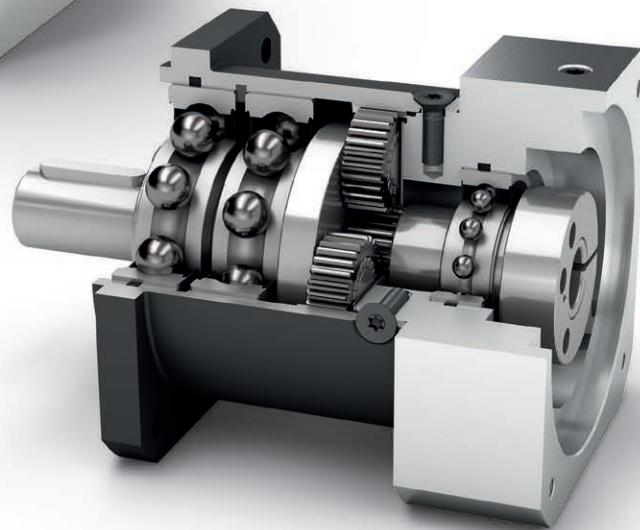
PLE 是我们的性价比奇迹。它的重量很轻，性能强大，轴承设计降低了振动，并且润滑效果得到了优化，因此适合高强度的生产周期。它是真正的动力单元，价格公道且富有吸引力。

The **PLE** is our price/performance wonder. It is particularly lightweight, extremely powerful and yet still suitable for demanding production cycles thanks to its low-friction bearing concept and optimized lubrication. A real powerhouse at an attractive and fair price.

 经济型 Economy Line	额定扭矩 Nominal output torque	5 - 800 Nm
 直齿 Spur gear	径向力 Radial force	200 - 5000 N
 圆形输出法兰 Round type output flange	轴向力 Axial force	200 - 7000 N
 低摩擦深沟球轴承 Low-friction deep groove ball bearings	回程间隙 Torsional backlash	6 - 22 arcmin
 多样的传动比 (i=3 至 i=512) High ratio variety i=3 up to i=512	防护等级 Protection class	IP54
 行星齿轮架 Planet carrier in disc design	结构尺寸 Frame sizes	<div style="display: flex; justify-content: space-around;"> 40 60 80 120 160 </div>

经济型同轴减速机

PLQE



Economy Line coaxial gearbox

我们的 **PLQE** 结构简单且性能强大。它可以直接和您的系统连接，不需要中间法兰。输出装置上的大型深沟球轴承可以承受较高的轴向力和径向力。它凭借着良好的传动效率，即使在严苛的生产周期内也能始终可靠地运行。

Our **PLQE** is uncomplicated and powerful. It can be connected directly to your installation without the need for an intermediate flange. The larger deep groove ball bearings on the output allow higher axial and radial forces to be absorbed. Thanks to its favorable efficiency, this means that it always operates reliably even when production cycles are demanding.

 经济型
Economy Line

 直齿
Spur gear

 正方形输出法兰
Square type output flange

 增强深沟球轴承
Reinforced deep groove ball bearings

 多样的传动比 (i=3 至 i=512)
High ratio variety i=3 up to i=512

 行星齿轮架
Planet carrier in disc design

额定扭矩
Nominal output torque **5 - 260 Nm**

径向力
Radial force **390 - 2950 N**

轴向力
Axial force **620 - 2500 N**

回程间隙
Torsional backlash **7 - 15 arcmin**

防护等级
Protection class **IP54**

结构尺寸
Frame sizes

40

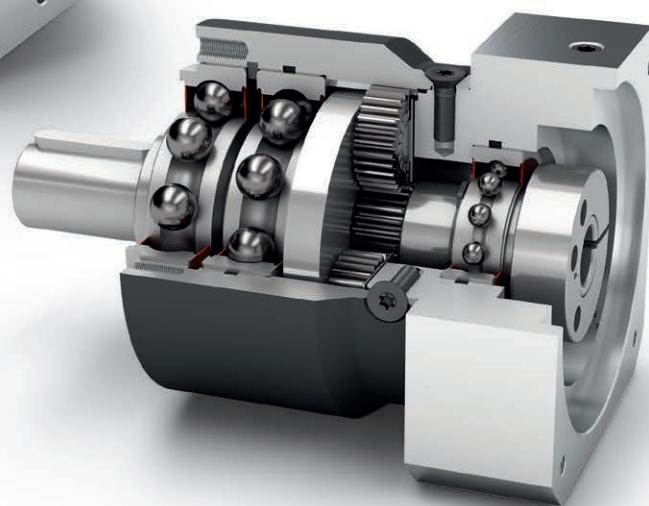
60

80

120

经济型同轴减速机

PLPE



Economy Line coaxial gearbox

我们的 **PLPE** 集中了经济型产品系列的最佳特性，而且性能更上一层楼。驱动装置的轴承经过优化设计，可以承受较高的径向力与轴向力。**PLPE** 紧凑的外轮廓使其可以在有限的空间条件下使用。

Our **PLPE** combines the best features of the Economy series with a performance bonus: The optimized output bearing is designed for higher radial and axial forces. The compact outer contour of the **PLPE** also allows it to be used in limited spaces.

 E	经济型 Economy Line	额定扭矩 Nominal output torque	5 - 460 Nm			
	直齿 Spur gear	径向力 Radial force	800 - 5200 N			
	圆形输出法兰 Round type output flange	轴向力 Axial force	1000 - 7000 N			
	增强深沟球轴承 Reinforced deep groove ball bearings	回程间隙 Torsional backlash	7 - 19 arcmin			
	行星齿轮架 Planet carrier in disc design	防护等级 Protection class	IP54			
结构尺寸 Frame sizes		50	70	90	120	155

经济型同轴减速机

PLHE



Economy Line coaxial gearbox

PLHE 是经济型减速机与高精度减速机的理想组合。这种行星减速机装有预胀紧的圆锥滚子轴承，确保在承受极大的负荷时仍然具有较高的刚性。高性能的密封提高了防尘和防喷淋水性能。

The **PLHE** is our ideal combination of economy and precision gearboxes. The preloaded tapered roller bearings of this planetary gearbox guarantee high rigidity even under maximum load. The high-performance seal provides increased protection against dust and water spray.

 经济型 Economy Line	额定扭矩 Nominal output torque	15 - 260 Nm
 直齿 Spur gear	径向力 Radial force	3200 - 6000 N
 正方形输出法兰 Square type output flange	轴向力 Axial force	4400 - 8000 N
 配有预紧的圆锥滚子轴承 Preloaded tapered roller bearings	回程间隙 Torsional backlash	7 - 12 arcmin
 径向轴密封 Rotary shaft seal	防护等级 Protection class	IP65
 输出端带有超长定心环 Extra long centering collar	结构尺寸 Frame sizes	
 行星齿轮架 Planet carrier in disc design		
 可选: 装有小齿轮的高精度减速机 Option: Planetary gearbox with mounted pinion		
	60	80
	120	

经济型同轴减速机

PLFE



Economy Line coaxial gearbox

前所未有的紧凑结构: **PLFE** 是我们带有紧凑型法兰输出轴的行星减速机。您可以节省三分之一以上的空间。它带有标准法兰接口, 因此特别容易安装。它还集成了定位销孔, 在安装时增加了牢固度。

There is no such thing as too short: The **PLFE** is our planetary gearbox with compact flange output shaft. They are more than one-third smaller in size. Its standardized flange interface makes it particularly easy to install. The integrated dowel pin drill hole provides additional stability during installation.

 **E**
经济型
Economy Line

 直齿
Spur gear

 圆形特大号输出法兰
Extra large round type output flange

 低摩擦深沟球轴承
Low-friction deep groove ball bearings

 法兰输出轴 (按 ISO 9409 标准)
Flange output shaft (ISO 9409)

 行星齿轮架
Planet carrier in disc design

额定扭矩
Nominal output torque **5 - 260 Nm**

径向力
Radial force **550 - 2400 N**

轴向力
Axial force **480 - 3300 N**

回程间隙
Torsional backlash **7 - 15 arcmin**

防护等级
Protection class **IP54**

结构尺寸
Frame sizes

55

64

90

110

经济型同轴减速机

PFHE



Economy Line coaxial gearbox

PFHE是一种极具吸引力的产品，适用于高径向负载应用。这种特殊的、预胀紧的角接触滚子轴承，搭配符合 ISO 9409-1 标准的法兰输出轴，使得 **PFHE** 的承载能力极高。借助径向轴密封，这种减速机的输出端的防护等级达到 IP65，因此能够胜任严苛的使用环境。

The **PFHE** represents an economically attractive alternative for high-load applications in which high radial loads occur. The combination of special pre-stressed inclined roller bearings and a flanged output shaft in accordance with ISO 9409-1 gives the **PFHE** a very high load capacity. Thanks to the radial shaft seal that is used, this gearbox achieves protection class IP65 at the output side and can therefore also withstand adverse usage conditions.



 经济型	额定扭矩	Nominal output torque	15 - 260 Nm
Economy Line			
 直齿	径向力	Radial force	2300 - 5150 N
Spur gear			
 圆形特大号输出法兰	轴向力	Axial force	2850 - 6450 N
Extra large round type output flange			
 配有预紧的角接触滚子轴承	回程间隙	Torsional backlash	7 - 12 arcmin
Preloaded angular contact roller bearings			
 径向轴密封	防护等级	Protection class	IP65
Rotary shaft seal			
 法兰输出轴 (按 ISO 9409 标准)	结构尺寸	Frame sizes	
Flange output shaft (ISO 9409)			
 行星齿轮架			
Planet carrier in disc design			
 可选: 装有小齿轮的高精度减速机			
Option: Planetary gearbox with mounted pinion			
		64	90
			110

经济型同轴减速机

WPLE



Economy Line right angle gearbox

WPLE 一如继往地延续了经济型产品系列的优势。它的结构紧凑且牢固，因此非常适合动态的多轴系统。我们的直角行星减速机终身润滑，容易安装，因此其性价比是无可匹敌的。

The **WPLE** consistently continues the advantages of the Economy series. With its compact but powerful design, it is perfectly suited for dynamic multi-axis systems. Our right-angle gearbox is lubricated for life, easy to mount and offers an unmatched price/performance ratio.



经济型
Economy Line



直齿
Spur gear



锥齿轮 直角型
Bevel gear right angle stage



圆形输出法兰
Round type output flange



低摩擦深沟球轴承
Low-friction deep groove ball bearings



多样的传动比 (i=3 至 i=512)
High ratio variety i=3 up to i=512



行星齿轮架
Planet carrier in disc design

额定扭矩

Nominal output torque

15 - 260 Nm

径向力

Radial force

200 - 1750 N

轴向力

Axial force

200 - 2500 N

回程间隙

Torsional backlash

11 - 28 arcmin

防护等级

Protection class

IP54

结构尺寸

Frame sizes

40

60

80

120

经济型同轴减速机

WPLQE



Economy Line right angle gearbox

我们的 **WPLQE** 是带有正方形输出法兰的直角行星减速机。因此，它特别容易安装，使用方式多样，而且凭借大尺寸的深沟球轴承，可以承受较高的径向力和轴向力。

Our **WPLQE** is the right-angle gearbox with a square output flange. This makes it particularly easy to mount, versatile and, thanks to its larger deep groove ball bearings, also suitable for higher radial and axial forces.

 E	经济型 Economy Line	额定扭矩 Nominal output torque	14 - 260 Nm
	直齿 Spur gear	径向力 Radial force	900 - 2950 N
	锥齿轮 直角型 Bevel gear right angle stage	轴向力 Axial force	1000 - 2500 N
	正方形输出法兰 Square type output flange	回程间隙 Torsional backlash	11 - 21 arcmin
	增强深沟球轴承 Reinforced deep groove ball bearings	防护等级 Protection class	IP54
	多样的传动比 (i=3 至 i=512) High ratio variety i=3 up to i=512	结构尺寸 Frame sizes	
	行星齿轮架 Planet carrier in disc design	60	80
		120	

经济型同轴减速机

WPLPE



Economy Line right angle gearbox

WPLPE是我们的经济型系列中广受欢迎的直角型减速机：它能节约空间，同时性能强大、价格合理。您可以把您的驱动元件直接安装到输出轴上，后者超强的深沟球轴承可以承受较高的径向力和轴向力。

The **WPLPE** is the sought-after angle solution from our Economy range: space-saving yet powerful at an attractive price. You attach your drive elements directly to the output shaft, which can also withstand high radial forces thanks to extra-strong deep groove ball bearings.

 经济型
Economy Line

 直齿
Spur gear

 锥齿轮 直角型
Bevel gear right angle stage

 圆形输出法兰
Round type output flange

 增强深沟球轴承
Reinforced deep groove ball bearings

 行星齿轮架
Planet carrier in disc design

额定扭矩
Nominal output torque **5 - 195 Nm**

径向力
Radial force **800 - 2500 N**

轴向力
Axial force **1000 - 4000 N**

回程间隙
Torsional backlash **11 - 25 arcmin**

防护等级
Protection class **IP54**

结构尺寸
Frame sizes

50

70

90

120

经济型同轴减速机

WPLHE



经济型
Economy Line



旋转方向 反方向
Counterdirectional rotation



直齿
Spur gear



锥齿轮 直角型
Bevel gear right angle stage



正方形输出法兰
Square type output flange



配有预紧的圆锥滚子轴承
Preloaded tapered roller bearings



径向轴密封
Rotary shaft seal



输出端带有超长定心环
Extra long centering collar



行星齿轮架
Planet carrier in disc design



可选: 花键输出轴 (DIN 5480)
Option: Splined output shaft (DIN 5480)



Option: Planetengetriebe mit montiertem Ritzel
Option: Planetary gearbox with mounted pinion

Economy Line right angle gearbox

节约轴向空间，经济实惠，防护等级IP65，专为承受高径向力和轴向力的输出端而设计： **WPLHE** 集合了已获成功的 PLHE 的全部优势。这是世界上首个将经济型减速机与高精度减速机组合的直角行星减速机。

Axially space-saving, economical, IP65-compliant and designed for high radial and axial forces at the output: The **WPLHE** combines all the advantages of the successful PLHE, the world's first combination of the Economy and Precision gearboxes, as an right-angle variant.

额定扭矩

Nominal output torque

14 - 260 Nm

径向力

Radial force

3200 - 6000 N

轴向力

Axial force

4400 - 8000 N

回程间隙

Torsional backlash

11 - 18 arcmin

防护等级

Protection class

IP65

结构尺寸

Frame sizes

60

80

120

经济型同轴减速机

WPLFE



Economy Line right angle gearbox

WPLFE 是我们带有紧凑型法兰输出轴的直角行星减速机。您可以节省多达三分之一的空间。它带有标准法兰接口，因此特别容易安装。它还集成了定位销孔，在安装时增加了牢固度。

The **WPLFE** is our right-angle planetary gearbox with a compact flange output shaft. You save up to a third of the space. Its standardized flange interface makes it particularly easy to install. The integrated dowel pin drill hole provides additional stability during installation.

 经济型
Economy Line

 直齿
Spur gear

 锥齿轮 直角型
Bevel gear right angle stage

 圆形特大号输出法兰
Extra large round type output flange

 低摩擦深沟球轴承
Low-friction deep groove ball bearings

 法兰输出轴 (按 ISO 9409 标准)
Flange output shaft (ISO 9409)

 行星齿轮架
Planet carrier in disc design

额定扭矩
Nominal output torque **14 - 260 Nm**

径向力
Radial force **550 - 2400 N**

轴向力
Axial force **1200 - 3300 N**

回程间隙
Torsional backlash **11 - 18 arcmin**

防护等级
Protection class **IP54**

结构尺寸
Frame sizes

64

90

110

精密型同轴减速机

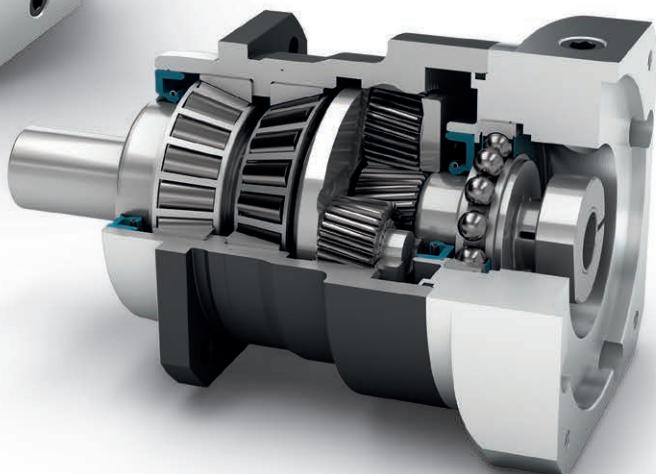
PSN



Precision Line coaxial gearbox

我们的 **PSN** 是纯粹的进步：它的斜齿确保了低噪音级别的同步。高精度行星减速机将振动降低至最小。**PSN** 在承受极高负荷的情况下仍然保持高精确度，这使其成为全世界性能最强大的减速机之一。

Our **PSN** is pure progress: Its helical gearing ensures low-noise synchronization. With this precision planetary gearbox, vibrations are reduced to a minimum. Precision even under very high loads makes the **PSN** one of the most high-performance gearboxes in the world.



 精密型 Precision Line	额定扭矩 Nominal output torque	28 - 950 Nm
 斜齿 Helical gear	径向力 Radial force	3200 - 20000 N
 正方形输出法兰 Square type output flange	轴向力 Axial force	4400 - 19000 N
 配有预紧的圆锥滚子轴承 Preloaded tapered roller bearings	回程间隙 Torsional backlash	1 - 5 arcmin
 径向轴密封 Rotary shaft seal	防护等级 Protection class	IP65
 输出端带有超长定心环 Extra long centering collar	结构尺寸 Frame sizes	
 行星齿轮架 (笼状结构) Planet carrier in cage design		
 可选: 降低回程间隙 Option: Reduced backlash		
 可选: 花键输出轴 (DIN 5480) Option: Splined output shaft (DIN 5480)		
 可选: 装有小齿轮的高精度减速机 Option: Planetary gearbox with mounted pinion		
	70	90
	115	142
	190	

精密型同轴减速机

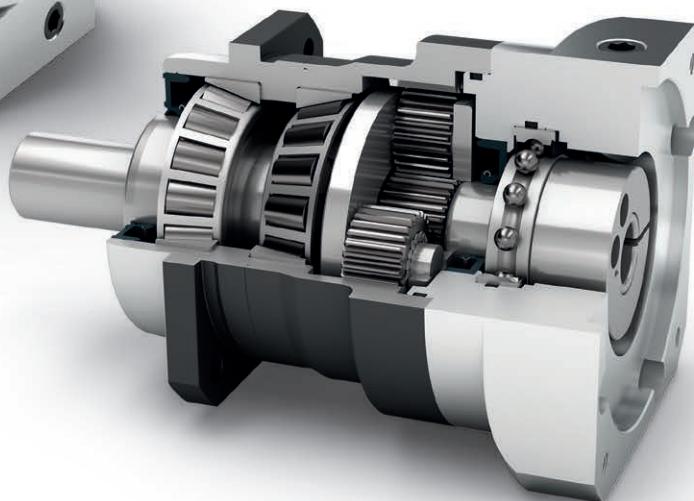
PLN



Precision Line coaxial gearbox

我们的直齿高精度行星减速机是针对最高的性能和扭矩设计的。PLN 的预胀紧的圆锥滚子轴承和专门调整过的密封确保了在有灰尘和喷淋水的条件下仍然达到最佳性能。

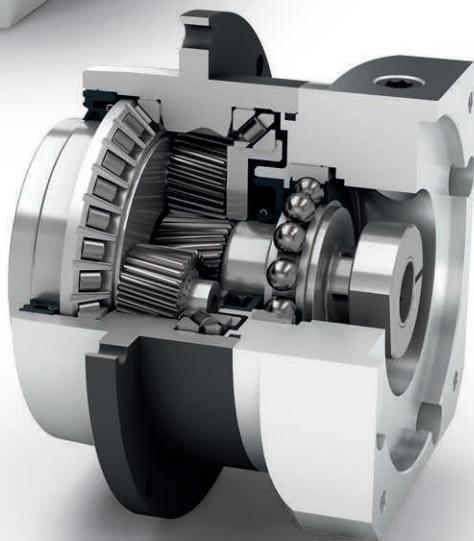
Our precision straight-toothed planetary gearbox is designed for maximum power and torque. The preloaded tapered roller bearings in the PLN and the specially matched seal guarantee optimum performance even in applications where dust and water spray are encountered.



	精密型 Precision Line	
	直齿 Spur gear	
	正方形输出法兰 Square type output flange	
	配有预紧的圆锥滚子轴承 Preloaded tapered roller bearings	
	径向轴密封 Rotary shaft seal	
	输出端带有超长定心环 Extra long centering collar	
	行星齿轮架 (笼状结构) Planet carrier in cage design	
	可选: 降低回程间隙 Option: Reduced backlash	
	可选: 花键输出轴 (DIN 5480) Option: Splined output shaft (DIN 5480)	
	可选: 装有小齿轮的高精度减速机 Option: Planetary gearbox with mounted pinion	
额定扭矩 Nominal output torque		27 - 1800 Nm
径向力 Radial force		3200 - 21000 N
轴向力 Axial force		4400 - 21000 N
回程间隙 Torsional backlash		1 - 5 arcmin
防护等级 Protection class		IP65
结构尺寸 Frame sizes		
70		
90		
115		
142		
190		

精密型同轴减速机

PSFN



精密型
Precision Line



斜齿
Helical gear



圆形特大号输出法兰
Extra large round type output flange



配有预紧的角接触滚子轴承
Preloaded angular contact roller bearings



径向轴密封
Rotary shaft seal



法兰输出轴 (按 ISO 9409 标准)
Flange output shaft (ISO 9409)



行星齿轮架 (笼状结构)
Planet carrier in cage design



可选: 降低回程间隙
Option: Reduced backlash



可选: 装有小齿轮的高精度减速机
Option: Planetary gearbox with mounted pinion

Precision Line coaxial gearbox

我们的 **PSFN** 装有标准法兰接口以及笼状结构的行星齿轮架，因此抗扭刚度极高。专门研发的斜齿把振动降至最低程度。这种高精度行星减速机凭借它的高倾斜力矩，可以满足您的众多要求。

Thanks to its standardized flange interface and a planet carrier in a cage design, our **PSFN** is extremely torsionally rigid. The specially developed helical gearing reduces vibrations to a minimum. With its high tilting moment, you can demand a lot from this precision planetary gearbox.

额定扭矩

Nominal output torque

28 - 950 Nm

径向力

Radial force

2150 - 23000 N

轴向力

Axial force

4300 - 16000 N

回程间隙

Torsional backlash

1 - 5 arcmin

防护等级

Protection class

IP65

结构尺寸

Frame sizes

64

90

110

140

200

精密型同轴减速机

PLFN



Precision Line coaxial gearbox

我们的 **PLFN** 具有标准的法兰接口，因此可以实现简便的安装。直齿高精度行星减速机是针对最高的性能和扭矩设计的。它具有较高的倾斜力矩，即使在承受极高的径向力和轴向力时仍然保持最佳性能。

Our **PLFN** has a standardized flange interface, which allows easy mounting. The straight-toothed precision planetary gearbox is designed for high performance and torque. Its high tilting moment allows the best performance even with the highest radial and axial forces.

 P	精密型 Precision Line	
	直齿 Spur gear	额定扭矩 Nominal output torque 27 - 1800 Nm
	圆形特大号输出法兰 Extra large round type output flange	径向力 Radial force 2150 - 33000 N
	配有预紧的角接触滚子轴承 Preloaded angular contact roller bearings	轴向力 Axial force 4300 - 15000 N
	径向轴密封 Rotary shaft seal	回程间隙 Torsional backlash 1 - 5 arcmin
	法兰输出轴 (按 ISO 9409 标准) Flange output shaft (ISO 9409)	防护等级 Protection class IP65
	行星齿轮架 (笼状结构) Planet carrier in cage design	结构尺寸 Frame sizes
	可选: 降低回程间隙 Option: Reduced backlash	64
	可选: 装有小齿轮的高精度减速机 Option: Planetary gearbox with mounted pinion	90
		110
		140
		200

精密型同轴减速机

PSBN



Precision Line coaxial gearbox

我们的 **PSBN** 是高精度行星减速机与高效率轴承技术的理想组合。它是我们为了让电机在高转速下达到最高性能而专门研发的产品。它凭借斜齿设计可以特别平稳地运行 —— 而且噪音低于多数产品。

Our **PSBN** is the ideal combination of a precision planetary gearbox and efficient bearing technology. It was designed specifically to achieve maximum performance at high speed. Thanks to the helical gearing, it operates particularly smoothly - and is quieter than average.

-  精密型
Precision Line
-  斜齿
Helical gear
-  正方形输出法兰
Square type output flange
-  增强深沟球轴承
Reinforced deep groove ball bearings
-  径向轴密封
Rotary shaft seal
-  行星齿轮架 (笼状结构)
Planet carrier in cage design
-  可选：降低回程间隙
Option: Reduced backlash

额定扭矩
Nominal output torque **28 - 470 Nm**

径向力
Radial force **1000 - 5800 N**

轴向力
Axial force **1500 - 9400 N**

回程间隙
Torsional backlash **1 - 5 arcmin**

防护等级
Protection class **IP65**

结构尺寸
Frame sizes

70

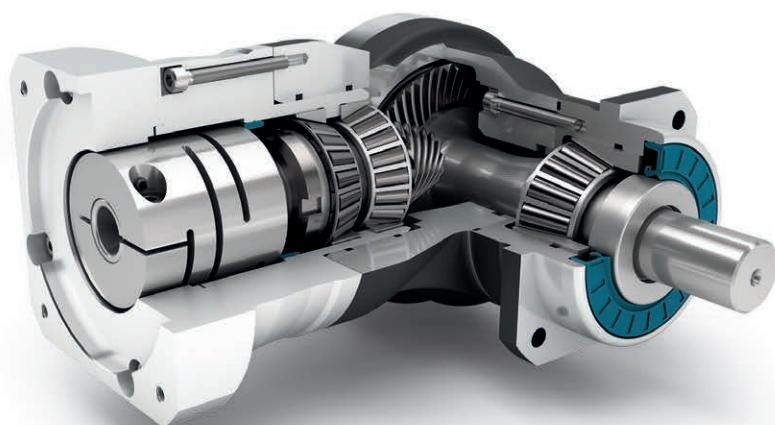
90

115

142

精密型同轴减速机

WPLN



 P	精密型 Precision Line	
	旋转方向 反方向 Counterdirectional rotation	额定扭矩 Nominal output torque 22 - 800 Nm
	准双曲面齿轮 直角箱 Hypoid gear right angle stage	径向力 Radial force 3200 - 12500 N
	正方形输出法兰 Square type output flange	轴向力 Axial force 4300 - 15000 N
	配有预紧的圆锥滚子轴承 Preloaded tapered roller bearings	回程间隙 Torsional backlash 3 - 5 arcmin
	径向轴密封 Rotary shaft seal	防护等级 Protection class IP65
	输出端带有超长定心环 Extra long centering collar	结构尺寸 Frame sizes
	可选: 降低回程间隙 (2 级) Option: Reduced backlash (2-stage)	70
	可选: 装有小齿轮的高精度减速机 Option: Planetary gearbox with mounted pinion	90
		115
		142

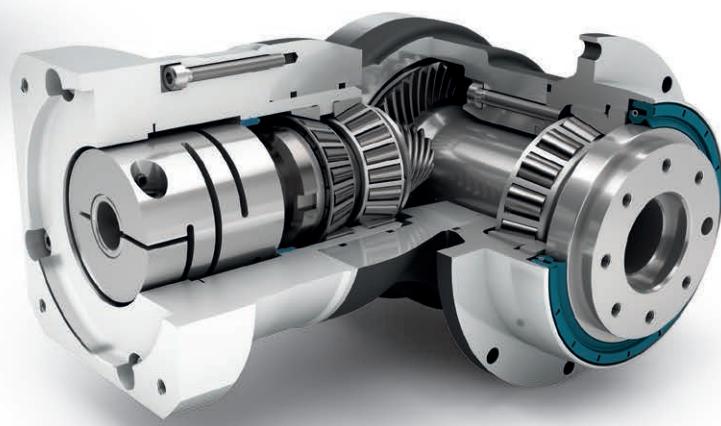
Precision Line right angle gearbox

我们的 **WPLN** 凭借其准双曲面齿轮达到最优同步。由于振动被降至最低程度，它可以均匀、精确且安静地运行。直角高精度减速机经过终身润滑，可以用多种方式安装。

Due to its hypoid gearing, our **WPLN** achieves optimal synchronization. Because vibrations are reduced to a minimum, it operates smoothly, precisely and quietly. The right-angle precision gearbox is lubricated for life and can be mounted in a variety of ways.

精密型同轴减速机

WPSFN



 P	精密型 Precision Line	
	旋转方向 反方向 Counterdirectional rotation	
	准双曲面齿轮 直角箱 Hypoid gear right angle stage	
	圆形特大号输出法兰 Extra large round type output flange	
	配有预紧的角接触滚子轴承 Preloaded angular contact roller bearings	
	径向轴密封 Rotary shaft seal	
	法兰输出轴 (按 ISO 9409 标准) Flange output shaft (ISO 9409)	
	空心轴 (1 级) Hollow shaft	
	可选: 降低回程间隙 (2 级) Option: Reduced backlash (2-stage)	
	可选: 装有小齿轮的高精度减速机 Option: Planetary gearbox with mounted pinion	
额定扭矩 Nominal output torque		22 - 625 Nm
径向力 Radial force		2150 - 12000 N
轴向力 Axial force		4200 - 9500 N
回程间隙 Torsional backlash		3 - 5 arcmin
防护等级 Protection class		IP65
结构尺寸 Frame sizes		
64		
90		
110		
140		

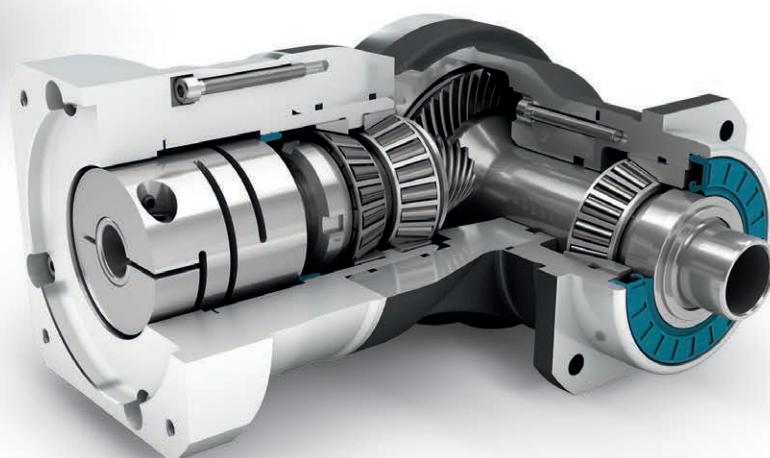
Precision Line right angle gearbox

我们的 **WPSFN** 凭借其标准法兰接口，可以特别轻松迅速地集成到系统里，而且具备很高的抗扭刚度。它凭借准双曲面齿轮、斜齿行星级、以及优化的同步，达到最佳的表面质量。最短的直角高精度行星减速机，集成了空心轴的1级设计，为您提供了新的设计解决方案。

Our **WPSFN** is particularly easy and quick to integrate thanks to its standardized flange interface and offers high torsional rigidity. With its hypoid gearing, as well as the helical-toothed planetary stage, it achieves optimal synchronization for best surface qualities. The shortest right-angle precision gearbox, in a single-stage design with integrated hollow shaft, offers you new design solutions.

精密型同轴减速机

WGN



Precision Line right angle gearbox

我们的 **WGN** 是一种运行噪音特别轻的直角式空心轴减速机。与此同时，准双曲面齿轮提高了您的工件表面质量。借助胀紧套可以直接连接应用 —— 这样做简单、安全，而且为您的设计节省了更多空间。

Our **WGN** is the right-angle hollow shaft gearbox that operates particularly quietly. At the same time, the hypoid gearing increases the quality of the surface of your workpiece. With a shrink disc, it can be connected directly to the application - this is uncomplicated, safe and opens up new design possibilities.

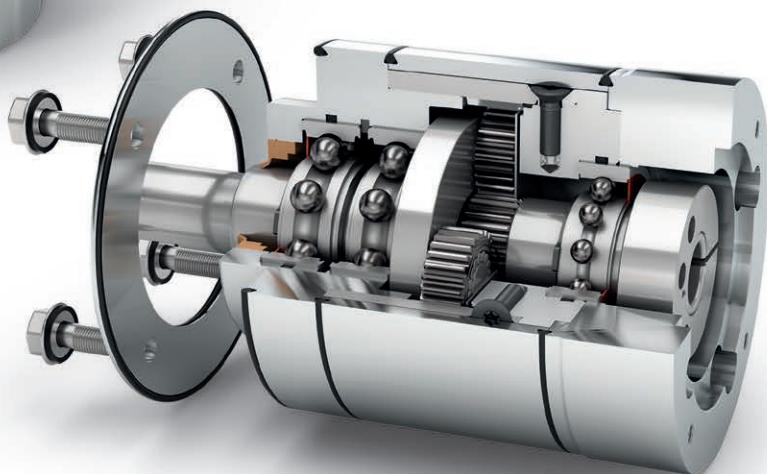
 精密型 Precision Line	额定扭矩 Nominal output torque	22 - 320 Nm
 旋转方向 反方向 Counterdirectional rotation	径向力 Radial force	2700 - 10000 N
 准双曲面齿轮 直角箱 Hypoid gear right angle stage	轴向力 Axial force	4300 - 14500 N
 正方形输出法兰 Square type output flange	回程间隙 Torsional backlash	5 arcmin
 配有预紧的圆锥滚子轴承 Preloaded tapered roller bearings	防护等级 Protection class	IP65
 径向轴密封 Rotary shaft seal	结构尺寸 Frame sizes	
 输出端带有超长定心环 Extra long centering collar		
 夹紧系统的空心轴，带有胀紧套 Hollow shaft for clamping system with shrink disc		
	70	90
	115	142

针对特定应用的减速机

HLAE

专门为食品与药品行业提供的卫生型设计

Hygienic Design
for the Food and
Pharmaceutical
Industries



针对特定应用的减速机
Application-specific gearbox



直齿
Spur gear



圆形输出法兰
Round type output flange



低摩擦深沟球轴承
Low-friction deep groove ball bearings



径向轴密封
Rotary shaft seal



输出端带有超长定心环
Extra long centering collar



行星齿轮架
Planet carrier in disc design



可选: FFKM 密封件
Option: FFKM seal

Application-specific gearbox

我们的 **HLAE** 是无与伦比的：它是全世界首款已经获得认证的卫生型设计行星减速机 —— 它造型灵活，不需要径向螺钉，且性能强大，又便于清洁。它是专为敏感应用领域而研发的，例如制药、化妆品与食品领域。

Our **HLAE** is unique: It is the world's first planetary gearbox in a certified hygienic design – flexible without a radial bolt, powerful and yet easy and quick to clean. It was developed specifically for applications in sensitive areas such as pharmaceuticals, cosmetics and food.

额定扭矩

Nominal output torque

15 - 171 Nm

径向力

Radial force

450 - 1450 N

轴向力

Axial force

550 - 2500 N

回程间隙

Torsional backlash

7 - 12 arcmin

防护等级

Protection class

IP69K

结构尺寸

Frame sizes

70

90

110

针对特定应用的减速机

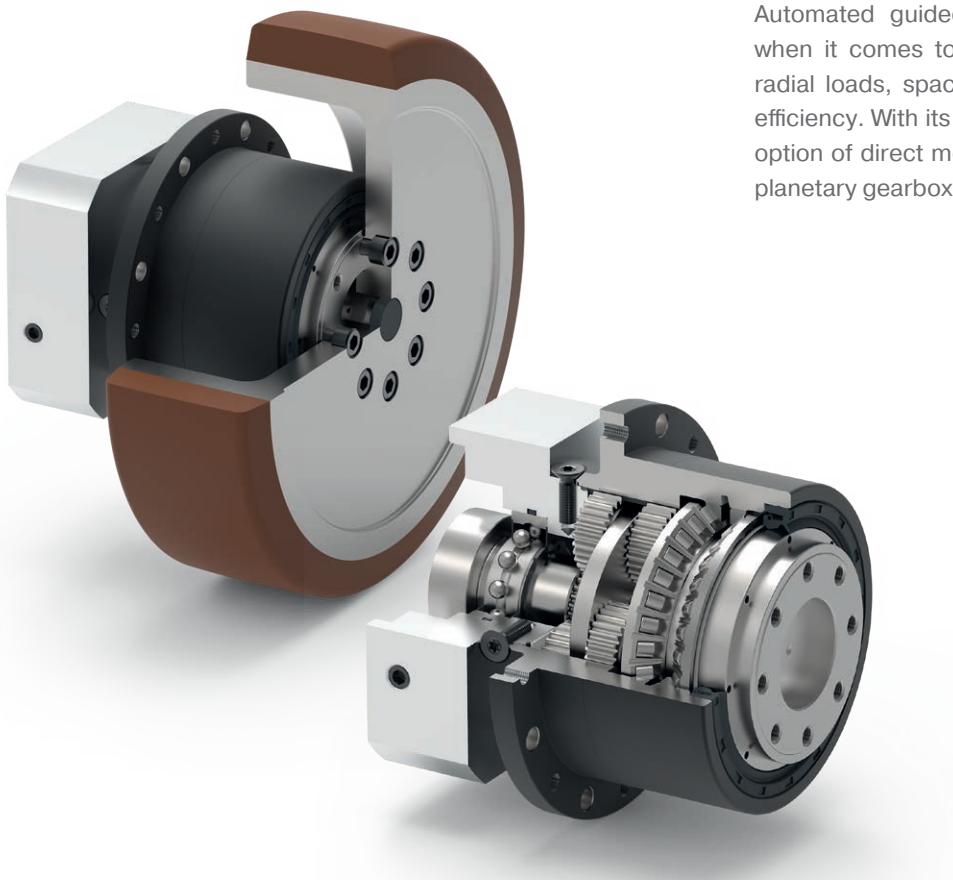
NGV

用于工业地面运输车的高精度减速机
for AGVs

Application-specific gearbox

无人驾驶系统对驱动技术提出了特殊的要求。这些要求主要有：承受较高的径向负荷，节省空间的设计，可以全天不间断运行，且节约能源。我们的 **NGV** 行星减速机采用特殊的输出轴承设计理念，而且可以直接安装在车辆底盘上，因此能够精确地满足这些要求。

Automated guided vehicles have special requirements when it comes to drive technology. These include high radial loads, space-saving design, 24/7 use and energy efficiency. With its special output bearing concept and the option of direct mounting to the vehicle chassis, our **NGV** planetary gearbox precisely meets these requirements.



 针对特定应用的减速机	额定扭矩	Nominal output torque	18 - 260 Nm
Application-specific gearbox			
 直齿	径向力	Radial force	2300 - 5150 N
Spur gear			
 圆形特大号输出法兰	轴向力	Axial force	2850 - 6450 N
Extra large round type output flange			
 配有预紧的角接触滚子轴承	回程间隙	Torsional backlash	9 - 12 arcmin
Preloaded angular contact roller bearings			
 径向轴密封	防护等级	Protection class	IP65
Rotary shaft seal			
 输出端带有超长定心环	结构尺寸	Frame sizes	
Extra long centering collar			
 法兰输出轴 (按 ISO 9409 标准)	64	90	110
Flange output shaft (ISO 9409)			
 行星齿轮架			
Planet carrier in disc design			

装有小齿轮的高精度减速机

PK1 • PM1 • PM2



根据所选的减速机不同，可能具有以下特征：

Depending on the gearbox selected, the following features are available:



直齿齿轮
Pinion with straight teeth



斜齿齿轮
Pinion with helical teeth



同轴减速机
Coaxial gearbox



直角型减速机
Right angle gearbox



配有多点预紧的圆锥滚子轴承
Preloaded tapered roller bearings



配有多点预紧的角接触滚子轴承
Preloaded angular contact roller bearings



输出端带有超长定心环
Extra long centering collar



圆形特大号输出法兰
Extra large round type output flange



正方形输出法兰
Square type output flange



径向轴密封
Rotary shaft seal



可选：降低回程间隙
Option: Reduced backlash

Planetary gearbox with mounted pinion

齿轮是齿条驱动装置的核心元件。它将减速机的旋转运动转化为线性运动。Neugart 齿轮预先安装在减速机上，并用螺钉固定。这样，这个由减速机与齿轮构成的紧凑单元可以快速地组装在设备里，由此节省了额外的安装工作。

The pinion is the essential element of the rack and pinion drive for converting the rotatory movement of the gearbox into a linear movement. The Neugart pinion is pre-mounted on the gearbox and secured with screws. This means that the compact unit consisting of the gearbox and the pinion can be quickly installed in the application, and less installation work is required.

PK1

模数

Module

2-5

齿数

Number of teeth

15-27

最大进给力

Maximum feed force

4-31 kN

PM1

模数

Module

2-4

齿数

Number of teeth

26-45

最大进给力

Maximum feed force

2-14 kN

PM 2

模数

Module

2-5

齿数

Number of teeth

16-22

最大进给力

Maximum feed force

7-30 kN

客户定制减速机

Custom made gearboxes



创新并且独特： 定制减速机

独特的构造，特有的性能数据，改动过的输出轴，或者食品级质量：您需要的是一台根据特定需求专门设计过的减速机。我们完全满足您的要求。我们将快速而简单地从我们的标准行星减速机中选出一种进行改造，或者为您专门研发定制减速机。

我们产品设计部的专业人员有能力设计出符合您需要的减速机解决方案与系统：在性能、成本与质量三方面都做到最优。

我们借助最先进的研发与设计工具，为机械与设备制造、机器人，医疗、药物与食品技术，或者模具制造等所有应用领域开发出适合各种用途的减速机。

创新优势：我们凭借多年的经验，不断开展新的研发，并把这些整合到我们的客户解决方案里。

Innovative and individual: Our custom made gearboxes.

A custom design, specialized performance data, a modified output shaft, safe for use in the food industry: Do you need an individually adapted gearbox? We can meet your requirements. Quickly and easily by modifying one of our standard planetary gearboxes or with a custom gearbox developed specifically for you. The qualified specialists in our Engineering department design gearbox solutions and systems to meet your requirements: in terms of performance, cost and quality.

With the help of the most modern development and design tools, we design gearboxes suitable for the most diverse applications, from all areas of mechanical and plant engineering, robotics, medical, pharmaceutical and food technology or model making. Your innovation advantage: We rely on our many years of experience, while at the same time keeping updated on new developments and integrating them into our customer solutions.

功率等级

Performance classes

- + 高效率
- + 可安装在任意位置
- + 输入法兰可适配特殊的电机
- + 终生润滑，因此免维护
- + 优化转动惯量的锁紧系统

- + High efficiency
- + For any mounting position
- + Individual adaptation of the input flange to the motor
- + Lifetime lubrication for maintenance-free operation
- + Clamping systems with optimized mass moment of inertia

经济型	额定输出扭矩	回程间隙	轴承最大承载能力	防护等级	运行噪音	输入转速	抗扭刚性	传动比多样性
	Nominal output torque	Backlash	Bearing load	Protection class	Running noise	Input speeds	Torsional stiffness	Wide range of ratios
PLE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
PLQE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
PLPE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
PLHE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
PLFE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
PFHE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
WPLE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
WPLQE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
WPLPE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
WPLHE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —
WPLFE		— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —	— · · · · —

— 标准

— · · · · — 优秀

— Standard

— · · · · — Excellent

功率等级

Performance classes

精密型	额定输出扭矩	回程间隙	轴承最大承载能力	防护等级	运行噪音	输入转速	抗扭刚性	传动比多样性
	Nominal output torque	Backlash	Bearing load	Protection class	Running noise	Input speeds	Torsional stiffness	Wide range of ratios
PSBN		—	—	—	—	—	—	—
PSN		—	—	—	—	—	—	—
PLN		—	—	—	—	—	—	—
PSFN		—	—	—	—	—	—	—
PLFN		—	—	—	—	—	—	—
WPLN		—	—	—	—	—	—	—
WPSFN		—	—	—	—	—	—	—
WGN		—	—	—	—	—	—	—

针对特定应用的减速机	额定输出扭矩	回程间隙	轴承最大承载能力	防护等级	运行噪音	输入转速	抗扭刚性	传动比多样性
Application specific gearboxes	Nominal output torque	Backlash	Bearing load	Protection class	Running noise	Input speeds	Torsional stiffness	Wide range of ratios
HLAE		—	—	—	—	—	—	—
NGV		—	—	—	—	—	—	—

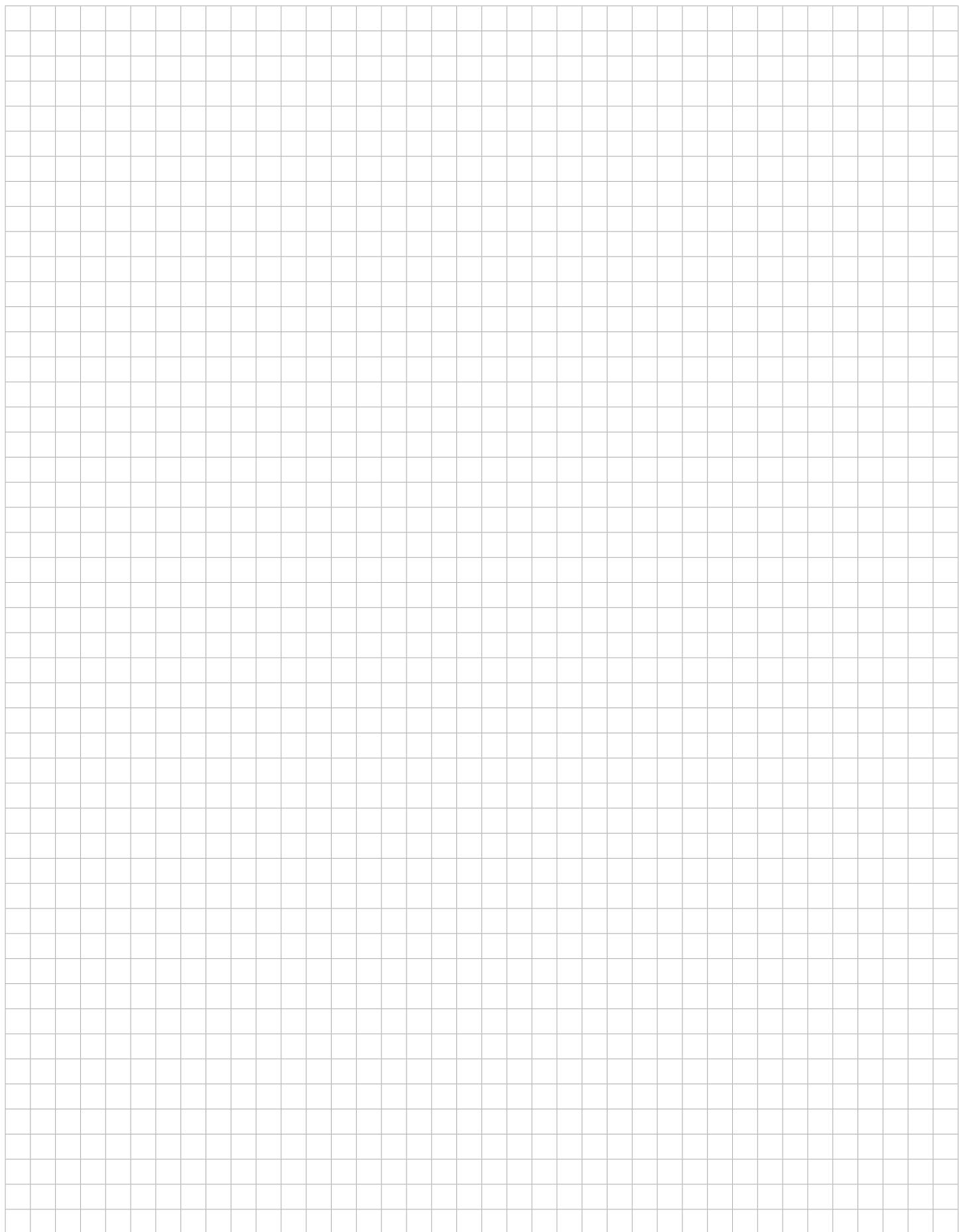
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— — — — 优秀

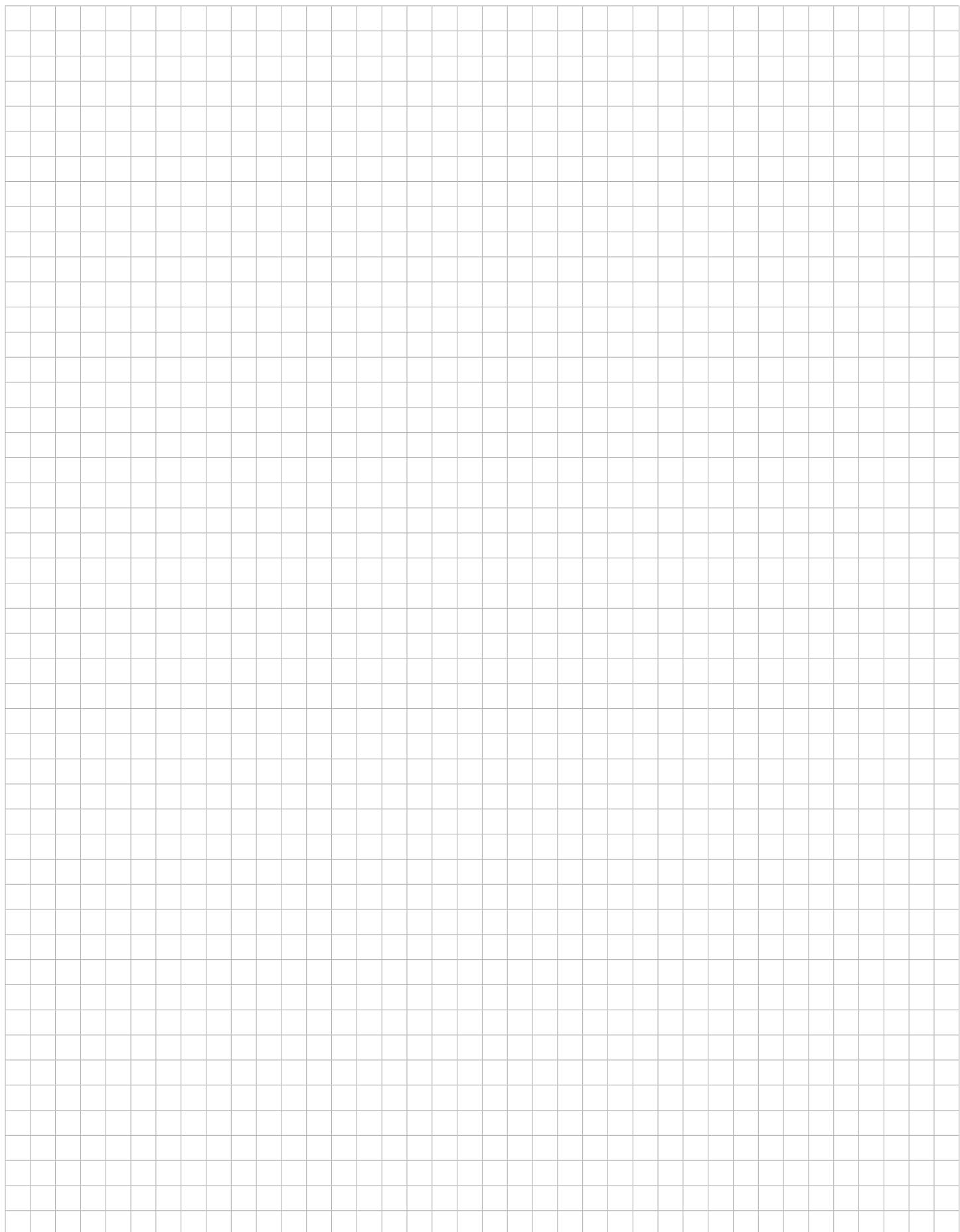
— Standard

— — — — Excellent

供您记录 For your notes



供您记录 For your notes





您还有其它问题，或者需要更多信息吗？

我们乐意为您提供任何关于驱动技术方面的咨询。

您可以通过我们的网站找到您的专属联系方式: www.neugart.com

Do you have any questions or need further information?

We are happy to advise you on all topics relating to drive technology.

You can find your personal contact at: www.neugart.com

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