Product overview accessories lifgo® & lean SL® (identical)

lifgo® & lean SL®

Accessory variant

Mechanical arrest system

Differential coupling

Coupling unit

Thread

Profile shafts

Set collar
Ø 35 h7 x 60
Ø 45 h7 x 70
Ø 90 h7 x 90

Sliding sleeves
Ø 35 h7 x 60
Ø 45 h7 x 70
Ø 90 h7 x 90

Rotational reinforcement
Ø 30; Ø 45; Ø 89

Shaft adapter variant 1

Shaft adapter variant 2

Profile shaft adapter

Universal joint single
Ø 40 x 108
Ø 40 x 108 with protection

Universal joint double
Ø 40 x 156
Ø 40 x 156 with protection

Drive shaft

These accessory parts are identical for lifgo® and lean SL®.
For more information on sizes and item numbers, see the PDF catalogue.

Product overview lifgo® & lean SL®

- **Article numbers gearboxes**
- **Article numbers accessories**

Product overview accessories lifgo® & lean SL® (identical)

- **Article numbers**

LEANTECHNIK MOVEMENT our PASSION
www.leantechnik.com

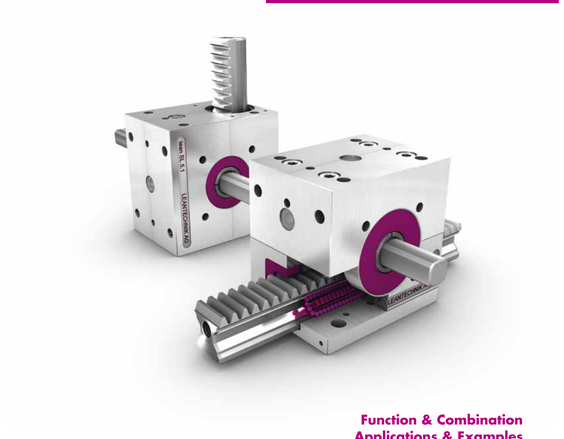
Im Lipperfeld 7c
46047 Oberhausen, Germany

Phone +49 (0)208 495 250
Fax +49 (0)208 495 2518

Email info@leantechnik.com
www.leantechnik.com

LEANTECHNIK MOVEMENT our PASSION
www.leantechnik.com

Product overview



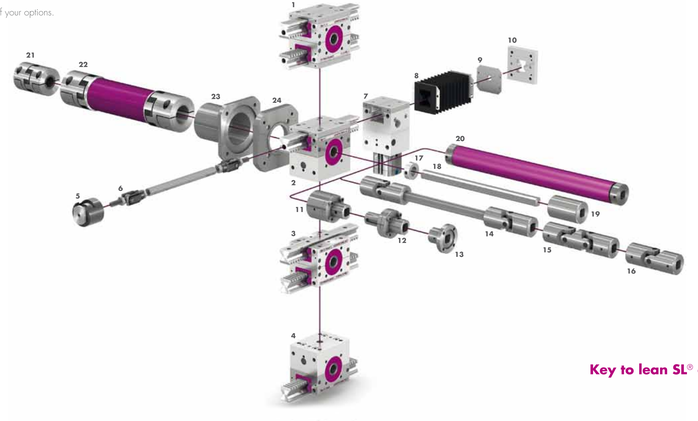
Function & Combination
Applications & Examples
lifgo® & lean SL®

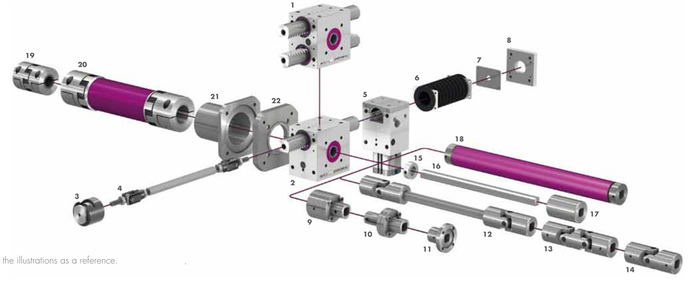
Overview of lifgo® + lean SL®

- **Gearbox variants**
- **identical accessories**

Overview of lifgo® + lean SL® • Gearbox variants & identical accessories

Get an overview of your options.





Size 5.1 is used in the illustrations as a reference.

Key to lifgo® overview

No.	Product
1	lifgo® double
2	lifgo®
3	lifgo® linear double
4	lifgo® linear
5	Coupling unit
6	Differential coupling
7	Mechanical arrest system (ASS)
8	Gear rack protection
9	End plate
10	Gear rack retaining plate AZ
11	Shaft adapter variant 2
12	Shaft adapter variant 1
13	Profile shaft adapter
14	Universal joint with profile shaft
15	Universal joint double
16	Universal joint single
17	Set collar
18	Profile shaft
19	Sliding sleeves
20	Rotational reinforcement
21	Coupling
22	Drive shaft
23	Gearbox bell
24	Gearbox flange

Key to lean SL® overview

No.	Product
1	lean SL® double
2	lean SL®
3	Coupling unit
4	Differential coupling
5	Mechanical arrest system (ASS)
6	Gear rack protection
7	End plate
8	Gear rack retaining plate AZ
9	Shaft adapter variant 2
10	Shaft adapter variant 1
11	Profile shaft adapter
12	Universal joint with profile shaft
13	Universal joint double
14	Universal joint single
15	Set collar
16	Profile shaft
17	Sliding sleeves
18	Rotational reinforcement
19	Coupling
20	Drive shaft
21	Gearbox bell
22	Gearbox flange

Product overview lifgo® • Article numbers gearboxes

lifgo®	5.0		5.1		5.3		5.4	
	Standard	Excenter	Standard	Excenter	Standard	Excenter	Standard	Excenter
Gear unit version	Item no.	Item no.	Item no.	Item no.	Item no.	Item no.	Item no.	Item no.
lifgo® profile shaft (PW)	500 001	500 017	500 002 501 002	500 018	500 003 501 003	500 019	500 004 501 004	
lifgo® shaft – one side (ZA 1)	500 005	500 021	500 006 501 006	500 022 501 022	500 007 501 007	500 023 501 023	500 008 501 008	500 024 501 024
lifgo® shaft – both sides (ZA 2)	500 009	500 025	500 010 501 010	500 026 501 026	500 011 501 011	500 027 501 027	500 012 501 012	500 028 501 028
lifgo® hollow keyway (PFN)	500 013	500 029	500 014 501 014	500 030 501 030	500 015 501 015	500 031 501 031	500 016 501 016	500 032 501 032
lifgo® linear profile shaft (PW)	500 033	500 049	500 034 501 034	500 050	500 035 501 035	500 051	500 040 501 036	
lifgo® linear shaft – one side (ZA 1)	500 037	500 053	500 038 501 038	500 054 501 054	500 039 501 039	500 055 501 055	500 044 501 040	500 056 501 056
lifgo® linear shaft – both sides (ZA 2)	500 041	500 057	500 042 501 042	500 058 501 058	500 043 501 043	500 059 501 059	500 048 501 044	500 060 501 060
lifgo® linear hollow keyway (PFN)	500 045	500 061	500 046 501 046	500 062 501 062	500 047 501 047	500 063 501 063	500 048 501 048	500 064 501 064
lifgo® double profile shaft (PW)	500 065		500 066 501 066		500 067 501 067		500 068 501 068	
lifgo® double shaft – one side (ZA 1)	500 069		500 070 501 070		500 071 501 071		500 072 501 072	
lifgo® double shaft – both sides (ZA 2)	500 073		500 074 501 074		500 075 501 075		500 076 501 076	
lifgo® double hollow keyway (PFN)	500 077		500 078 501 078		500 079 501 079		500 080 501 080	
lifgo® linear double profile shaft (PW)	500 081		500 082 501 082		500 083 501 083		500 084 501 084	
lifgo® linear double shaft – one side (ZA 1)	500 085		500 086 501 086		500 087 501 087		500 088 501 088	
lifgo® linear double shaft – both sides (ZA 2)	500 089		500 090 501 090		500 091 501 091		500 092 501 092	
lifgo® linear double hollow keyway (PFN)	500 093		500 094 501 094		500 095 501 095		500 096 501 096	

All item numbers in GREY are helical-cut gears (SVZ).

For more information on sizes and item numbers, see the PDF catalogue.

Product overview lifgo® • Article numbers accessories

lifgo®	5.0	5.1	5.3	5.4
Accessory version	Item no.	Item no.	Item no.	Item no.
lifgo® gear rack	500 113	500 114 501 106	500 115 501 107	500 116 501 108
lifgo® gear rack ground	500 504	500 505 501 114	500 506 501 115	500 637 501 116
lifgo® gear rack hardened & ground	500 169	500 170 501 122	500 171 501 123	500 172 501 124
lifgo® linear gear rack	500 117	500 118 501 110	500 119 501 111	500 120 501 112
lifgo® linear gear rack ground	500 507	500 508 501 118	500 509 501 119	500 638 501 120
lifgo® linear gear rack hardened & ground	500 173	500 174 501 126	500 175 501 127	500 176 501 128
lifgo® gear rack protection	500 121	500 122	500 123	500 124
lifgo® gear rack protection SB	500 510	500 511	500 512	500 854
lifgo® linear gear rack protection	500 125	500 126	500 127	500 128
lifgo® linear gear rack protection SB	500 516	500 517	500 518	500 855
lifgo® end plate	500 539	500 541	500 543	500 881
lifgo® linear end plate	500 540	500 542	500 544	500 882
lifgo® gear rack retaining plate AZ	500 181	500 182	500 183	500 184
lifgo® guide car	500 097	500 098	500 099	500 100
lifgo® compensating block	500 883	500 8845	500 885	500 888
lifgo® guide rail	500 101	500 102	500 103	500 104
lifgo® guide rail screws from top	500 105	500 106	500 107	500 108
lifgo® guide rail screws from bottom	500 109	500 110	500 111	500 112

All item numbers in GREY are helical-cut gears (SVZ).

For more information on sizes and item numbers, see the PDF catalogue.

Product overview lean SL®• Article numbers gearboxes

lean SL®	SL 5.m	SL 5.0	SL 5.1	SL 5.3	SL 5.5
Gear unit version	Item no.	Item no.	Item no.	Item no.	Item no.
lean SL® profile shaft (PW)	500 664	500 129	500 130	500 131	500 132
lean SL® shaft – one side (ZA 1)	500 665	500 133	500 134	500 135	500 136
lean SL® shaft – both sides (ZA 2)	500 666	500 137	500 138	500 139	500 140
lean SL® hollow keyway (PFN)	500 667	500 141	500 142	500 143	500 144
lean SL® double profile shaft (PW)	500 668	500 145	500 146	500 147	500 148
lean SL® double shaft – one side (ZA 1)	500 669	500 149	500 150	500 151	500 152
lean SL® double shaft – both sides (ZA 2)	500 670	500 153	500 154	500 155	500 156
lean SL® double hollow keyway (PFN)	500 671	500 157	500 158	500 159	500 160

Product overview lean SL®• Article numbers accessories

lean SL®	SL 5.m	SL 5.0	SL 5.1	SL 5.3	SL 5.5
Accessory version	Item no.	Item no.	Item no.	Item no.	
lean SL® gear rack	500 672	500 161	500 162	500 163	500 164
lean SL® gear rack protection	501 354	500 177	500 178	500 179	500 180
lean SL® end plate	501 357	500 548	500 549	500 550	501 201
lean SL® gear rack retaining plate AZ	500 358	500 185	500 186	500 187	500 188

For more information on sizes and item numbers, see the PDF catalogue.

Our understanding of service

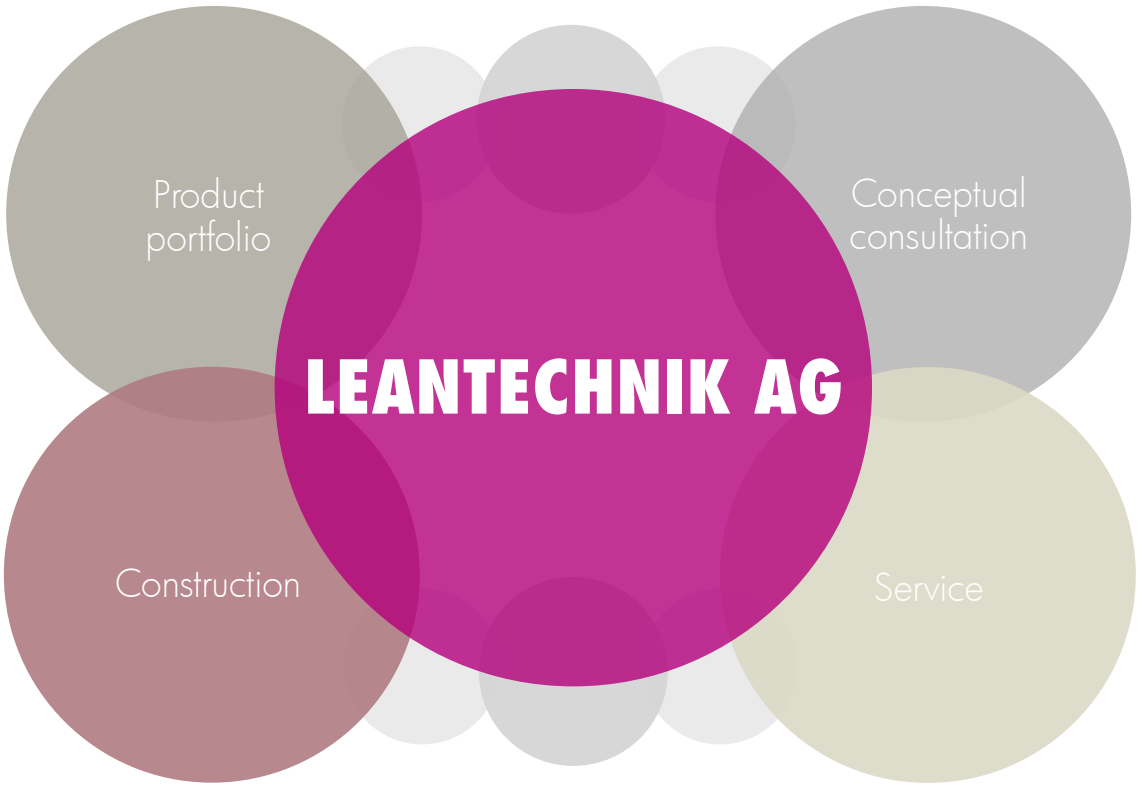
Qualitatively high-standard products and the highest possible level of service are important to us to secure our market position as a technological leader in the development and construction of linearly mounted rack-and-pinion hoist gear units for automation technology.

Reinhard Janzen and René Halw – Executive Board, LEANTECHNIK AG

Our goal is to provide the best possible service for our customers

To achieve this, we know that we have to ensure smooth production processes. We help you implement and structure your system. Our rack drives will make your processes more efficient. We supply individual consultations and conceptual designs for the challenges you face. Our quality policy is part of our company philosophy.

We are there for you!



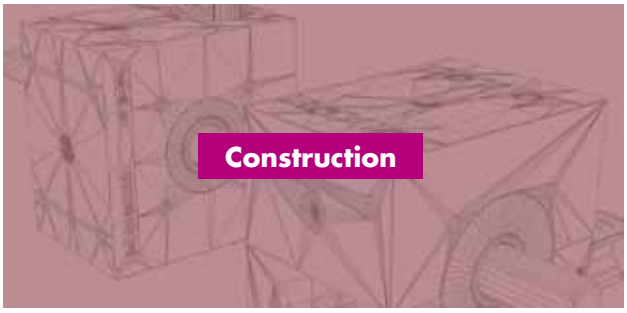
Our understanding of service

Our service portfolio

Our product portfolio is made up of the two gear series lifgo® and leanSL® as well as the leantranspo® product line, which includes partial and functionally complete systems for automation technology. To accompany our high-quality products, we offer comprehensive services. Our ultimate goal is to ensure maximum customer satisfaction and utility.

Conceptual Consultation

Our product range includes comprehensive conceptual and, above all, individual consultation. This begins with finding a solution for a specific problem, all the way to developing an innovative system or solution for various use cases. Throughout the process, we place great importance on the subject-related, methodological and social competence of our employees.



Construction

Comprehensive support and expert consultation is critical, especially during construction. This is why our construction team is trained to provide outstanding support while solving standardised and individual problems. New challenges and innovative products are what make the expert competence of our design engineers consistently stand out and they are constantly improving.

Service

When they buy our products, our customers profit from our comprehensive range of services as well. Whether during assembly and implementation of systems and products or our customer service, the customer is always at the centre for us and profits from the reliable support they receive from our internal and external employees. Have a question about our services? We are always available for any queries. Your contact person will be happy to help.

Contents

Our full and up-to-date PDF catalogue in its latest version with links to information and 3D models, as well as dimension sheets and accessories, can be found at: www.leantechnik.com

Introduction

Dear reader or user,

Whenever synchronous, precise, fast, and high-performance motion is required, our lifgo® and lean SL® rack and pinion gear units are reliable, proven functional components in a variety of industry sectors.

Below, we present the product series and the new accessories available for our gear units. The various operating options and the increased number of available item combinations are just a few of the benefits offered by our modular system, which we intend to extend still further in the coming years.

In addition to our **lifgo® and lean SL®** series of gear units, we also provide functional units and partial and turnkey systems, which are sold in all variations under the **leantranspo®** name. Here, our individualized approach to manufacturing in combination with a modular system brings many advantages.

Get a picture of the multifaceted possibilities for applications and combinations. The modular construction of our products allows countless variants, which are presented here in excerpts and examples. This product overview has been extended to include a variety of technical data. Accessories such as the compensating block for guide cars and the mechanical arrest system have also been included in the product portfolio.

Do not hesitate to visit our website and look at our PDF catalogue to find further information on ways of solving a range of lifting and synchronisation tasks. You can find all the detailed information here:

www.leantechnik.com

Our website has videos showing our gear units in numerous applications. In addition to the application examples, you can also explore the function and installation of our products in animated pictures.

The "Download" area also has 3D data and models of the products for download in various file formats.

The LEANTECHNIK AG Team

Our team is ready to support you in implementing your ideas. Call us or make an appointment to discuss your individual lifting and transfer application with us.

We hope that you will find our product range of interest and look forward to hearing from you. Our catalogue will give you an initial overview of our products and services. We will be happy to assist you in any way in finding a solution for your individual lifting application.

Your LEANTECHNIK AG Team

Quality Management Certification in accordance with DIN EN ISO 9001
Registration no. 254883 QM ff.

To ensure clarity and ease of use, there are just a few graphic symbols and styles that will help you navigate through this product overview:

1. Sign	Important assembly, safety and functional information as well as information on dimension sheets and tables.
2. Coloured type	Indicates important information in the text.

Applications, designs and service

The applications and designs presented below are by way of example only.

Individual designs are created and calculated according to the technical requirements of the application. Countless applications are possible in principle, and not all of them can be presented. Give your imagination free rein. If you have questions or if we can assist you with your ideas, please call us.

Ask us to check the design of your application for you. The results of this verification can be incorporated in your design work to help you find the best possible solution.

LEANTECHNIK MOVEMENT our PASSION

Im Lipperfeld 7c
46047 Oberhausen, Germany

Phone +49 (0)208 495 25 - 0
Fax +49 (0)208 495 25 -18

Email info@leantechnik.com
www.leantechnik.com

References (sample)

A
ABB Automation GmbH
ABB Engineering Shanghai Ltd.
ADAM OPEL AG
AP&S International GmbH
A-Tooling Ab, Sweden
AUDI AG

B
Benteler AG
BLEICHERT Automation GmbH & Co.KG
BMW AG/Group Ltd.
Braun GmbH

C
Carl Zeiss Jena GmbH
CMC S.r.l.
Continental Reifen Deutschland GmbH
ContiTech Techno-Chemie GmbH

D
Daimler AG
Dambach Lagersysteme GmbH
Dieffenbacher GmbH

E
EBZ Group
Eissmann Automotive Deutschland GmbH
Emil Bucher GmbH & Co.KG

F
Festo AG & Co.KG
FFT EDAG Produktionssysteme GmbH & Co. KG
FLABEG Deutschland GmbH
Ford of Europe GmbH
Ford Motor Company of Australia Limited
Ford Motor Company U.S.

G
Gehring Technologies GmbH
Goodyear Dunlop Tires Operations S.A.
GROB-Werke GmbH & Co.KG

H
Herrhammer GmbH
Hörmann Automotive Gustavsburg GmbH

I
Ideal-Werk C. + E. Jungeblodt GmbH + Co. KG
Illig Maschinenbau GmbH & Co. KG
Ilsemann Automation
Inductoheat Europe GmbH
IWM Automation GmbH

J
Johnson Controls Autobatterie GmbH & Co. KGaA
Julius Blum GmbH

K
Kolb Technology GmbH
KUKA Flexible Manufacturing Systems (Shanghai) Co., Ltd.
KUKA Roboter GmbH
KUKA Systems GmbH

L
Liebherr Group

M
Manz Automation AG
Miele + Cie. KG
Muhr & Bender KG
Müko Maschinenbau GmbH
Müller Weingarten AG

N
Neue Halberg-Guss GmbH

O
Olbrich GmbH
OPTIMA packaging group GmbH
Otto Bihler Maschinenfabrik GmbH & Co. KG

P
Papier-Mettler
Pintsch Bamag Antriebs- & Verkehrstechnik GmbH
Porsche AG PSE AG

R
RENAULT s.a.s
Robert Bosch GmbH

S
Saint-Gobain PAM Deutschland GmbH
Schaefer Förderanlagen- & Maschinenbau GmbH
Schuler Group
Siempelkamp GmbH & Co. KG
SK Hydroautomation GmbH
SLCR Lasertechnik GmbH
Sollich KG
Sturm Group

T
Thyssen Krupp Lasertechnik GmbH
Thyssen Krupp Steel AG
ThyssenKrupp System Engineering GmbH
TMS Transport- und Montagesysteme GmbH

V
Vacuumschmelze GmbH & Co KG
Voestalpine AG
Voith Industrial Services GmbH
Voith Paper GmbH & Co.KG
Voith Turbo GmbH & Co.KG
Volkswagen AG

W
Wafios AG
Wanzl Metallwarenfabrik GmbH
WICKERT Maschinenbau GmbH
Wieland-Werke AG

Z
Zasche Sitec handlings GmbH
ZF Lenksysteme GmbH

lifgo® & lean SL® 5 - Rack-and-pinion gear unit

Generation 5 combines two gear unit concepts: the proven lifgo® and lean SL® series are now compatible. Each series has its strengths, and combining them could yield the optimal result for your lifting application.

lifgo® with linear guided gear racks, for fast and precise requirements
lean SL® with round gear rack guides, for simple lifting motions
leantranspo® is the name given to the partial and complete functional systems based on lifgo® and lean SL®

Thanks to the various possible combinations, countless types of system can be designed economically and efficiently. The logical, modular construction of the units results in a modular system that offers design engineers enormous flexibility and versatility in operation using just a few accessories. This modular system comprises all the components required for the construction of simple lifting systems through to complex transfer and shuttle solutions – in proven **LEANTECHNIK AG** quality.

lifgo® • Unique features

lifgo ®

One basic model – 4 variants

lifgo®, lifgo® linear, lifgo® double and lifgo® linear double based on the same basic model – replacement, expansion and flexible design can all be carried out on your system easily.

4-way roller guide for the gear rack on lifgo®

This design allows higher loads and lower operating noise levels.

Adjustable precision with eccentric configuration

In the "Excent" design, you specify the tooth backlash and gear precision yourself.

High resisting torque for more transverse force bearing capacity

lifgo® 5 can support greater transverse loads, thanks to its higher resistance torque.

Four standard pinion shafts for creative system designs

Four standard pinion shafts – profile (PW), one or two pins (ZA 1/ZA 2), and a bore with keyway (FFN) – are available for all sizes of lifgo® and lean SL®.

Long service life for durable use

lifgo® 5 stands for quality and guarantees reliable functionality.

Gear rack protection – simple and flexible

Environments with high levels of contamination or dust call for the use of a gear rack protection with a simple, secure screw-type fixing mechanism that permits versatile use.

Simple installation with few accessories

Thanks to the modular system design, only a small number of accessories are required to install the lifgo® 5. This simultaneously reduces the cost to the user.

More options thanks to flexible mounting

lifgo® 5 has fixings on 4 sides. It can therefore be installed on all horizontal and vertical surfaces.

Compatibility for flexible design

lifgo® and lean SL® are compatible – the two gear unit series can be combined in one and the same system.

Generation 5

lean SL® • Unique features

Large diameter, wide tooth profile
A large rack diameter and
wide toothing mean the lean SL® series guides particularly stiffly and has a long service life.

Long service life for durable use
The lean SL® is a robust gear unit that is characterised by its long service life.

Easy-to-install, versatile gear rack protection
The lean SL® is simple to handle and
can be used in almost any industry.

lean SL®

More options thanks to flexible mounting
lean SL® has fixings on 4 sides. It can therefore be installed on all vertical and horizontal surfaces.

leantranspo®- partial and functionally complete systems • Unique features

Unlimited possibilities
The leantranspo production line includes the development and construction of partially and functionally complete systems based on lifgo® and lean SL®. Any time attachments, motors and steelwork is used in addition to the two gear unit series, a leantranspo® system is made from the component sets.

Professionalism and experience
Profit from our engineering team's years of experience –
they are here to advise you in your development and construction needs.

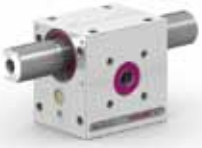
Custom solutions
leantranspo® means tailored solutions designed especially for you
so that they meet your needs precisely.

Our construction kit system

& individual, handy application gear units

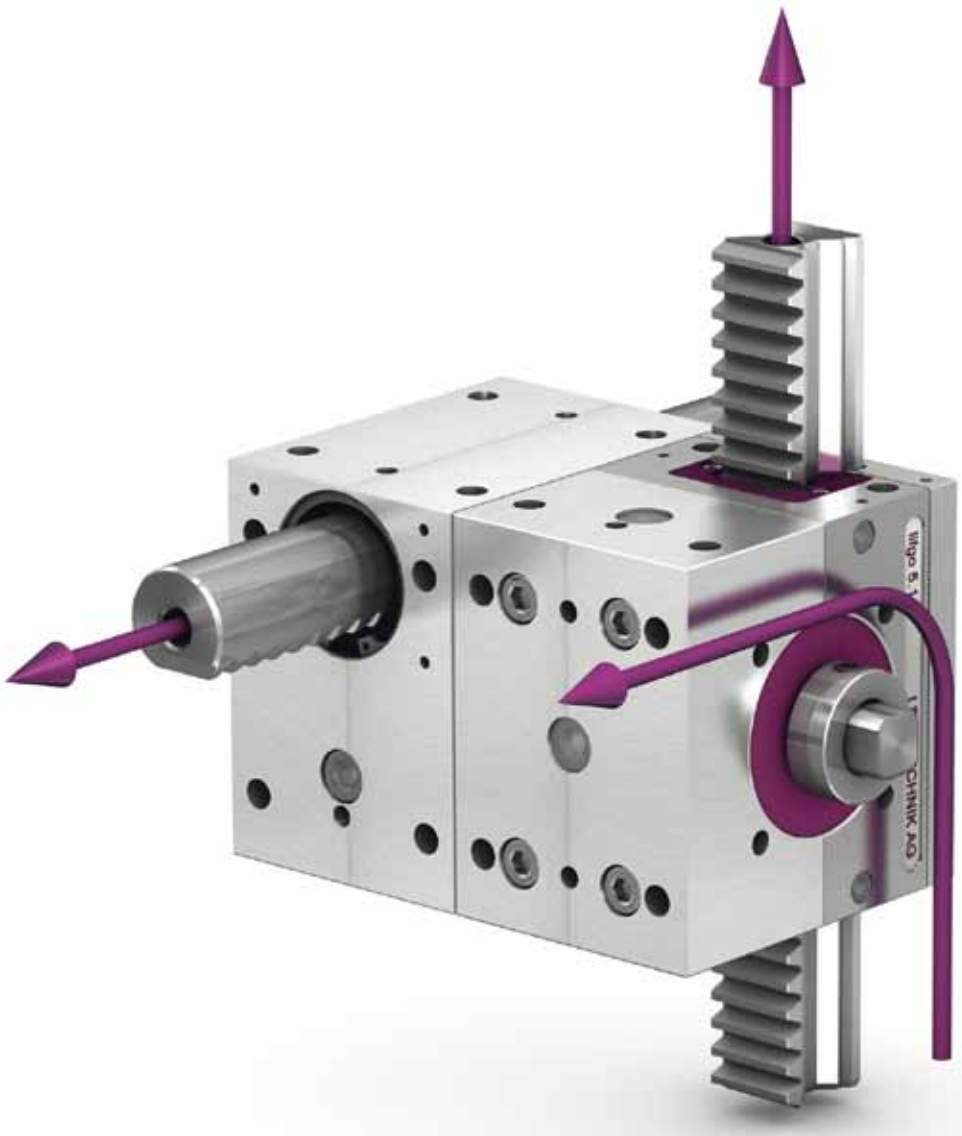
lean SL® 5.5

lifgo® 5.1



lean SL® 5.m

Function & Combination



Function & Combination

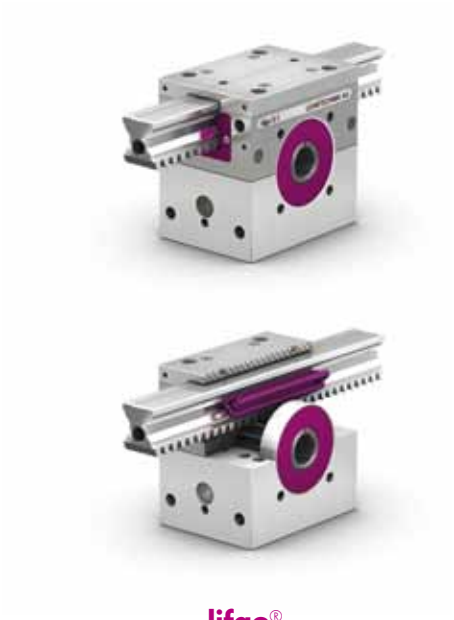
Introduction to functionality

lifgo® and lean SL® are two gear unit series offering different performance levels. They are both available in three different sizes.

lifgo® Lifting, guiding, and positioning. Fast, precise, and powerful.
lean SL® Gear units for simple, cost-effective lifting devices

Both gear unit types can be combined with each other. They are compatible with one another and support each other's functions. The differences and similarities of the two series, lifgo® and lean SL®, are presented on the following pages.

lifgo® & lean SL® • Differences



lifgo®

lean SL®

The most important differences between lifgo® & lean SL®:

lifgo®	lean SL®
· 4 roller guides	· sliding guide bearings
· precise guides	· simple guiding
· high-precision positioning	· simplified precision positioning
· high lifting speed	· medium lifting speed
· also available as "linear", "double" and "helical"	· also available as "double"

lifgo® & lean SL® • Similarities

lifgo®

lean SL®

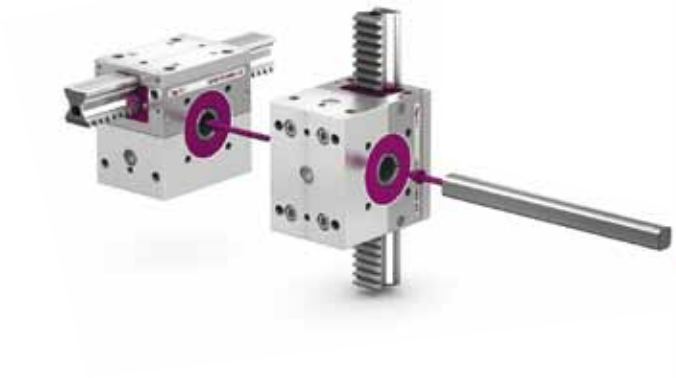
The most significant similarities between the lifgo® and lean SL® gear unit series:

- Identical connection dimensions and screw mounts for each size
- Identical tooth pitch (to)/module and pitch diameter for each size
- Identical pinion shaft designs for each series and size
- Screws can be threaded in directly and/or passed through
- Gear units can be installed on horizontal and vertical surfaces
- Mounting screw dimensions are the same in vertical and horizontal orientation

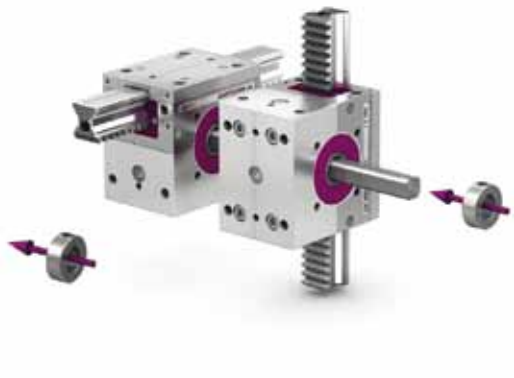
Introduction to functionality

lifgo® & lean SL® • Rotationally fixed, interlocked connection with profile shafts (PW)

1



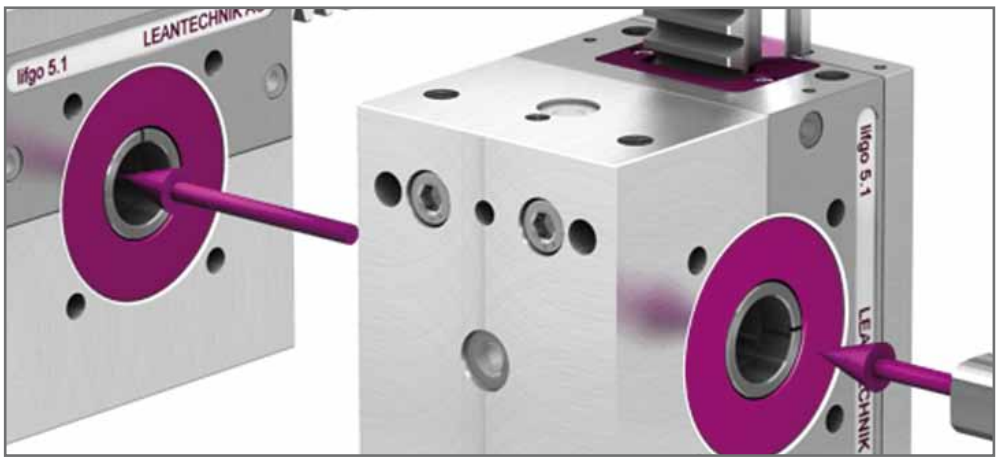
2



3

4

5



Our profile shafts create a rotationally fixed and interlocked connection between the pinion for the horizontal gear racks and the pinion that drives the vertical gear rack. Linear horizontal motion is therefore converted to a linear vertical motion in a 1:1 ratio. The ratio (mm/360°) is different for each gear unit size (Fig.1– 3).

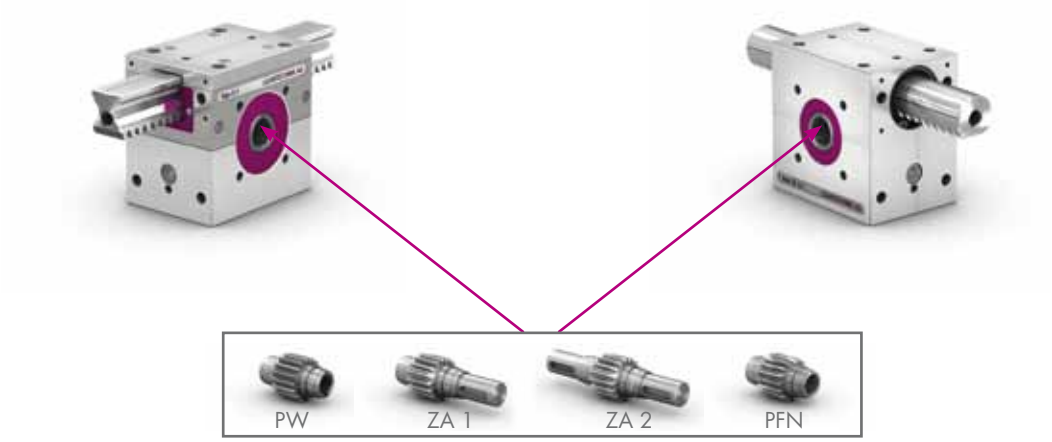
By sliding in the gear rack horizontally, the rotary motion is transmitted to the profile shaft by means of the pinion shaft (Fig. 4). The profile shaft synchronises the tooth position of the gear units in 90° steps. To do this, the gear unit must be positioned using the position markings on the pinion (image 5) and then the two must be connected with the profile shaft in this position. As a result, the gear rack positions are also synchronised (simultaneous engagement of the gear racks with the pinion shaft is a prerequisite.)

lifgo® & lean SL® • Pinion shaft ends

In addition to profile shafts (PW) as a rotationally fixed connection, the lifgo® & lean SL® modular system offers three more standardised pinion shaft ends.

These include the pinion shafts with pins and a keyway, in versions with one pin (ZA 1) or two pins (ZA 2). A hollow shaft with a keyway (PFN) has also been standardized. The dimensions are the same for all lifgo® and lean SL® versions, for each size. They can be found on the dimension sheets.

The keyway and pin versions are particularly well suited for dynamic, low-clearance, and alternating load motions.



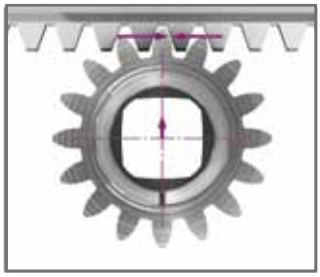
lifgo® double & lean SL® double• Gear units with two racks

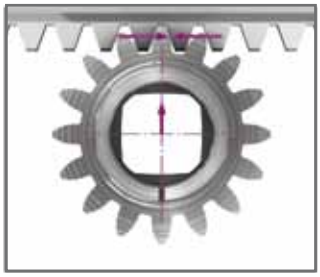
lifgo® double & lean SL® double with parallel rack guides in each size. For use in gripper devices and gripper shuttle systems, for example.

lifgo® • Special features

The lifgo® 5 gear unit series meets high standards, and has a few technical features and versions that the lean SL® and lean SL® double series do not provide:

lifgo® Excent: Tooth backlash configurable (both for straight-cut and helical gears)
In the lifgo® "eccentric" version, the tooth backlash can be adjusted.
Indicate the desired positioning accuracy in the project data.

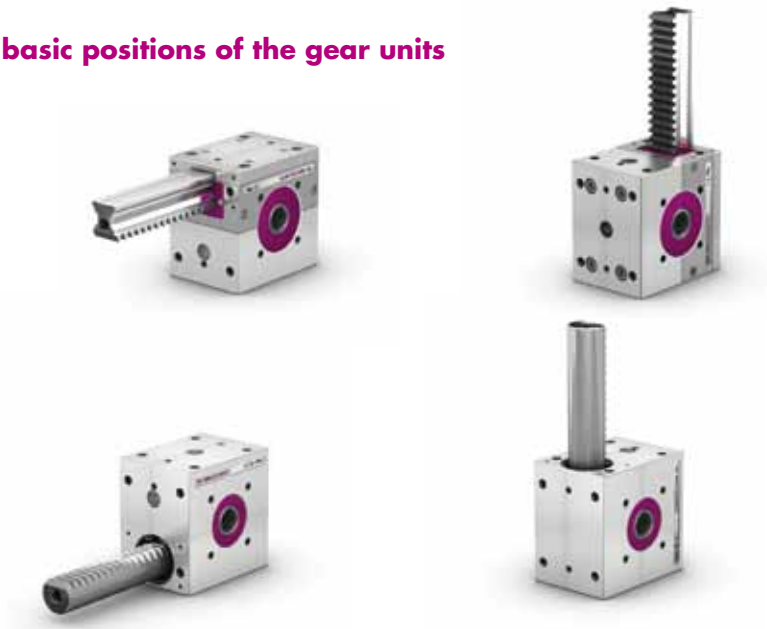




lifgo® linear: long travel, any number of gear racks
lifgo® becomes lifgo® linear: By removing the adapter plate and making a few small adjustments, lifgo® can also be used as a "linear" module. It very simply becomes the right drive unit for long travel strokes.

Applications:
Horizontal & vertical stroke: long travel with any number of multi-part gear racks
Vertical stroke: addition of reinforcement profiles at the tapped holes in the gear rack, and addition of auxiliary devices (e.g., suction pads, grippers, functional unit) at the end of the gear rack

The four basic positions of the gear units



The sequence of pictures shows the basic assembly options in the horizontal and vertical direction. They are identical for lifgo® (top) and lean SL® (bottom). Note that both series can be combined with each other in all positions.

Combinations of the series

lifgo® + lean SL®

lifgo® linear + lean SL®

lifgo® linear + lifgo®

From high-precision to low-cost – compatibility between series reduces costs.

lifgo® double + lean SL® + lifgo® + lean SL® double + lifgo® linear

from right to left

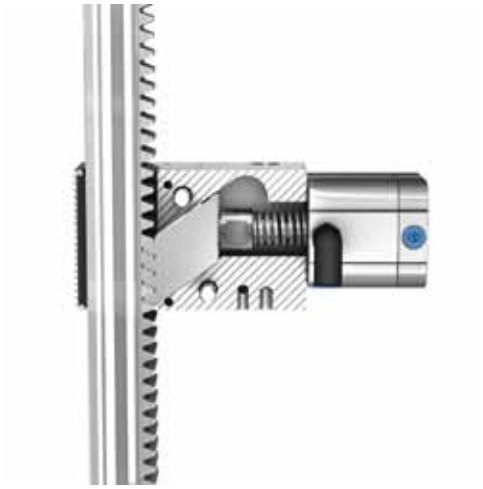
The above illustration shows all conceivable lifgo® and lean SL® gear unit combinations at a glance.

Direction of rotation/operation

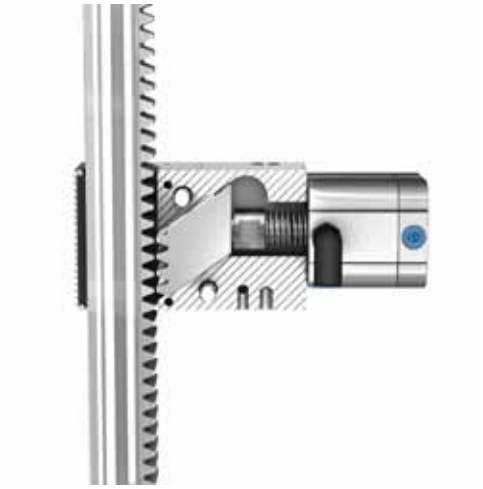
Gear unit combinations basically convert horizontal linear motion into rotation, and then into vertical linear motion. The drive motion can take place in any effective direction (arrow). Reverse operation is also possible.

Mechanical arrest system lifgo® & lean SL® (ASS)

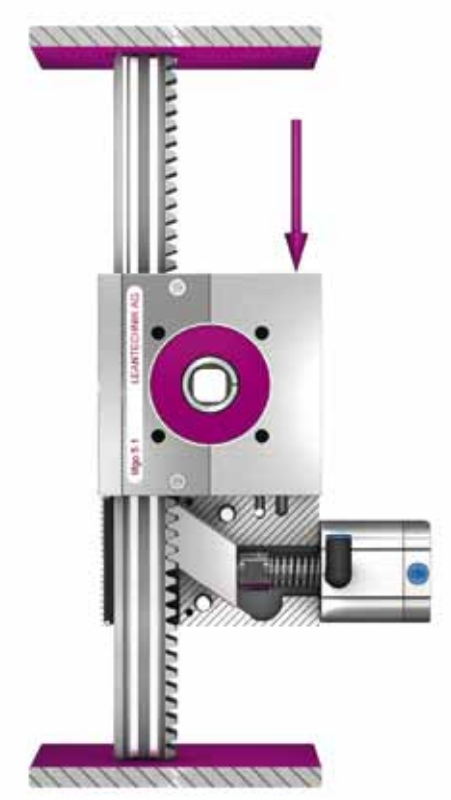
The mechanical arrest system (ASS) is a mechanism that is mounted on the gear unit in order to prevent the uncontrolled descent of systems, system components or heavy weights and also to prevent the unwanted application of forces. It makes it possible to ensure that systems, machines or equipment do not descend suddenly or collapse during inspections or repair work. When used in combination with lifgo® or lean SL® gear units, the ASS can also be used as a positioning unit for a given value. Please ask us!
For more information, see the PDF catalogue.



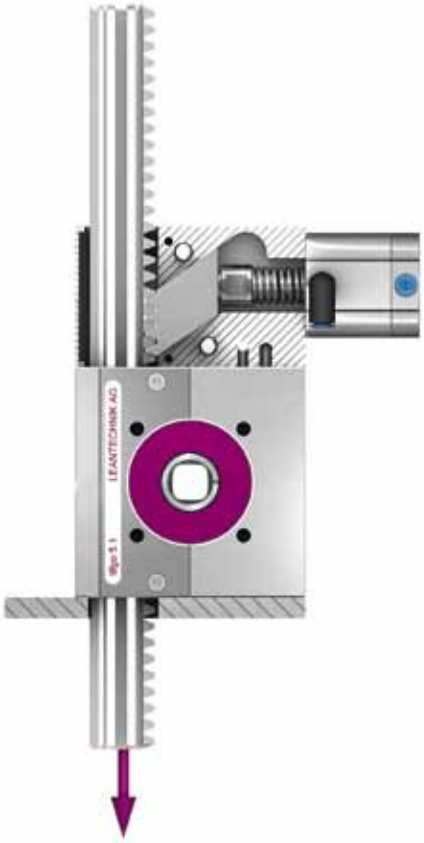
Mechanical arrest system locked



Mechanical arrest system unlocked

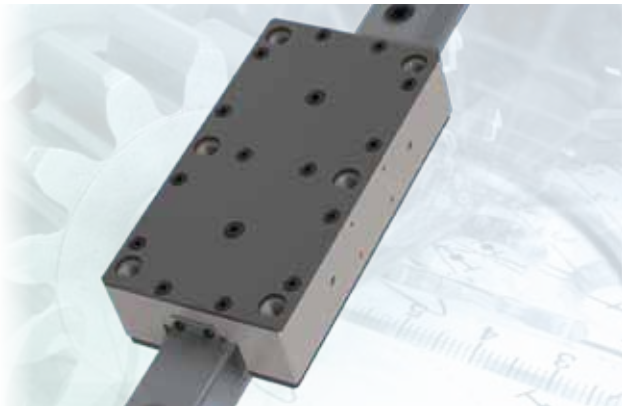


Gear unit moves the lift load



Gear rack moves the lift load

Aachen University tested and approved the ASS in November 2012.



The best functional safety

SHB safety brakes use the failsafe principle. Pre-tensioned cup springs press brake shoes onto the "waist" of the profile rail. The brake mechanism is designed for relatively large stroke and balances the profile rail manufacturing tolerances without losing braking force.

Mechanical clamping for safety

SHB safety brakes clamp very rigidly directly on the linear guide. This means they are directly applied to the mass that is being braked or held. Drive elements between the motor and masses to be moved, such as spindles, spindle nuts, shaft couplings or gear units therefore have no effect on safety.

Perfect for vertical axes

Direct clamping on the linear guide makes the SHB ideal for use in gravity-loaded axes where the risk to personnel needs to be minimised.

High rigidity

SHB safety brakes are more rigid than rod or band brakes by at least a factor of 3. Rotational motor brakes compare even less favourably. For one, they are usually subject to backlash, and for another, each element between the brake and the rail has a negative impact on rigidity.

Switch condition monitoring

An integrated proximity switch outputs a signal each time the brake's status changes.

Pressure booster for SHB high-pressure, pneumatic

HIGHLIGHTS AND SPECIAL FEATURES

In most cases, the pressure available in the compressed air system is not sufficient to operate the SHB at 20 bar. One possibility is increasing the overall system pressure, but this is a high-effort and expensive solution. Another solution is the use of a pressure booster in the system right where the higher pressure is needed.

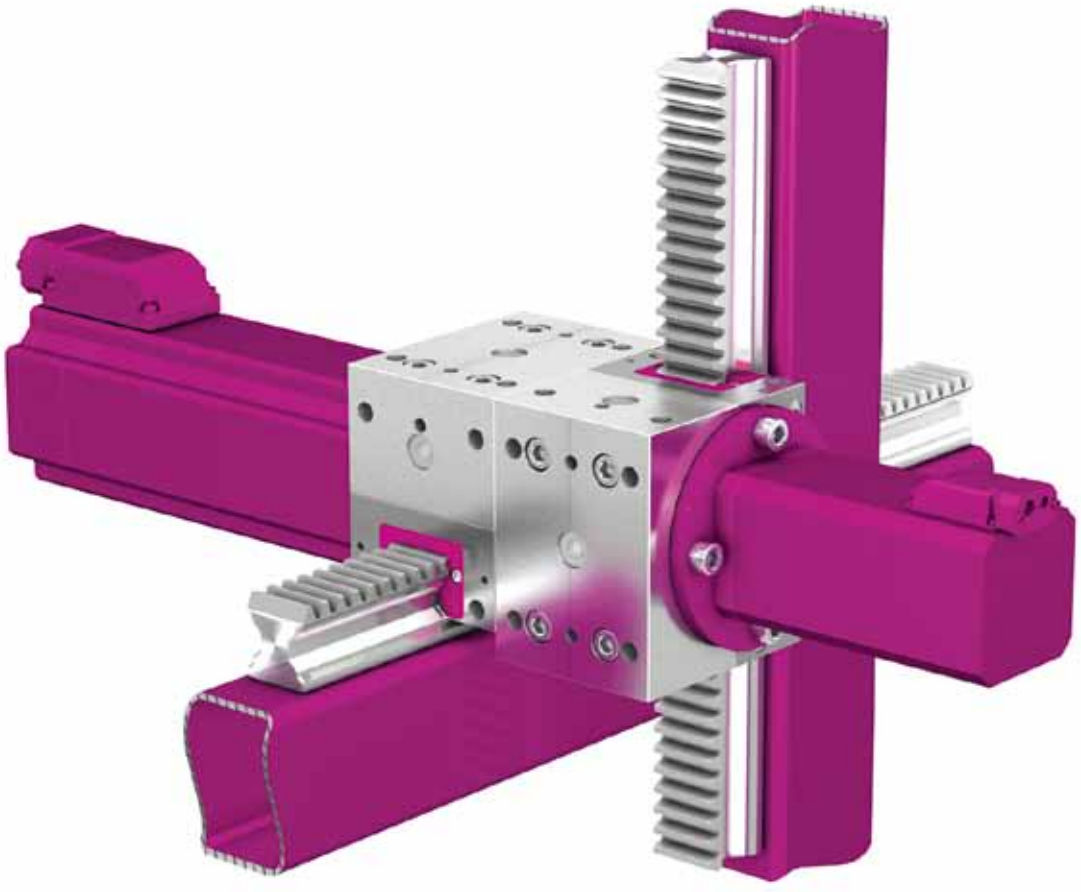
The pressure booster increases the pressure in the system to the required operating pressure of the SHB by purely mechanical - pneumatic - means without introducing energy from outside.

- fast pressure boosting in front of the individual brakes
- no energy consumption after the output pressure is reached
- no electrical installation required
- simple, secure and economical operation
- no need to invest in your own high-pressure circuit or in a off-centre separate compressor system

Pressure booster on a plate

Pressure booster in a housing

Applications & Examples



Applications & Examples

Note on the presentation of the application examples

On the following pages, we present principal application and usage options for the lifgo® and lean SL® series.

In order to achieve a uniform view of the many different applications, the gear unit size 5.1 was used for all the presentations. All applications shown can, of course, also be implemented in all sizes – with lifgo®, lean SL®, or a combination of the two series.

The detailed depiction indicates which of the two series is used in each application. It is important, depending on the application. You can also trace the force flow and motion sequences. Operation in reverse is also often possible.

Explanation of the term "primary gear unit" P

Note the role of the primary gear unit in the illustrations and applications. It distributes the drive forces acting on it within the lifting system, and does not perform any direct lifting, pushing, or positioning task itself.

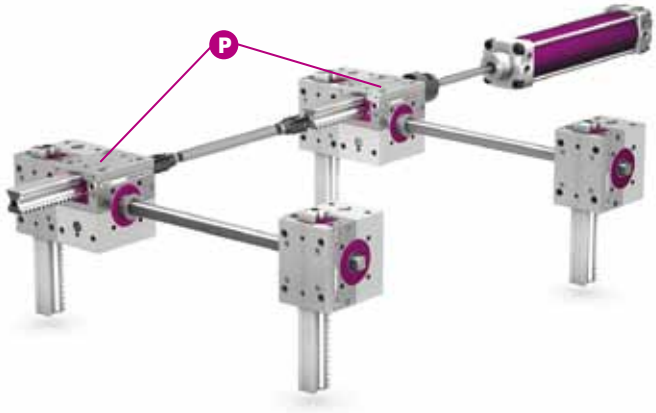
The gear unit itself is no different from other gear units. The terminology refers solely to its location.

The maximum permissible force transmission (= **nominal force, in Newtons (N)**) of an individual gear unit must not be exceeded!

Synchronous lift motion

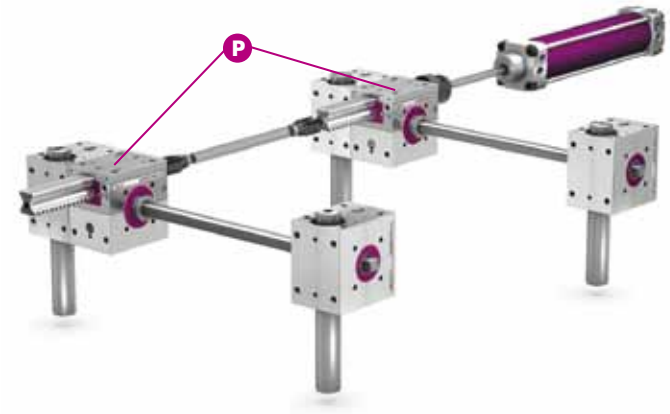
For the systems shown below in this chapter, all lengths and distances as well as the lifting speed and load capacity can be freely selected.

Standard lifting system with lifgo® and air cylinder drive



The two primary gear units from the lifgo® series each distribute half of the maximum potential force to the four gear units with vertical gear racks. The lifgo® gear racks bear supported loads, and can resist transverse forces.

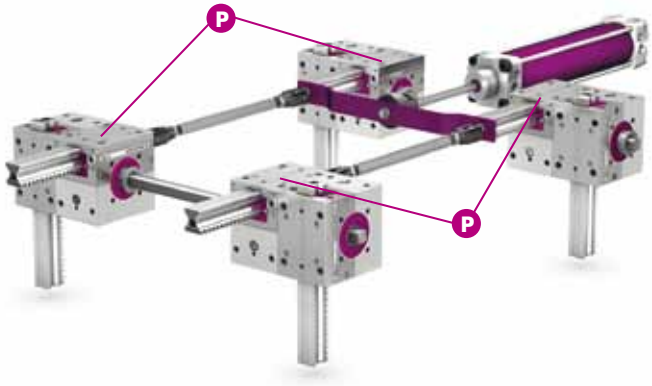
Standard lifting system with four lean SL® units as vertical gear units



A plate or device bolted to the end faces of the gear racks ensures the vertical orientation of the gear racks in the real-life application.

Transverse forces are not permitted in this application

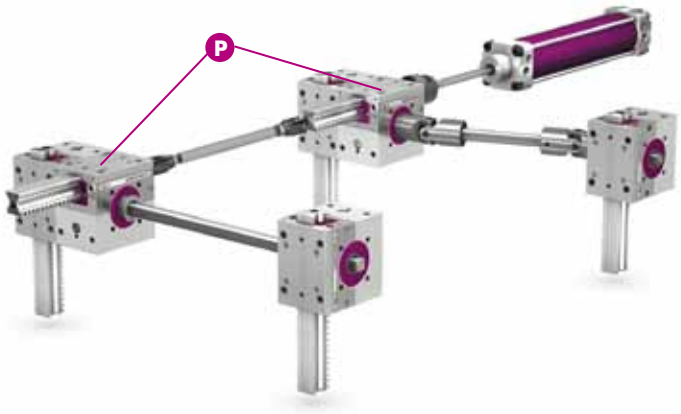
Lifting systems with four vertical and four primary gear units



This system provides fourfold force transmission (depending on the size) to the vertical stroke. Non-centred loads can be supported here because a closed mechanical polygon is installed.

The maximum load at any given lifting unit must not be exceeded.

Lifting system with universal joints/primary gear unit®

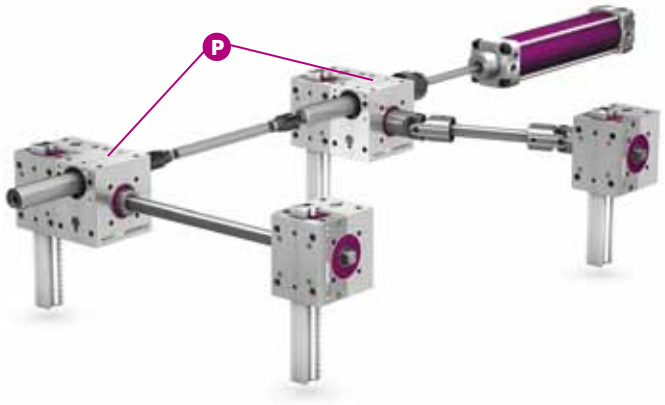


Lifting systems with four vertical and two primary gear units. The position of the gear unit for the rear axis can be varied via the universal joint.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

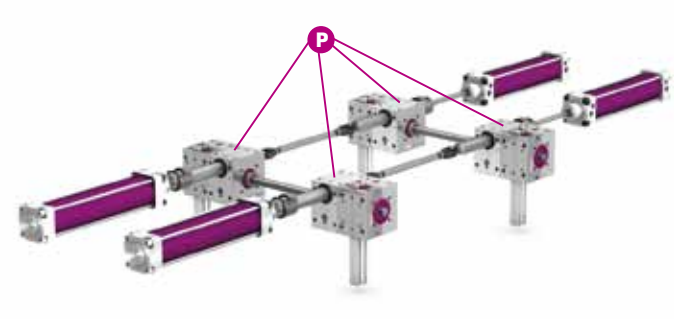
Synchronous lift motion

Lifting system with universal joints/primary gear unit lean SL®



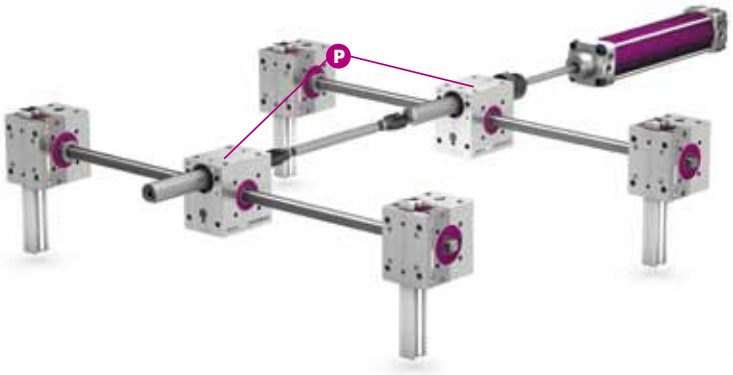
In this application, two lean SL® units are used as the primary gear unit. This results in a lower lifting force than in the previous application. Vertical guidance of the lift load is ensured by using the four lifgo® gear units.

Lifting systems with 4 vertical and primary gear units



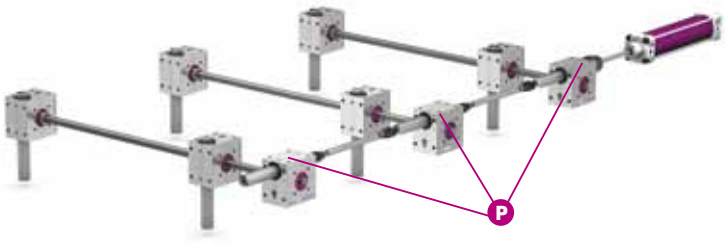
One air cylinder is connected to each of the lean SL® series primary gear units. In this application, four times the maximum nominal force can be generated. The gear units of the lean SL® series synchronise the force and motion of the air cylinders.

Lifting system with 4 lifting points



Combination of lean SL® primary gear unit and lifgo® gear unit. lean SL® works with lower lifting force than the same size lifgo® unit. This ensures high quality guidance and positioning with the vertical stroke implemented as a lifgo® unit, and low force transmission by the lean SL® unit.

Lifting system with 3 primary gear units in series



In this application, the horizontal gear racks of the lean SL® primary gear units function as "tie rods", as do the differential couplings.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

lifgo® with built-in drive

The lifgo® pinion shaft is equipped with pins and a key-way. For precise positioning (horizontal/vertical), the drive motor is directly connected to the lifgo® pinion using a form-fit coupling. Used as a positioning and adjusting drive, the drive unit can also be used, for example, for pouring and tilting devices.

lifgo® lifting system in series

Lifting system and device for lifting long parts and profiles, for example. This application can also provide the vertical stroke in a single-row shuttle.

lifgo® pair with rotary reinforcement

Used in the same way as in the previous example. In this pair of lifgo® units, the rotational reinforcement transmits the rotary motion from the first to the second gear unit at the same position.

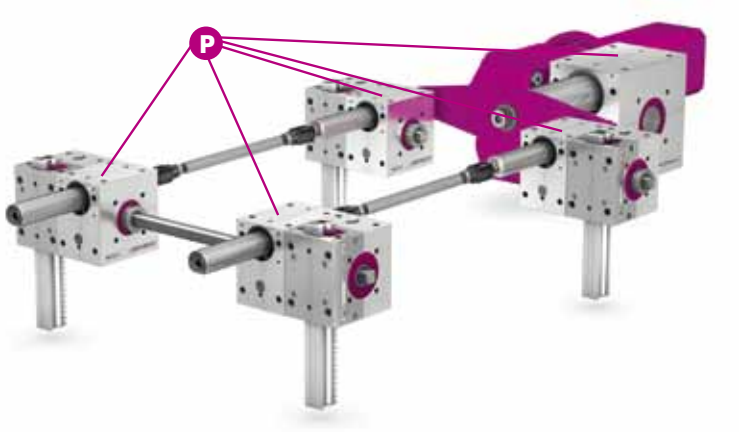
Lifting system construction with lifgo® and lean SL®

The left side vertical gear units are from the lifgo® series, and function as a guide and transverse force support for any mounting plate. If two lifgo® gear units are sufficient when low transverse forces need to be supported, then lean SL® gear units (here the vertical gear unit on the right-hand side) can be used for other tasks.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

Synchronous lift motion

Lifting system, standard configuration, large gear unit as tension drive



The large lifting unit used as a tension drive can come from the lifgo® series or lean SL®, depending on the force requirement (here lean SL®). Off-centre loads can be supported due to the closed force polygon and because maximum force and torque transmission are possible. The installation space in the centre remains available.

Lifting system, U-shaped with 2 distributor gear units

In this U-shaped application, the installation space in the centre remains free. The maximum torque Mt² is the torque of the profile shaft on each side.

The maximum permissible rated force of a gear unit must not be exceeded!

Lifting system with 2 distributor gear units and one gear motor

Force transmission to the gear units is at a maximum. The installation space under any mounting plates can be used freely. Combined use of the lifgo® and lean SL® series is also possible in this application.

Circular arrangement of lifgo® gear units

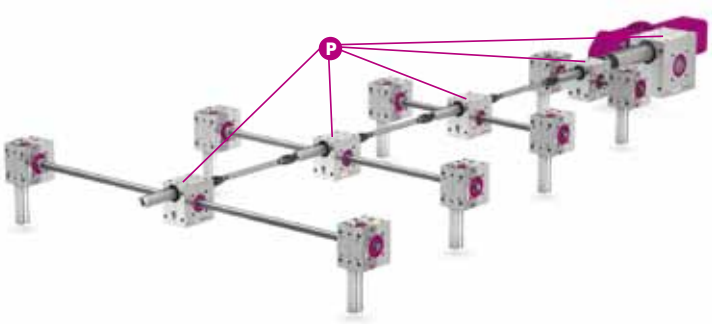
This lifgo® application can be used for clamping and/or centring round objects. The closure of round bodies (casings) is another potential application.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

Arrangement in a rectangle/square

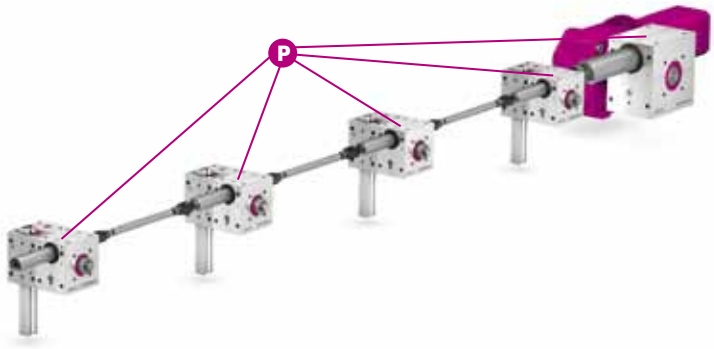
This application with lifgo® series gear units allows clamping and/or centring.

Arrangement of gear units in 4 rows



Arrangement as in the serial arrangement of gear units. In addition to the lean SL® gear units, lifgo® lifting units are now set up on both sides, in order to lift wide, guided mounting plates, for example.

Serial arrangement of gear units



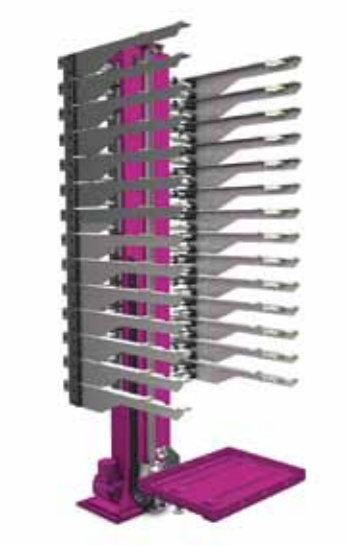
This construction is used to lift long, narrow mounting plates, for example when lifting production parts into machine tools. A large lean SL® series gear unit is used here as the tension drive. The vertically oriented lifgo® gear units guide the mounting plate.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

Lift columns

For the systems shown below in this chapter, all lengths and distances as well as the lifting speed and load capacity can be freely selected.

Lift column as intermediate stacking unit with a lifgo® linear



This application with a lifgo® linear provides intermediate storage of flat products at various levels.

Lift column – lift device with two lifgo® linear units and auxiliary guides

Lifting forks are directly installed on the lifgo® linear unit. Various useful auxiliary elements can be installed. Our lift columns are also available with counterweights.

Lift columns with auxiliary guides

Precise guidance for lift operations with high and off-centre loads. The application allows high loads and a large transverse force capacity. It is suitable, for example, for precise lifting and positioning of loads and production devices.

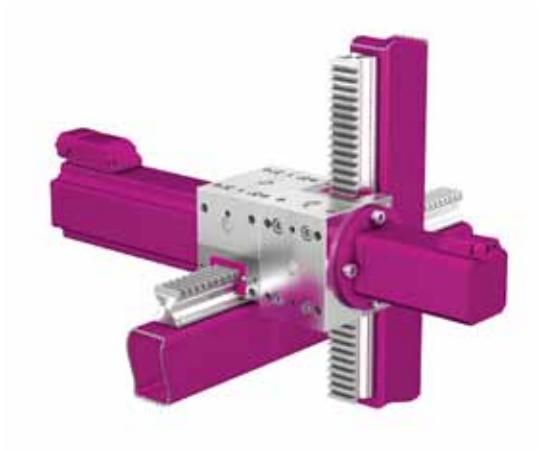
Lift column with reinforcement profiles on the lifgo® linear gear rack

Lift column with particularly rigid design, for lifting heavy parts/fixtures in assembly lines, such as for the final assembly of front axles with engine/transmission in the automotive industry. Large stroke heights, high transverse force capacity and positioning accuracy.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

For the systems shown below in this chapter, all lengths and distances as well as the lifting speed and load capacity can be freely selected.

Horizontal drive with built-in vertical drive



Representation of a transfer function. For the horizontal drive (X or Y stroke), a lifgo® linear unit with linear gear rack is placed on the carrier. The drive "comes along". A lifgo® linear unit is mounted on it for the Z-stroke.

2-axis portal, variable

2-axis transfer with lifgo® linear for each axis. Grippers, clamps, vacuum devices, or other auxiliary devices can be installed at the ends of the gear racks.

Portal for single-side access

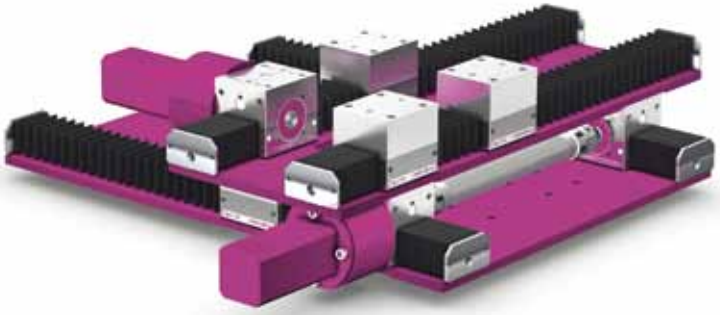
Compact 3-axis handling system with extendible support arm. Ideal for one-sided access. Compact, fast, precise, and low-vibration due to linear guide reinforcements.

1-axis transfer, linear axis, horizontal/vertical

1-axis transfer with lifgo® linear. Very fast, large strokes, for transport from "A to B".

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

2-axis positioning table with auxiliary equipment on request



Standing 2-axis positioning table for high loads and fast travel speeds. A Z-axis or other accessories can be mounted. A suspended version is also possible.

3-axis positioning system (DAP) based on lifgo®

Flexible spatial movement thanks to lifgo® gear unit controlling 3 axes. Components are picked up and clamped at the top end of the Z-axis. The system is able to support transverse forces and process forces. It is suitable for use, for example, in production lines in the automotive industry. The DAP makes it possible to manufacture chassis frames of different sizes and shapes on one and the same production line. To do this, the distances between the pick-up points are adapted automatically for each chassis frame. For an illustration of the functioning of the system, you can also watch the video on our website.

AFP (Actuator Flexible Position) – NC locators

The LEANTECHNIK system construction kits
Our AFP axes are designed to flexibly position brackets, tensioners, centring devices and much more.
They can be used to mount different components, such as chassis parts.
The system construction kits consist of a longitudinal axis, transverse axis, lifting axis and drive units.

freely selectable motor position

universal accessory selection

extremely compact design

You can find more information in our PDF catalogue

www.leantechnik.com

2-axis portal with 2 vertical axes

Portal with two lifgo® linear units and an additional lifgo® guide. Two lifgo® units are installed on it for the Z-axis. Auxiliary devices are installed at the ends of the gear racks.

2-axis transfer with gripper function

Standing 2-axis transfer part feeder. A horizontal stroke axis, a gripper or closing axis, synchronous on both sides toward the middle. Can be used as a stepped conveyor. Also available as a 3 axis transfer with horizontal and vertical stroke and synchronous closing axis.

4-axis system with rotary head and suction pad

4-axis "pick & place" system with linear motion. The fifth axis is used as an off-centre rotary axis with a suction pad or magnet. This application is used for picking up area-optimized pre-cut parts (sheet metal, etc.) and for the accurately aligned stacking of the parts on the opposite pallet.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

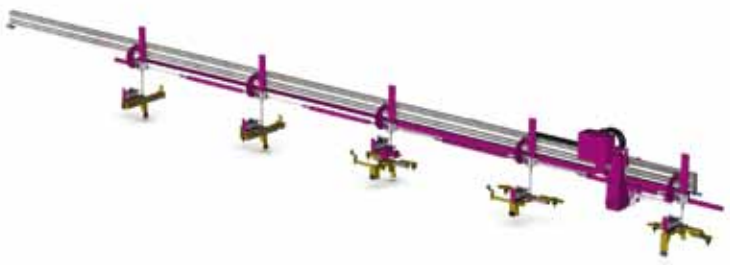
leantranspo® • Shuttle & Transfer

For the systems shown below in this chapter, all lengths and distances as well as the lifting speed and load capacity can be freely selected.

1-rail shuttle, hanging, 2-axle drive

Suspended 1-arm shuttle. The gear rack and lifgo® linear unit are suspended below the beam for the horizontal drive. The assembly and second lifgo® for the Z-stroke are mounted on it. Grippers, suction pads, or other devices can be installed on the suspended standard aluminium profile.

1-arm shuttle, suspended, 2-axis drive with 5 gripper stations



The horizontal stroke is suspended. In contrast to the previous example, the vertical stroke has been designed so that a second lifgo® lifting unit is installed in the horizontal direction next to each vertically oriented unit.

The gear units are each connected and synchronised by a profile shaft. In the horizontal direction, a tensile force acts on the gear racks and causes the pinion to rotate. This force is transferred to the vertical lifgo®, and the rotation is redirected again into a linear motion (vertical in this case).

1-rail shuttle, standing, 2-axle drive

lifgo® gear units are oriented vertically in the Z direction, connected and synchronised by means of the rotary axis. Rotary reinforcements ensure precise angular synchronicity. A lifgo® linear unit with an additional lifgo® guide car is mounted on it, in order to be able to move the profile beam reversibly in the X or Y direction. This creates a 2-axis reversing shuttle.

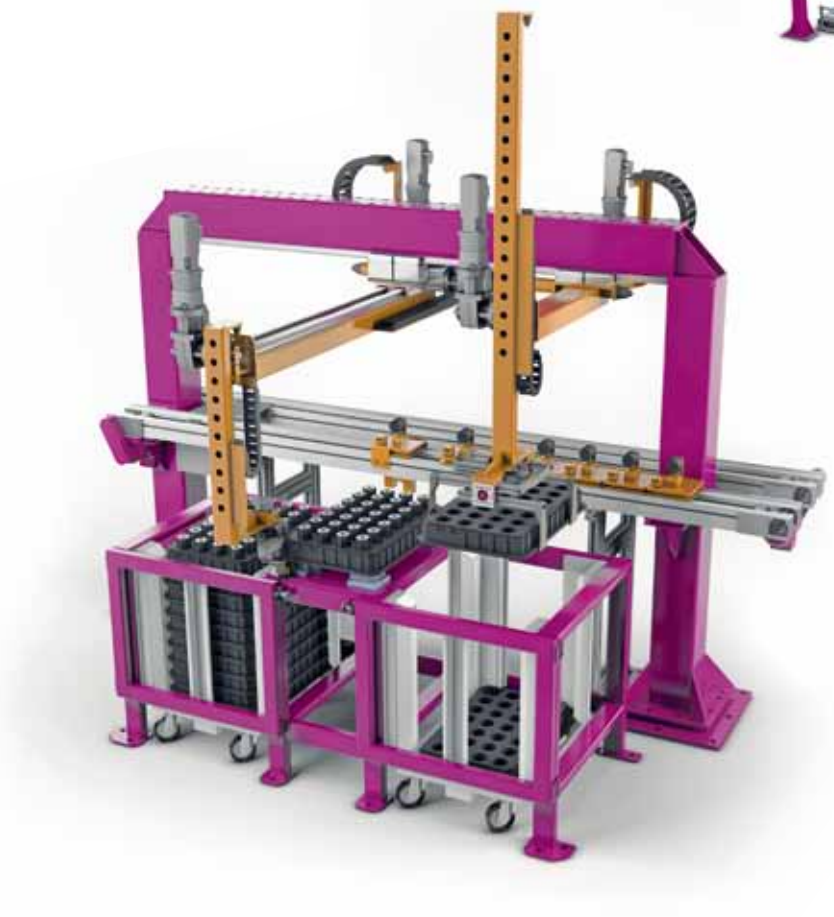
2-arm shuttle, standing, 2-axis external drive

Designed as a 2-axis transfer shuttle with externally mounted drives. The system can also be designed as a 3-axis transfer gripper shuttle.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

For the systems shown below in this chapter, all lengths and distances as well as the lifting speed and load capacity can be freely selected.

lifgo® Gantry system 3-axle gripper arm and 2-axis palletiser



Complex combination of palletiser and feed mechanism. The movements of the two arms are harmonized with one another. The 3-axis gripper arm takes the blanks from the left-hand stack, places them on the conveyor and returns a finished part to the blister pack. The 2-axle palletiser moves the blister to the 3 different positions and has been designed with lifgo® double gear units and two lifgo® linear gear units. Gripper jaws are attached to the ends of the lifgo® double gear units and transform the gear units into gripper modules. The system was completely designed, built, and assembled.

Sorting system with lifgo® and third-party components

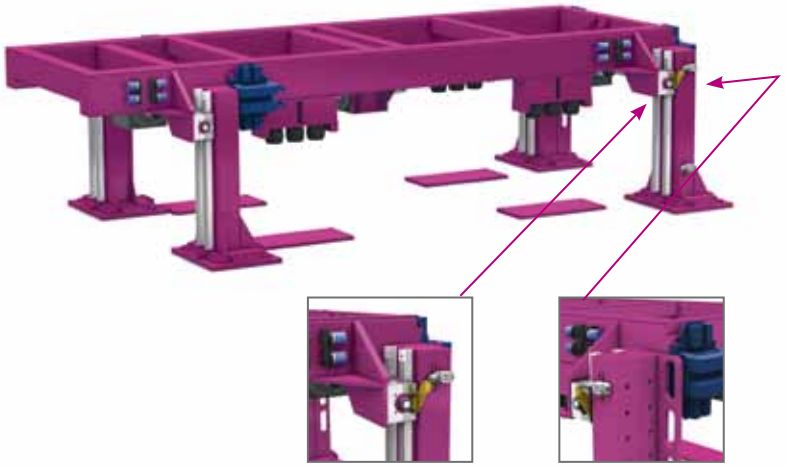
Complex sorting system ,including controls and logistics, for stacking sorting boxes in a storage area. The system was completely designed, built, and assembled.

lean SL® Lifting table

Lift table for high loads with high repeat accuracy. Loose guidance to prevent overdefinition, for example during centring tasks. A lift table consists of two double columns, each of which is equipped with two lean SL® gear units and, in the configuration illustrated here which uses size 5.3 gear units, is able to lift 1800 kg, for example.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

lifgo® Precision lifting table



Application for high loads with high positioning and repeat accuracy. Precise guidance and maintenance of position during the stroke are required. Safety pegs, central lubrication, and damping are used as auxiliary equipment here. Synchronicity is maintained by a central drive.

lifgo® linear transfer – 17 meters, with gripper stations

Partial transfer system with lifgo® linear for the horizontal stroke. Scope includes steel construction, assembly, operational testing, and final installation. The grippers take parts from the transfer and dip them into process baths for further processing. Used in the chemical industry.

Please note that all the systems illustrated here are simply examples and that many other designs are possible.

Lifting-lowering conveyor (HSF)

Lifting table meets skid conveyor

To transport chassis as efficiently as possible, in the lifting-lowering conveyor, we combine a skid system with two of our lifting columns. The construction lowers, lifts and conveyor heavy loads – and not just in automotive construction.

HIGH PRECISION

The lifting-lowering conveyor works with very high precision and positions chassis with consistent accuracy.

HIGH LIFTING SPEED

With its compact design, the lifting-lowering conveyor moves components in seconds.

FLEXIBLE DESIGN

The slim steel construction of the lifting-lowering conveyor is designed to be flexible and save space.

Project questionnaire

Do you already have a specific project in mind?

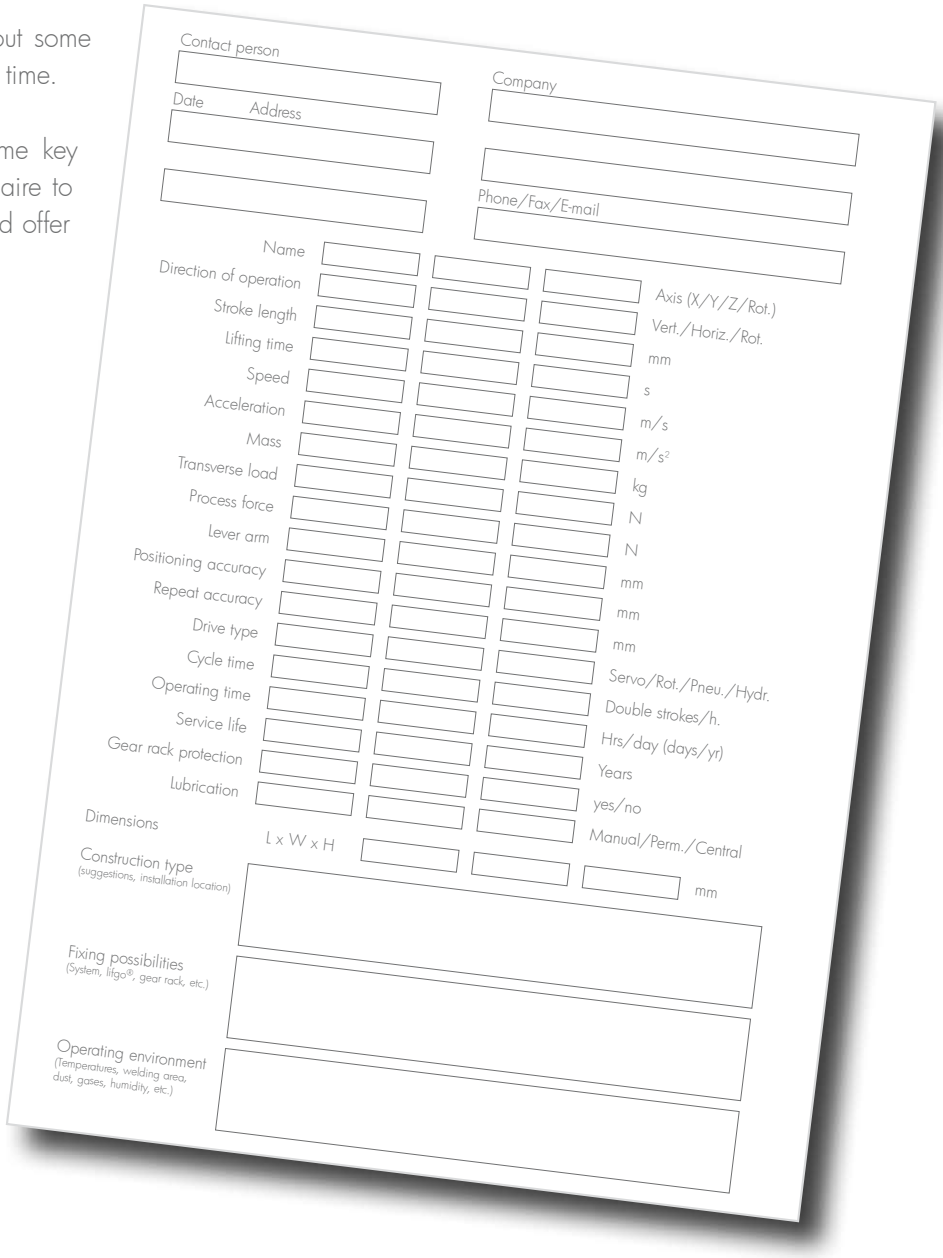
On our website at: www.leantechnik.com/kontakt/projektfragebogen you will find a project questionnaire.

Using this questionnaire, we can find out some important information from you ahead of time.

If you already have a project with some key data, we can use this project questionnaire to more quickly help you find a solution and offer you a product to meet your needs.

We look forward to hearing from you.

Your ideas are our challenges!



Have a look at our questionnaire on the internet as well: www.leantechnik.com

Individual demands, precise solutions

LEANTECHNIK offers a multitude of different hoist gears for a wide range of applications. If your project cannot be implemented with the gear units in out standard portfolio, please contact us.

We will develop a gear unit tailored to your needs at a great price!

Since it was founded, LEANTECHNIK AG has designed tailored solutions for a range of customers.

Example situations for bespoke gear units:

- **Extreme loads**
- **Specific materials**
- **Specialised finishes**
- **Special dimensions**
- **Unusual environmental conditions**

Some solutions meet demands that we have never encountered at LEANTECHNIK, but are suitable for the needs of a new, wider customer base. Developments like these find their way into the LEANTECHNIK AG's standard range.

Your ideas are our challenges!

Microchips and kettle chips

LEANTECHNIK AG's gear units have always been moved by a wide range of components and products. This flexibility allows us to address customers from both the semiconductor and the food industry, for example. This has led to the development of the extra-small lean SL® 5.m. In an environment requiring the highest precision and the highest level of purity, it runs permanently and reliably with the lowest possible particle emissions.

Different dimensions, the same precision

Our lean SL® 5.5 was first designed for the extreme environment of a nuclear reactor. The requirements brought to us were therefore extraordinary in all respects. The lean SL® 5.5 has since then served not only in the combustion chamber of a nuclear facility, but has taken on many other heavy-duty tasks in the industry as well.

Does your project have very special requirements?

Are you unsure whether you can use gear units from LEANTECHNIK AG?

Our engineers will find a way to develop and build gear units or a 'partial system', which we call leantranspo®, to meet your requirements.

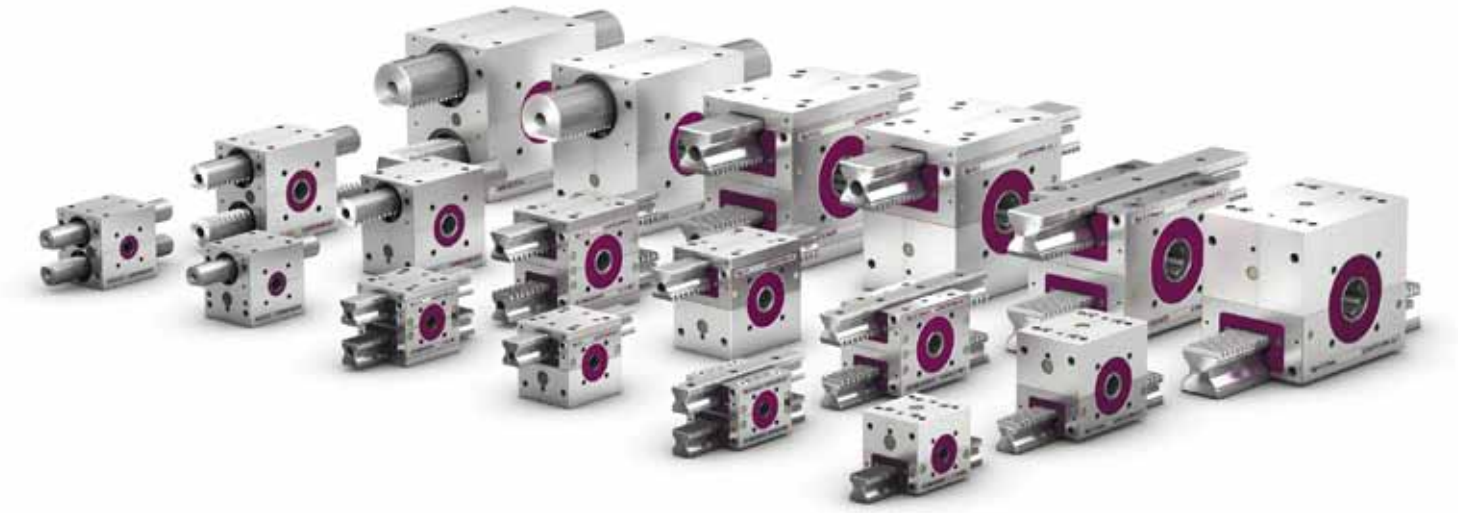
lean SL® 5.5

lean SL® 5.m

LEANTECHNIK MOVEMENT our PASSION

lifgo® & lean SL®

Technical Data



General

Technical data in an overview of all standard gear unit types and the different variants are listed below. You can find the details in our PDF catalogue online. Please observe the important notes on the use of lifgo® and lean SL® gear units on this page. They apply to all types of gear units and accessories.

Specific notes on the individual gear units or accessory components, and their associated technical data and illustrations, are found on the corresponding page.

- lifgo® & lean SL® can be combines or used as replacements for each other.
- The lifgo®/lean SL® pinion connections are identical. Force transmission is unequal!
- lifgo® & lean SL® have the same accessories, and identical interfaces and dimensions.
- All gear units have centring points for installing adapter discs for mounting gear unit motors.
- We carry profile shafts as accessories for synchronisation and rotationally rigid connection. For the pin (ZA 1/ZA 2) and keyway (PFN) versions, couplings and connectors must be configured on a project-specific basis.
- The total lifting force is made up of the weight and acceleration force.
- In the case of vertically oriented gear racks, their own weight plus that of the mounted parts must be taken into consideration.
- Note the maximum permissible transverse force moments of the lifgo® gear unit.
- lean SL® gear units cannot support any transverse forces.
- The lifting force and torque transfer of the primary gear unit must not be exceeded.
- Make sure that the system documentation addresses the initial and maintenance lubrication of the gear units and that lubrication at the site is ensured.
- Only one plug may be removed for lube holes U, U1; all others remain installed to prevent grease from escaping.
- One grease nipple is threaded into each tapped hole U, U1, and tightened.
- Ensure that all lube holes remain accessible after installation.
- Note that the lifgo® gear rack guide and the pinion housing must be lubricated separately; in the case of lean SL®, they must be lubricated together.
- Make sure that the correct pinion shaft version is specified when ordering.
- Observe the maximum transmitted forces of the accessory components in the gear unit system.
- Observe the general rules of physics and mechanical engineering (VDMA) when configuring the system.
- All dimensions are shown in millimetres (mm).
- The tolerance for the location of dowel holes is ± 0.02 mm for all gear units.
- For safety reasons, request the theoretical service life of your application.

lean SL® Series • For technical data and details, see PDF catalogue

lifgo®

lifgo® linear

lifgo® double

lifgo® linear double

Make sure that the article number refers to the correct pinion shaft version.

(see cover page)

The technical data on this page apply to all versions of the lifgo® series (lifgo®, lifgo® linear, lifgo® double, lifgo® linear double and eccentric version).

Breakaway force for new, unlubricated gear rack guides is 30N per lifgo® unit. This value drops to near zero after the run-in phase.

The breakaway force of hardened gear racks is approximately 80N.

The pretensioning of guide cars is 2%.

lifgo® series technical data		Unit	5.0	5.1	5.3	5.4
Lifting power	F_{max}	N	2000	3800	15900	25000
Lifting speed	v_{max}	m/s	3	3	3	3
Acceleration	a_{max}	m/s^2	50	50	50	50
Torque	M_{max}	Nm	20	76	477	1000
Pitch diameter	∅ pt.	mm	20	40	60	80
Lifting gear ratio		mm/360°	62.8318	125.6637	188.4955	251.3274
Efficiency	h		0.92	0.92	0.92	0.92
Temperature resistance	t	°C	-10 to +80	-10 to +80	-10 to +80	+80
Static torque	Mt_x stat.	Nm	570	760	4400	5500
Dynamic torque	Mt_x stat.	Nm	280	390	2200	2800
	Mt_y stat.	Nm	380	650	3300	3300
	Mt_y dyn.	Nm	180	330	1600	1600
	Mt_z stat.	Nm	380	650	3300	3300
	Mt_z dyn.	Nm	180	330	1600	1600
Static load rating	F stat.	N	38400	51200	161400	161400
Dynamic load rating	F dyn.	N	19100	25900	79600	79600

lifgo® SVZ • Technical data

lifgo® Helical SVZ Series • For technical data and details, see PDF catalogue

lifgo® SVZ

lifgo® linear SVZ

lifgo® double SVZ

lifgo® linear double SVZ

Make sure that the article number refers to the correct pinion shaft version.

(see cover page)

The technical data on this page apply to all versions of the lifgo® series (lifgo®, lifgo® linear, lifgo® double, lifgo® linear double and eccentric version).

Breakaway force for new, unlubricated gear rack guides is 30N per lifgo® unit. This value drops to near zero after the run-in phase.

The breakaway force of hardened gear racks is approximately 80N.

The pretensioning of guide cars is 2%.

lifgo® SVZ Series technical data		Unit	5.1	5.3	5.4
Lifting power	F_{max}	N	3400	14400	22600
Lifting speed	v_{max}	m/s	3	3	3
Acceleration	a_{max}	m/s^2	50	50	50
Torque	M_{max}	Nm	67.15	428.40	898.35
Pitch diameter	Ø pt.	mm	39.5	59.5	79.5
Lifting gear ratio		mm/360°	124.0929	186.9248	249.7566
Efficiency	h		0.92	0.92	0.92
Temperature resistance	t	°C	+80	+80	+80
Static torque	Mt_x stat.	Nm	760	4400	5500
Dynamic torque	Mt_x stat.	Nm	390	2200	2800
	Mt_y stat.	Nm	650	3300	3300
	Mt_y dyn.	Nm	330	1600	1600
	Mt_z stat.	Nm	650	3300	3300
	Mt_z dyn.	Nm	330	1600	1600
Static load rating	F stat.	N	51200	161400	161400
Dynamic load rating	F dyn.	N	25900	79600	79600

lean SL® Series • For technical data and details, see PDF catalogue

lean SL®

lean SL® double

Make sure that the article number refers to the correct pinion shaft version.

(see cover page)

The performance data listed apply to both the lean SL® and lean SL® versions of each size.

The frictional forces in the bushings increase due to torques. This leads to reduced efficiency and increased wear of the bushings (sliding bearings). Please note that this means that a greater driving torque will be required.

lean SL® Series technical data		Unit	SL 5.m	SL 5.0	SL 5.1	SL 5.3	SL5.5
Lifting power	F_{max}	N	300	800	2000	8000	25000
Lifting speed	v_{max}	m/s	0.6	0.6	0.6	0.6	0.6
Acceleration	a_{max}	m/s^2	30	30	30	30	30
Torque	M_{max}	Nm	3	8	40	240	1200
Pitch diameter	ø pt.	mm	12	20	40	60	96
Lifting gear ratio		mm/360°	37.6991	62.8318	125.6637	188.4955	301.5929
Efficiency	η		0.8	0.8	0.8	0.8	0.8
Temperature resistance	t	°C	+100	-10 to +100	-10 to +100	-10 to +100	+100
Static torque	Mt_x stat.	Nm	0	0	0	0	0
Dynamic torque	Mt_x dyn.	Nm	0	0	0	0	0
	Mt_y stat.	Nm	100	200	400	2000	7000
	Mt_y dyn.	Nm	9	18	22	150	800
	Mt_z stat.	Nm	250	500	1000	4000	15000
	Mt_z dyn.	Nm	25	50	110	700	4500

lifgo®/lifgo® SVZ/lean SL® racks

lifgo® gear racks 5.0 - 5.4

lifgo® Racks SVZ 5.1 - 5.4

The gear rack bears guide loads. It is subjected to tensile, compressive, and transverse forces. Note the moments of inertia and the torque loads on the gear units. The gear rack is symmetrical in construction.

lifgo® linear racks 5.0 - 5.4

lifgo® linear racks SVZ 5.1 - 5.4

The gear rack bears guide loads. It is subjected to tensile, compressive, and transverse forces. Note the moments of inertia and the torque loads on the gear units. The gear rack is symmetrical in construction. Reinforcement profiles and/or feed lines can be fixed and routed using the tapped holes at the rear.

lean SL® gear racks 5.m - 5.5

lean SL® series gear racks are supported in sliding bushings. They are designed to transfer tensile and compressive forces. They cannot bear transverse forces.

We offer all the products in this brochure and many other products in our CAD catalogue for download from our website www.leantechnik.com.

CAD product catalogue from LEANTECHNIK – free download

In our configurator, we offer CAD models for many LEANTECHNIK products to download for free.

The download portal is based on the PARTcommunity technology from the software manufacturer CADENAS GmbH.

The models have all the relevant information you need to incorporate our gear units into your plans.

Simple handling and easy integration into your system

With just a few clicks, download the CAD models you want in any common CAD format directly from the LEANTECHNIK product catalogue, import it into your CAD system and then integrate it into your design.

We will support you from the planning phase

The reduction of process times is a central concern for us. Our intention to enable you to find the right gear unit for your purposes.

Service is number 1

If there are any problems when using the system or if you have any questions, do not hesitate to contact us.

https://leantechnik.com/service/cad-daten/

Delivery and payment (for products and services) are carried out on the basis of our general terms and conditions of sale and delivery. Our service conditions apply to the services we provide. All documents can be found at www.leantechnik.com. We are happy to send you the documents at your request.

Our full PDF catalogue in its latest version with links to information on 3D models, as well as dimension sheets and accessories, can be found at:
www.leantechnik.com

Notes

Notes

Notes