Gesellschaft für innovative Automationstechnik mbH

Linear actuators LVE

Preface

To realise automation solutions in a technically and economically efficient way, it is essential to trust in the competence and experience of specialists.
We consequently follow the idea of systems to offer a comprehensive range of standardised automation solutions with which line and gantry robots, palletisers and manipulators can be realised in an economically efficient way.

Take advantage of our experience and our specialist's know-how! Benefit from our innovative technologies for economical, user-oriented solutions. Wherever custom-tailored and individual automation solutions are required – we are your competent partner!

Although this catalogue was compiled with the greatest care and checked for errors, we cannot take any liability for incomplete or incorrect data.
Due to the permanent technical progress all data given in this catalogue are subject to change without notice.
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Linear actuator LVE

Fields of application

The great variety linear actuators featuring various kinds of guide systems, drives and mounting parts provides the user with a broad range of solutions.

The systems allow the realisation of one-axis systems as well as two or three dimensional multi-axis systems in a technically and economically reasonable way. We recommend them especcially for the following fields of application:

- Handling systems
- Palettisers
- Packaging machines
- Feed systems
- Test and control units
- and many more

Kinds of drives

Belt drive:

The belt drive is preferably used for tasks requiring high speed with medium loads and precision. The belt is guided through flaps on the sides and prestressed at the guide carriage. Special antiturn washers make sure the drive is backlash-free and therefore guarantee high repeatability even in case of log was and high speed. The tooth belt is made of polyurethane (type AT5 or AT10) and features tensile members made of steel braids – providing sufficient safety for higher loads. Nevertheless we do not recommend toothed belt drives for vertical applications (danger through broken belts).

Ball screw drives:

Ball screw drives can be found wherever high feed forces and precision with medium speed are required. The ball screws are available with low or no backlash and thus consider the respective requirements. There are precision ball bearings at both ends of the ball screw.

Trapezoidal screw drives:

Trapezoidal screw drives are recommended solutions for medium precision and speed. The duty cycle should not exceed 20 % per hour. Precision ball bearings are at both ends of the trapezoidal screw. Trapezoidal screws are only party retained by friction.

Covers

As desired the linear stages with screw drive can be protected against dirt with a bellow cover or a cover band.

Mind the reduction of stroke when using a bellow cover (on demand).

Linear actuators LVE

Safety instructions

All sizes are not or only partly self-locking and therefore require motors with holding brake especially for vertical application. Screw drives are preferable for vertical application. Make sure, the application poses no danger to people or material or clearly indicate remaining risks.

Girder profile

The aluminium profile is an extrusion profile with tolerances in straightness and torsion. The tolerances are regulated according to DIN 17615. Our profiles usually fall well below the required tolerances.

Mounting

The linear units are mounted either at the bottom of the profile using slot nuts or T-bolts or at the sides using clamping ledges. In order to achieve the desired accuracy of the guide the linear stage has to be aligned by means of levelling plates or by mounting them to a specially machined mounting face (flatness tolerance <0,2 mm per 1 m).

The cargo can be securely mounted to the slide by means of screws. The linear unit should regularly be cleaned from excessive dust and dirt deposits.

Commissioning

During commissioning make sure the permissible loads are not exceeded and the permissible distances are kept (don't drive against mechanical stop). The end positions should be equipped with limit switches and external dampers as emergency stoppers.

Lubrication and maintenance

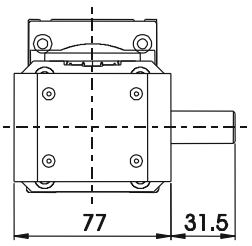
The linear actuators are delivered ready-to-mount and lubricated with lithium complex soap thickened grease. Lubrication nipples mounted on the sides allow central relubrication for maintenance. All bearings are sealed and maintenance-free. Every 400 operating hours at the latest or every six months the linear recirculating ball bearings and the screw shoudld be relubricated by means of a suitable grease. If other greases are used check the miscibility. It is recommended to rather grease several times with small amounts than to grease once when the maintenance interval expires.

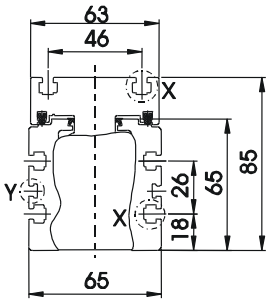
The maintenance intervals depend on the ambient conditions and the application.

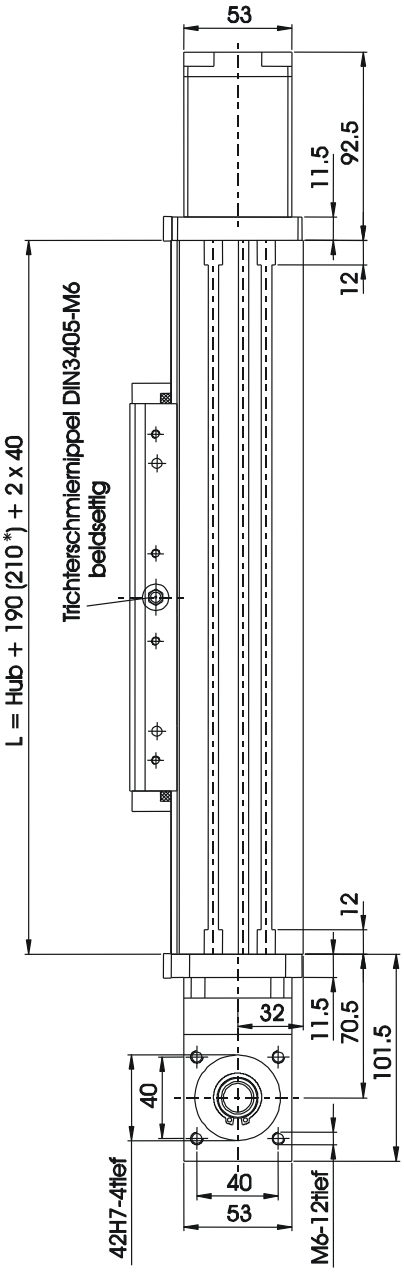
Amounts for relubrication

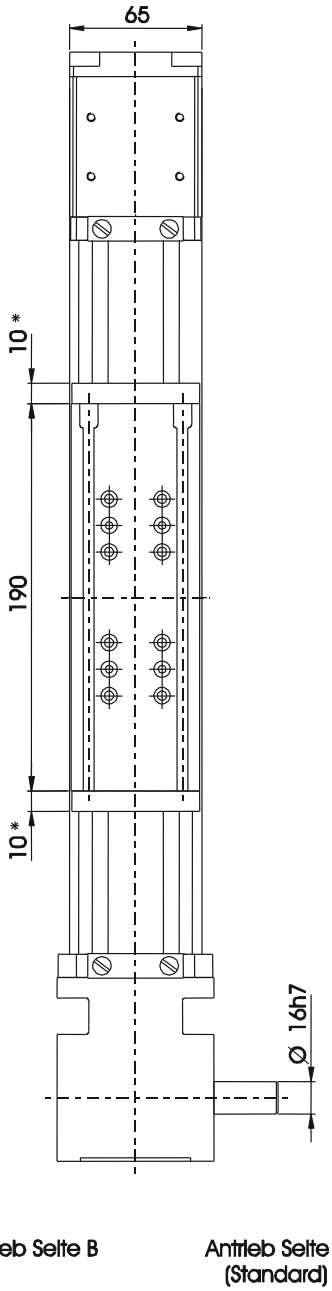
	Linear recirculating ball bearing KU 15	Linear recirculating ball bearing KU 20	Linear recirculating ball bearing KU 25
LVE with toothed belt drive ZR	3 - 4 g	4 - 5 g	6 - 7 g
LVE with screw KGT (Tr)	7 - 8 g	8 - 9 g	10 - 11 g

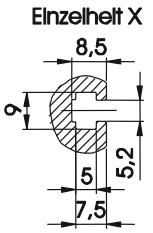
LVE 65 ZR – Linear actuator with toothed belt

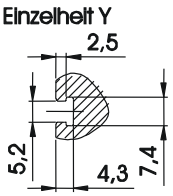












Achtung:
- Sicherheitsbereich 2 x 40 mm
- * Nur bei Bandabdeckung

LVE 65 ZR – Linear actuator with toothed belt

Field of application:
- high speed
- long strokes

Guide system:
- KU4-15 four-row linear recirculating ball bearing, size 15

Guide system	Static load rating[1)]	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KU4-15	15.6	27.0

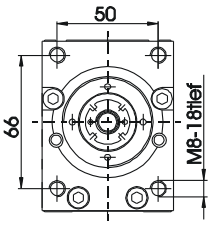
Max. length of profile	6000 mm
Speed	up to 5 m/s
Repeatability [2)]	± 0.08 mm
Stroke per rotation	110 mm
Max. operational force of belt [3)]	520 N
Max. drive torque	9.1 Nm

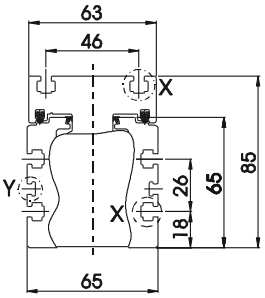
Moment of inertia	Jx = 81.5 cm^4
of the profile	Jy = 98.8 cm^4
Weight carriage	ca. 2 kg
Weight unit without stroke	ca. 6 kg
Weight per 100 mm stroke	ca. 0.74 kg

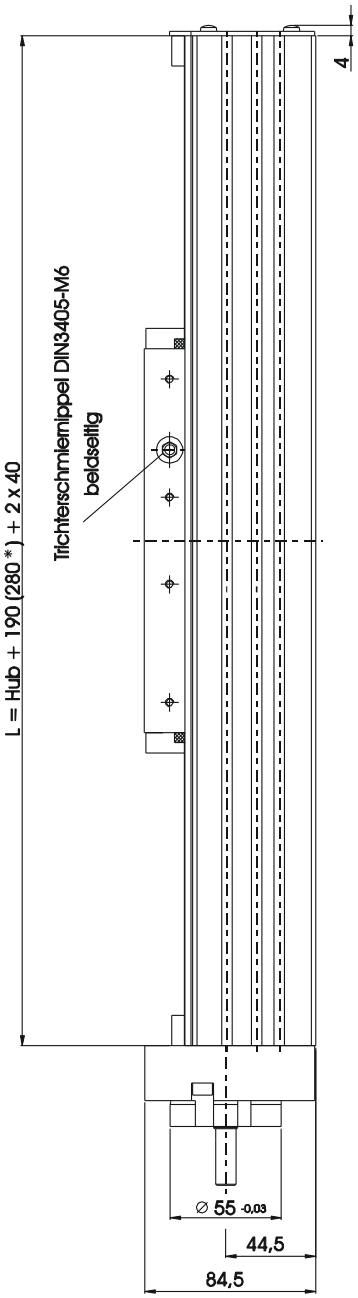
- As desired with plastic cover (mind reduction of stroke length!).
- Central lubrication nipple at carriage
- T-grooves (single unit X) for nut acc. to DIN 557-M5
- To achieve higher moment loads two or more carriages can used. They are connected via the toothed belt.

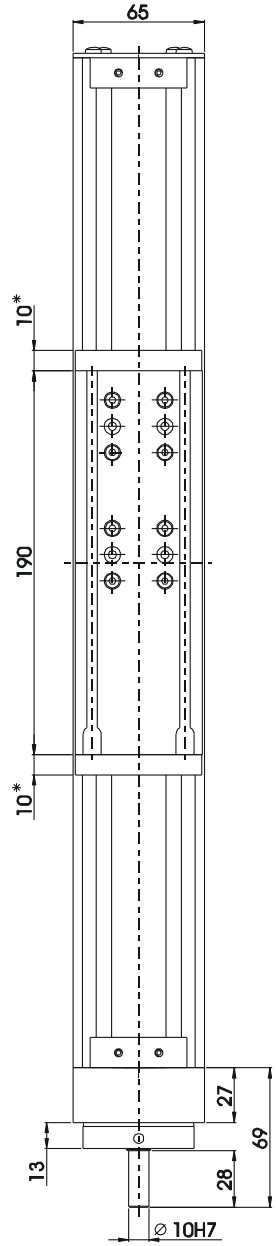
1) Vertically on the carriage
2) Dependent on load, speed, delay, direction and temperature
3) Dependent on the speed

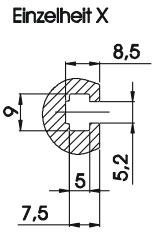
LVE 65 KGT – Linear actuator with ball screw

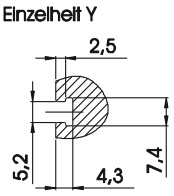












Caution:
- safety area 2 x 40 mm
- * only with cover

LVE 65 KGT - Linear actuator with ball screw

Fields of application:
- high positioning precision repeatability
- high feed forces
- recommended for vertical installation

Kind of drive:
- KGT ball screw (low or no backlash on demand)

Guide system:
- KU4-15 four-row linear recirculating ball bearing, size 15

Guide system	Static load rating[1)]	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KU4-15	15.6	27.0

Screw	Static load rating	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KGT 16x5	7.0	12.7
KGT 16x10	12.0	26.0
KGT 16x16	8.0	17.0

16x5 means: outer diameter 16mm/pitch 5mm

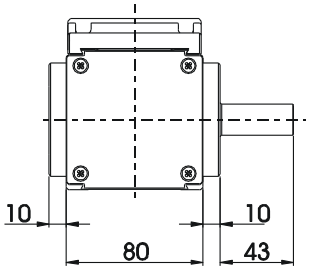
Max. Length of the profile	2500 mm
Speed[2)]	up to 0.8 m/s
Repeatability KGT	± 0.03 mm
Screw diameter	16 mm
Pitch KGT	5 - 16 mm
Pitch accuracy KGT	0.05/300 mm

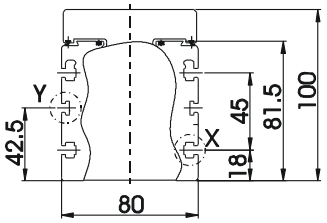
Moment of inertia	Jx = 79.2 cm^4
of the profile	Jy = 90.2 cm^4
Weight carriage	ca. 2 kg
Weight unit without stroke	ca. 6 kg
Weight per 100 mm stroke	ca. 0.77 kg

- As desired with plastic cover (mind reduction of stroke length!).
- Central lubrication nipple at carriage
- T-grooves (single unit X) for nut acc. to DIN 557-M5
- To achieve higher moment loads two or more carriages can be used. They are connected via the toothed belt.

1) Vertically on the carriage
2) Dependent on pitch and length of the screw
3) Special pitches available

LVE 80 ZR – Linear actuator with toothed belt





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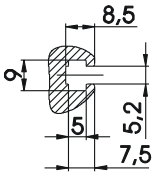

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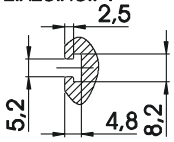
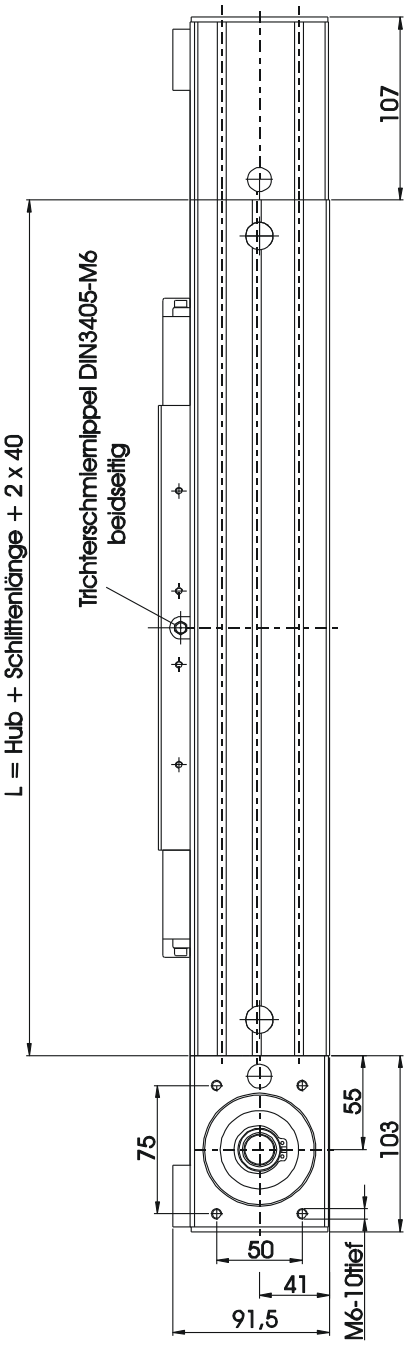
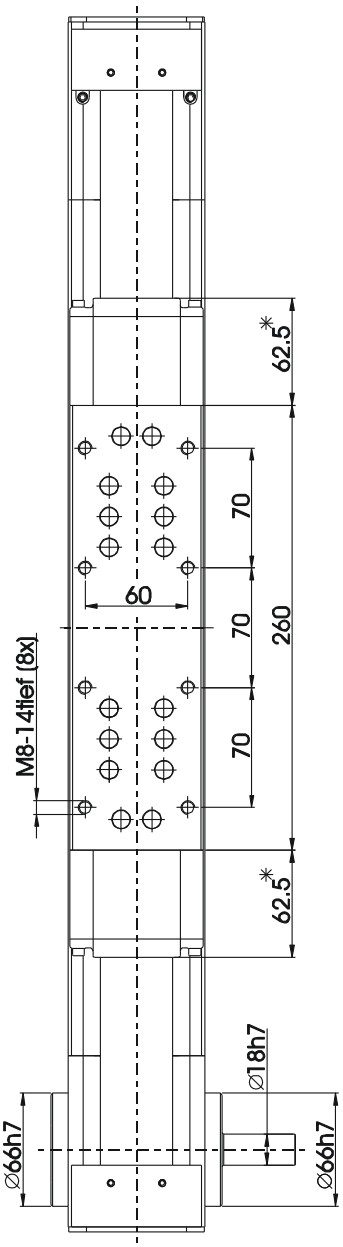
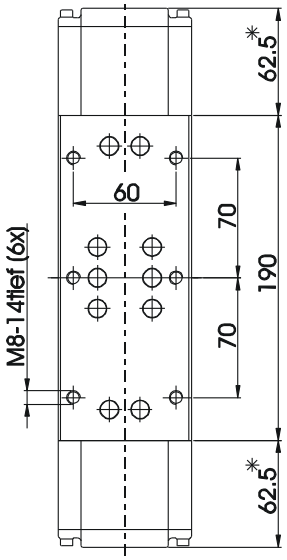








Antrieb Seite B

Antrieb Seite A
(Standard)

Caution:
- Safety area 2 x 40 mm
- * Only with cover

LVE 80 ZR - Linear actuator with toothed belt

Field of application:
- high speed
- long strokes

Guide system:
- KU4-20 four-row linear recirculating ball bearing, Size 20

Guide system	Static load rating[1)]	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KU4-20 long carriage	37.6	48.8
KU4-20 short carriage	18.8	24.4

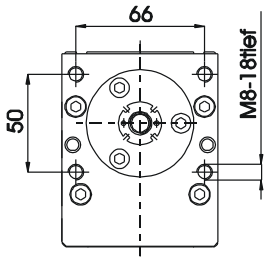
Max. length of the profile	6000 mm
Speed	up to 5 m/s
Repeatability[2)]	± 0.08 mm
Feed per revolution	205 mm
Max. operational force of the belt[3)]	980 N
Max. drive torque	32 Nm

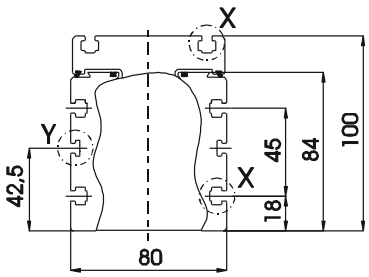
Moment of inertia of the profile	Jx = 141 cm^4
	Jy = 184 cm^4
Weight carriage	ca. 3 kg
Weight of unit without stroke	ca. 8 kg
Weight per 100 mm stroke	ca. 0.95 kg

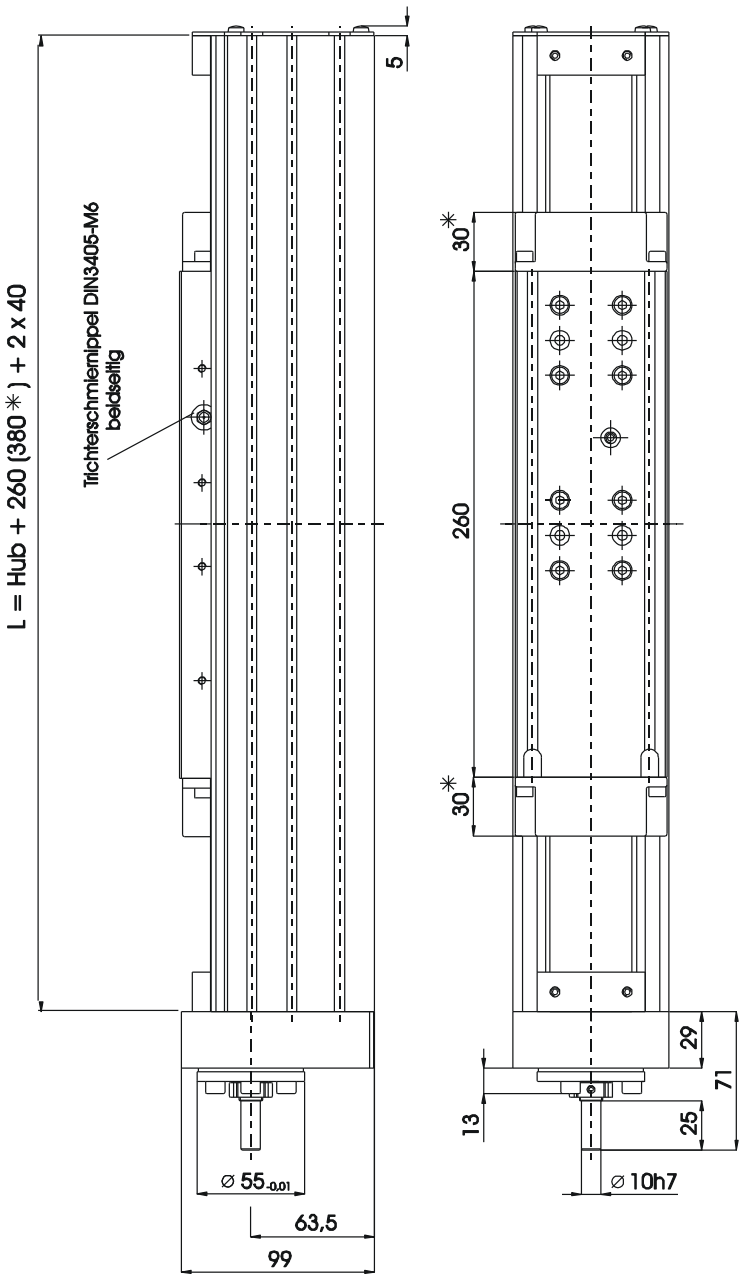
- As desired with stainless steel cover (mind reduction of stroke length).
  cover permissible up to L = 3500 mm/v = 2.5 m/s
- Central lubrication nipple at carriage
- T-grooves (single unit X) for nut acc. to DIN 557-M5
- To achieve higher moment loads two or more carriages can be used. They are connected via the toothed belt.

1) Vertically on the carriage
2) Dependent on load, speed, delay, direction and temperature
3) Dependent on the speed

LVE 80 KGT - Linear actuator with ball screw







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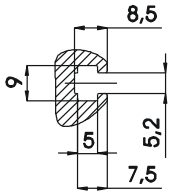
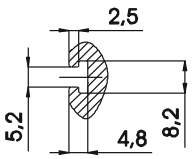


Einzelheit Y



Caution:
- Safety area 2 x 40 mm
- * Only with cover

LVE 80 KGT - Linear actuator with ball screw

Fields of application:
- high positioning precision repeatability
- high feed forces
- recommended for vertical installation

Kind of drive:
- KGT ball screw (low or no backlash on demand)

Guide system:
- KU4-20 four-row linear recirculating ball bearing, size 20

Guide system	Static load rating[1)]	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KU4-20	37.6	48.8

Screw	Static load rating	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KGT 16x10	9.6	12.3
KGT 16x16	6.3	7.6
KGT 20x5	17.5	27.3
KGT 20x20	9.1	12.1

20x5 means: outer diameter 20 mm/pitch 5 mm

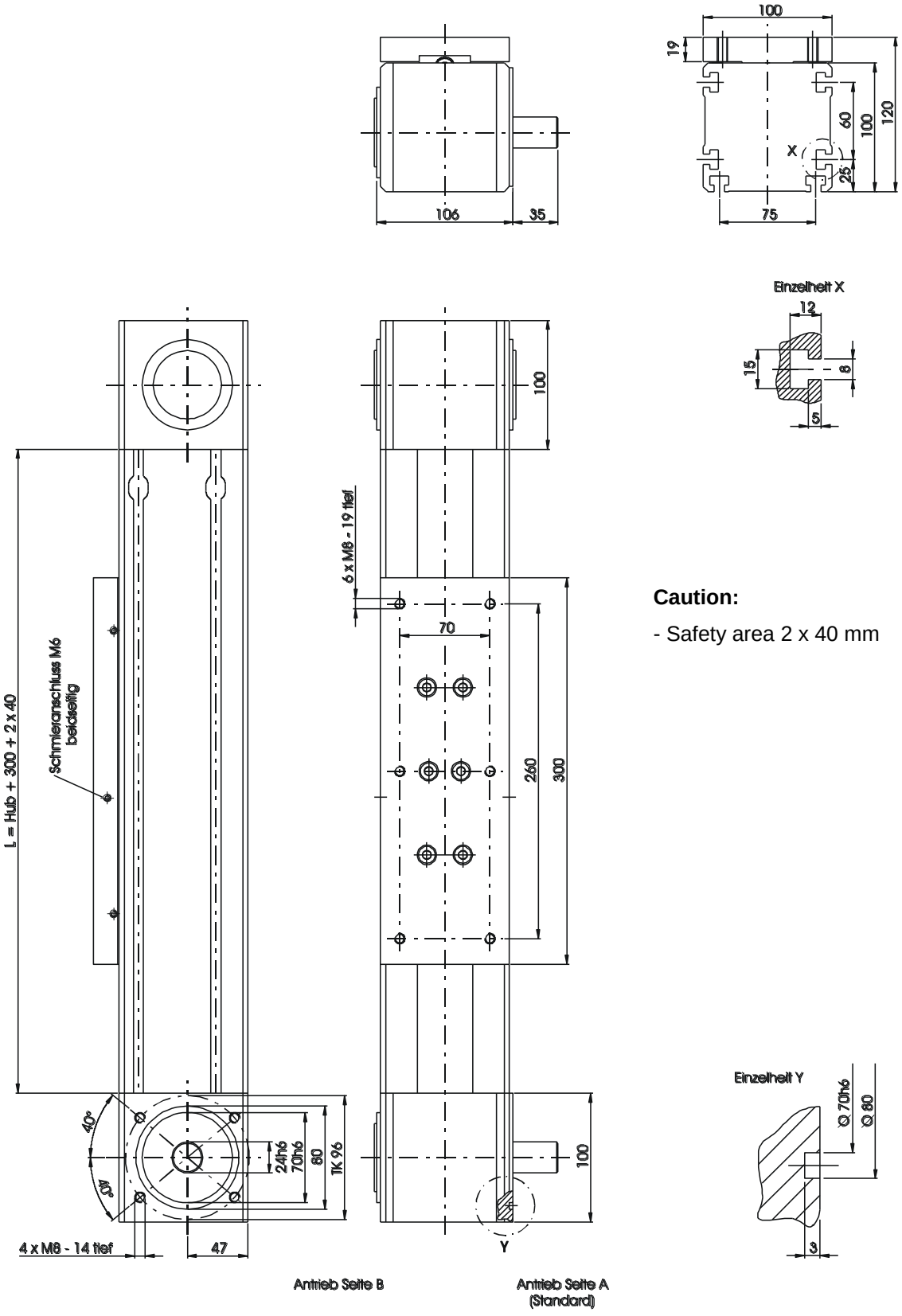
Max. length of the profile	2500 mm
Speed[2)]	up to 1.0 m/s
Repeatability KGT	± 0.03 mm
Screw diameter	16 - 20 mm
Pitch KGT	5 - 20 mm
Pitch accuracy KGT	0.05/300 mm

Moment of inertia	Jx = 169 cm^4
of the profile	Jy = 211 cm^4
Weight carriage	ca. 3 kg
Weight unit without stroke	ca. 8 kg
Weight per 100 mm stroke	ca. 1.2 kg

- As desired with stainless steel cover (mind reduction of stroke length)
- Central lubrication nipple at carriage
- T-grooves (single unit X) for nut acc. to DIN 557-M5
- To achieve higher moment loads two or more carriages can be used. They are connected via the toothed belt.

1) Vertically on the carriage
2) Dependent on pitch and length of the screw
3) Special pitches available

LVE 100 ZR - Linear actuator with toothed belt



Caution:

- Safety area 2 x 40 mm

LVE 100 ZR - Linear actuator with toothed belt

Fields of application:
- high speed
- long strokes

Guide systems:
- KU2-20(25) two-row linear recirculating ball bearing, Size 20 or 25
- KU4-20(25) four-row linear recirculating ball bearing, Size 20 or 25
- KU6-20(25) six-row linear recirculating ball bearing, Size 20 or 25
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	Static load rating[1)]	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KU2-20	26.6	36.0
KU2-25	32.4	41.8
KU4-20	26.2	54.0
KU4-25	35.8	74.0
KU6-20	44.0	104.0
KU6-25	56.0	134.0

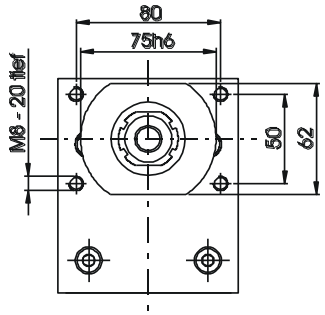
Max. length of the profile	6100 mm
Speed	up to 5 m/s
Repeatability[2)]	± 0.08 mm
Feed per revolution	250 mm
Max. operational force of the belt[3)]	2500 N
Max. drive torque	102 Nm

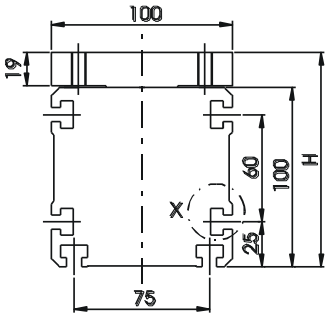
Moment of inertia	Jx = 412 cm^4
of the profile	Jy = 539 cm^4
Weight carriage	ca. 4 kg
Weight unit without stroke	ca. 15 kg
Weight per 100 mm stroke	ca. 1.2 kg

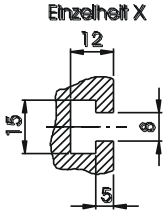
- Other types and sizes of the guides on demand.
- To absorb higher moment loads longer carriages can be mounted. It is also possible to mount two or more carriages. They are connected over the toothed belt.
- Additional guides can be mounted on the sides to absorb higher loads.
- Linger profiles (>6100 mm) can be realised using profile connectors which are bolted on the sides.

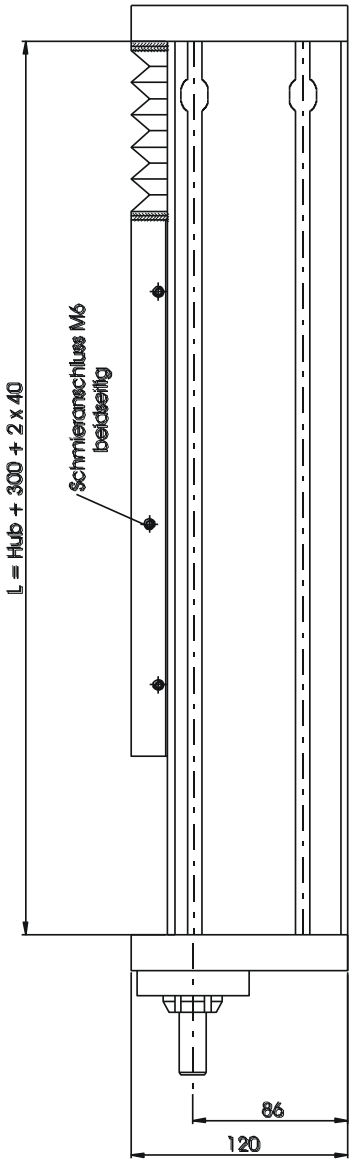
1) Vertically on the carriage
2) Dependent on load, speed, delay, direction and temperature
3) Dependent on the speed

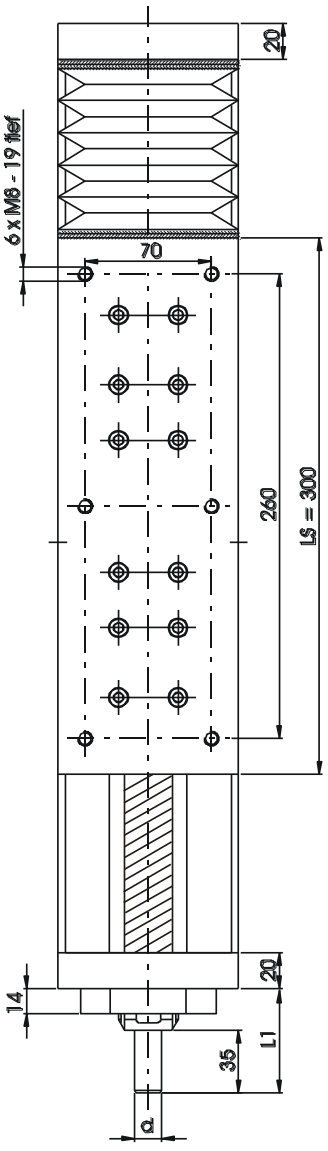
LVE 100 KGT (Tr) - Linear actuator with ball screw











Profile cover	H	LS
None	120	300
Bellow	120	300
Band cover	130	400

[mm]

Caution:

- Safety area 2 x 40 mm
- mind stroke reduction when using bellow cover

Screw	d	L1
Ø 16	10	56
Ø 20	13	58
Ø 25	17	60

[mm]

LVE 100 KGT (Tr) - Linear stage with screw

Fields of application:
- high positioning precision repeatability
- high feed forces
- recommended for vertical installation

Kinds of drive:
- KGT ball screw (low or no backlash on demand)
- Tr trapezoidal screw (low backlash on demand)

Guide systems:
- KU2-20(25) two-row linear recirculating ball bearing, size 20 or 25
- KU4-20(25) four-row linear recirculating ball bearing, size 20 or 25
- KU6-20(25) six-row linear recirculating ball bearing, size 20 or 25
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	Static load rating[1)]	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KU2-20	26.6	36.0
KU2-25	32.4	41.8
KU4-20	26.2	54.0
KU4-25	35.8	74.0
KU6-20	44.0	104.0
KU6-25	56.0	134.0

Screw	Static load rating	
	$C_{dynamic}$ [kN]	C_{static} [kN]
KGT 16x5	7.0	12.7
KGT 16x10	12.0	26.0
KGT 20x5	8.0	17.0
KGT 20x20	9.0	19.2
KGT 20x50	11.0	22.0
KGT 25x5	9.5	22.4
KGT 25x10	10.0	25.0
KGT 25x20	10.5	23.5
KGT 25x25	12.5	31.0
KGT 25x50	13.0	29.0

20x5 means: outer diameter 20 mm/pitch 5 mm

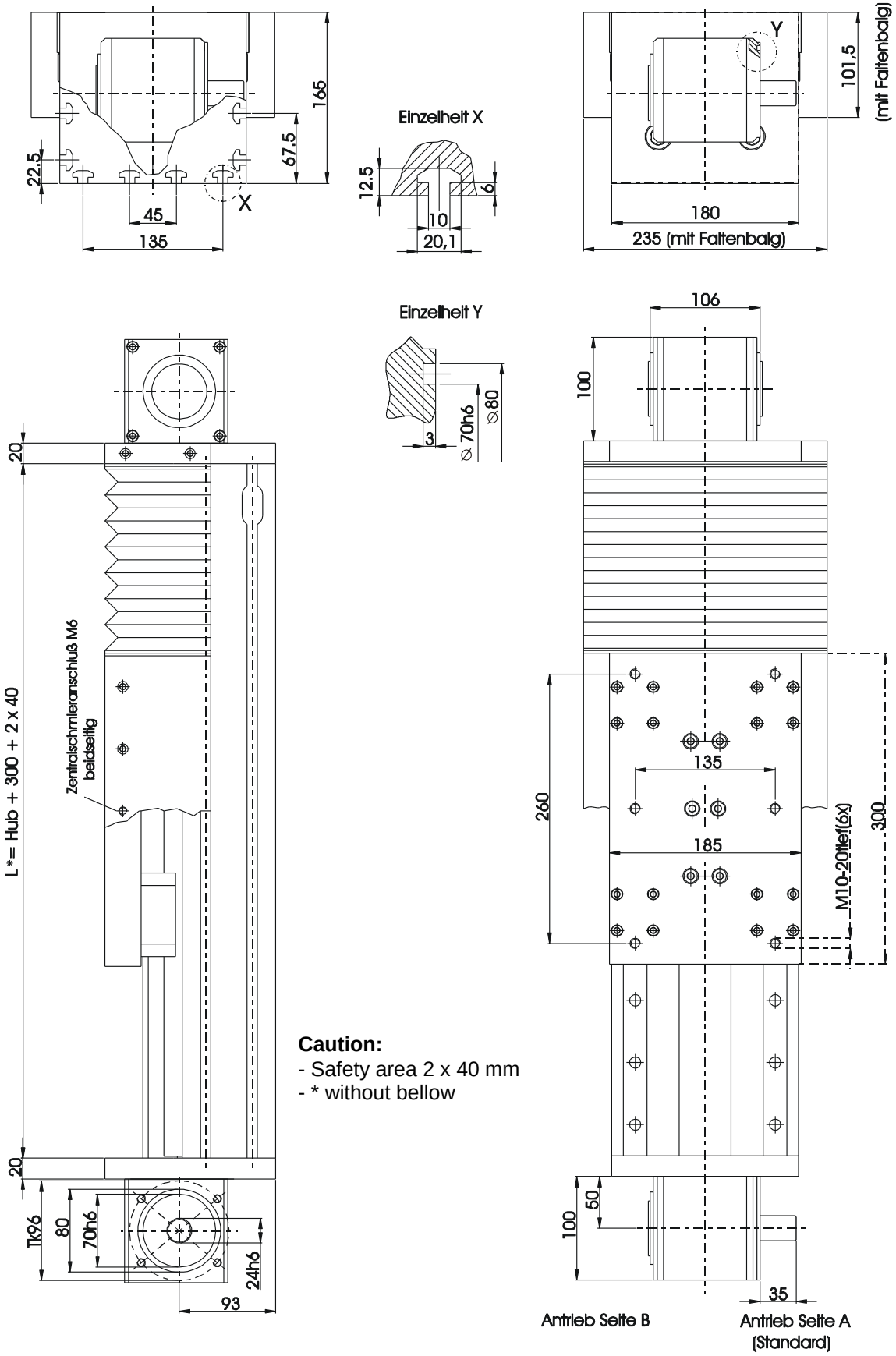
Max. length of the profile	6100 mm
Speed[2)]	up to 2.5 m/s
Repeatability KGT	± 0.03 mm
Screw diameter	16 - 25 mm
Pitch KGT	5 - 50 mm
Pitch accuracy KGT	0.05/300 mm
Pitch Tr[3)]	4/8/16 mm

Moment of inertia	Jx = 412 cm^4
of the profile	Jy = 539 cm^4
Weight carriage	ca. 4 kg
Weight unit without stroke	ca. 15 kg
Weight per 100 mm stroke	ca. 1.2 kg

- To absorb higher moment loads longer carriages can be mounted. It is also possible to mount two or more carriages..
- Additional guides on the sides increase the load that can be absorbed.

1) Vertically on the carriage
2) Dependent on pitch and length of the screw
3) Special pitches available

LVE 180 ZR - Linear actuator with toothed belt



Caution:
- Safety area 2 x 40 mm
- * without bellow

LVE 180 ZR - Linear stage with toothed belt

Fields of application:
- high speed
- long strokes

Guide systems:
- KU2-25 two-row linear recirculating ball bearing, size 25
- KU4-25 four-row linear recirculating ball bearing, size 25
- KU6-25 six-row linear recirculating ball bearing, size 25
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	**Static load rating[1)]**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KU2-25	64.8	83.6
KU4-25	71.6	148.0
KU6-25	112.0	268.0

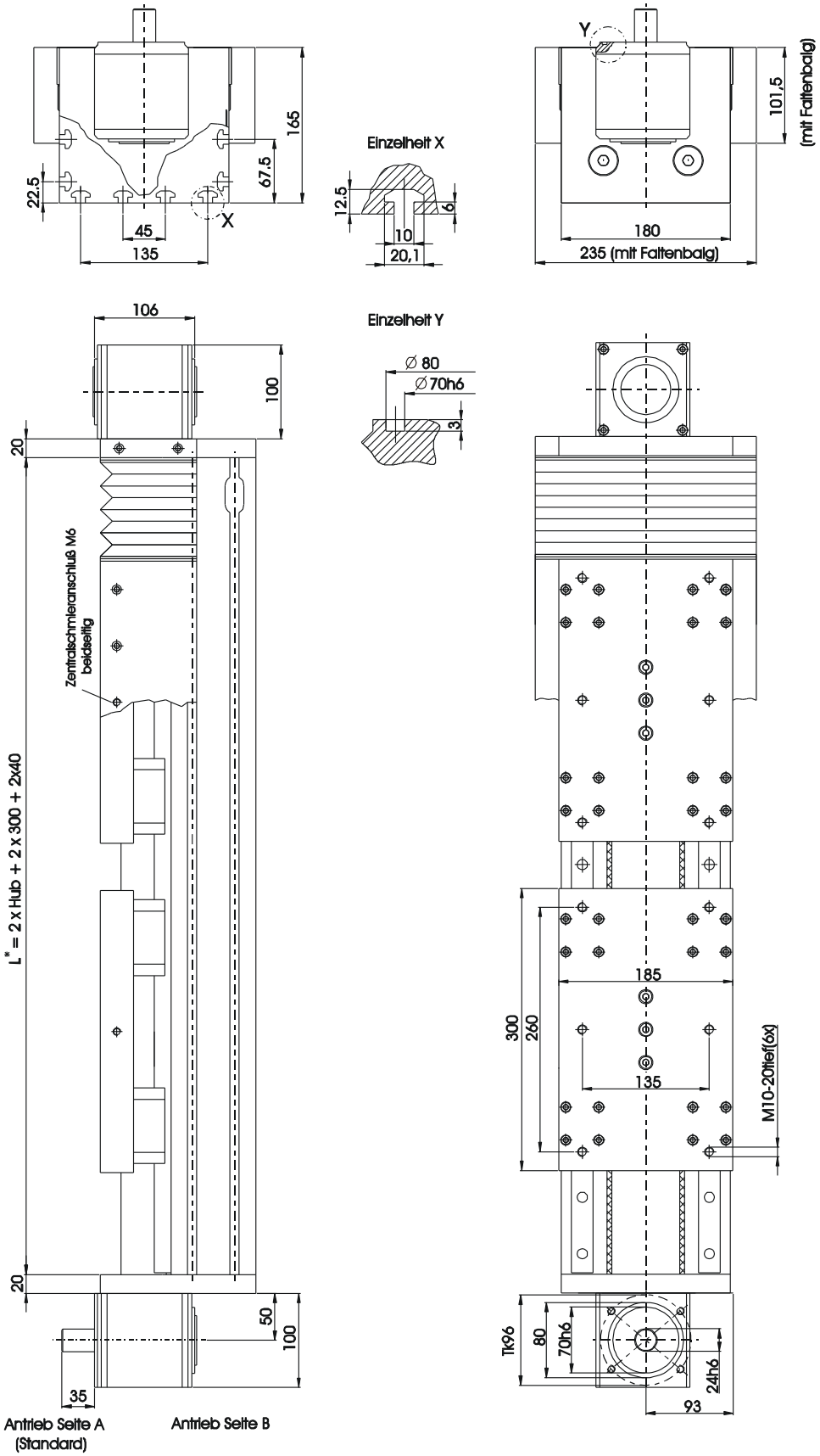
Max. length of the profile	5700 mm
Speed	up to 5 m/s
Repeatability[2)]	± 0.08 mm
Feed per revolution	250 mm
Max. operational force of the belt[3)]	2500 N
Max. drive torque	102 Nm

Moment of inertia of the profile	Jx = 401 cm^4
	Jy = 1380 cm^4
Weight carriage	ca. 8 kg
Weight unit without stroke	ca. 20 kg
Weight per 100 mm stroke	ca. 1.5 kg

- Other types of guides and sizes on demand
- Mind reduction of stroke when using a bellow cover.
- As desired with sheet metal cover (contact us)
- To absorb higher moment loads longer carriages can be mounted. It is also possible to mount two or more carriages.. They are connected over the toothed belt.
- Longer profiles (>5700 mm) can be realised with profile links bolted on the sides.

1) Vertically on the carriage
2) Dependent on load, speed, delay, direction and temperature
3) Dependent on the speed

LVE 180 ZR/ZM - Linear actuator with toothed belt



Caution:
- safety area 2 x 40 mm
- * without bellow

LVE 180 ZR/ZM - Linear actuator with toothed belt

Fields of application:
- duplex modul
- high speed
- long strokes

Guide systems:
- KU2-25 two-row linear recirculating ball bearing, size 25
- KU4-25 four-row linear recirculating ball bearing, size 25
- KU6-25 six-row linear recirculating ball bearing, size 25
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	**Static load rating[1)]**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KU2-25	64.8	83.6
KU4-25	71.6	148.0
KU6-25	112.0	268.0

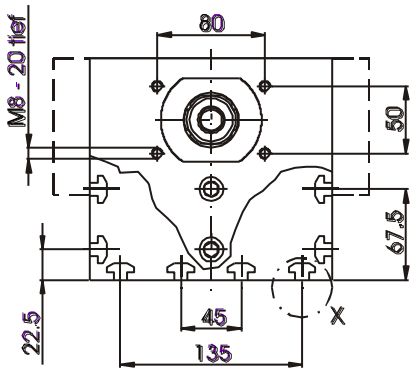
Max. length of the profile	5700 mm
Speed	up to 5 m/s
Repeatability[2)]	± 0.08 mm
Feed per revolution	250 mm
Max. operational force of the belt[3)]	2500 N
Max. drive torque	102 Nm

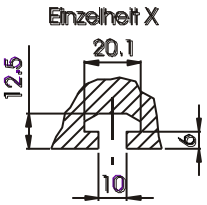
Moment of inertia	Jx = 401 cm^4
of the profile	Jy = 1380 cm^4
Weight carriage	ca. 8 kg
Weight unit without stroke	ca. 40 kg
Weight per 100 mm stroke	ca. 3 kg

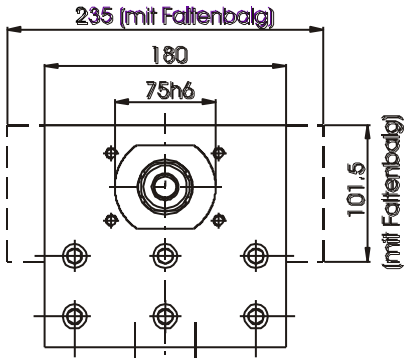
- Other types of guides and sizes on demand
- Mind reduction of stroke when using a bellow cover.
- As desired with sheet metal cover (contact us)
- To absorb higher moment loads longer carriages can be mounted. It is also possible to mount two or more carriages. They are connected over the toothed belt.
- Longer profiles (>5700 mm) can be realised with profile links bolted on the sides.

1) Vertically on the carriage
2) Dependent on load, speed, delay, direction and temperature
3) Dependent on the speed

LVE 180 KGT (Tr) - Linear actuator with ball screw

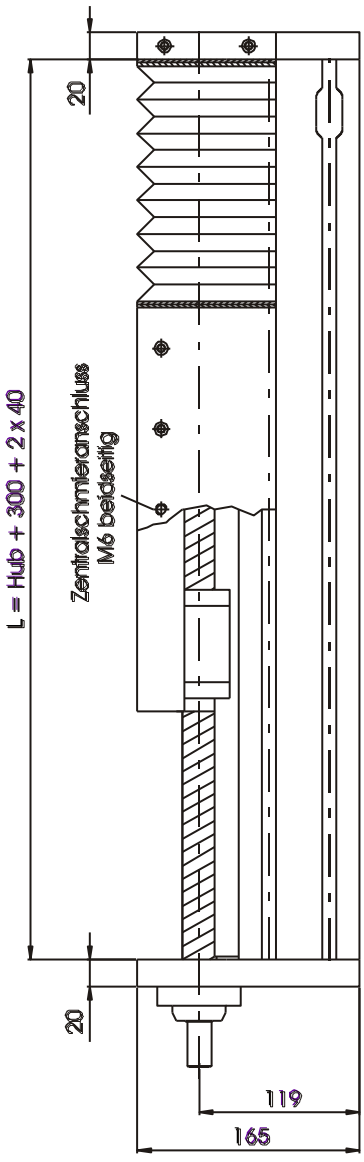


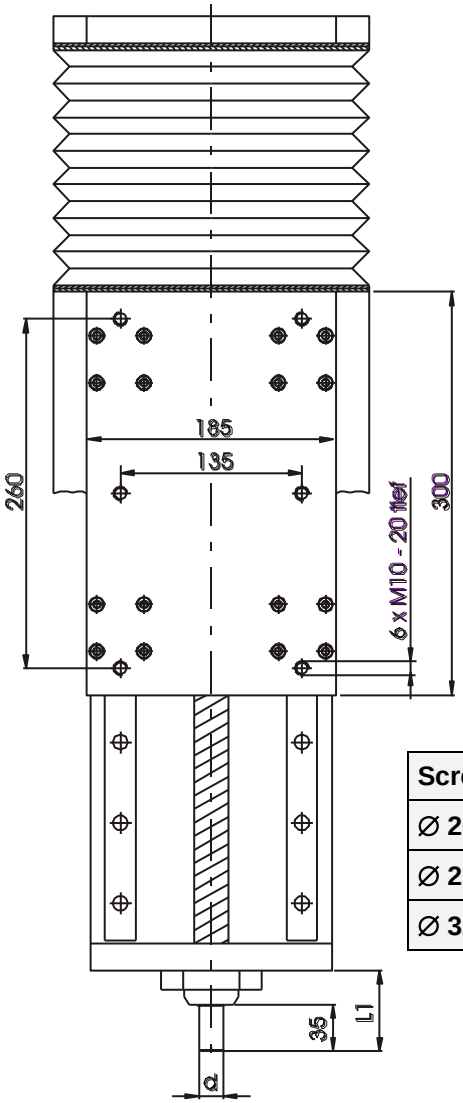




Caution:

- Safety area 2 x 40 mm
- Mind reduction of stroke when using bellow





Screw	d	L1 [mm]
∅ **20**	13	58
∅ **25**	17	60
∅ **32**	17	60

LVE 180 KGT (Tr) - Linear acruatorstage with ball screw

Fields of application:
- high positioning precision repeatability
- high feed forces
- recommended for vertical installation

Kinds of drive:
- KGT ball screw (low or no backlash on demand)
- Tr trapezoidal screw (low backlash on demand)

Guide systems:
- KU2-25 -row linear recirculating ball bearing, size 25
- KU4-25 four-row linear recirculating ball bearing, size 25
- KU6-25 six-row linear recirculating ball bearing, size 25
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	**Static load rating[1)]**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KU2	64.8	83.6
KU4	71.6	148.0
KU6	112.0	268.0

Screw	**Static load rating**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KGT 20x5	8.0	17.0
KGT 20x20	9.0	19.2
KGT 20x50	11.0	22.0
KGT 25x5	9.5	22.4
KGT 25x10	10.0	25.0
KGT 25x20	10.5	23.5

20x5 means: outer diameter 20 mm/pitch 5 mm

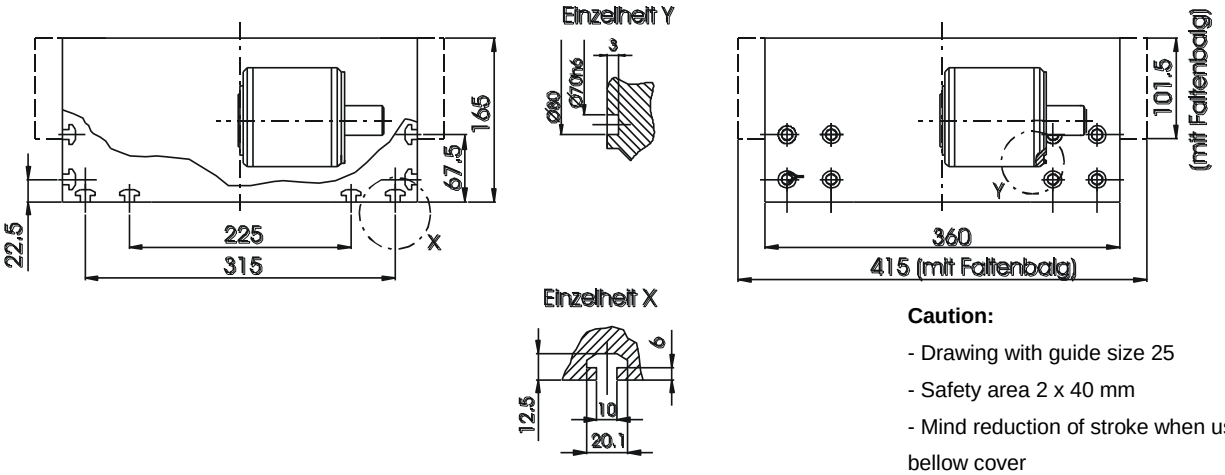
Screw	**Static load rating**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KGT 25x25	12.5	31.0
KGT 25x50	13.0	29.0
KGT 32x5	17.0	49.0
KGT 32x10	26.5	53.0
KGT 32x20	24.0	61.0
KGT 32x40	11.5	32.0

Max. length of the profile	5700 mm
Speed[2)]	up to 2.5 m/s
Repeatability KGT	± 0.03 mm
Screw diameter	16 - 25 mm
Pitch KGT	5 - 50 mm
Pitch accuracy KGT	0.05/300 mm
Pitch Tr[3)]	4/8/16 mm

Moment of inertia	Jx = 401 cm^4
of the profile	Jy = 1380 cm^4
Weight carriage	ca. 8 kg
Weight unit without stroke	ca. 20 kg
Weight per 100 mm stroke	ca. 1.5 kg

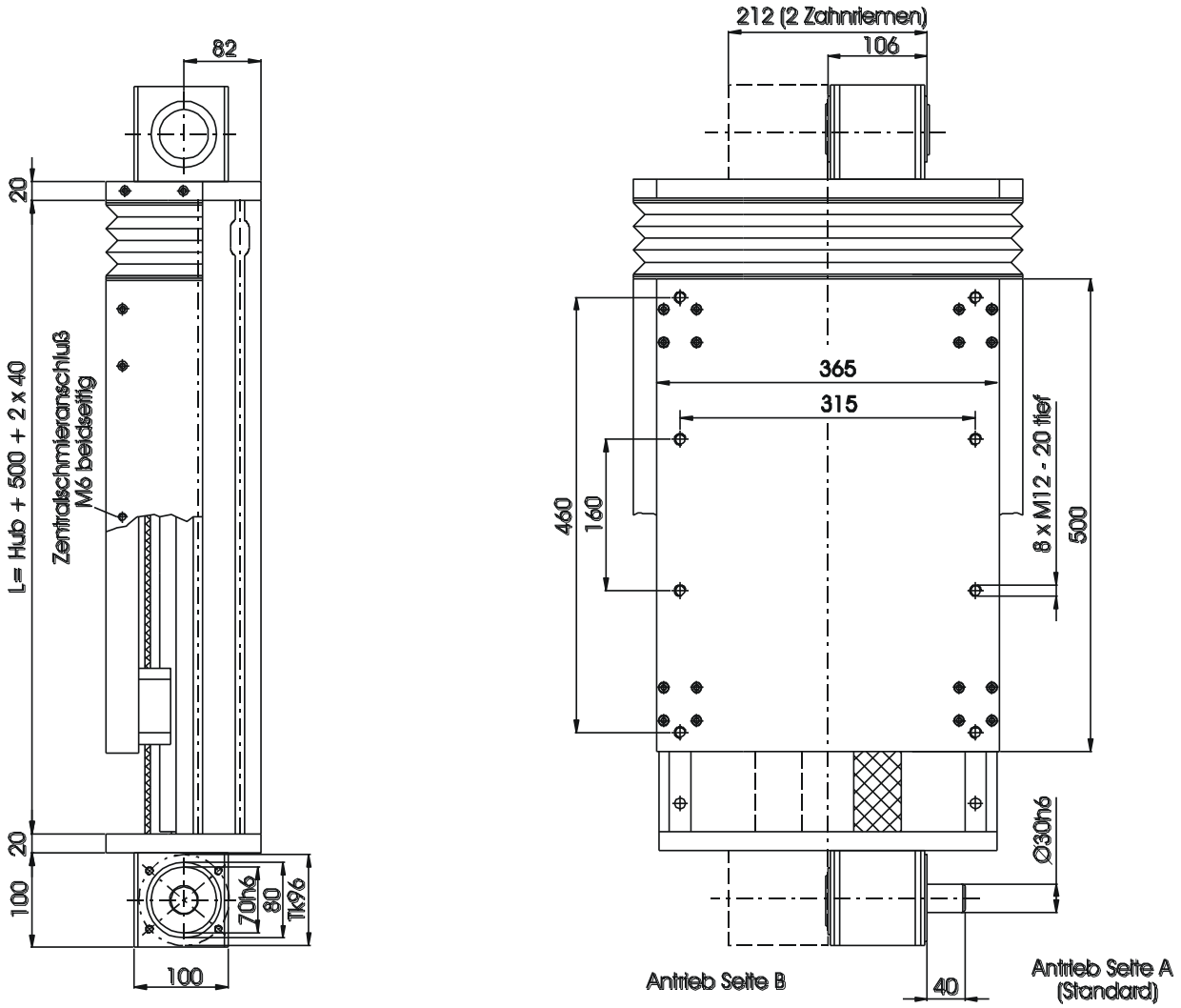
1) Vertically on the carriage
2) Dependent on pitch and length of the screw
3) Special pitches available

LVE 360 ZR - Linear actuator with toothed belt



Caution:

- Drawing with guide size 25
- Safety area 2 x 40 mm
- Mind reduction of stroke when using bellow cover



LVE 360 ZR - Linear actuator with toothed belt

Fields of application:
- high speed
- long strokes
- duplex module (two carriages/two drives)

Guide systems:
- KU2-25 two-row linear recirculating ball bearing, sizes 25/30/35
- KU4-25 four-row linear recirculating ball bearing, sizes 25/30/35
- KU6-25 six-row linear recirculating ball bearing, sizes 25/30/35
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	**Size 25**		**Size 30[4)]**		**Size 35[4)]**	
	Static load rating[1)]		**Static load rating[1)]**		**Static load rating[1)]**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**	**$C_{dynamic}$ [kN]**	**C_{static} [kN]**	**$C_{dynamic}$ [kN]**	**C_{static} [kN]**
KU2	64.8	83.6	90.0	118.8	112.0	148.0
KU4	71.6	148.0	110.0	220.0	152.0	288.0
KU6	112.0	268.0	160.0	320.0	220.0	408.0

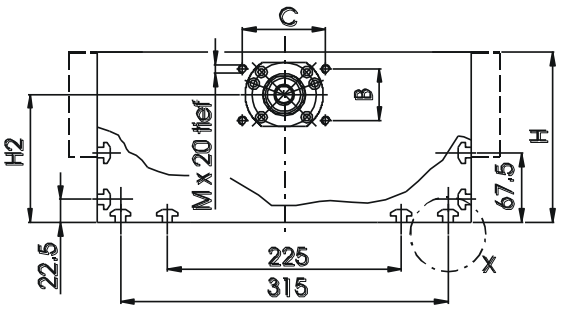
Max. length of the profile	5700 mm
Speed	up to 5 m/s
Repeatability[2)]	± 0.08 mm
Feed per revolution	250 mm
Max. operational force of the belt[3)]	2500 N
Max. drive torque	102 Nm

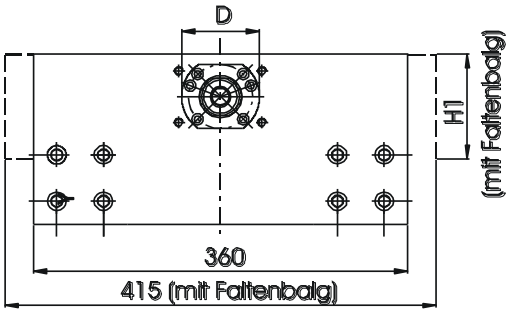
Moment of inertia	Jx = 683 cm^4
of the profile	Jy = 14,520 cm^4
Weight carriage	ca. 15 kg
Weight unit without stroke	ca. 30 kg
Weight per 100 mm stroke	ca. 3 kg

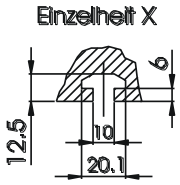
- Other types of guides and sizes on demand
- To absorb higher moment loads longer carriages can be mounted. It is also possible to mount two or more carriages. They are connected over the toothed belt.
- Longer profiles (>5700 mm) can be realised with profile links bolted on the sides.

1) Vertically on the carriage
2) Dependent on load, speed, delay, direction and temperature
3) Per toothed belt/dependent on the speed
4) Dimensions on demand

LVE 360 KGT (Tr) - Linear actuator with ball screw

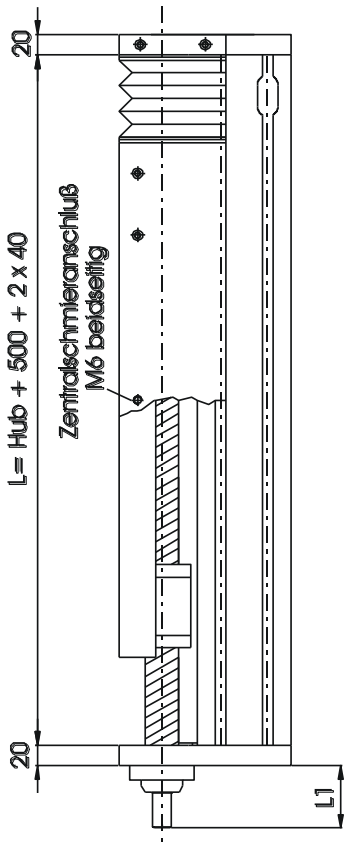


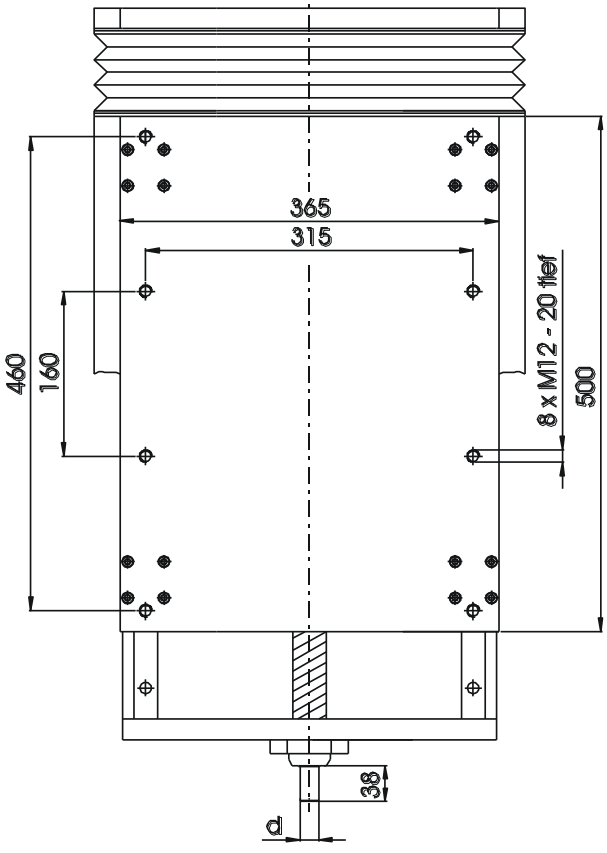




Caution:

- Drawing with guide size25
- Safety area 2 x 40 mm
- Mind stroke reduction when using bellow covers





KGT	B	C	ØDh6	H	H1	H2	Ød	L1	M
Ø25	50	80	75	165	101.5	124	17	63	M8
Ø32	50	80	75	165	101.5	124	20	65	M8
Ø40	80	110	110	180	116.5	129	24	73	M8

[mm]

LVE 360 KGT (Tr) - Linear actuator with ball screw

Fields of application:
- high positioning precision repeatability
- high feed forces
- recommended for vertical installation

Kinds of drive:
- KGT ball screw (low or no backlash on demand)
- Tr trapezoidal screw (low backlash on demand)

Guide systems:
- KU2-25 two-row linear recirculating ball bearing, sizes 25/30/35
- KU4-25 four-row linear recirculating ball bearing, sizes 25/30/35
- KU6-25 six-row linear recirculating ball bearing, sizes 25/30/35
- LK linear slide (on demand)
- GB slide bushing (on demand)

Guide system	**Size 25**		**Size 30[4)]**		**Size 35[4)]**	
	Static load rating[1)]		**Static load rating[1)]**		**Static load rating[1)]**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**	**$C_{dynamic}$ [kN]**	**C_{static} [kN]**	**$C_{dynamic}$ [kN]**	**C_{static} [kN]**
KU2	64.8	83.6	90.0	118.8	112.0	148.0
KU4	71.6	148.0	110.0	220.0	152.0	288.0
KU6	112.0	268.0	160.0	320.0	220.0	408.0

Screw	**Static load rating**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KGT 25x5	9.5	22.4
KGT 25x10	10.0	25.0
KGT 25x20	10.5	23.5
KGT 25x25	12.5	31.0
KGT 25x50	13.0	29.0
KGT 32x5	17.0	49.0
KGT 32x10	26.5	53.0

25x5 means: outer diameter 25 mm/pitch 5 mm

Screw	**Static load rating**	
	$C_{dynamic}$ [kN]	**C_{static} [kN]**
KGT 32x20	24.0	61.0
KGT 32x40	11.5	32.0
KGT 40x5	19.0	63.5
KGT 40x10	30.0	70.0
KGT 40x20	27.0	77.0
KGT 40x40	26.5	93.0

Max. length of the profile	5700 mm
Speed[2)]	up to 2.5 m/s
Repeatability KGT	± 0.03 mm
Screw diameter	16 - 25 mm
Pitch KGT	5 - 50 mm
Pitch accuracy KGT	0.05/300 mm
Pitch Tr[3)]	4/8/16 mm

Moment of inertia	Jx = 683 cm^4
of the profile	Jy = 14,520 cm^4
Weight carriage	ca. 15 kg
Weight unit without stroke	ca. 30 kg
Weight per 100 mm stroke	ca. 3 kg

1) Vertically on the carriage
2) Dependent on pitch and length of the screw
3) Special pitches available
4) Dimensions on demand

Accessory for LVE

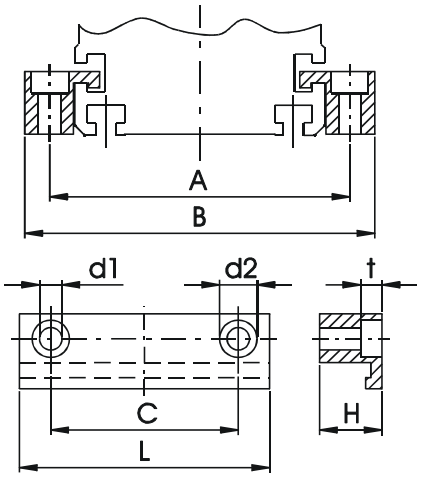
Clamping strips – KL

Use clamping strips to mount the linear stages at the side to a mounting face. The number of clamping strips required depends on the load and the total length of the actuator.

Type of axis	A	B	C	L	H	Ød1	Ød2	t
LVE 65	81	95	50	78	20	6.6	11	6.8
LVE 80	96	110	50	78	20	6.6	11	6.8
LVE 100	120	140	75	100	25	9	15	9
LVE 180	200	220	75	100	25	11	18	11
LVE 360	380	400	75	100	25	11	18	11

[mm]

Other dimensions on demand.



T - nut – N

Thread	LVE 65	LVE 80	LVE 100[1)]	LVE 180	LVE 360
M5	X (DIN557)	X (DIN557)		X	X
M6			X (DIN508)	X	X
M8				X	X

T - nuts are used to mount any component to the profile slots.

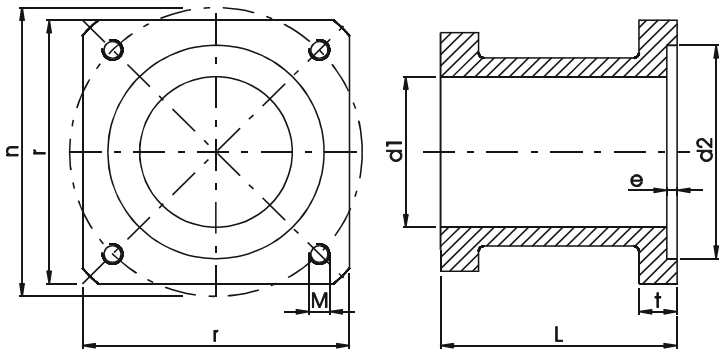
T - screw - NS

Thread	LVE 100[1)]	LVE 180[2)] LVE 360[2)]
M8	M8 x 25 M8 x 32 M8 x 40	M8 x 20 M8 x 25 M8 x 30 M8 x 40 M8 x 50 M8 x 60

1) DIN 787
2) T-head bolt

Accessory for LVE

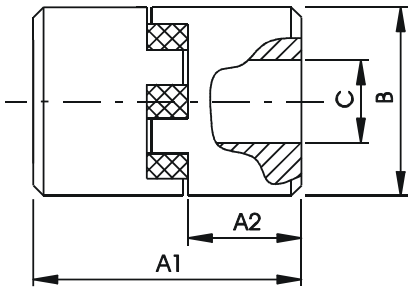
Motor flange - MG



	Servo motor	Ød1	Ød2	r	Øn	e	M	t	L
MG 60	6SM37	60	60	75	90	3	M5	10	80
MG 80	6SM47	60	80	88	100	4	M6	15	85
MG 95	6SM57	60	95	105	115	4	M8	15	95
MG 130	6SM77	60	130	142	165	5	M10	15	105
MG 180	6SM107	60	180	190	215	5	M12	15	115

[mm]

Coupling - KUP



The couplings are torsionally elastic, transmit the torque positively and are puncture-proof.
Vibrations or bumps occurring during operation are effectively dampened and reduced.

	M_{rated} [Nm]	M_{max} [Nm]	A1	A2	ØB	ØC_{min}	ØC_{max}
GS 14	12.5	25	35 (50)[1)]	11 (18,5)[1)]	30	6	14
GS 19	17	34	66	25	40	6	24
GS 24	60	120	78	30	55	8	28
GS 28	160	320	90	35	65	10	38

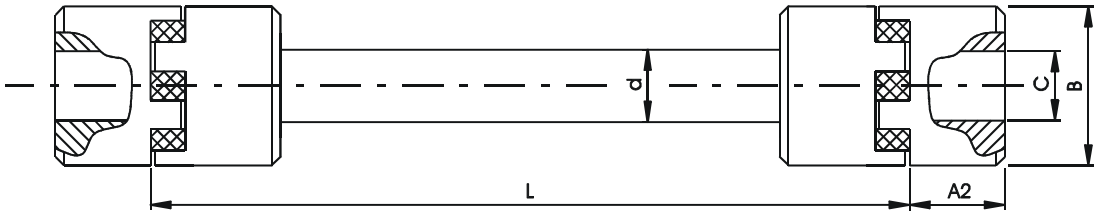
1) only with clamping ring hub type

[mm]

Types of mounting holes: key groove/clamping collar/clamping ring hub/slip clutch

Accessory for LVE

Connecting shaft - VW

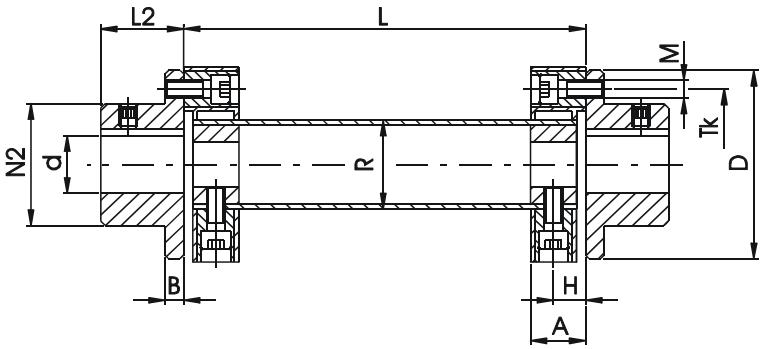


	M_{rated} [Nm]	M_{max} [Nm]	A2	ØB	Ød	ØC_{min}	ØC_{max}
VW 19	17	34	25	40	20	6	24
VW 24	60	120	30	55	25	8	18
VW 28	160	320	35	65	30	10	38

[mm]

Please note dim. “L” on enquiries and orders (distance between journal ends).

Universal shaft – GX



	M_N [Nm]	M_{max} [Nm]	ØR	A	B	ØD	Ød_{min}	Ød_{max}	H	L2	ØN2	ØTK	M
GX 1	10	25	30	18	7	56	8	25	12	24	36	44	M6
GX 2	30	60	40	24	8	85	12	38	14	28	55	68	M8
GX 4	60	120	45	25	8	100	15	45	14,5	30	65	80	M8
GX 8	120	280	60	30	10	120	18	55	17	42	80	100	M10
GX 16	240	560	70	35	12	150	20	70	21	50	100	125	M12

[mm]

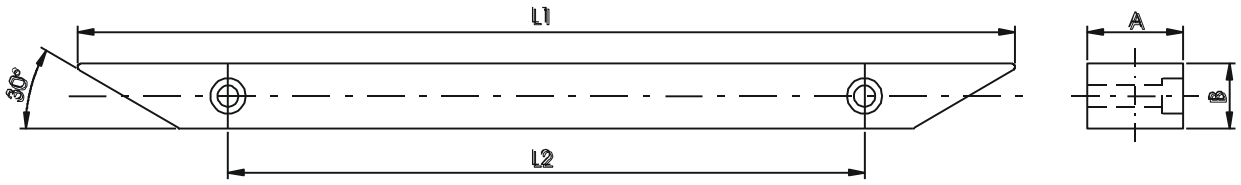
We are happy to assist you for dimensioning the components for your application.

Please note dim. “L” on enquiries and orders (distance between journal ends).

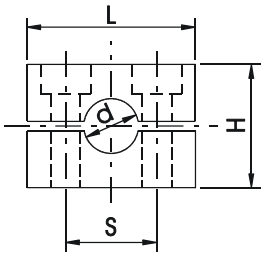
Pedestal bearings for support of longer components are available on demand.

Accessory for LVE

Cam switch - SF



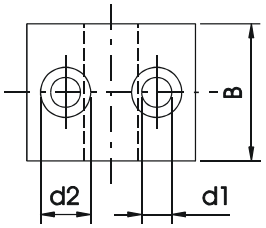
Type	Type of axis	L1	L2	A	B
SF 190	LVE 65/80	190	160	20	18.5
SF 300	LVE 100	300	200	30	15



[mm]

Proximity sensor fastening - IH

Type	Ød	L	H	B	S	Ød1	Ød1
IH 8	8	37	27	30	20	6.6	11
IH 12	12	37	27	30	20	6.6	11



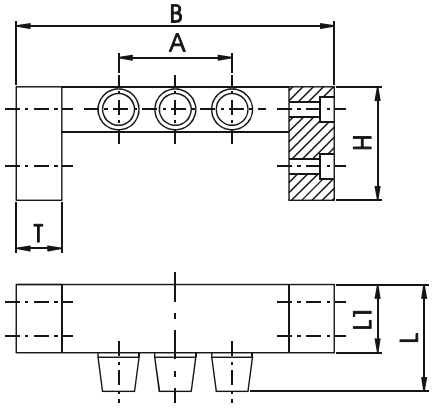
[mm]

The fastening for the proximity sensor is mounted to T-grooves on the sides of the profile. The fastening provides continuous adjustment and fix.

External shock absorbers - EA

Typ	Achstyp	B	A	L	L1	H	T
EA 100	LVE 100	140	50	50	30	50	20

External shock absorbers are mounted to the T-grooves on the sides of the profile. They are continuously adjustable.
Larger axial loads require hydraulic shock absorbers (contact us).

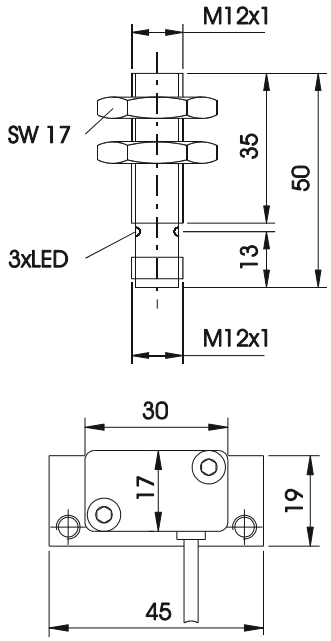


[mm]

Accessory for LVE

Inductive proximity switch - IN

Type of sensor	Type 1	Type 2
Design (as desired)	PNP break PNP make	PNP break PNP make
Range of operative voltage	12 to 30 VDC	12 to 30 VDC
Curren consumption	<18 mA	<20 mA
Max. load current	200 mA	200 mA
Voltage drop	<3 V	<2.5 V
Max. switching frequency	2 kHz	1.5 kHz
Switching distance	4 mm	2 mm
Switching hysteresis	3...25 %	≤10 %
Display	3 port LED	-
Insulation class	IP 67	IP 67
	5 m 10 m	2 m 5 m (3m)[1)]

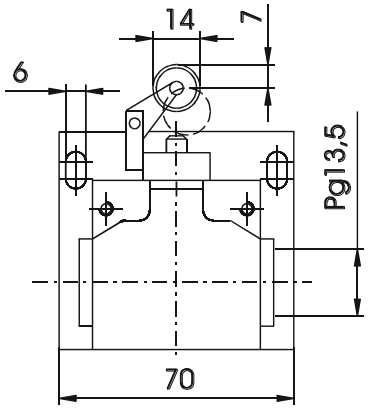


Other types and dimensions on demand.

1) grouted cable

Mechanical limit switch with safety function – MP

Trigger force	min. 9 N
Positive break force	19 N
Velocity snap action	min. 27 mm/min max. 1 m/s
Velocity slow action	min. 160 mm/min max. 1 m/s



Further accessory:

- additional carriage
- bevel gear
- planetary gear
- shock absorbers
- encoder
- servo motor (cf. 4/1)
- stepper motor
- three-phase asynchronous motor
- three-phase asynchronous motor with worm gear
- three-phase asynchronous motor with spur gear

Order code

Example 1:

LVE 100	–	ZR	–	A/B	–	1200	–	1800	–	MG	–	KUP	–	500 mm slide unit

LVE 100	-	Product name	Linear stage size 100
ZR	-	Kind of drive	Toothed belt drive
A/B	-	Position of the shaft journals	Shaft journal sides A and B
1200	-	Length of stroke [mm]	1200 mm stroke
1800	-	Length of the profile [mm]	Length of the profile L = 1800 mm
MG	-	Accessory	Motor flange
KUP	-	Accessory	Coupling
500 mm slide unit	-	Special design	Special length of the slide unit 500 mm

Example 2:

LVE 100	–	KGT 20x50	–	1200	–	1650	–	MG	–	KUP	–	2 carriages

LVE 100	-	Product name	Linear stage size 100
KGT 20x50	-	Kind of drive	Ball screw 20 x 50 (diameter x pitch)
1200	-	Length of stroke [mm]	1200 mm stroke
1650	-	Length of the profile [mm]	Length of the profile L = 1650 mm
MG	-	Accessory	Motor flange
KUP	-	Accessory	Coupling
2 carriages	-	Special design	Unit with two carriages

Product range

Drives and stages

- Linear actuators
- Linear positioning tables with/without drive
- Precision positioning tables
- Ball screws and roller screws
- Trapezoidal screws
- Screw jacks
- Electromechanical cylinders
- Bevel gears
- Planetary gears

Drives and accessory

- Three-phase asynchronous motors
- Worm geared motors
- Spur gear motors
- Servo drives
- Stepper drives
- DC motors
- Frequency changers
- Controllers
- Switches, proximity sensors

Linear guides

- Linear ball or roller guides
- Precision shafts
- Linear ball bearings
- Glide bushings

Links

- Couplings
- Universal shafts
- Cardan shafts
- Clamps

Roller bearings

Custom-tailored solutions

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