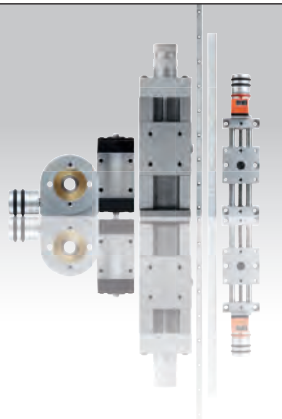


norelem moves

Systems and components for machine and plant construction

21000

Slides
Guide rails
Positioning stages
Linear guide systems
Position indicators



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Dovetail slides
with micrometer spindle

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Dovetail slides
with micrometer spindle

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Straps

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Dovetail slides
with micrometer spindle and handwheel

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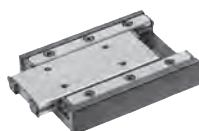
Fastening screws
for cross table mounting

21010
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Precision slides
roller mounted

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Dovetail slides
with micrometer spindle
and location holes



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Slides mini
roller mounted

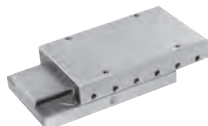
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Page 105



Mounting brackets



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Precision slides
roller mounted with end plates

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Dovetail slides

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Precision slides
roller mounted with micrometer spindle

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Dovetail slides
with end plates

Guide rails
for cross rollers

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Roller cages
for guide rails

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Guide rails
Teflon-coated

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Dovetail slides
with location holes



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Dovetail slides
with end plates and location holes



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Dovetail slides
with micrometer spindle and location
holes



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Precision slides
roller mounted with location holes



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Precision slides
roller mounted with end plates and
location holes



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Precision slides
roller mounted with micrometer
spindle and location holes



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Positioning stages short
with coaxial electric drive

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Positioning stages short
with lateral electric drive

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Positioning stages long
with coaxial electric drive

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Positioning stages long
with lateral electric drive

21085
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Positioning stages rotary
with coaxial electric drive



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Rotary stages
with coaxial electric drive,
high load



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Mounting plates horizontal

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Mounting plates vertical

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Sensor holder

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Sensor holder

New/Expanded Items

norelem moves

Systems and components for machine and plant construction

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Positioning stages, short

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Positioning stages, short with position indicator

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Positioning stages, short with electronic position indicator

21120
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Positioning stages, long

21122
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Positioning stages, long with position indicator

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Positioning stages, long with electronic position indicator

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Cross stages, short

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Cross stages, short with position indicators

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Cross slides, short with electronic position indicator

21134
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Cross stages, long

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Cross stages, long with position indicators

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Cross slides, long with electronic position indicator

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Vertical bracket short

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Vertical bracket long

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Vertical stages

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Vertical stages with electronic position indicator

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Rotary discs

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Rotary positioning stages

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Rotary positioning stages with position indicators

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Rotary stages with electronic position indicator

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Swivel angles

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Pivot heads swivel angle 30°

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Base plates

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Angle plates

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Carriages DryLin® T

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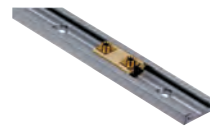
Guide rails DryLin® T

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Miniature linear guides DryLin® T

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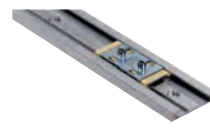
Miniature slide guides DryLin® N

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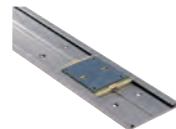
Miniature slide guides DryLin® N

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Miniature slide guides DryLin® N

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Flat guides DryLin® N

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Carriages DryLin® W

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Slide carriages DryLin® W

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Guide rails DryLin® W single

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Guide rails DryLin® W double

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Plain bearings for rotary stages

+ New/Expanded Items

norelem moves

Systems and components for machine and plant construction

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Plain bearing for rotary stages

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Clamping element
for rotary stage plain bearing

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Double tube linear actuator

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Double tube linear actuator
with mounting bracket

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Roller carriages
compact and heavy-duty version

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Roller guide rails

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Roller carriages
steel

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Roller guide carriage steel

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Roller guide rails

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Linear ball bearing
with internal race

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Page 202



Telescopic slides, steel
for side mounting, full extension,
load capacity up to 20 kg

21334-05
Page 204



Telescopic slides, steel
for surface mounting,
partial extension both sides,
load capacity up to 35 kg

21334-10
Page 206



Telescopic slides, steel
for side mounting, full extension,
load capacity up to 45 kg

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Telescopic slides, steel
for side mounting, full extension,
load capacity up to 50 kg

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Telescopic slides, steel
for side mounting, partial extension,
load capacity up to 50 kg

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Telescopic slides, steel
for side mounting,
partial extension both sides,
load capacity up to 50 kg

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Telescopic slides, steel
for side mounting, partial extension,
load capacity up to 50 kg

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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 55 kg

21334-40
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 60 kg

21334-45
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Telescopic slides, steel
for side mounting, partial extension,
load capacity up to 65 kg

21334-50
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Telescopic slides, stainless steel
for side mounting, partial extension,
load capacity up to 65 kg

21334-55
Page 224



Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 68 kg

21334-60
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 68 kg

21334-65
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 70 kg

21334-70
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 70 kg

21334-75
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 70 kg

21334-80
Page 229



Telescopic slides, stainless steel
for side mounting, over-extension,
load capacity up to 70 kg

21334-85
Page 230



Telescopic slides, stainless steel
for side mounting, full extension,
load capacity up to 80 kg

21334-90
Page 231



Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 82 kg

21334-95
Page 232



Telescopic slides, stainless steel
for side mounting, over-extension,
load capacity up to 90 kg

21335
Page 233



Telescopic slides, steel
for side mounting, full extension,
load capacity up to 100 kg

21335-05
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 100 kg

21335-10
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Telescopic slides, steel
for side mounting, full extension,
load capacity up to 124 kg

21335-15
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Telescopic slides, steel
for side mounting, full extension,
load capacity up to 160 kg

21335-20
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Telescopic slides, steel
for side mounting, over-extension,
load capacity up to 160 kg

21335-25
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Telescopic slides, steel
for side mounting, full extension,
load capacity up to 227 kg

+ New/Expanded Items

norelem moves

Systems and components for machine and plant construction

21000

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Telescopic slides, steel
for side mounting, full extension,
load capacity up to 272 kg



21335-35
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Telescopic slides, aluminium
for side mounting, full extension,
load capacity up to 300 kg



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Page 247



Mounting bracket, steel
for telescopic slides



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Telescopic slides
Double-T form

21338
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Telescopic slides
double arrangement

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Telescopic slides

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Telescopic slides
S-form

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Carriages

21402
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Carriages
with flange

21404
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Carriages
compact

21406
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Carriages
compact, short

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Profile guide rails

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Miniature carriages
stainless steel

21425
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Miniature profile guide rails
stainless steel

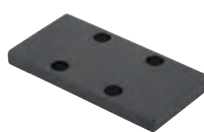
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Clamping elements
for profile guide rails



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Adapter plates
for clamping elements



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Clamping elements
for miniature profile guide rails



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Linear plain bearings

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Linear ball bearings
with plastic cage

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Linear ball bearings
with steel cage

21505-01
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Linear ball bearings stainless steel

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Linear ball bearings
self-aligning



21511
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Miniature linear ball bearing

21511-01
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Linear ball bearing, plastic, compact,
self-aligning



21511-02
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Linear ball bearing, steel, compact



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Linear ball bearings
self-aligning, high load rating



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Linear ball bearings
with round flange

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Linear ball bearing
with square flange



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Linear ball bearings
with round flange, double bearing

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Linear ball bearing
with square flange, double bearing



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Linear housing units
with flange



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Linear housing units
with flange, tandem

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Linear housing units
single, closed



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Linear housing units, aluminium,
compact,
single, closed



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Linear housing units
single, open



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Linear housing units
tandem, closed



New/Expanded Items

norelem moves

Systems and components for machine and plant construction

21000

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Linear housing units, aluminium, tandem, compact, closed



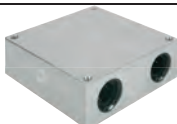
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Linear housing units tandem, open



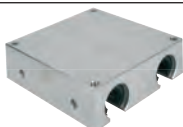
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Linear housing units quadro, closed



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Linear housing units quadro, open



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End seals double-lip sealing rings



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Shaft supports



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Traverses fixed



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Traverses moveable



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Shaft supports



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Shaft supports, aluminium, compact



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Shaft supports standard



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Shaft supports flanged



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Precision guide shafts with fastening holes

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Precision guide shafts

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Clamping elements for round guides



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Position indicator quasi-absolute, mains-independent, indicator accuracy 10 µm, small design

21702
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Position indicator quasi-absolute, mains-independent, indicator accuracy 10 µm

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Magnetic sensors passive sensors, miniature design

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Magnetic tape scale with incremental coding, 5 mm pole length

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Page 306



Hollow shaft sensors with magnetic scanning

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Reducer sleeves

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Bullseye levels in frame, to screw on

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Bullseye levels in plastic frame

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Bullseye levels with bead-edged frame

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Bullseye levels in round frame

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Bullseye level body

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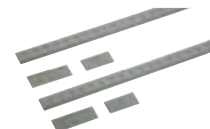
Bullseye level body plastic

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Tubular bubble levels with frame to screw on

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Linear scales self-adhesive, stainless steel

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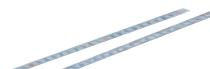
Linear scales self adhesive or with screw holes, aluminium

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Linear scales self-adhesive or with screw holes, aluminium

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Scale tape, steel self-adhesive

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Position indicators

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Position indicators

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Position indicators

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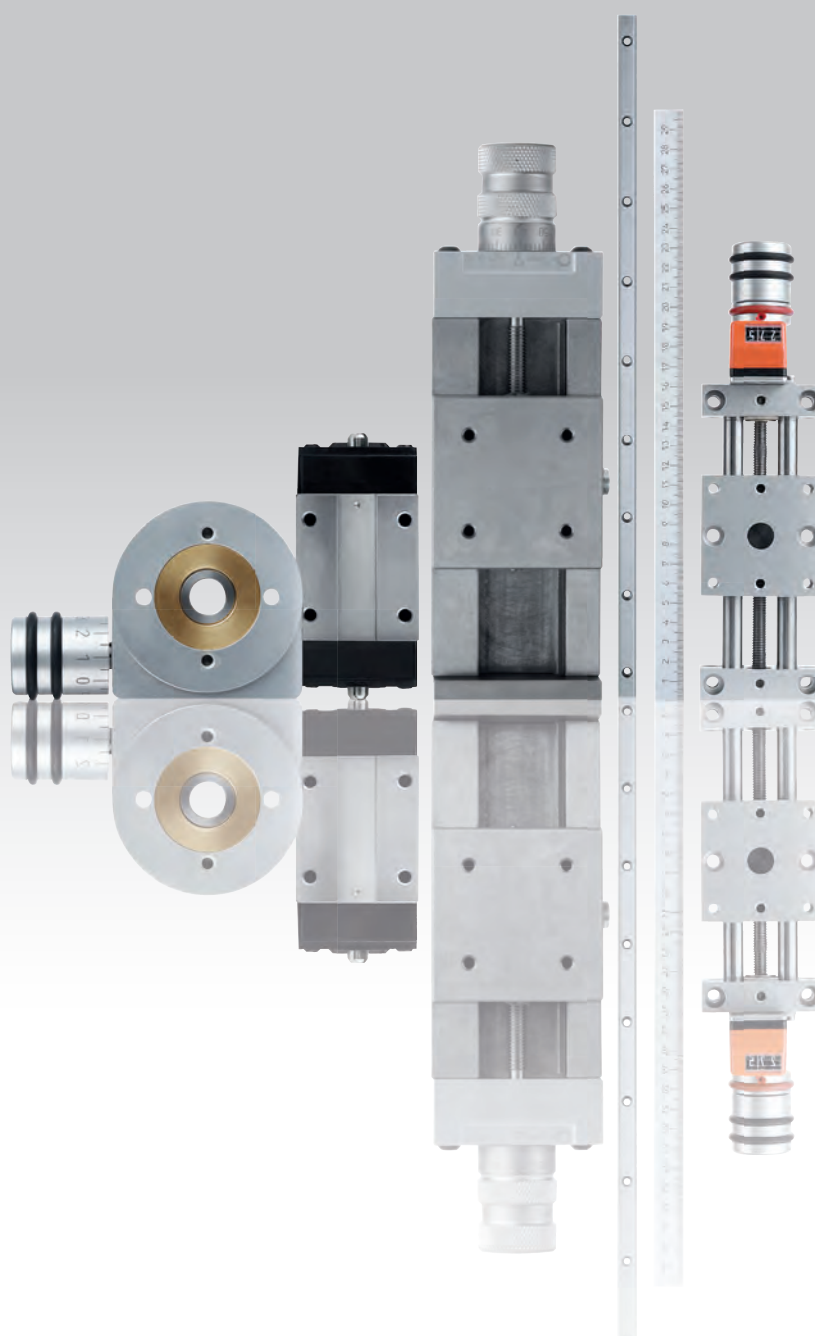


Position indicators freely programmable

New/Expanded Items

21000

Slides
Guide rails
Positioning stages
Linear guide systems
Position indicators



Dovetail slides

with micrometer spindle



Material:

Aluminium EN AW-6063

Sample order:

n1m 21000-050105

Note:

These precision dovetail slides find use in machine and fixture construction, metrology, optical instruments and fine mechanics. The stated permissible load rating (F) is for static loads.

The torque values only apply for centred carriages.

M1 = counterbore for screw.

TI = number of fastening holes E1/E2/M1 inside.

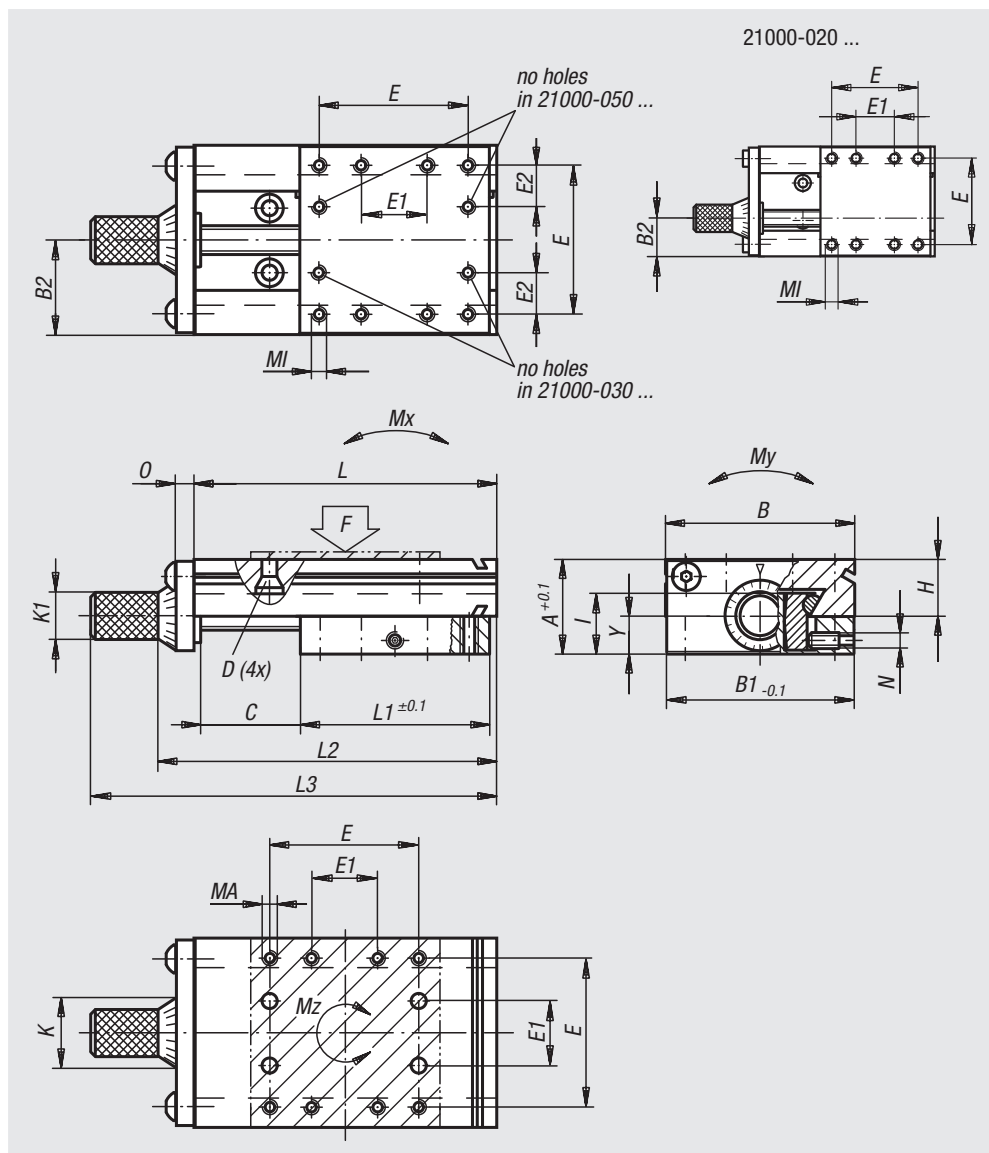
TA = number of fastening holes E/E1/MA outside.

Advantages:

- Innovative and safe clamping system without height or lateral displacement.
- No play in guides.
- Rapid subsequent combination in X, Y and Z axes.

Applications:

- Adjustment of machining units, metrology cameras, mirrors, microscopes and laser heads (including the machining of surgical needles).
- Fine adjustment of brazing, plasma and welding heads.
- Focussing of flame nozzles.



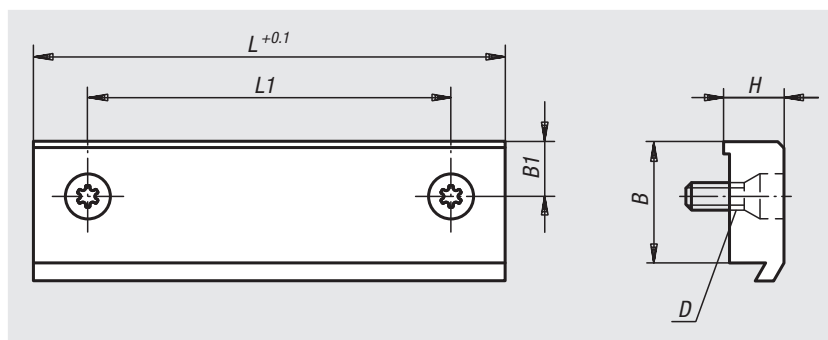
Dovetail slides

with micrometer spindle

Order No.	A	B	B1	B2	D for screw	E	E1	E2	TI	TA	H	I	K	K1	Travel S
21000-020030	13	20 -0,3	19,5	8,1	M2	12	6	-	8	8	8	8,3	10	6,3	5
21000-020035	13	20 -0,3	19,5	8,1	M2	12	6	-	8	8	8	8,3	10	6,3	10
21000-020045	13	20 -0,3	19,5	8,1	M2	12	6	-	8	8	8	8,3	10	6,3	20
21000-030040	15	30 -0,3	29,5	13	M3	23	8	7,5	10	8	9,8	9,8	10	6,3	5
21000-030045	15	30 -0,3	29,5	13	M3	23	8	7,5	10	8	9,8	9,8	10	6,3	10
21000-030055	15	30 -0,3	29,5	13	M3	23	8	7,5	10	8	9,8	9,8	10	6,3	20
21000-050067	23	50 -0,3	49,5	25	M4	38	16	11	10	8	14,5	15,6	22	14,3	12
21000-050080	23	50 -0,3	49,5	25	M4	38	16	11	10	8	14,5	15,6	22	14,3	25
21000-050105	23	50 -0,3	49,5	25	M4	38	16	11	10	8	14,5	15,6	22	14,3	50
21000-080110	34	80 -0,5	79,5	40	M5	60	34	13	12	8	23	22,5	26	14,3	25
21000-080135	34	80 -0,5	79,5	40	M5	60	34	13	12	8	23	22,5	26	14,3	50
21000-080160	34	80 -0,5	79,5	40	M5	60	34	13	12	8	23	22,5	26	14,3	75
21000-080185	34	80 -0,5	79,5	40	M5	60	34	13	12	8	23	22,5	26	14,3	100
21000-120150	45	120 -0,5	119	60	M5	90	40	25	12	8	30	29	26	14,3	25
21000-120175	45	120 -0,5	119	60	M5	90	40	25	12	8	30	29	26	14,3	50
21000-120200	45	120 -0,5	119	60	M5	90	40	25	12	8	30	29	26	14,3	75
21000-120225	45	120 -0,5	119	60	M5	90	40	25	12	8	30	29	26	14,3	100

Order No.	L	L1	L2	L3	MI	MA	N	O	Y	Spindle	F N	Mx Nm	My Nm	Mz Nm
21000-020030	30	20	38,2	48,2	M2x3	M2x3	M3	3	5,2	M5x0,5	180	0,45	2	0,3
21000-020035	35	20	43,2	53,2	M2x3	M2x3	M3	3	5,2	M5x0,5	180	0,45	2	0,3
21000-020045	45	20	53,2	63,2	M2x3	M2x3	M3	3	5,2	M5x0,5	180	0,45	2	0,3
21000-030040	40	30	48,2	58,2	M3x4,5	M3x4,5	M4	3	5,8	M5x0,5	350	1,1	4	1
21000-030045	45	30	53,2	63,2	M3x4,5	M3x4,5	M4	3	5,8	M5x0,5	350	1,1	4	1
21000-030055	55	30	63,2	73,2	M3x4,5	M3x4,5	M4	3	5,8	M5x0,5	350	1,1	4	1
21000-050067	67	50	78,2	98,2	M4x6	M4x8	M4	5	11,5	M5x0,5	540	2,5	8	2,3
21000-050080	80	50	91,2	111,2	M4x6	M4x8	M4	5	11,5	M5x0,5	540	2,5	8	2,3
21000-050105	105	50	116,2	136,2	M4x6	M4x8	M4	5	11,5	M5x0,5	540	2,5	8	2,3
21000-080110	110	80	128,3	148,3	M5x7,5	M5x10	M6	8	14	M10x1	750	8	22	7
21000-080135	135	80	153,3	173,3	M5x7,5	M5x10	M6	8	14	M10x1	750	8	22	7
21000-080160	160	80	178,3	198,3	M5x7,5	M5x10	M6	8	14	M10x1	750	8	22	7
21000-080185	185	80	203,3	223,3	M5x7,5	M5x10	M6	8	14	M10x1	750	8	22	7
21000-120150	150	120	172,3	192,3	M5x10	M5x10	M6	12	18,5	M10x1	1500	30	45	18
21000-120175	175	120	197,3	217,3	M5x10	M5x10	M6	12	18,5	M10x1	1500	30	45	18
21000-120200	200	120	222,3	242,3	M5x10	M5x10	M6	12	18,5	M10x1	1500	30	45	18
21000-120225	225	120	247,3	267,3	M5x10	M5x10	M6	12	18,5	M10x1	1500	30	45	18

Straps


Material:

Aluminium EN AW-6063

Sample order:

nIm 21000-020 (1 strap with clamping screw)

Note:

The straps are used to clamp the dovetail slides in the X, Y and Z axes and to fix the slide unit in the machine. End mounting will reduce the travel.



Order No.	B	B1	D for screw	H	L	L1	travel reduction	suitable for slide
21000-020	5,7	3,7	M2	3,5	19,5	12	3,5	21000-020 ...
21000-030	5,7	2,85	M3	3,5	29,5	23	3,5	21000-030 ...
21000-050	11,5	5,25	M4	8	49,3	38	8	21000-050 ...
21000-080	11,5	6	M5	8	78,9	60	8	21000-080 ...
21000-120	15	10	M5	11	118,4	90	10	21000-120 ...

Fastening screws

for cross table mounting

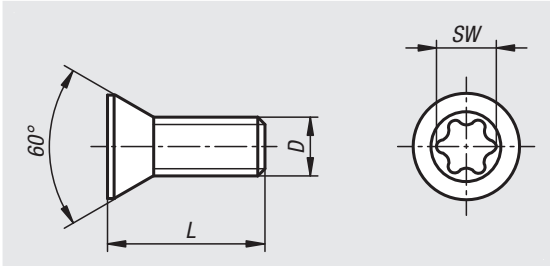


Material:
Steel.

Version:
tempered.

Sample order:
nlm 21000-02055
(Supplied in sets of four)

Note:
Mounting set for constructing a cross table.
Four fastening screws per set.



Order No.	D	L	SW	suitable for slide
21000-02055	M2	5	Torx T7	21000-020 ...
21000-03070	M3	9	Torx T9	21000-030 ...
21000-04100	M4	10	Torx T15	21000-050 ...
21000-05140	M5	17	Torx T20	21000-080 ... / 21000-120 ...

Dovetail slides with micrometer spindle

and location holes



Material:

Aluminium EN AW-6082.

Version:

Black anodised

Sample order:

nlm 21010-020030

Note:

These precision dovetail slides find use in e.g. machine and fixture construction, metrology, optical instruments and fine mechanics. The stated permissible load rating (F) is for static loads.

The torque values only apply for centred carriages.

TI = number of fastening holes E1/E2/MI inside.

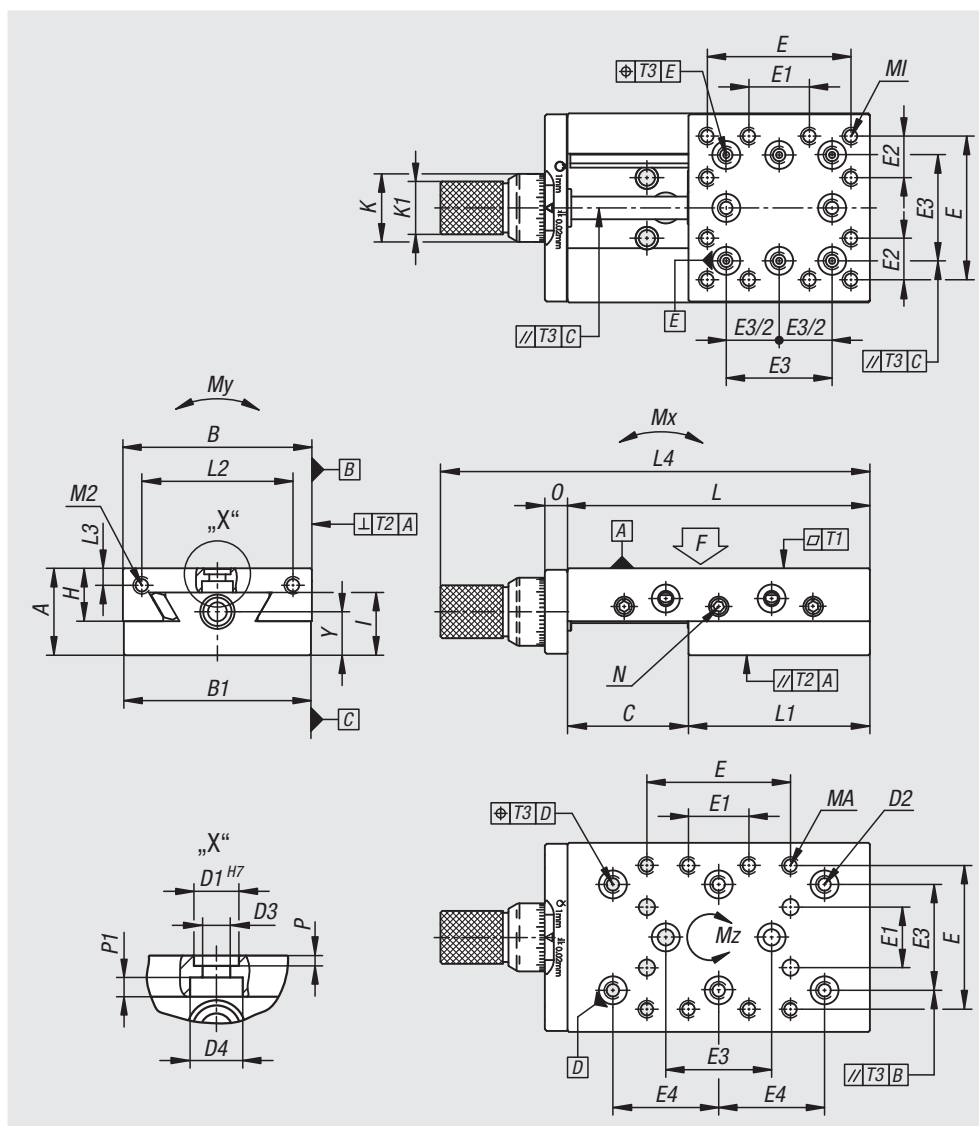
TA = number of fastening holes E/E1/MA outside.

TM = number of centring holes D1 inside.

TN = number of centring holes D1 outside.

Advantages:

An additional centring hole is located at all tapped holes. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240. Quick and retrofit combination in the X, Y and Z axes.



Dovetail slides with micrometer spindle

and location holes



Order No.	A	B	B1	C travel	D1	D2	D3	D4	E	E1	E2	E3	E4	T1	TA	TM	TN	H	I	K	K1
21010-020030	13	20	19,5	10	4	M2	2,3	4,2	12	6	-	8	10	8	8	2	8	8	8,4	9,5	7
21010-020035	13	20	19,5	15	4	M2	2,3	4,2	12	6	-	8	12	8	8	2	8	8	8,4	9,5	7
21010-020045	13	20	19,5	25	4	M2	2,3	4,2	12	6	-	8	16	8	8	2	10	8	8,4	9,5	7
21010-030040	15	30	29,5	10	5	M2,5	2,8	5,7	23	8	7,5	15	15	12	8	4	8	9,8	10,7	9,5	7
21010-030045	15	30	29,5	15	5	M2,5	2,8	5,7	23	8	7,5	15	15	12	8	4	8	9,8	10,7	9,5	7
21010-030055	15	30	29,5	25	5	M2,5	2,8	5,7	23	8	7,5	15	15	12	8	4	10	9,8	10,7	9,5	7
21010-050067	23	50	49,5	15	7	M4	4,3	8,2	38	16	11	28	28	12	8	8	8	14	16,2	18	14
21010-050080	23	50	49,5	30	7	M4	4,3	8,2	38	16	11	28	28	12	8	8	8	14	16,2	18	14
21010-050105	23	50	49,5	55	7	M4	4,3	8,2	38	16	11	28	28	12	8	8	10	14	16,2	18	14
21010-080110	34	80	79,5	30	10	M5	5,5	9	60	34	13	40	40	12	8	8	8	23	22,5	26	18
21010-080135	34	80	79,5	55	10	M5	5,5	9	60	34	13	40	40	12	8	8	8	23	22,5	26	18
21010-080160	34	80	79,5	80	10	M5	5,5	9	60	34	13	40	40	12	8	8	10	23	22,5	26	18
21010-080185	34	80	79,5	105	10	M5	5,5	9	60	34	13	40	40	12	8	8	12	23	22,5	26	18
21010-120150	45	120	119	30	10	M5	5,3	9,5	90	40	25	70	35	12	8	8	8	30	27,5	26	18
21010-120175	45	120	119	55	10	M5	5,3	9,5	90	40	25	70	35	12	8	8	12	30	27,5	26	18
21010-120200	45	120	119	80	10	M5	5,3	9,5	90	40	25	70	35	12	8	8	12	30	27,5	26	18
21010-120225	45	120	119	105	10	M5	5,3	9,5	90	40	25	70	35	12	8	8	12	30	27,5	26	18

Order No.	L	L1	L2	L3	L4	MI	MA	M2	N	O	Y	Spindle	P	P1	T1	T2	T3	F N	Mx Nm	My Nm	Mz Nm
21010-020030	30	19	14,8	2,7	49,1	M2x3	M2x3	M2	M2,5	4	5,6	M5x0,5	1,1	2,1	0,03	0,03	0,04	180	0,45	2	0,3
21010-020035	35	19	14,8	2,7	54,1	M2x3	M2x3	M2	M2,5	4	5,6	M5x0,5	1,1	2,1	0,03	0,03	0,04	180	0,45	2	0,3
21010-020045	45	19	14,8	2,7	64,1	M2x3	M2x3	M2	M2,5	4	5,6	M5x0,5	1,1	2,1	0,03	0,03	0,04	180	0,45	2	0,3
21010-030040	40	28	23,5	3,2	59,1	M3x4,5	M3x4,5	M2,5	M2,5	4	7,5	M5x0,5	1,1	2,1	0,03	0,03	0,04	350	1,1	4	1
21010-030045	45	28	23,5	3,2	64,1	M3x4,5	M3x4,5	M2,5	M2,5	4	7,5	M5x0,5	1,1	2,1	0,03	0,03	0,04	350	1,1	4	1
21010-030055	55	28	23,5	3,2	74,1	M3x4,5	M3x4,5	M2,5	M2,5	4	7,5	M5x0,5	1,1	2,1	0,03	0,03	0,04	350	1,1	4	1
21010-050067	67	48	40	4,5	100,6	M4x6	M4x8	M4	M4	6	11,5	M6x1	1,6	3	0,03	0,03	0,04	540	2,5	8	2,3
21010-050080	80	48	40	4,5	113,6	M4x6	M4x8	M4	M4	6	11,5	M6x1	1,6	3	0,03	0,03	0,04	540	2,5	8	2,3
21010-050105	105	48	40	4,5	138,6	M4x6	M4x8	M4	M4	6	11,5	M6x1	1,6	3	0,03	0,03	0,04	540	2,5	8	2,3
21010-080110	110	78	68	6	152,1	M5x7,5	M5x10	M5	M5	8	17	M08x1	2,1	3,7	0,03	0,03	0,04	750	8	22	7
21010-080135	135	78	68	6	177,1	M5x7,5	M5x10	M5	M5	8	17	M08x1	2,1	3,7	0,03	0,03	0,04	750	8	22	7
21010-080160	160	78	68	6	202,1	M5x7,5	M5x10	M5	M5	8	17	M08x1	2,1	3,7	0,03	0,03	0,04	750	8	22	7
21010-080185	185	78	68	6	227,1	M5x7,5	M5x10	M5	M5	8	17	M08x1	2,1	3,7	0,03	0,03	0,04	750	8	22	7
21010-120150	150	119	106	7	196,1	M5x10	M5x10	M6	M5	12	20	M10x1	2,1	5,5	0,03	0,03	0,04	1500	30	45	18
21010-120175	175	119	106	7	221,1	M5x10	M5x10	M6	M5	12	20	M10x1	2,1	5,5	0,03	0,03	0,04	1500	30	45	18
21010-120200	200	119	106	7	246,1	M5x10	M5x10	M6	M5	12	20	M10x1	2,1	5,5	0,04	0,04	0,06	1500	30	45	18
21010-120225	225	119	106	7	271,1	M5x10	M5x10	M6	M5	12	20	M10x1	2,1	5,5	0,04	0,04	0,06	1500	30	45	18

Mounting brackets


Material:

Aluminium EN AW-6082.

Version:

Black anodised

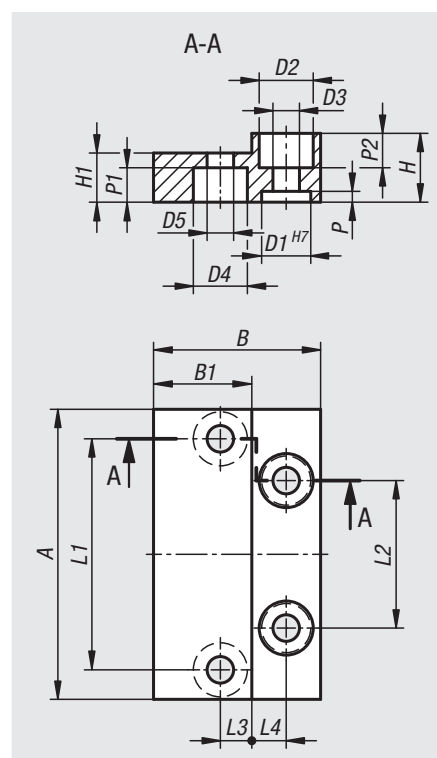
Sample order:

nIm 21010-01-020

Note:

With these mounting brackets, two slides can be connected in an X-Y configuration without any reduction in travel.

In connection with our centring rings 20240, the vertical slide can be centred to fit precisely on the horizontal slide and fastened with screws DIN 912 (07160).



Order No.	A	B	B1	D1	D2	D3	D4	D5	H	H1	L1	L2	L3	L4	P	P1	P2
21010-01-020	19,5	14	8	4	4,4	2,4	4,4	2,4	7	4	14,8	8	2,7	2,5	1,1	2,4	2,4
21010-01-030	29,5	17	10	5	5,5	2,7	5,5	2,7	7	5	23,5	15	3,2	3,5	1,1	3,5	3,5
21010-01-050	49,5	24	14	7	8	4,5	8	4,5	10	6	40	28	4,5	5	1,6	4,4	4,4
21010-01-080	79,5	37	23	10	9	5,5	9	5,5	12	8	68	40	6	6	2,1	5,5	5,5
21010-01-120	119,5	46	30	10	10	5,5	11	6,4	14	10	106	70	7	6	2,1	6,4	5,4

Dovetail slides


Material:

GJL 250

Version:

Bright, ground.

Sample order:

nlm 21030-050105

Note:

These precision dovetail slides find use in machine and fixture construction, metrology, optical instruments and fine mechanics. The middle set screw "N" can be replaced by clamping lever Art. No. 06460.

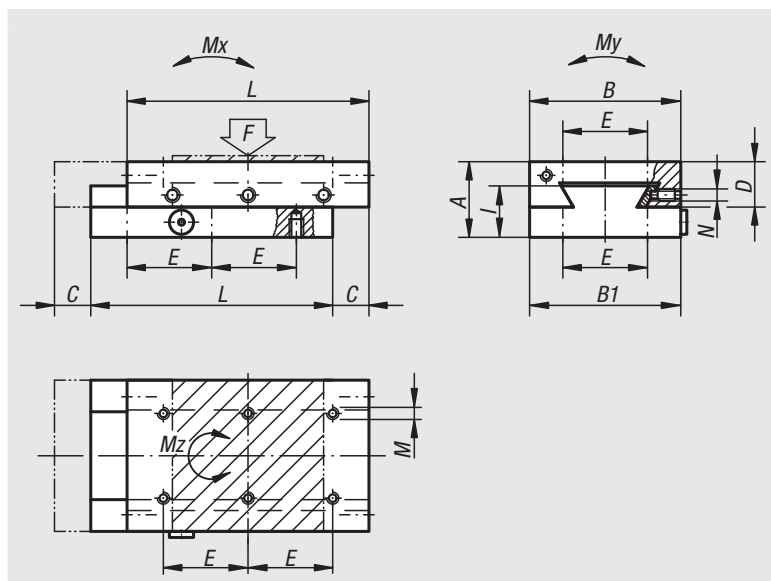
The stated permissible load ratings (F) are designed for dynamic loads with a lifespan of 1 million travel cycles.

For static loads 10 times the F value is permitted.

The torque values apply only for centred carriages.

TI = number of fastening holes E/M inside

TA = number of fastening holes E/M outside



Order No.	A	B	B1	C	D	E	TI	TA	I	L	M	N	F N	Mx Nm	My Nm	Mz Nm
21030-050080	25	50	49,5	15	15	28	6	6	17,6	80	M4	M5	72	4	6	5
21030-050105	25	50	49,5	20	15	28	8	8	17,6	105	M4	M5	95	7	7	8
21030-050130	25	50	49,5	25	15	28	10	10	17,6	130	M4	M5	117	10	9	12
21030-075105	32	75	74,5	20	19,5	62	4	4	22,5	105	M5	M5	128	9	15	10
21030-075130	32	75	74,5	25	19,5	62	4	4	22,5	130	M5	M5	159	14	18	15
21030-100110	40	100	99,5	20	24	86	4	4	27,5	110	M6	M6	156	11	26	12
21030-100135	40	100	99,5	25	24	86	4	4	27,5	135	M6	M6	192	17	32	19
21030-100160	40	100	99,5	30	24	86	4	4	27,5	160	M6	M6	227	24	37	26

Dovetail slides

with end plates



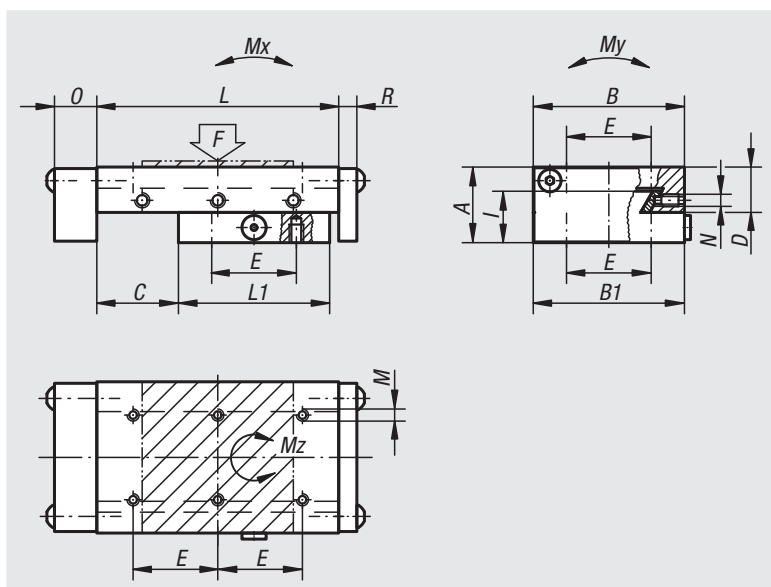
Material:
GJL 250

Version:
Bright, ground.

Sample order:
nlm 21031-100135

Note:
The central set screw "N" can be replaced by a clamping lever 06460.
The stated permissible load values (F) are designed for dynamic loads with a lifespan of 1 million travel cycles.
For static loads 10 times the value F is permitted.
The torque values apply only to centred carriages.

TI = number of fastening holes E/M inside
TA = number of fastening holes E/M outside



Order No.	A	B	B1	C	D	E	TI	TA	I	L	L1	M	N	O	R	F N	Mx Nm	My Nm	Mz Nm
21031-050080	25	50	49,5	25	15	28	4	6	17,6	80	50	M4	M5	14	6	109	2	6	2
21031-050105	25	50	49,5	50	15	28	4	8	17,6	105	50	M4	M5	14	6	61	2	6	2
21031-075105	32	75	74,5	25	19,5	62	4	4	22,5	105	75	M5	M5	15	6	290	5	19	6
21031-075130	32	75	74,5	50	19,5	62	4	4	22,5	130	75	M5	M5	15	6	168	5	19	6
21031-100135	40	100	99,5	25	24	86	4	4	27,5	135	100	M6	M6	15	6	586	11	43	12
21031-100160	40	100	99,5	50	24	86	4	4	27,5	160	100	M6	M6	15	6	351	11	43	12
21031-100260	40	100	99,5	100	24	86	4	6	27,5	260	150	M6	M6	15	6	395	23	63	26

Dovetail slides

with micrometer spindle


Material:

GJL 250

Version:

Bright, ground.

Sample order:

nln 21032-075130

Note:

The central set screw „N“ can be replaced by a clamping lever 06460. The scale ring is graduated in 0.02 mm increments. Other graduations available on request.

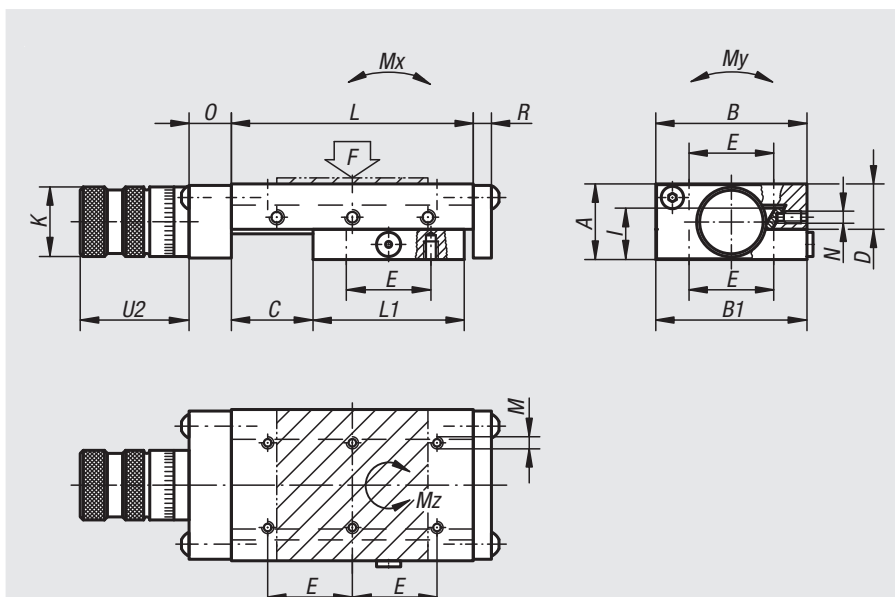
The stated permissible load values (F) are designed for dynamic loads with a lifespan of 1 million travel cycles.

For static loads 10 times the value F is permitted.

The torque values apply only to centred carriages.

TI = number of fastening holes E/M inside

TA = number of fastening holes E/M outside



Order No.	A	B	B1	C	D	E	TI	TA	I	K	L	L1	M	N	O	R	U2	Spindle	F N	Mx Nm	My Nm	Mz Nm
21032-050080	25	50	49,5	25	15	28	4	6	17,6	23	80	50	M4	M5	19	6	31	M6x1	109	2	6	2
21032-050105	25	50	49,5	50	15	28	4	8	17,6	23	105	50	M4	M5	19	6	31	M6x1	61	4	9	4
21032-050205	25	50	49,5	100	15	28	8	16	17,6	23	205	100	M4	M5	19	6	31	M6x1	114	7	12	8
21032-075105	32	75	74,5	25	19,5	62	4	4	22,5	30	105	75	M5	M5	21	6	38	M10x1	290	5	19	6
21032-075130	32	75	74,5	50	19,5	62	4	4	22,5	30	130	75	M5	M5	21	6	38	M10x1	168	5	19	6
21032-075155	32	75	74,5	75	19,5	62	4	4	22,5	30	155	75	M5	M5	21	6	38	M10x1	118	5	19	6
21032-100135	40	100	99,5	25	24	86	4	4	27,5	30	135	100	M6	M6	21	6	38	M10x1	586	11	43	12
21032-100160	40	100	99,5	50	24	86	4	4	27,5	30	160	100	M6	M6	21	6	38	M10x1	351	11	43	12
21032-100260	40	100	99,5	100	24	86	4	6	27,5	30	260	150	M6	M6	21	6	38	M10x1	395	23	63	26
21032-200310	60	200	199	100	37	170	4	4	41,5	47	310	200	M8	M8	28	8	53	Tr 16x2	1078	66	283	71

Dovetail slides

with micrometer spindle and handwheel



Material:
GJL 250

Version:
Bright, ground.

Sample order:
nlm 21033-150310

Note:

The central set screw "N" can be replaced by a clamping lever 06460. The micrometer scale is graduated in 0.02 mm increments. Other graduations available on request. The revolving grip on the handwheel can fold down.

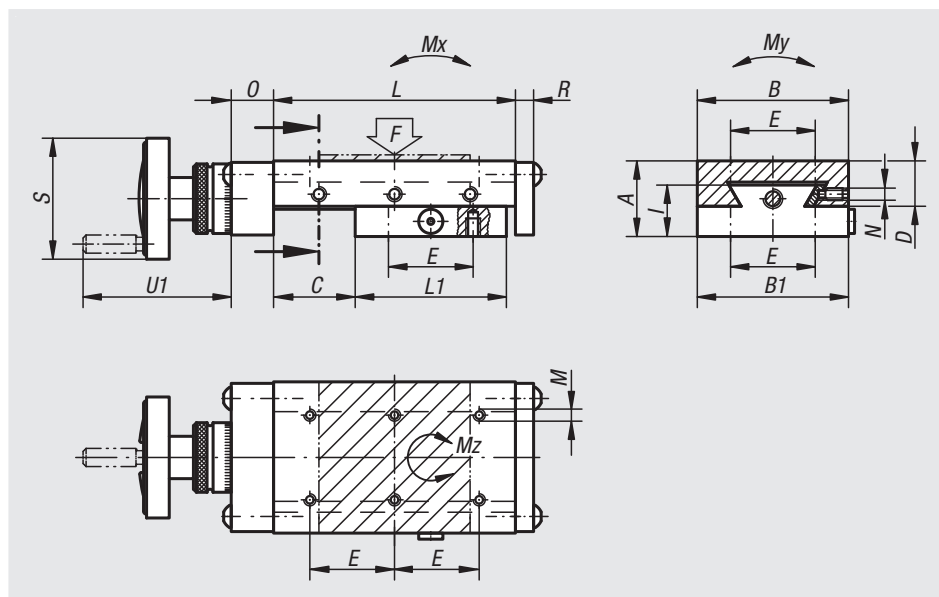
The stated permissible load values (F) are designed for dynamic loads with a lifespan of 1 million travel cycles.

For static loads 10 times the value F is permitted.

The torque values apply only to centred carriages.

TI = number of fastening holes E/M inside

TA = number of fastening holes E/M outside



Order No.	A	B	B1	C	D	E	TI	TA	I	L	L1	M	N	O	R	S	U1	Spindle	F N	Mx Nm	My Nm	Mz Nm
21033-150210	50	150	149	50	29,5	130	4	4	35,5	210	150	M8	M8	28	8	80	100	Tr 16x2	917	31	128	33
21033-150310	50	150	149	100	29,5	130	4	6	35,5	310	200	M8	M8	28	8	80	100	Tr 16x2	868	53	169	58

Precision slides

roller mounted



Material:
GJL 250

Version:
Ground

Sample order:
nlm 21034-050105

Note:

A clamp that acts on the side edge without loading the guide geometry can be supplied as an optional extra.
F = permissible dynamic or static load.

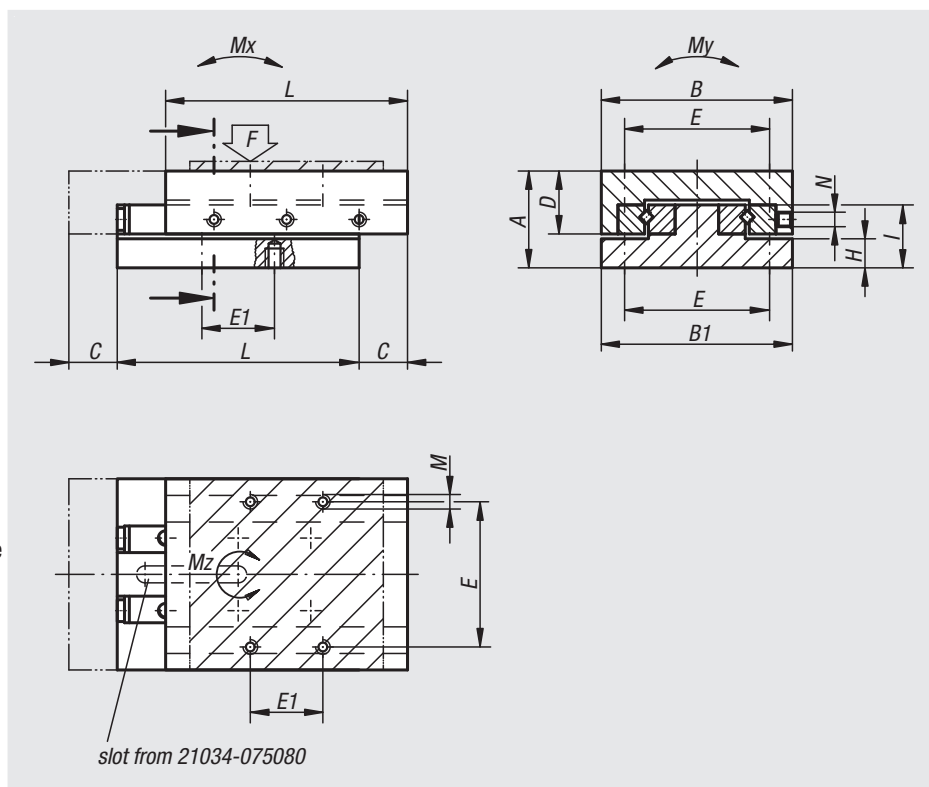
The stated permissible loads (F) are for a lifespan of 1 million travel cycles.

The torque values apply only to centred carriages.

Cross slides are also available on request.

TI = number of fastening holes E/M inside

TA = number of fastening holes E/M outside



Order No.	A	B	B1	C	D	E	E1	TI	TA	H	I	L	M	N	F N	Mx Nm	My Nm	Mz Nm
21034-040050	20	40	39,5	10	13	30	15	4	4	-	13	50	M3	M3	206	1	4	3
21034-0400501	20	40	39,5	17,5	13	30	15	4	4	-	13	50	M3	M3	85	1	3	2
21034-040065	20	40	39,5	25	13	30	15	6	6	-	13	65	M3	M3	114	1	4	3
21034-040080	20	40	39,5	32,5	13	30	15	8	8	-	13	80	M3	M3	143	3	5	5
21034-050055	25	50	49,5	10	17	28	28	4	4	-	18	55	M4	M3	283	4	7	6
21034-050080	25	50	49,5	30	17	28	28	6	6	-	18	80	M4	M3	189	3	9	7
21034-050105	25	50	49,5	40	17	28	28	8	8	-	18	105	M4	M3	301	10	11	15
21034-050155	25	50	49,5	60	17	28	28	12	12	-	18	155	M4	M3	476	23	19	33
21034-060055	25	60	59,5	10	17	34	34	4	4	-	18	55	M4	M3	288	4	8	6
21034-060080	25	60	59,5	30	17	34	34	6	6	-	18	80	M4	M3	192	3	11	7
21034-060105	25	60	59,5	40	17	34	34	6	6	-	18	105	M4	M4	305	10	14	15
21034-060155	25	60	59,5	60	17	34	34	10	10	-	18	155	M4	M4	483	23	23	34
21034-075080	32	75	74,5	15	21	62	62	4	4	10,5	23	80	M5	M5	487	10	18	15
21034-075105	32	75	74,5	20	21	62	62	4	4	10,5	23	105	M5	M5	690	18	26	27
21034-075130	32	75	74,5	25	21	62	62	4	4	10,5	23	130	M5	M5	895	29	33	42
21034-100110	40	100	99,5	15	27,5	86	86	4	4	12	28	110	M6	M6	1284	43	59	63
21034-100160	40	100	99,5	52,5	27,5	86	86	4	4	12	28	160	M6	M6	946	37	79	68
21034-100210	40	100	99,5	80	27,5	86	86	6	6	12	28	210	M6	M6	1066	60	99	105
21034-100260	40	100	99,5	105	27,5	86	86	6	6	12	28	260	M6	M6	1228	89	119	151

Slides mini

roller mounted



Material:

Outer housing aluminium.
Carriage and bearing steel.

Version:

Outer housing black anodised.
Carriage and bearings ground.
Internal parts hardened.

Sample order:

n1m 21035-030080

Note:

Roller slides run very lightly and can be adjusted with the set screw "N".
The fastening holes "K" can be used as tapped holes or through holes.
The stated permissible loads (F) are for a lifespan of 1 million travel cycles.
The torque values apply only to centred carriages.

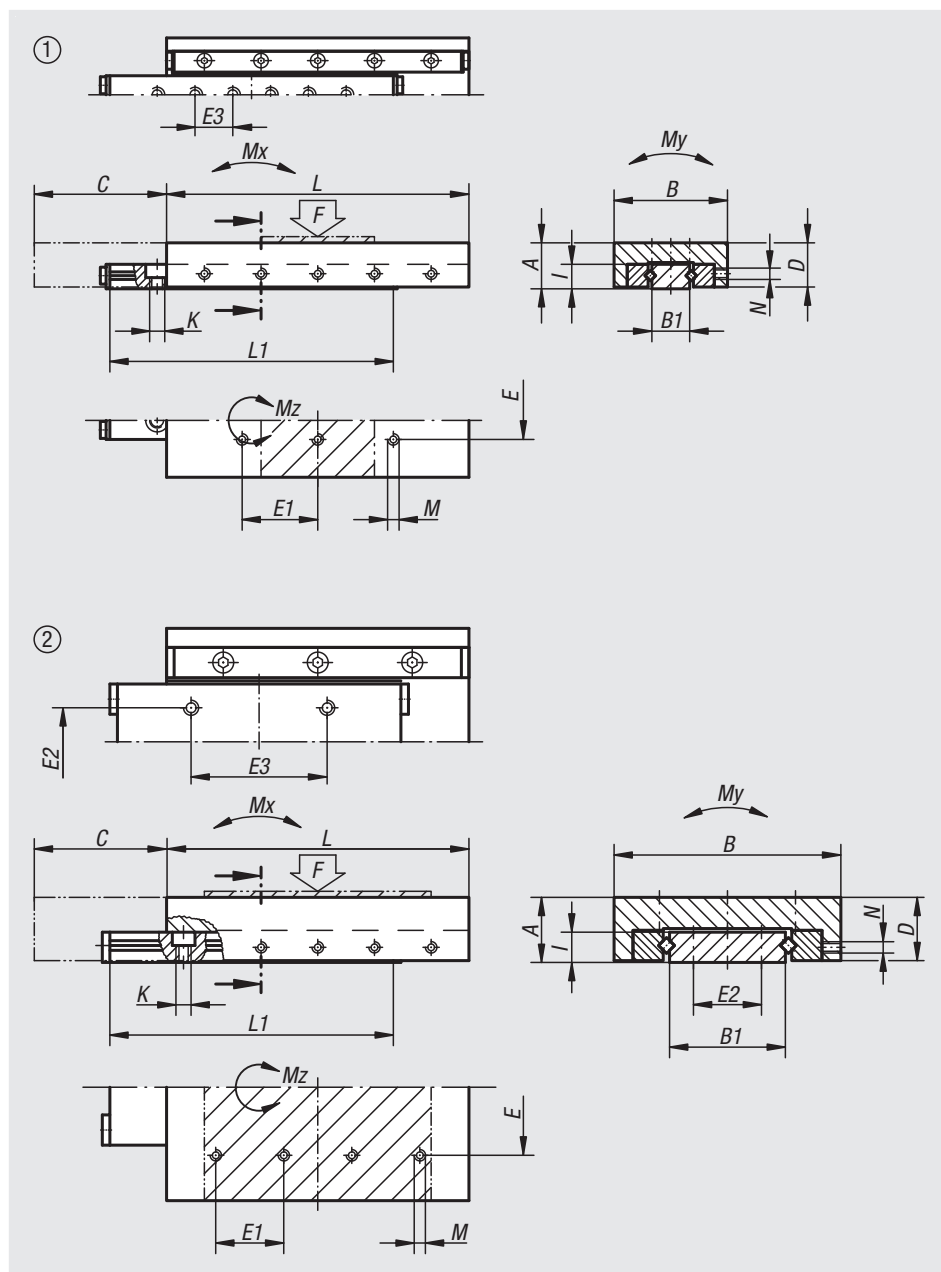
F = permissible loading for dynamic and static loads.

TI = number of fastening holes E3/K inside

TA = number of fastening holes E1/M outside

GI = number of hole rows internal

K = thread M4 countersunk for M3 DIN 974-1



Order No.	Size	A	B	B1	C	D	E	E1	E2	E3	TI	TA	GI	I	K	L	L1	M	N	F N	Mx Nm	My Nm	Mz Nm
21035-030035	1	12	30	10	12	11,7	10	10	-	10	2	6	1	6,3	M4	35	30	M3	M3	168	1	1,9	2
21035-030050	1	12	30	10	18	11,7	10	10	-	10	2	6	1	6,3	M4	50	45	M3	M3	245	3,5	2,6	5,2
21035-030065	1	12	30	10	24	11,7	10	20	-	10	4	6	1	6,3	M4	65	60	M3	M3	361	4,7	3,9	7,9
21035-0300501	1	12	30	10	34	11,7	10	10	-	10	2	6	1	6,3	M4	50	45	M3	M3	131	2,2	1,9	3,3
21035-0300651	1	12	30	10	48	11,7	10	20	-	10	4	6	1	6,3	M4	65	60	M3	M3	161	3,5	2,6	5,2
21035-030080	1	12	30	10	30	11,7	10	20	-	10	6	6	1	6,3	M4	80	75	M3	M3	432	9,1	4,5	13,3
21035-030095	1	12	30	10	40	11,7	10	20	-	10	8	10	1	6,3	M4	95	90	M3	M3	466	11,6	5,1	16,9
21035-040055	1	15	40	14,4	20	14,7	20	20	-	20	2	6	1	8,3	M4	55	50	M3	M3	231	4,6	4,6	6,8
21035-040080	1	15	40	14,4	30	14,7	20	20	-	20	2	6	1	8,3	M4	80	75	M3	M3	487	10,3	7,6	15,3
21035-040105	1	15	40	14,4	40	14,7	20	20	-	20	4	10	1	8,3	M4	105	100	M3	M3	689	18,6	10,6	27,3
21035-040155	1	15	40	14,4	120	14,7	20	20	-	20	6	14	1	8,3	M4	155	150	M3	M3	489	23,7	12,2	34,8
21035-060055	2	17	60	30,6	20	16,7	36	18	18	18	4	4	2	8,3	M4	55	50	M3	M4	294	4,6	7	6,9
21035-060080	2	17	60	30,6	30	16,7	36	18	18	36	4	8	2	8,3	M4	80	75	M3	M4	492	10,4	11,6	15,5
21035-060105	2	17	60	30,6	40	16,7	36	18	18	36	4	12	2	8,3	M4	105	100	M3	M4	697	18,8	16,2	27,6

Precision slides

roller mounted with end plates

Material:
GJL 250

Version:
Ground

Sample order:
nlm 21038-040090

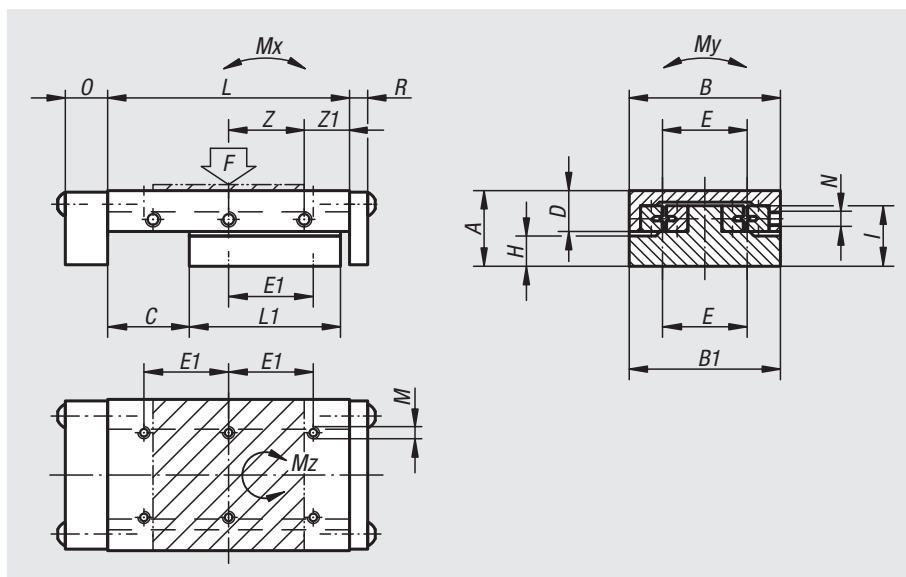
Note:

Slide is also available in aluminium on request.
The stated permissible loads (F) are for a lifespan of 1 million travel cycles.
The torque values apply only to centred carriages.

F = permissible loading for dynamic and static loads.

TI = number of fastening holes E1/M inside.

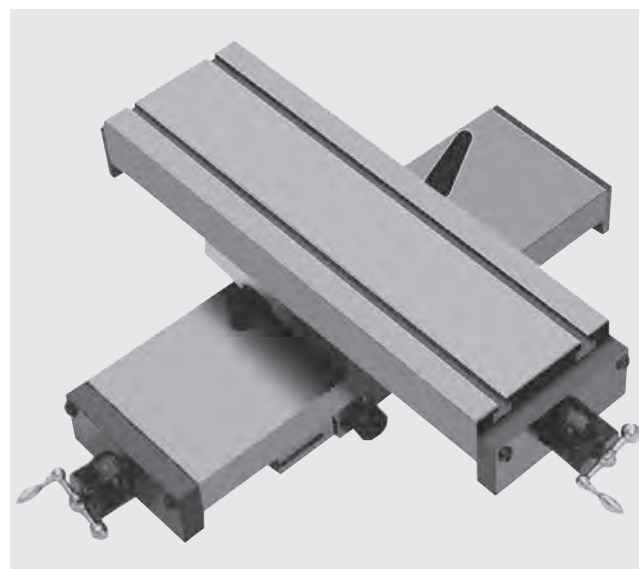
TA = number of fastening holes E1/M outside.



Order No.	A	B	B1	C	D	E	E1	TI	TA	H	I	L	L1	M	N	O	R	Z	Z1	F N	Mx Nm	My Nm	Mz Nm
21038-040090	20	40	39,5	40	13	30	15	6	8	6,5	13	90	45	M3	M3	12	3	15x2	30	77	1	3	2
21038-050105	25	50	49,5	25	17	28	28	6	8	7,5	18	105	75	M4	M3	14	6	25x2	27,5	623	9	14	15
21038-060180	25	60	59,5	75	17	34	34	6	12	7,5	18	180	100	M4	M4	14	6	25x3	52,5	349	9	17	16
21038-100260	40	100	99,5	100	27,5	86	86	4	6	12	28	260	150	M6	M6	15	6	50x2	80	990	37	80	69

Examples of dovetail slides

Example of slides mounted as a manual cross table



Precision slides

roller mounted with micrometer spindle


Material:

GJL 250

Version:

Bright, ground.

Sample order:

nIm 21040-040045

Note:

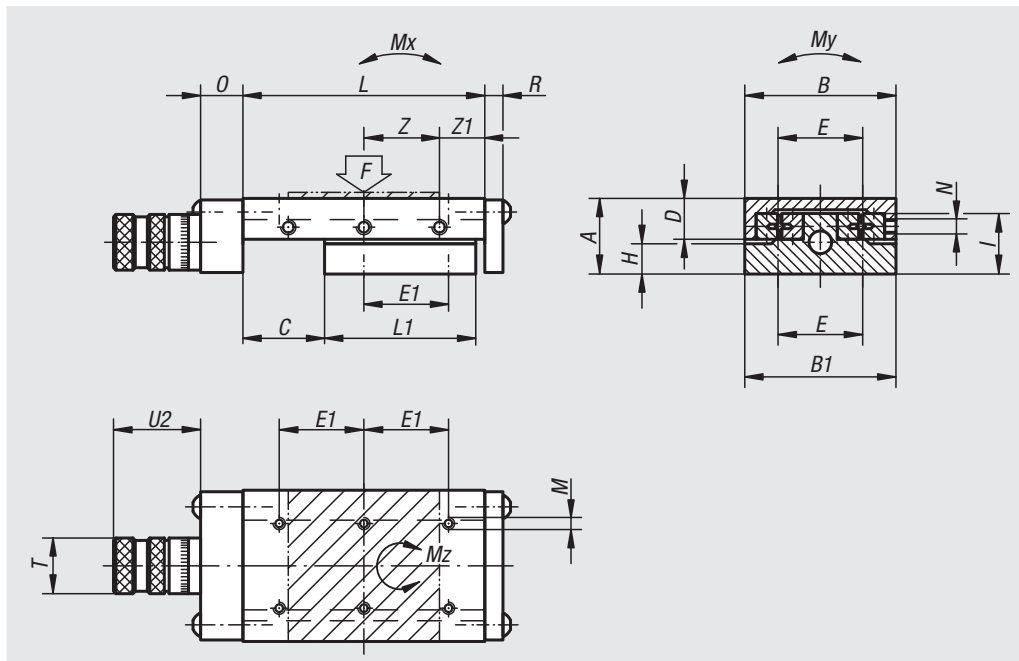
Slides available in aluminium on request.
The scale ring is graduated in 0.02 mm increments. The version 21040-040045 is graduated in 0.01 mm increments. Other graduations are available on request.
The stated permissible loads (F) are for a lifespan of 1 million travel cycles.
The torque values apply only to centred carriages.

F = permissible loading for dynamic and static loads.

TI = number of fastening holes E1/M inside.

TA = number of fastening holes E1/M outside.

* Spacing of external fastening holes = 25 mm.



Order No.	A	B	B1	C	D	E	E1	TI	TA	H	I	L	L1	M	N	O	R	T	U2	Z	Z1	Spindle	F N	Mx Nm	My Nm	Mz Nm
21040-040045	20	40	39,5	10	13	30	15*	4	4	6,5	13	45	30	M3	M3	12	3	16	25	15x1	15	M5x0,5	183	1	3	2
21040-050075	25	50	49,5	20	17	28	28	4	6	7,5	18	75	50	M4	M3	14	6	23	36	25x1	25	M6x1	286	4	7	6
21040-060075	25	60	59,5	20	17	34	34	4	4	7,5	18	75	50	M4	M4	14	6	23	36	25x1	25	M6x1	289	4	8	6
21040-100360	40	100	99,5	150	27,5	86	86	6	8	12	28	360	200	M6	M6	15	6	30	44	50x3	105	M10x1	1130	61	100	107

Guide rails

for cross rollers



Material:

Guide rail tool steel 1.2842.
End pieces 1.0531.

Version:

Guide rails hardened (60-62 HRC) and ground.
End piece black oxidised.

Sample order:

nlm 21050-02030 (1 guide rail, without roller cage)

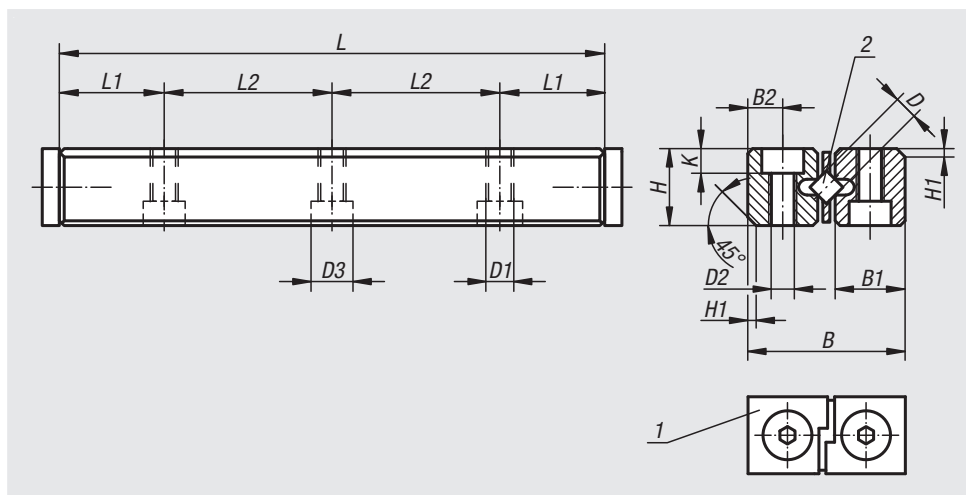
Note:

See 21052 for the appropriate roller cage.
The guide rails are built into the dovetail slides (21034, 21035, 21038 and 21040). They can therefore also be used as spare parts.

Roller cages are not supplied, please order separately.

Drawing reference:

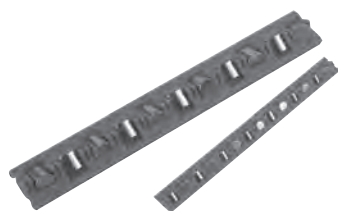
- 1) end part
- 2) without roller cage (21052)



Order No.	D	L	L1	L2	B	B1	B2	H	H1	K	D1	D2	D3
21050-02030	2	30	7,5	1x15	12	5,5	2,5	6	1	2,2	M3	2,55	4,4
21050-02045	2	45	7,5	2x15	12	5,5	2,5	6	1	2,2	M3	2,55	4,4
21050-02060	2	60	7,5	3x15	12	5,5	2,5	6	1	2,2	M3	2,55	4,4
21050-03050	3	50	12,5	1x25	18	8,3	3,5	8	1	3,2	M4	3,4	6
21050-03075	3	75	12,5	2x25	18	8,3	3,5	8	1	3,2	M4	3,4	6
21050-03100	3	100	12,5	3x25	18	8,3	3,5	8	1	3,2	M4	3,4	6
21050-03125	3	125	12,5	4x25	18	8,3	3,5	8	1	3,2	M4	3,4	6
21050-03150	3	150	12,5	5x25	18	8,3	3,5	8	1	3,2	M4	3,4	6
21050-06100	6	100	25	1x50	31	13,9	6	15	1,8	5,2	M6	5,4	10
21050-06150	6	150	25	2x50	31	13,9	6	15	1,8	5,2	M6	5,4	10
21050-06200	6	200	25	3x50	31	13,9	6	15	1,8	5,2	M6	5,4	10
21050-06250	6	250	25	4x50	31	13,9	6	15	1,8	5,2	M6	5,4	10
21050-06300	6	300	25	5x50	31	13,9	6	15	1,8	5,2	M6	5,4	10
21050-06350	6	350	25	6x50	31	13,9	6	15	1,8	5,2	M6	5,4	10

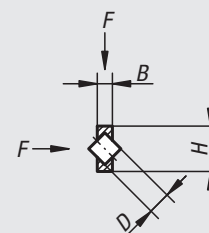
Roller cages

for guide rails



Dimensioning formula:

$$\text{number of rollers in cage} = \frac{\text{length of guide rail} - \frac{1}{2} \text{ travel}}{\text{division T}}$$



Material:

Cage plastic.

Rollers tool steel 1.2842

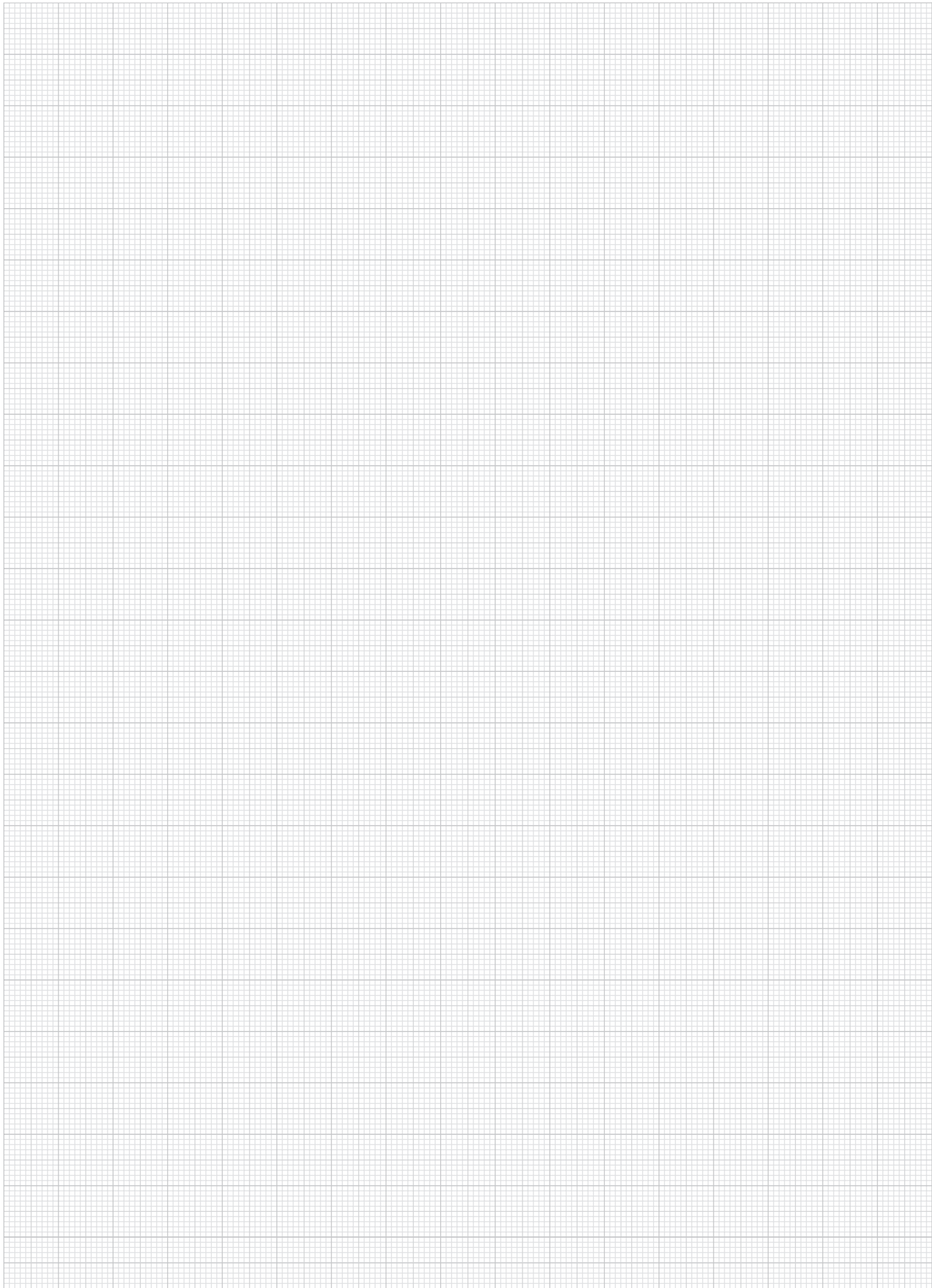
Sample order:

nlm 21052-02010 include number of rollers in cage (010 = 10 rollers).

Dimensioning formula see right.

Order No.	D	No. of rollers	B	H	T (division)	Load F N/roller
21052-02***	2	2-200	0,5	4,5	4	60
21052-03***	3	2-200	1	7,5	5	100
21052-06***	6	2-200	2,4	15	9	400

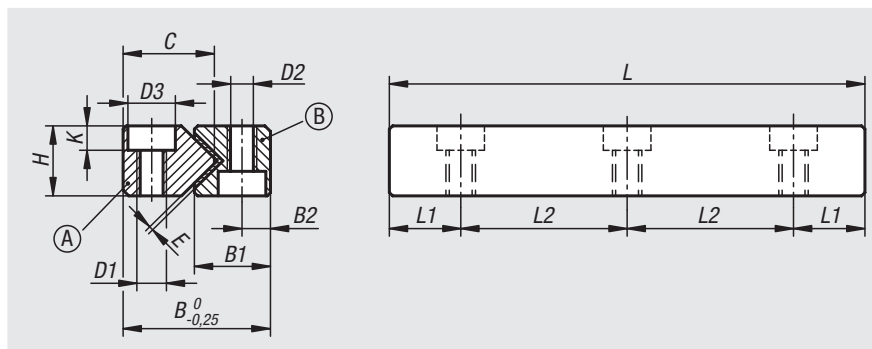
Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Guide rails

Teflon-coated



Material:

Form A:

tool steel, material hardness 58–62 HRC.

The surfaces are fine ground.

Form B:

free-cutting steel with PTFE coating.

The glide coating is self-lubricating.

Note for ordering:

A guide length of 300 mm and a travel of 100 mm is required for a complete guide with rail size 6:

2 x 21054-1060300

2 x 21054-2060200

(include length L e.g. 300 for L=300 mm)

Note:

When lubricated and under normal conditions, speeds of up to 15 m/min. can be achieved.

Depending on the lubricant, the coefficient of friction can be calculated as 0.04–0.08.

Standard slideway lubricants are applied.

The longitudinal guides are used for moving, machining and positioning tasks.

Application:

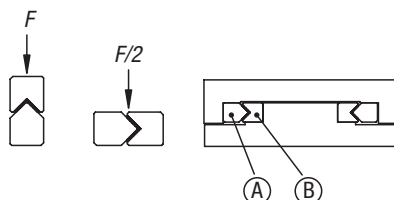
- Industry automation
- Machine tools
- Special machinery
- Tool fixtures
- Metrology equipment

Temperature range:

-40 °C to +80 °C.

Advantages:

- Stick-slip free movement
- Very good dry-running properties
- Highly wear-resistant
- Very good vibration damping
- Resistant to dirt, shock and impact



Guide rails

Teflon-coated

Order No. Form A	Order No. Form B	B	B1	B2	C	D1	D2	D3	E	H	K	L	L1	L2	F N
21054-1020***	21054-2020***	12	7	2,5	7,5	M3	2,55	4,4	0,5	6	2,1	30	7,5	1x15	120
21054-1020***	21054-2020***	12	7	2,5	7,5	M3	2,55	4,4	0,5	6	2,1	45	7,5	2x15	180
21054-1020***	21054-2020***	12	7	2,5	7,5	M3	2,55	4,4	0,5	6	2,1	60	7,5	3x15	240
21054-1030***	21054-2030***	18	9	3,5	10,8	M4	3,3	6	0,6	8	3,1	50	12,5	1x25	142
21054-1030***	21054-2030***	18	9	3,5	10,8	M4	3,3	6	0,6	8	3,1	75	12,5	2x25	213
21054-1030***	21054-2030***	18	9	3,5	10,8	M4	3,3	6	0,6	8	3,1	100	12,5	3x25	285
21054-1030***	21054-2030***	18	9	3,5	10,8	M4	3,3	6	0,6	8	3,1	125	12,5	4x25	356
21054-1030***	21054-2030***	18	9	3,5	10,8	M4	3,3	6	0,6	8	3,1	150	12,5	5x25	427
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	100	25	1x50	684
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	150	25	2x50	1026
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	200	25	3x50	1368
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	250	25	4x50	1710
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	300	25	5x50	2052
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	350	25	6x50	2394
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	400	25	7x50	2736
21054-1060***	21054-2060***	31	16	6	19,3	M6	5,3	10	1	15	5,2	500	25	9x50	3420
21054-1090***	21054-2090***	44	23,5	9	28	M8	6,8	11	1,2	22	6,2	200	50	1x100	2390
21054-1090***	21054-2090***	44	23,5	9	28	M8	6,8	11	1,2	22	6,2	300	50	2x100	3586
21054-1090***	21054-2090***	44	23,5	9	28	M8	6,8	11	1,2	22	6,2	400	50	3x100	4781
21054-1090***	21054-2090***	44	23,5	9	28	M8	6,8	11	1,2	22	6,2	500	50	4x100	5976

Dovetail slides

with location holes



Material:

EN-GJL-250

Version:

Bright, ground.

Sample order:

nIm 21060-050080

Note:

These precise slideways are used in e.g. machine, fixture and metrology equipment construction as well as in the optical and precision engineering industries. The central set screw M1 can be replaced by a clamping lever 06460.

The stated permissible load values (F) are designed for dynamic loads with a service life of 1 million travel cycles.

For static loads, 10 times the table value F is permitted.

The torque values apply only to centred slides.

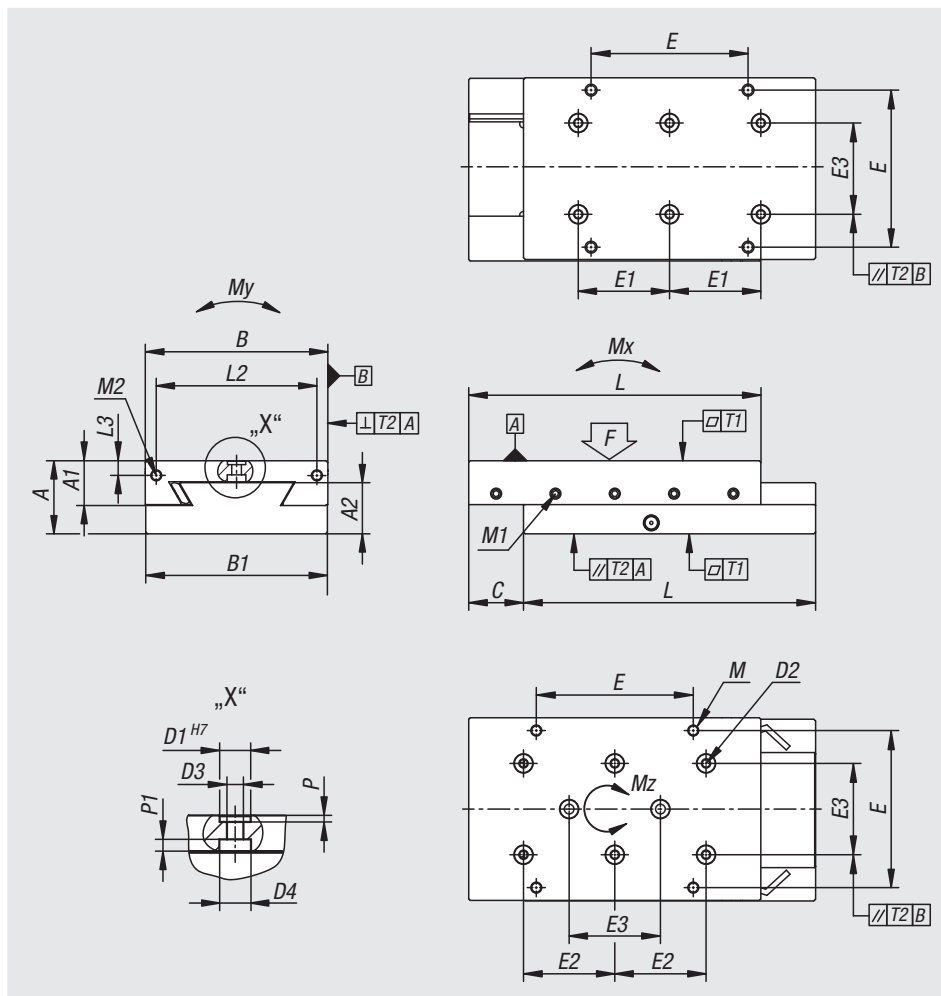
An additional centring hole is located at holes D2 and D3 on the top of the slide. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240.

TI E = number of fastening holes E/M inside.

TA E = number of fastening holes E/M outside.

TI E1 = number of fastening holes E1/D1 inside.

TA E1 = number of fastening holes E1/D1 outside.



Dovetail slides

with location holes



Order No.	A	A1	A2	B	B1	C	D1	D2	D3	D4	E	E1	E2	E3	TI E	TA E	TI E1	TA E1
21060-050080	25	15	17,5	50	49,5	15	7	M4	4,3	8,2	-	14	28	28	-	-	10	6
21060-050105	25	15	17,5	50	49,5	20	7	M4	4,3	8,2	-	14	28	28	-	-	14	8
21060-050130	25	15	17,5	50	49,5	25	7	M4	4,3	8,2	-	28	28	28	-	-	10	10
21060-075105	32	19,5	22	75	74,5	20	10	M5	5,3	10	62	25	25	50	4	4	6	6
21060-075130	32	19,5	22	75	74,5	25	10	M5	5,3	10	62	25	25	50	4	4	10	10
21060-100110	40	24	28	100	99,5	20	10	M5	5,3	10,2	86	25	25	50	4	4	6	6
21060-100135	40	24	28	100	99,5	25	10	M5	5,3	10,2	86	50	50	50	4	4	6	6
21060-100160	40	24	28	100	99,5	30	10	M5	5,3	10,2	86	50	50	50	4	4	6	6

Order No.	L	L2	L3	P	P1	M	M1	M2	T1	T2	F N	Mx Nm	My Nm	Mz Nm
21060-050080	80	40	5,5	1,6	3,2	-	M5	M4	0,02	0,02	75	4	6	5
21060-050105	105	40	5,5	1,6	3,2	-	M5	M4	0,02	0,02	90	7	7	8
21060-050130	130	40	5,5	1,6	3,2	-	M5	M4	0,025	0,025	120	10	9	12
21060-075105	105	60	5,5	2,1	3,6	M5	M5	M5	0,02	0,02	130	9	15	10
21060-075130	130	60	5,5	2,1	3,6	M5	M5	M5	0,025	0,025	160	15	18	15
21060-100110	110	-	-	2,1	3,8	M6	M6	-	0,02	0,02	155	11	26	12
21060-100135	135	88	8	2,1	3,8	M6	M6	M6	0,025	0,025	190	17	32	19
21060-100160	160	88	8	2,1	3,8	M6	M6	M6	0,025	0,025	230	24	37	26

Dovetail slides

with end plates and location holes



Material:

EN-GJL-250

Version:

Bright, ground.

Sample order:

nlm 21061-050080

Note:

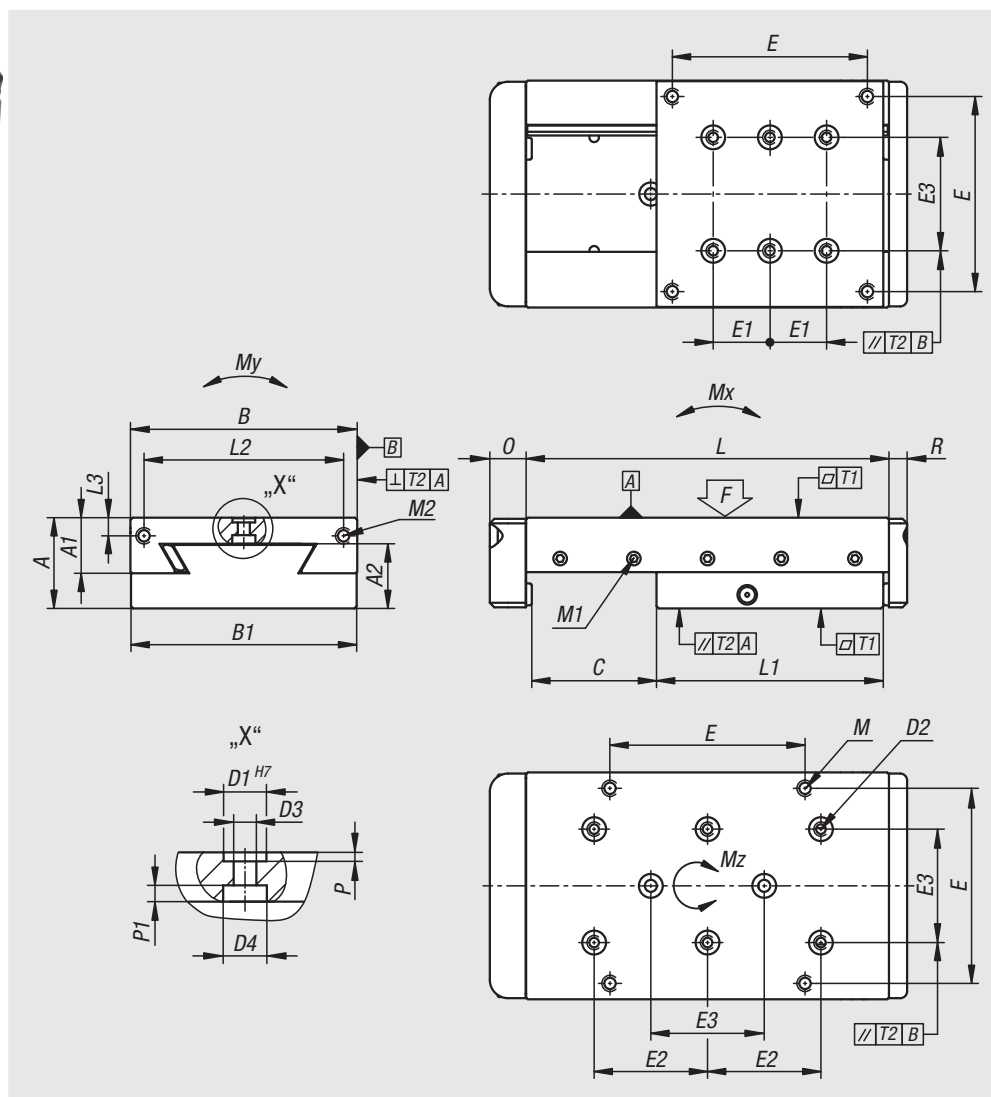
These precise slideways are used in e.g. machine, fixture and metrology equipment construction as well as in the optical and precision engineering industries. The central set screw M1 can be replaced by a clamping lever 06460.

The stated permissible load values (F) are designed for dynamic loads with a service life of 1 million travel cycles.

For static loads, 10 times the table value F is permitted.

The torque values apply only to centred slides.

An additional centring hole is located at holes D2 and D3 on the top of the slide. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240.



TI E = number of fastening holes E/M inside.

TA E = number of fastening holes E/M outside.

TI E1 = number of fastening holes E1/D1 inside.

TA E1 = number of fastening holes E1/D1 outside.

Dovetail slides

with end plates and location holes



Order No.	A	A1	A2	B	B1	C	D1	D2	D3	D4	E	E1	E2	E3	TI E	TA E	TI E1	TA E1
21061-050080	25	15	17,5	50	49,5	29	7	M4	4,3	8,2	-	14	28	28	-	-	6	6
21061-050105	25	15	17,5	50	49,5	54	7	M4	4,3	8,2	-	14	28	28	-	-	6	8
21061-050180	25	15	17,5	50	49,5	77	7	M4	4,3	8,2	-	28	28	28	-	-	6	12
21061-050205	25	15	17,5	50	49,5	102	7	M4	4,3	8,2	28	28	28	28	4	-	6	12
21061-075105	32	19,5	22	75	74,5	27	10	M5	5,3	10	62	25	25	50	4	4	6	6
21061-075130	32	19,5	22	75	74,5	52	10	M5	5,3	10	62	25	25	50	4	4	6	10
21061-075155	32	19,5	22	75	74,5	77	10	M5	5,3	10	62	25	25	50	4	4	6	10
21061-075180	32	19,5	22	75	74,5	72	10	M5	5,3	10	62	25	25	50	4	4	6	14
21061-100135	40	24	28	100	99,5	32	10	M5	5,3	10,2	86	25	50	50	4	4	6	6
21061-100160	40	24	28	100	99,5	57	10	M5	5,3	10,2	86	25	50	50	4	4	6	6
21061-100260	40	24	28	100	99,5	108	10	M5	5,3	10,2	86	50	50	50	4	6	6	10

Order No.	L	L1	L2	L3	P	P1	O	R	M	M1	M2	T1	T2	F N	Mx Nm	My Nm	Mz Nm
21061-050080	80	48	40	5,5	1,6	3,2	15,5	8	-	M5	M4	0,02	0,02	110	2	6	2
21061-050105	105	48	40	5,5	1,6	3,2	15,5	8	-	M5	M4	0,02	0,02	60	2	6	2
21061-050180	180	100	40	5,5	1,6	3,2	15,5	8	-	M5	M4	0,025	0,025	120	4	9	4
21061-050205	205	100	40	5,5	1,6	3,2	15,5	8	M4	M5	M4	0,03	0,03	110	4	9	4
21061-075105	105	75	60	5,5	2,1	3,6	16	8	M5	M5	M5	0,02	0,02	290	5	19	6
21061-075130	130	75	60	5,5	2,1	3,6	16	8	M5	M5	M5	0,025	0,025	165	5	19	6
21061-075155	155	75	60	5,5	2,1	3,6	16	8	M5	M5	M5	0,025	0,025	110	5	19	6
21061-075180	180	105	60	5,5	2,1	3,6	16	8	M5	M5	M5	0,025	0,025	190	5	19	6
21061-100135	135	100	88	8	2,1	3,8	16	8	M6	M6	M6	0,025	0,025	590	11	43	12
21061-100160	160	100	88	8	2,1	3,8	16	8	M6	M6	M6	0,025	0,025	350	11	43	12
21061-100260	260	149	88	8	2,1	3,8	16	8	M6	M6	M6	0,03	0,03	400	23	63	26

Dovetail slides

with micrometer spindle and location holes



Material:
EN-GJL-250

Version:
Bright, ground.

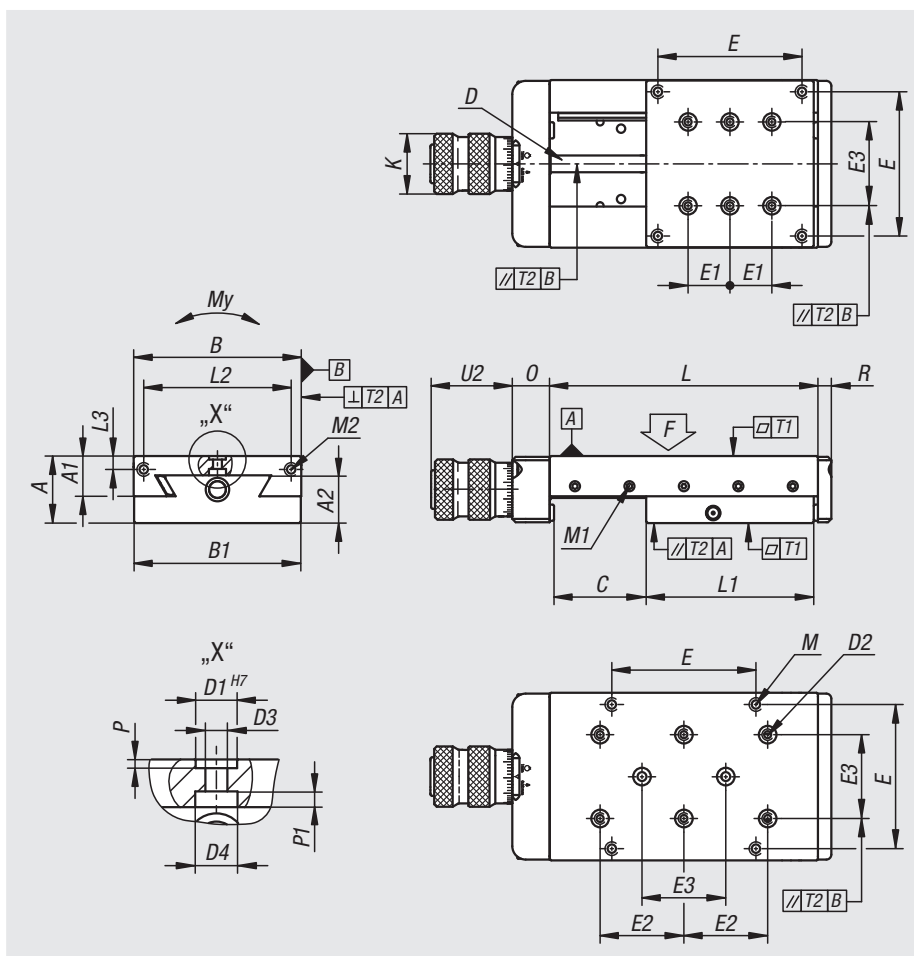
Sample order:
nlm 21062-050080

Note:

These precise slideways are used in e.g. machine, fixture and metrology equipment construction as well as in the optical and precision engineering industries. The central set screw M1 can be replaced by a clamping lever 06460. The stated permissible load values (F) are designed for dynamic loads with a service life of 1 million travel cycles. For static loads, 10 times the table value F is permitted. The torque values apply only to centred slides.

An additional centring hole is located at holes D2 and D3 on the top of the slide. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240.

TI E = number of fastening holes E/M inside.
TA E = number of fastening holes E/M outside.
TI E1 = number of fastening holes E1/D1 inside.
TA E1 = number of fastening holes E1/D1 outside.



Dovetail slides

with micrometer spindle and location holes



Order No.	A	A1	A2	B	B1	C	D	D1	D2	D3	D4	E	E1	E2	E3	TI E	TA E	TI E1	TA E1	K
21062-050080	25	15	17,5	50	49,5	29	M6x1	7	M4	4,3	8,2	-	14	28	28	-	-	6	6	23,5
21062-050105	25	15	17,5	50	49,5	54	M6x1	7	M4	4,3	8,2	-	14	28	28	-	-	8	6	23,5
21062-050180	25	15	17,5	50	49,5	77	M6x1	7	M4	4,3	8,2	-	28	28	28	-	-	12	6	23,5
21062-050205	25	15	17,5	50	49,5	102	M6x1	7	M4	4,3	8,2	28	28	28	28	4	-	12	6	23,5
21062-075105	32	19,5	22	75	74,5	27	M8x1	10	M5	5,3	10	62	25	25	50	4	4	6	6	29
21062-075130	32	19,5	22	75	74,5	52	M8x1	10	M5	5,3	10	62	25	25	50	4	4	10	6	29
21062-075155	32	19,5	22	75	74,5	77	M8x1	10	M5	5,3	10	62	25	25	50	4	4	10	6	29
21062-075180	32	19,5	22	75	74,5	72	M8x1	10	M5	5,3	10	62	25	25	50	4	4	14	6	29
21062-100135	40	24	28	100	99,5	32	M10x1	10	M5	5,3	10,2	86	25	25	50	4	4	6	6	36
21062-100160	40	24	28	100	99,5	57	M10x1	10	M5	5,3	10,2	86	25	25	50	4	4	6	6	36
21062-100260	40	24	28	100	99,5	108	M10x1	10	M5	5,3	10,2	86	50	50	50	4	6	10	6	36
21062-150210	50	29,5	37	150	149	58	Tr16x2	13	M6	6,3	11	130	50	50	100	4	4	6	6	36
21062-150310	50	29,5	37	150	149	108	Tr16x2	13	M6	6,3	11	130	50	100	100	4	6	6	6	36

Order No.	L	L1	L2	L3	P	P1	O	R	U2	M	M1	M2	T1	T2	F N	Mx Nm	My Nm	Mz Nm
21062-050080	80	48	40	5,5	1,6	3,2	18,5	8	43	-	M5	M4	0,02	0,02	110	2	6	2
21062-050105	105	48	40	5,5	1,6	3,2	18,5	8	43	-	M5	M4	0,02	0,02	60	2	6	2
21062-050180	180	100	40	5,5	1,6	3,2	18,5	8	43	-	M5	M4	0,025	0,025	120	4	9	4
21062-050205	205	100	40	5,5	1,6	3,2	18,5	8	43	-	M5	M4	0,025	0,025	110	4	9	4
21062-075105	105	75	60	5,5	2,1	3,6	22,4	8	48,5	M5	M5	M5	0,02	0,02	290	5	19	6
21062-075130	130	75	60	5,5	2,1	3,6	22,4	8	48,5	M5	M5	M5	0,025	0,025	165	5	19	6
21062-075155	155	75	60	5,5	2,1	3,6	22,4	8	48,5	M5	M5	M5	0,025	0,025	110	5	19	6
21062-075180	180	105	60	5,5	2,1	3,6	22,4	8	48,5	M5	M5	M5	0,025	0,025	90	5	19	6
21062-100135	135	100	88	8	2,1	3,8	22,4	8	49	M6	M6	M6	0,025	0,025	590	11	43	12
21062-100160	160	100	88	8	2,1	3,8	22,4	8	49	M6	M6	M6	0,025	0,025	350	11	43	12
21062-100260	260	149	88	8	2,1	3,8	22,4	8	49	M6	M6	M6	0,03	0,03	400	23	63	26
21062-150210	210	149	135	8	2,6	4,3	25	10	49	M6	M6	M6	0,03	0,03	920	31	128	33
21062-150310	310	199	135	8	2,6	4,3	25	10	49	M6	M6	M6	0,03	0,03	850	53	170	55

Precision slides

roller mounted with location holes



Material:
EN-GJL-250

Version:
Bright, ground.

Sample order:
nlm 21064-040050

Note:
These precision slideways with roller bearings are used in machine and fixture construction, metrology, optical instruments and precision engineering.

The stated permissible load values (F) are designed for a service life of 1 million travel cycles.
The torque values apply only to centred slides.
Cross slides are also available on request.

An additional centring hole is located at holes D2 and D3 on the top of the slide. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240.

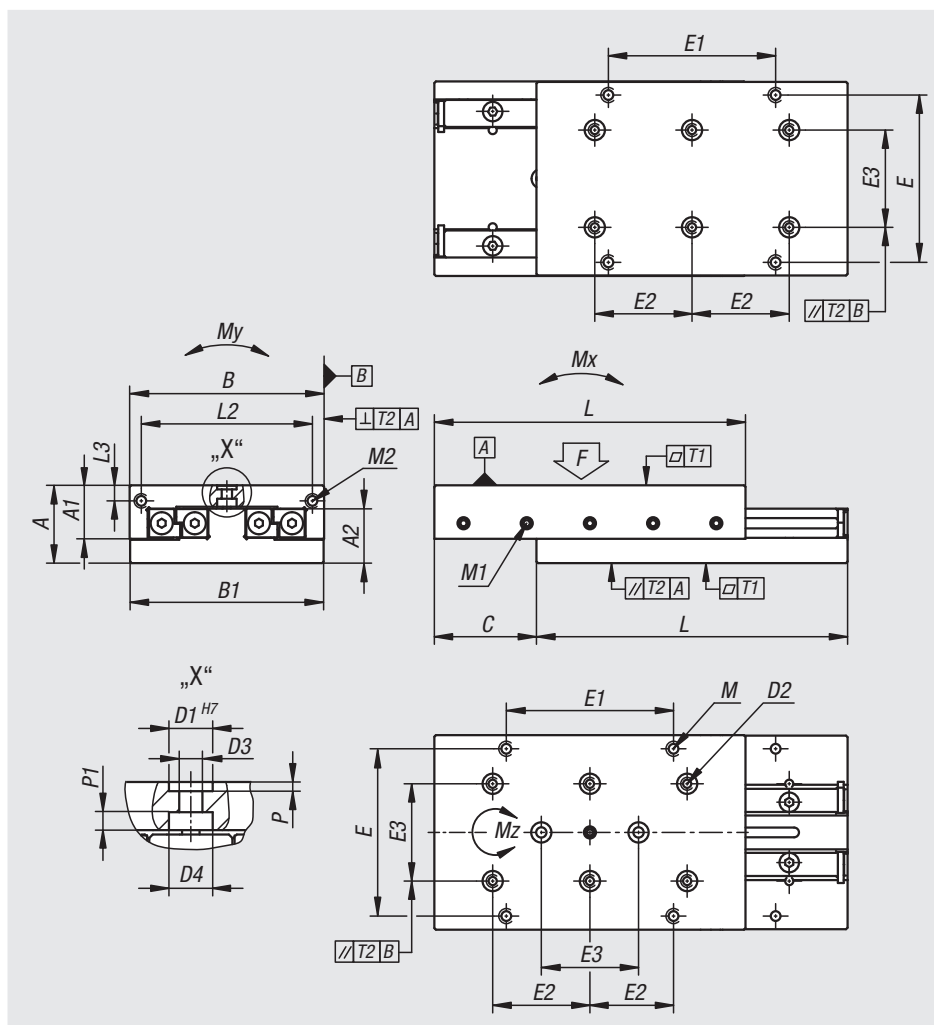
F = permissible loading for dynamic and static loads.

TI E/E1 = number of fastening holes E/E1/M inside.

TA E/E1 = number of fastening holes E/E1/M outside.

TI E2 = number of fastening holes E2/D1 inside.

TA E2 = number of fastening holes E2/D1 outside.



Precision slides

roller mounted with location holes



Order No.	A	A1	A2	B	B1	C	D1	D2	D3	D4	E	E1	E2	E3	T1 E/E1	TA E/E1	T1 E2	TA E2
21064-040050	20	13	13	40	39,5	10	5	M3	3,3	6,5	30	15	20	20	4	4	6	6
21064-0400501	20	13	13	40	39,5	17,5	5	M3	3,3	6,5	30	15	20	20	4	4	6	6
21064-040065	20	13	13	40	39,5	25	5	M3	3,3	6,5	30	15	20	20	6	6	6	6
21064-040080	20	13	13	40	39,5	32,5	5	M3	3,3	6,5	30	15	20	20	8	8	6	6
21064-050055	25	17	16,3	50	49,5	10	7	M4	4,3	8	-	-	14	28	-	-	6	6
21064-050080	25	17	16,3	50	49,5	30	7	M4	4,3	8	-	-	28	28	-	-	6	6
21064-050105	25	17	16,3	50	49,5	40	7	M4	4,3	8	-	-	28	28	-	-	8	8
21064-050155	25	17	16,3	50	49,5	60	7	M4	4,3	8	-	-	28	28	-	-	12	12
21064-060055	25	17	16,3	60	59,5	10	7	M4	4,3	8	-	-	17	34	-	-	6	6
21064-060080	25	17	16,3	60	59,5	30	7	M4	4,3	8	-	-	34	34	-	-	6	6
21064-060105	25	17	16,3	60	59,5	40	7	M4	4,3	8	-	-	34	34	-	-	6	6
21064-060155	25	17	16,3	60	59,5	60	7	M4	4,3	8	-	-	34	34	-	-	10	10
21064-075080	32	20	23	75	74,5	15	10	M5	5,3	10	62	62	25	50	4	4	6	4
21064-075105	32	20	23	75	74,5	20	10	M5	5,3	10	62	62	25	50	4	4	6	6
21064-075130	32	20	23	75	74,5	25	10	M5	5,3	10	62	62	25	50	4	4	8	8
21064-100110	40	27,5	28	100	99,5	15	10	M5	5,3	10	86	86	25	50	4	4	6	6
21064-100160	40	27,5	28	100	99,5	52,5	10	M5	5,3	10	86	86	50	50	4	4	12	12
21064-100210	40	27,5	28	100	99,5	80	10	M5	5,3	10	86	86	50	50	6	6	8	8
21064-100260	40	27,5	28	100	99,5	105	10	M5	5,3	10	86	86	50	50	4	6	10	10

Order No.	L	L2	L3	P	P1	M	M1	M2	T1	T2	F N	Mx Nm	My Nm	Mz Nm
21064-040050	50	34	3,8	1,1	3,4	M3	M3	M3	0,02	0,02	210	1	4	3
21064-0400501	50	34	3,8	1,1	3,4	M3	M3	M3	0,02	0,02	140	1	3	2
21064-040065	65	34	3,8	1,1	3,4	M3	M3	M3	0,02	0,02	180	1	4	3
21064-040080	80	34	3,8	1,1	3,4	M3	M3	M3	0,02	0,02	220	3	5	5
21064-050055	55	40	5,5	1,6	3,2	-	M3	M4	0,02	0,02	480	4	7	6
21064-050080	80	40	5,5	1,6	3,2	-	M3	M4	0,02	0,02	410	3	9	7
21064-050105	105	40	5,5	1,6	3,2	-	M3	M4	0,02	0,02	520	10	11	15
21064-050155	155	40	5,5	1,6	3,2	-	M3	M4	0,02	0,02	680	23	19	33
21064-060055	55	50	5,5	1,6	3,2	-	M3	M4	0,02	0,02	470	4	8	6
21064-060080	80	50	5,5	1,6	3,2	-	M3	M4	0,02	0,02	380	3	11	7
21064-060105	105	50	5,5	1,6	3,2	-	M3	M4	0,02	0,02	530	10	14	15
21064-060155	155	50	5,5	1,6	3,2	-	M3	M4	0,02	0,02	690	23	23	34
21064-075080	80	-	-	2,1	4,1	M5	M4	-	0,02	0,02	650	10	18	15
21064-075105	105	60	6	2,1	4,1	M5	M4	M5	0,02	0,02	720	18	26	27
21064-075130	130	60	6	2,1	4,1	M5	M4	M5	0,02	0,02	850	29	33	42
21064-100110	110	-	-	2,1	4,1	M6	M6	M6	0,02	0,02	1740	43	59	63
21064-100160	160	86	8	2,1	4,1	M6	M6	M6	0,02	0,02	1190	37	79	68
21064-100210	210	86	8	2,1	4,1	M6	M6	M6	0,03	0,03	1450	60	99	105
21064-100260	260	86	8	2,1	4,1	M6	M6	M6	0,03	0,03	1730	89	119	151

Precision slides

roller mounted with end plates and location holes



Material:
EN-GJL-250

Version:
Bright, ground.

Sample order:
nlm 21068-040065

Note:
These precision slideways with roller bearings are used in machine and fixture construction, metrology, optical instruments and precision engineering.

The stated permissible load values (F) are designed for a service life of 1 million travel cycles.
The torque values apply only to centred slides.

An additional centring hole is located at holes D2 and D3 on the top of the slide. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240.

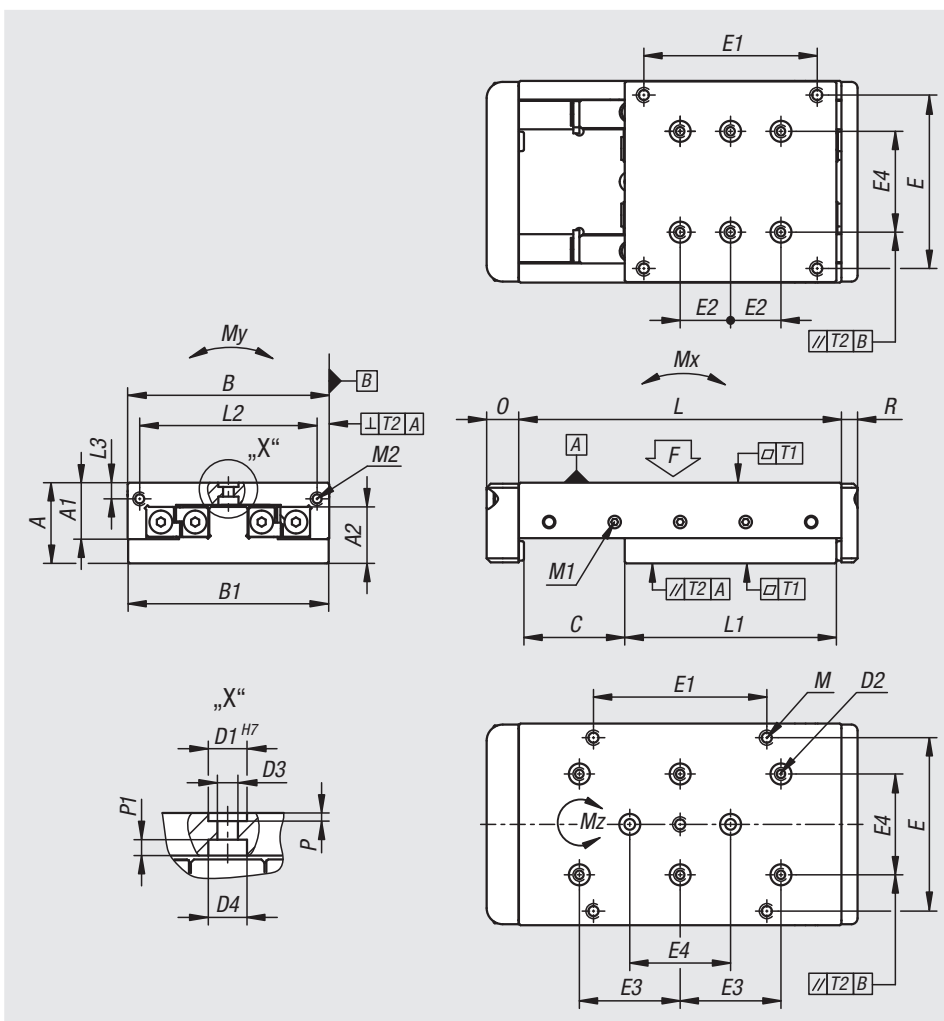
F = permissible loading for dynamic and static loads.

TI E/E1 = number of fastening holes E/E1/M inside.

TA E/E1 = number of fastening holes E/E1/M outside.

TI E4 = number of fastening holes E4/D1 inside.

TA E2 = number of fastening holes E2/D1 outside.



Precision slides

roller mounted with end plates and location holes



Order No.	A	A1	A2	B	B1	C	D1	D2	D3	D4	E	E1	E2	E3	E4	TI E/E1	TA E/E1	TA E4	TA E2
21068-040065	20	13	13	40	39,5	15	5	M3	3,3	6,5	30	15	20	20	20	4	6	6	6
21068-040080	20	13	13	40	39,5	30	5	M3	3,3	6,5	30	15	20	20	20	4	8	6	6
21068-050105	25	17	16,3	50	49,5	20	7	M4	4,3	8	-	-	28	28	28	-	-	6	8
21068-050130	25	17	16,3	50	49,5	45	7	M4	4,3	8	-	-	28	28	28	-	-	6	10
21068-060080	25	17	16,3	60	59,5	20	7	M4	4,3	8	-	-	17	34	34	-	-	6	6
21068-060180	25	17	16,3	60	59,5	70	7	M4	4,3	8	-	-	34	34	34	-	-	6	10
21068-100260	40	27,5	28	100	99,5	95	10	M5	5,3	10	86	86	50	50	50	4	6	6	10

Order No.	L	L1	L2	L3	P	P1	O	R	M	M1	M2	T1	T2	F N	Mx Nm	My Nm	Mz Nm
21068-040065	65	50	33	3,8	1,1	3,4	12	5	M3	M3	M3	0,02	0,02	120	1	4	3
21068-040080	80	50	33	3,8	1,1	3,4	12	5	M3	M3	M3	0,02	0,02	80	3	5	5
21068-050105	105	80	40	5,5	1,6	3,2	15,5	8	-	M3	M4	0,02	0,02	520	10	11	15
21068-050130	130	80	40	5,5	1,6	3,2	15,5	8	-	M3	M4	0,02	0,02	263	23	19	33
21068-060080	80	55	50	5,5	1,6	3,2	15,5	8	-	M3	M4	0,02	0,02	265	3	11	7
21068-060180	180	105	50	5,5	1,6	3,2	15,5	8	-	M3	M4	0,02	0,02	305	23	23	34
21068-100260	260	160	86	8	2,1	4,1	16	8	M6	M6	M6	0,03	0,03	1050	89	119	151

Precision slides

roller mounted with micrometer spindle and location holes



Material:
EN-GJL-250

Version:
Bright, ground.

Sample order:
nlm 21070-040050

Note:
These precision slideways with roller bearings are used in machine and fixture construction, metrology, optical instruments and precision mechanics. The scale division on the micrometer dial is 0.02 mm.

The stated permissible load values (F) are designed for a service life of 1 million travel cycles. The torque values apply only to centred slides.

An additional centring hole is located at holes D2 and D3 on the top of the slide. Other connecting elements can be precisely mounted on the slide in combination with our centring rings 20240.

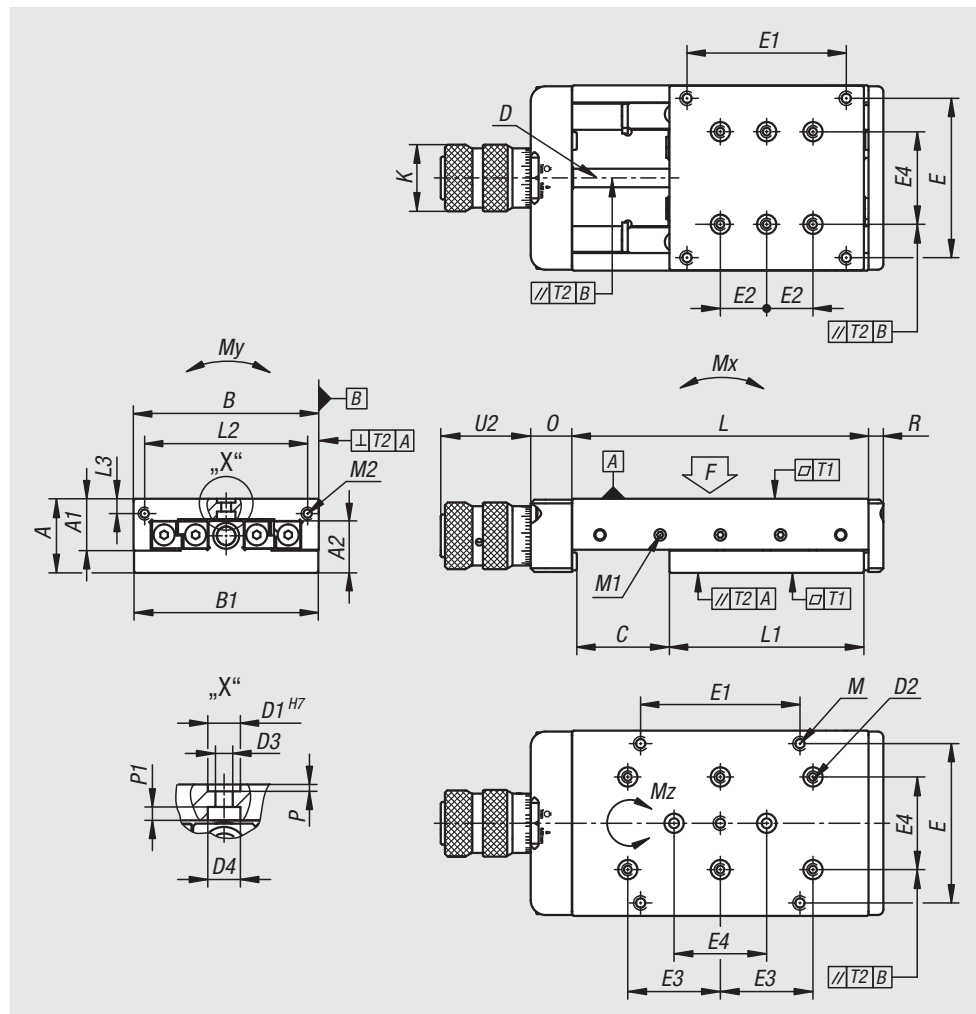
F = permissible loading for dynamic and static loads.

TI E/E1 = number of fastening holes E/E1/M inside.

TA E/E1 = number of fastening holes E/E1/M outside.

TI E4 = number of fastening holes E4/D1 inside.

TA E2 = number of fastening holes E2/D1 outside.



Precision slides

roller mounted with micrometer spindle and location holes



Order No.	A	A1	A2	B	B1	C	D	D1	D2	D3	D4	E	E1	E2	E3	E4	TI E/E1	TA E/E1	TA E4	TA E2
21070-040050	20	13	13	40	39,5	15	M5x0,5	5	M3	3,3	6,5	30	15	10	20	20	4	4	6	6
21070-040065	20	13	13	40	39,5	30	M5x0,5	5	M3	3,3	6,5	30	15	10	20	20	4	6	6	6
21070-050080	25	17	16,3	50	49,5	20	M6x1	7	M4	4,3	8	-	-	14	28	28	-	-	6	6
21070-050130	25	17	16,3	50	49,5	45	M6x1	7	M4	4,3	8	-	-	28	28	28	-	-	6	10
21070-060080	25	17	16,3	60	59,5	15	M6x1	7	M4	4,3	8	-	-	17	34	34	-	-	6	6
21070-060180	25	17	16,3	60	59,5	70	M6x1	7	M4	4,3	8	-	-	34	34	34	-	-	6	10
21070-075105	32	20	23	75	74,5	20	M8x1	10	M5	5,3	10	62	62	25	25	50	4	4	6	8
21070-075130	32	20	23	75	74,5	45	M8x1	10	M5	5,3	10	62	62	25	25	50	4	4	6	8
21070-100160	40	27,5	28	100	99,5	50	M10x1	10	M5	5,3	10	86	86	25	50	50	4	4	6	6
21070-100360	40	27,5	28	100	99,5	150	M10x1	10	M5	5,3	10	86	86	50	50	50	6	8	6	14

Order No.	K	L	L1	L2	L3	P	P1	O	R	U2	M	M1	M2	T1	T2	F N	Mx Nm	My Nm	Mz Nm
21070-040050	17,8	50	35	33	3,8	1,1	3,4	14,5	5	32,5	M3	M3	M3	0,02	0,02	121	1	4	3
21070-040065	17,8	65	35	33	3,8	1,1	3,4	14,5	5	32,5	M3	M3	M3	0,02	0,02	131	1	4	3
21070-050080	23,5	80	55	40	5,5	1,6	3,2	18,5	8	43	M4	M3	M4	0,02	0,02	224	3	9	7
21070-050130	23,5	130	80	40	5,5	1,6	3,2	18,5	8	43	M4	M3	M4	0,02	0,02	260	23	19	33
21070-060080	23,5	80	60	50	5,5	1,6	3,2	18,5	8	43	M4	M3	M4	0,02	0,02	355	3	11	7
21070-060180	23,5	180	105	50	5,5	1,6	3,2	18,5	8	43	M4	M3	M4	0,02	0,02	305	23	23	34
21070-075105	29	105	80	60	6	2,1	4,1	22,4	8	48,5	M5	M5	M5	0,02	0,02	410	18	26	27
21070-075130	29	130	80	60	6	2,1	4,1	22,4	8	48,5	M5	M5	M5	0,02	0,02	250	29	33	42
21070-100160	36	160	105	88	8	2,1	4,1	22,4	8	49	M6	M6	M6	0,02	0,02	935	37	79	68
21070-100360	36	360	205	88	8	2,1	4,1	22,4	8	49	M6	M6	M6	0,03	0,03	1095	89	119	151

Positioning stages short

with coaxial electric drive



Material:

Bearing block and carriage aluminium alloy.

Guide column and threaded spindle stainless steel.

Plain bearing for guide columns and spindle nut high-quality special plastic.

Claw coupling aluminium with polyurethane coupling spider.

Version:

Aluminium alloy anodised.

Stainless steel hardened and ground.

Threaded spindle with ball bearing.

Sample order:

nIm 21080-080

Note for ordering:

The unit is supplied with the position of cable outlet or control unit as shown in the drawing. Other combinations can be selected online with our configurator.

Note:

Positioning stages for motorised adjustment and positioning tasks.

The plain bearings and spindle nuts are suitable for dry running, however lubrication with a grease for plastic plain bearings is recommended. The suitable programming software and interface cable for the stepper motor with positioning control are available as accessories (25000-15).

The stepper motor with a resolution of 200 increments per rotation allows a single direction calculated positioning accuracy of 0.005 mm. The absolute single direction positioning accuracy is 0.01 mm. The system can be operated with a duty cycle of 100%.

Can be combined with all other parts of the same size.

Technical data:

Threaded spindle pitch: 2 mm

Axial backlash of threaded spindle: <0.04 mm

Radial play of guides: <0.02 mm

Max. input speed: 600 rpm

Max. travel speed: 20 mm/s

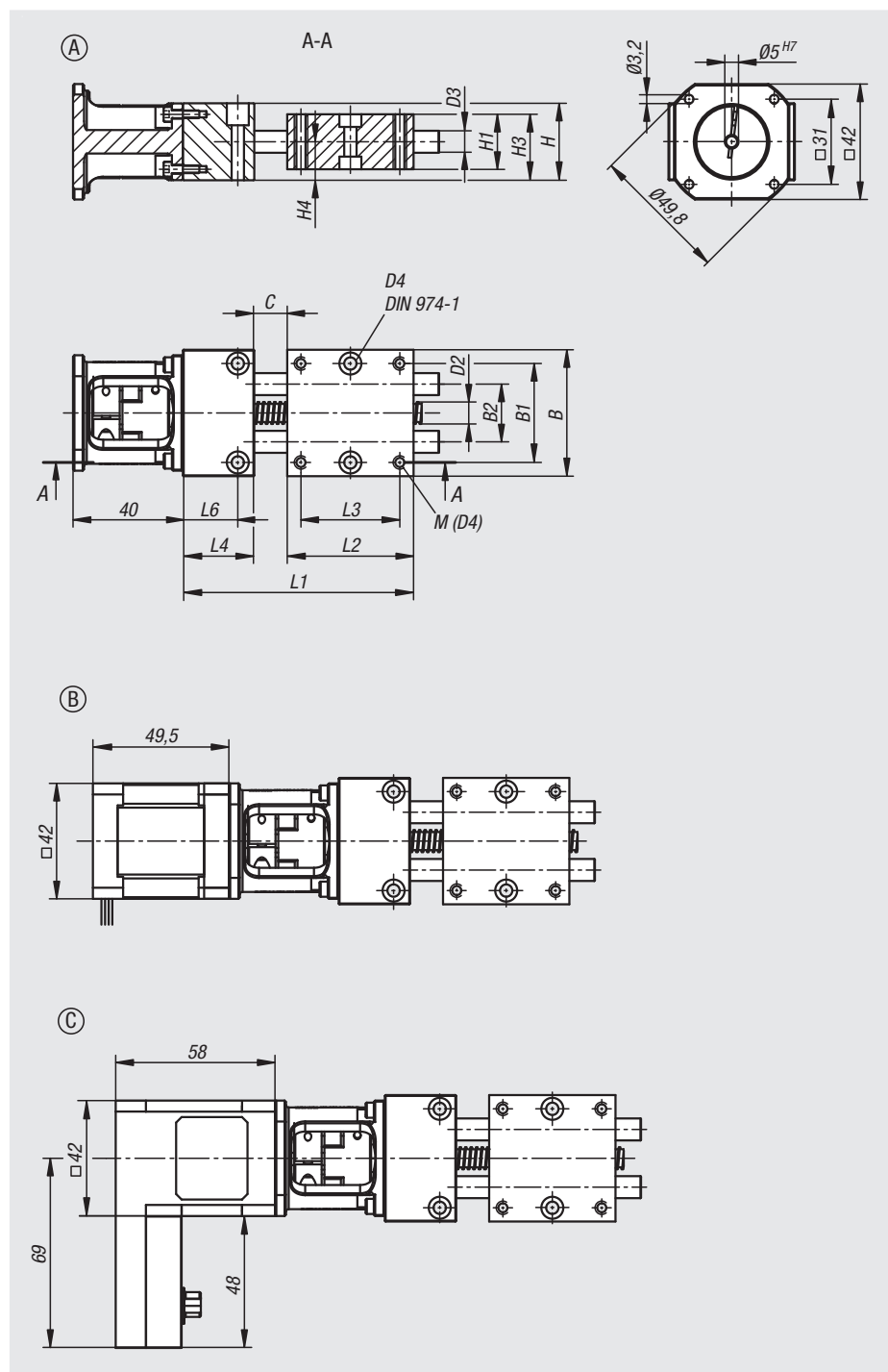
Max. duty cycle: 100 %

Application temperature: +10 °C to +50 °C

Order No.	Size	Form	Form-Type
21080-080	8	A	without motor
21080-0811	8	B	with stepper motor
21080-0821	8	C	stepper motor with control
21080-120	12	A	without motor
21080-1211	12	B	with stepper motor
21080-1221	12	C	stepper motor with control

Positioning stages short

with coaxial electric drive



Specifications

Size	B	B1	B2	D2	D3	D4	H	H1	H3	H4	L1	L2	L3	L4	L6	Travel S
8	46	36	21	8x2	8	4	28	20	24	14	93,5	46	36	26	20	24
12	75	60	38	8x2	12	6	29,5	25	28	15,5	133	75	60	30	15	30

Force tables

Size	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
8	60	60	30	0,5	0,5	2
12	60	100	60	0,8	0,8	3

Positioning stages short

with lateral electric drive



Material:

Bearing block and carriage aluminium alloy.

Guide column and threaded spindle stainless steel.

Plain bearing for guide columns and spindle nut high-quality special plastic.

Toothed belts neoprene, profile 3M.

Version:

Aluminium alloy anodised.

Stainless steel hardened and ground.

Threaded spindle with ball bearing.

Sample order:

nIm 21081-0810

Note for ordering:

The unit is supplied with the position of the drive unit, cable outlet or control unit as shown in the drawing. Other combinations can be selected online with our configurator.

Note:

Positioning stages for motorised adjustment and positioning tasks.

The plain bearings and spindle nuts are suitable for dry running, however lubrication with a grease for plastic plain bearings is recommended. The suitable programming software and interface cable for the stepper motor with positioning control are available as accessories (25000-15).

The stepper motor with a resolution of 200 increments per rotation allows a single direction calculated positioning accuracy of 0.005 mm. The absolute single direction positioning accuracy is 0.01 mm. The system can be operated with a duty cycle of 100%.

Can be combined with all other parts of the same size.

Technical data:

Threaded spindle pitch: 2 mm

Axial backlash of threaded spindle: <0.04 mm

Radial play of guides: <0.02 mm

Max. input speed: 600 rpm

Max. travel speed: 20 mm/s

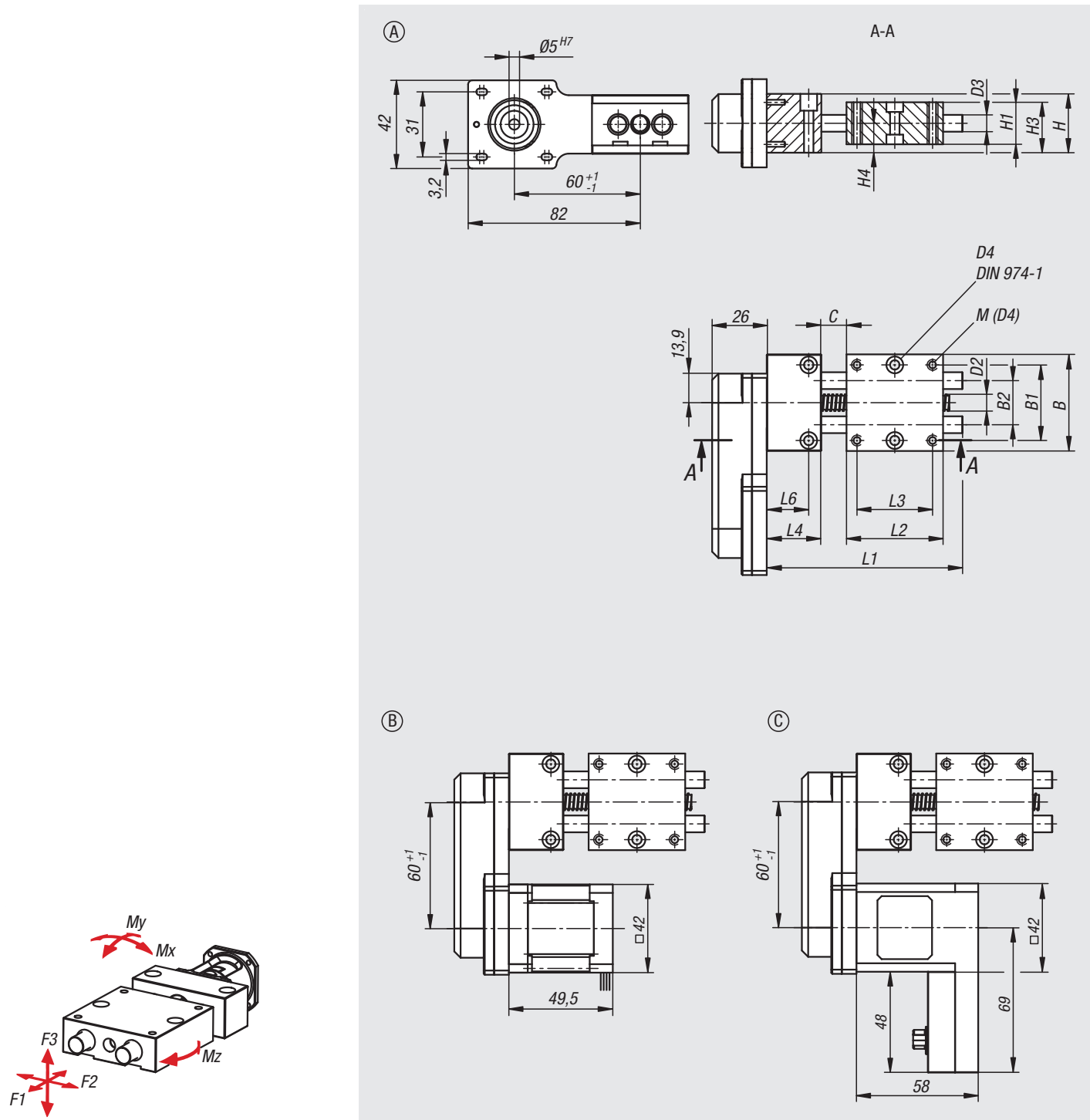
Max. duty cycle: 100 %

Application temperature: +10 °C to +50 °C

Order No.	Size	Form	Form-Type
21081-0810	8	A	without motor
21081-08111	8	B	with stepper motor
21081-08121	8	C	stepper motor with control
21081-1210	12	A	without motor
21081-12111	12	B	with stepper motor
21081-12121	12	C	stepper motor with control

Positioning stages short

with lateral electric drive



Specifications

Size	B	B1	B2	D2	D3	D4	H	H1	H3	H4	L1	L2	L3	L4	L6	Travel S
8	46	36	21	8x2	8	4	28	20	24	14	93,5	46	36	26	20	24
12	75	60	38	8x2	12	6	29,5	25	28	15,5	133	75	60	30	15	30

Force tables

Size	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
8	60	60	30	0,5	0,5	2
12	60	100	60	0,8	0,8	3

Positioning stages long

with coaxial electric drive



Material:

Bearing block and carriage aluminium alloy.
Guide column and threaded spindle stainless steel.
Plain bearing for guide columns and spindle nut high-quality special plastic.
Claw coupling aluminium with polyurethane coupling spider.

Version:

Aluminium alloy anodised.
Stainless steel hardened and ground.
Threaded spindle with ball bearing.

Sample order:

nIm 21082-080

Note for ordering:

The unit is supplied with the position of cable outlet or control unit as shown in the drawing. Other combinations can be selected online with our configurator.

Note:

Positioning stages for motorised adjustment and positioning tasks. The plain bearings and spindle nuts are suitable for dry running, however lubrication with a grease for plastic plain bearings is recommended. The suitable programming software and interface cable for the stepper motor with positioning control are available as accessories (25000-15). The stepper motor with a resolution of 200 increments per rotation allows a single direction calculated positioning accuracy of 0.005 mm. The absolute single direction positioning accuracy is 0.01 mm. The system can be operated with a duty cycle of 100%.

Can be combined with all other parts of the same size.

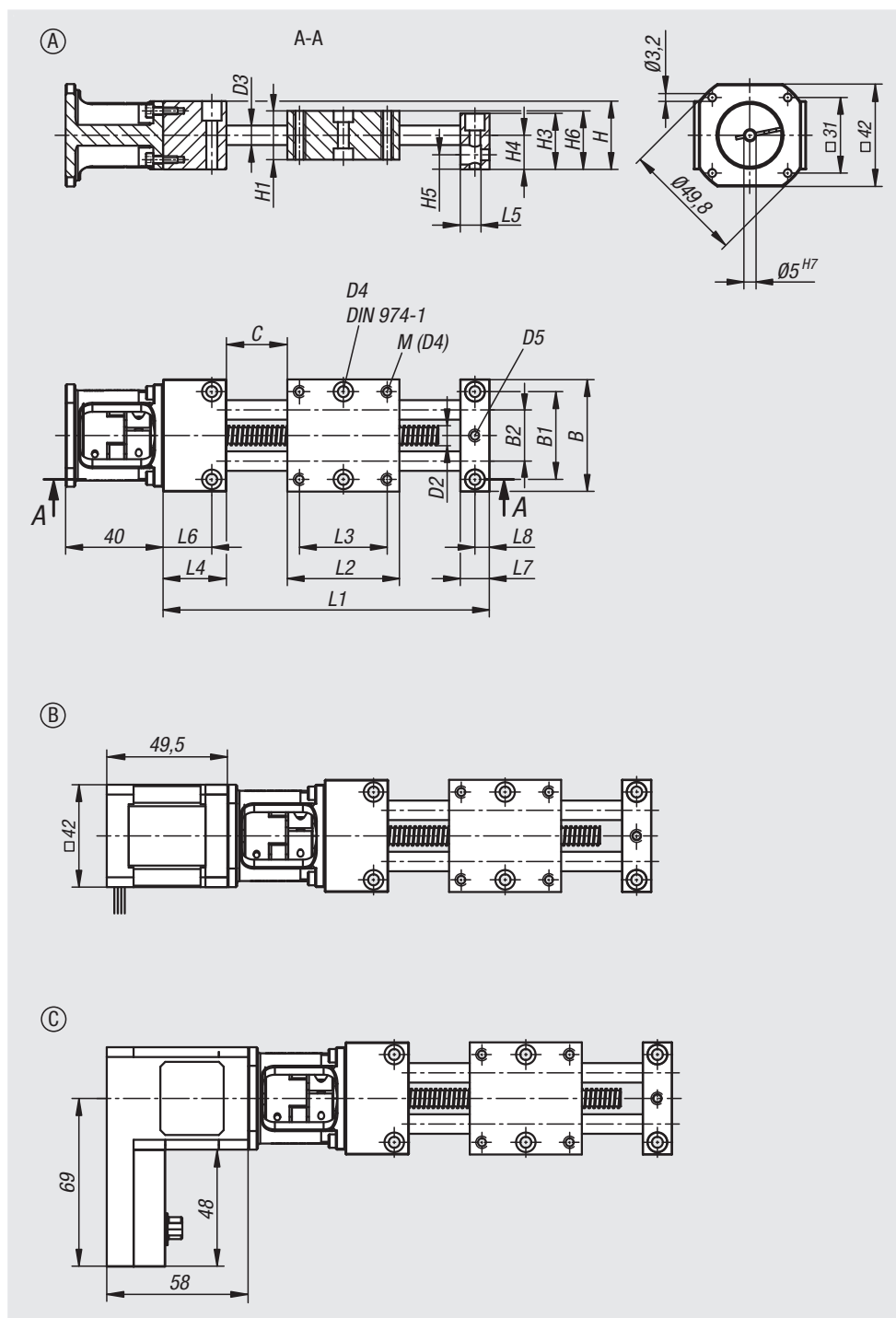
Technical data:

Threaded spindle pitch: 2 mm
Axial backlash of threaded spindle: <0.04 mm
Radial play of guides: <0.02 mm
Max. input speed: 600 rpm
Max. travel speed: 20 mm/s
Max. duty cycle: 100 %
Application temperature: +10 °C to +50 °C

Order No.	Size	Form	Form-Type
21082-080	8	A	without motor
21082-0811	8	B	with stepper motor
21082-0821	8	C	stepper motor with control
21082-120	12	A	without motor
21082-1211	12	B	with stepper motor
21082-1221	12	C	stepper motor with control

Positioning stages long

with coaxial electric drive



Specifications

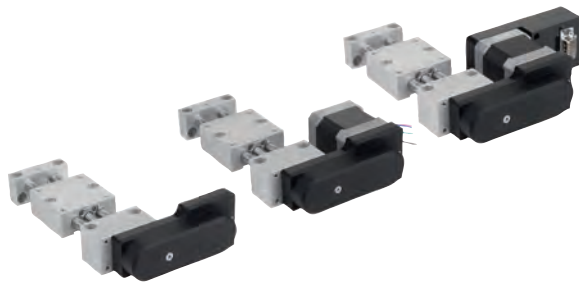
Size	B	B1	B2	D2	D3	D4	D5	H	H1	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6	L7	L8	Travel S
8	46	36	21	8x2	8	4	M4	28	20	23	14	6	24	134	46	36	26	8,5	20	12	6	50
12	75	60	38	8x2	12	6	M4	29,5	25	27	15,5	7	28	180	75	60	15	11	7,5	15	7,5	75

Force tables

Size	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
8	60	80	60	0,7	0,7	2
12	60	120	100	1	1	3

Positioning stages long

with lateral electric drive



Material:

Bearing block and carriage aluminium alloy.

Guide column and threaded spindle stainless steel.

Plain bearing for guide columns and spindle nut high-quality special plastic.

Toothed belts neoprene, profile 3M.

Version:

Aluminium alloy anodised.

Stainless steel hardened and ground.

Threaded spindle with ball bearing.

Sample order:

nIm 21083-0810

Note for ordering:

The unit is supplied with the position of the drive unit, cable outlet or control unit as shown in the drawing. Other combinations can be selected online with our configurator.

Note:

Positioning stages for motorised adjustment and positioning tasks. The plain bearings and spindle nuts are suitable for dry running, however lubrication with a grease for plastic plain bearings is recommended. The suitable programming software and interface cable for the stepper motor with positioning control are available as accessories (25000-15).

The stepper motor with a resolution of 200 increments per rotation allows a single direction calculated positioning accuracy of 0.005 mm. The absolute single direction positioning accuracy is 0.01 mm. The system can be operated with a duty cycle of 100%.

Can be combined with all other parts of the same size.

Technical data:

Threaded spindle pitch: 2 mm

Axial backlash of threaded spindle: <0.04 mm

Radial play of guides: <0.02 mm

Max. input speed: 600 rpm

Max. travel speed: 20 mm/s

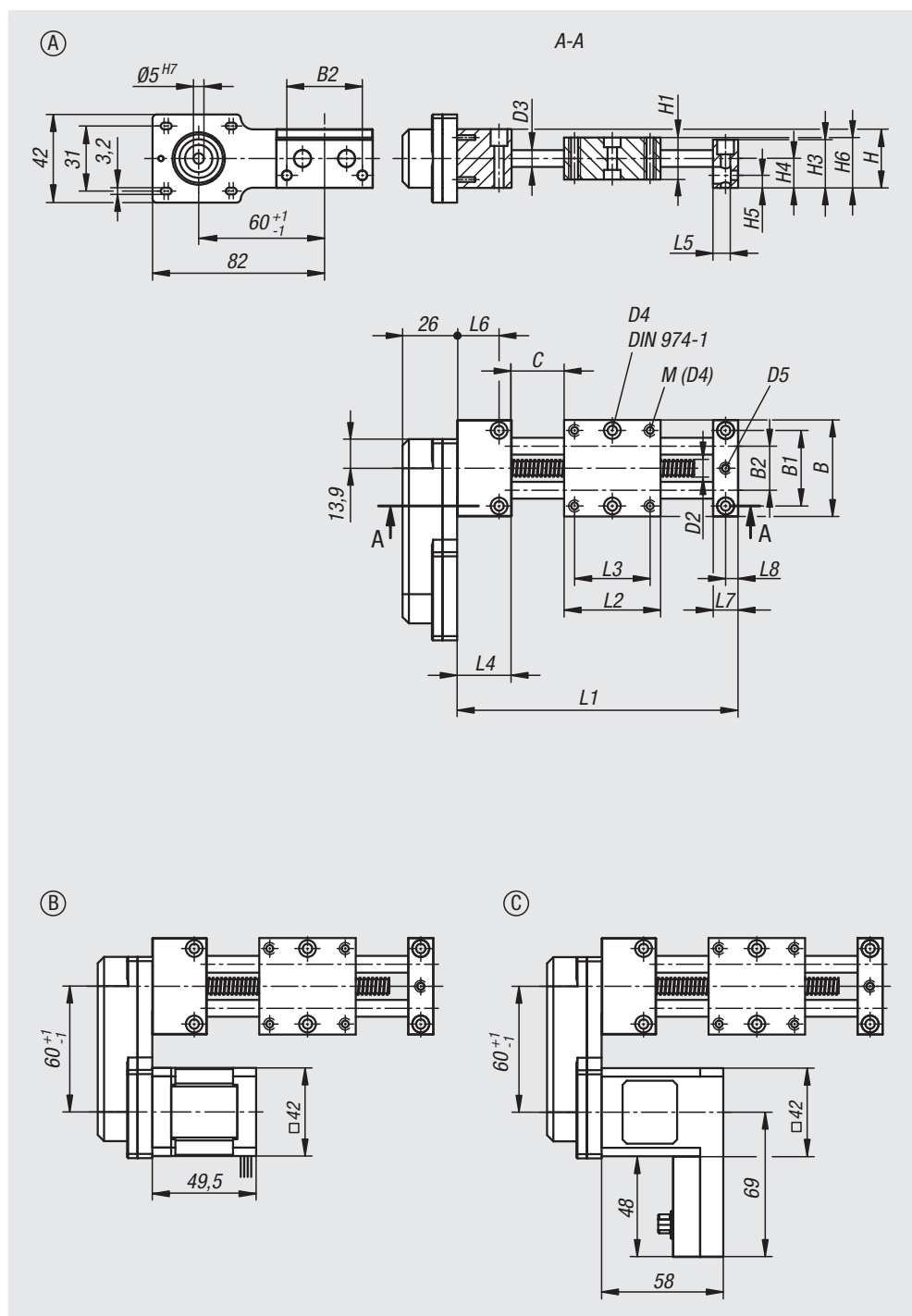
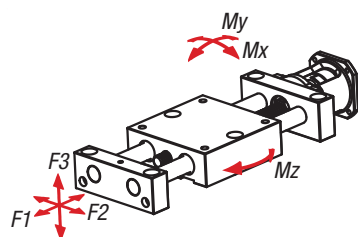
Max. duty cycle: 100 %

Application temperature: +10 °C to +50 °C

Order No.	Size	Form	Form-Type
21083-0810	8	A	without motor
21083-08111	8	B	with stepper motor
21083-08121	8	C	stepper motor with control
21083-1210	12	A	without motor
21083-12111	12	B	with stepper motor
21083-12121	12	C	stepper motor with control

Positioning stages long

with lateral electric drive



Specifications

Size	B	B1	B2	D1	D3	D4	D5	H	H1	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6	L7	L8	Travel S
8	46	36	21	8x2	8	4	M4	28	20	23	14	6	24	134	46	36	26	8,5	20	12	6	50
12	75	60	38	8x2	12	6	M4	29,5	25	27	15,5	7	28	180	75	60	15	11	7,5	15	7,5	75

Force tables

Size	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
8	60	80	60	0,7	0,7	2
12	60	120	100	1	1	3

Positioning stages rotary

with coaxial electric drive



Material:

Base and rotary table aluminium alloy.
Hollow shaft stainless steel.
Pre-loaded worm gear steel.
Claw coupling aluminium with polyurethane coupling spider.

Version:

Aluminium alloy anodised.

Sample order:

n1m 21085-120

Note for ordering:

The unit is supplied with the position of cable outlet or control unit as shown in the drawing.

Note:

Rotary positioning stages for motorised adjustment and positioning tasks. The pre-loaded worm gear runs virtually play-free. The bearing of the worm shaft offers maximum radial rotational accuracy. Cables can be routed through the large bore in the hollow shaft. The adjustable positioning ring is used to determine the rotational reference point to the position of the assembled part. Proximity switches can be mounted with the optionally available sensor holder (21094). The suitable programming software and interface cable for the stepper motor with positioning control are available as accessories (25000-15).

The stepper motor with a resolution of 200 increments per rotation allows a single direction calculated positioning accuracy of 0.005 mm. The absolute single direction positioning accuracy is 0.01 mm. The system can be operated with a duty cycle of 100%.

Can be combined with all other parts of the same size.

Technical data:

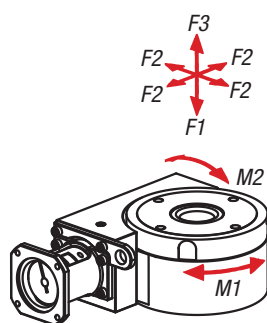
21085-08*:
Transmission ratio: 40:1
Backlash: <0.12°
Radial play: <0.02 mm
Max. input speed: 600 rpm
Max. duty cycle: 100 %
Required input torque: 0.15 Nm
Rigidity: see diagram
Rotation: 360°, infinite
Application temperature: +10 °C to +50 °C

21085-12*:
Transmission ratio: 55:1
Backlash: <0.1°
Radial play: <0.02 mm
Max. input speed: 600 rpm
Max. duty cycle: 100 %
Required input torque: 0.15 Nm
Rigidity: see diagram
Rotation: 360°, infinite
Application temperature: +10 °C to +50 °C

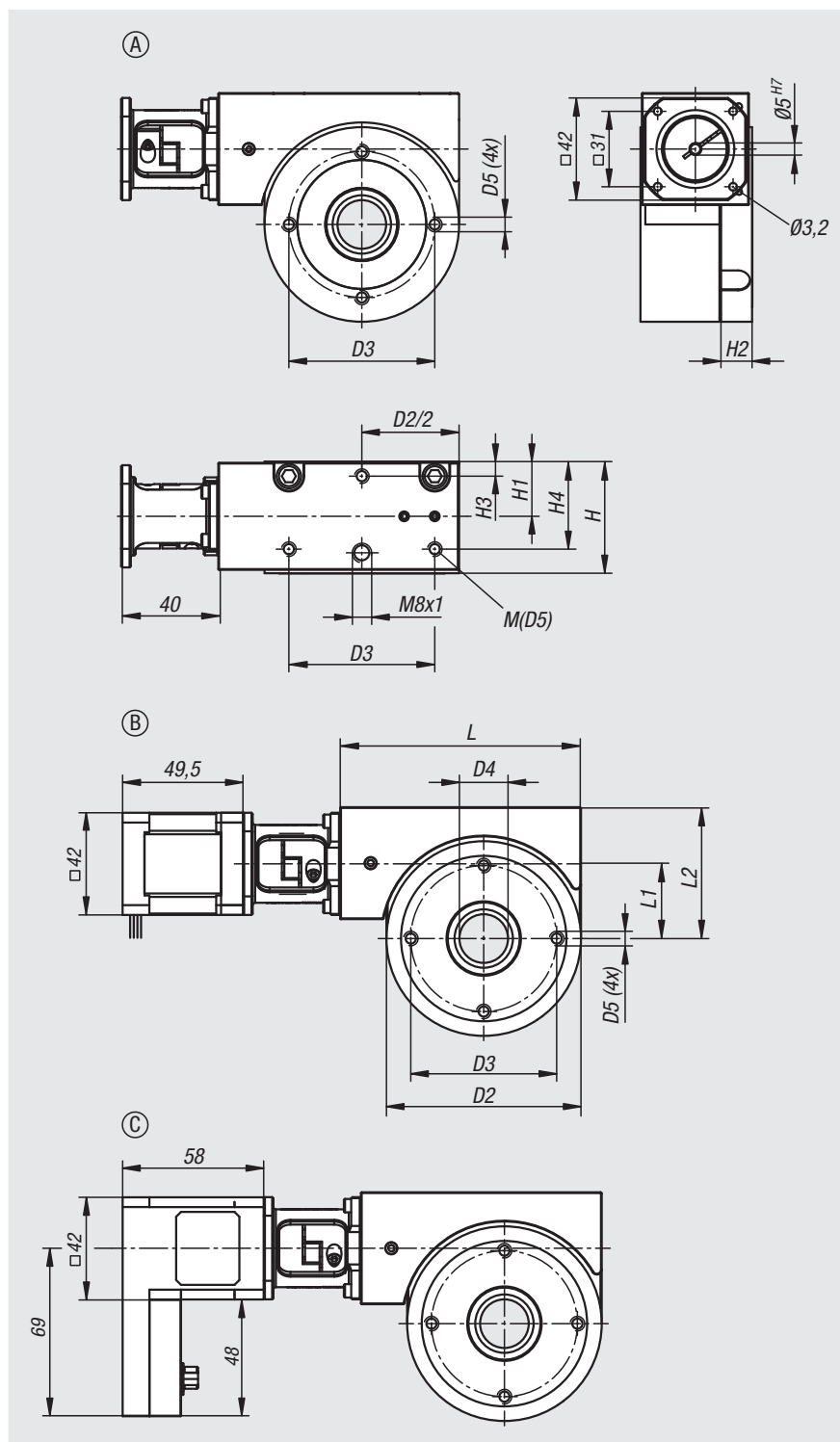
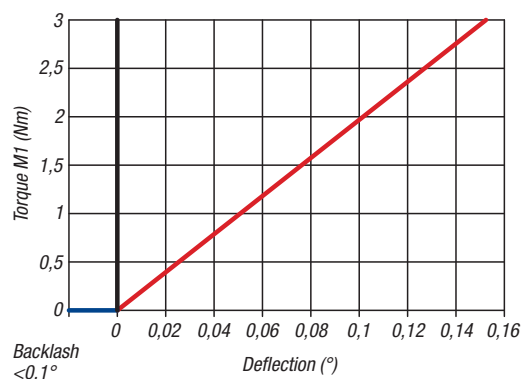
Order No. Size 8	Order No. Size 12	Form	Form-Type	Cable outlet alignment	Control alignment
21085-080	21085-120	D/A	without motor	-	-
21085-0811	21085-1211	E/B	with stepper motor	right	-
21085-0812	21085-1212	E/B	with stepper motor	beneath	-
21085-0813	21085-1213	E/B	with stepper motor	left	-
21085-0814	21085-1214	E/B	with stepper motor	above	-
21085-0821	21085-1221	F/C	stepper motor with control	-	right
21085-0822	21085-1222	F/C	stepper motor with control	-	beneath
21085-0823	21085-1223	F/C	stepper motor with control	-	left
21085-0824	21085-1224	F/C	stepper motor with control	-	above

Positioning stages rotary

with coaxial electric drive



Rigidity chart 21085-12...



Specifications

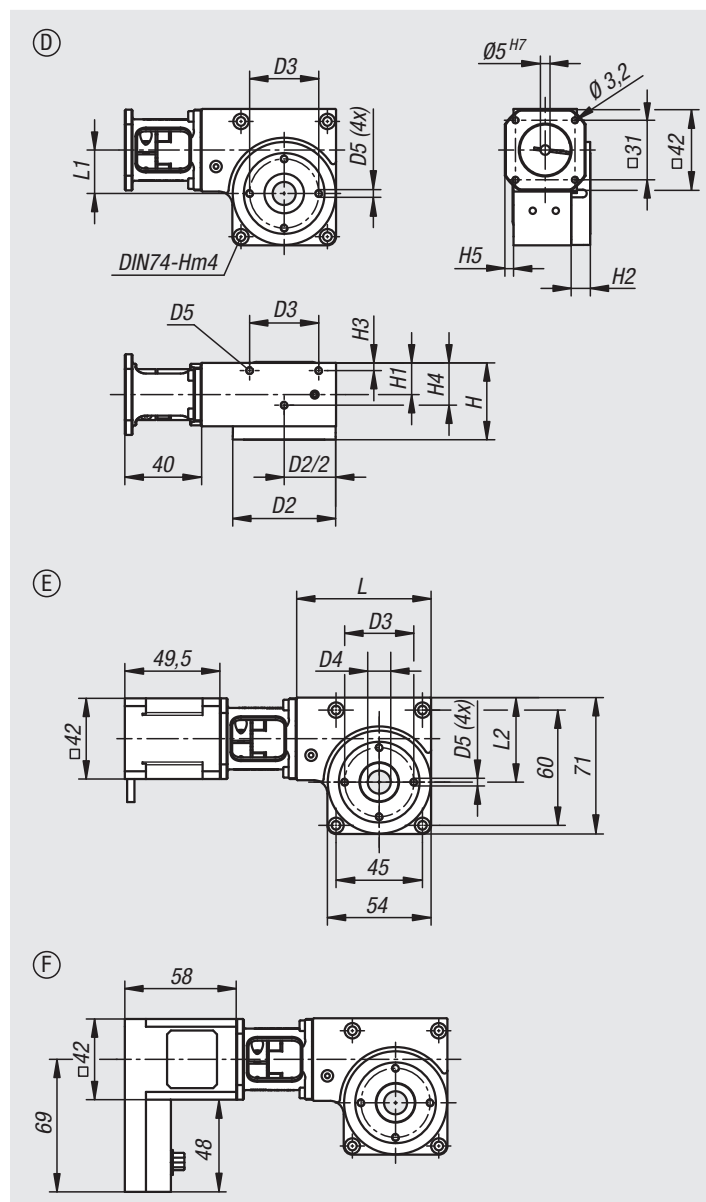
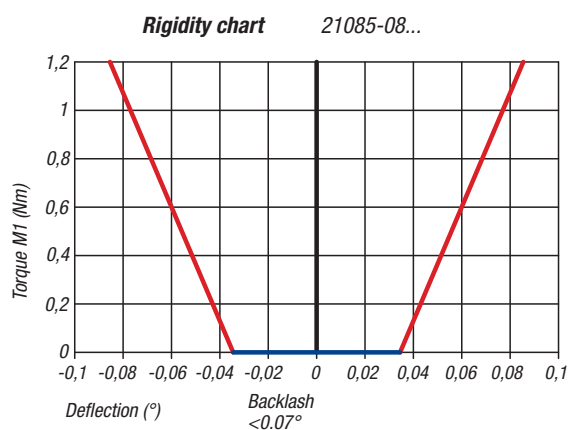
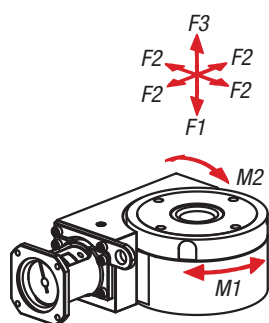
Size	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2
12	80	60	20	M6	46	22,5	13	6	36	99	31	54

Force tables

Size	F1 N	F2 N	F3 N	M1 Nm	M2 Nm
12	500	500	200	3	3

Positioning stages rotary

with coaxial electric drive



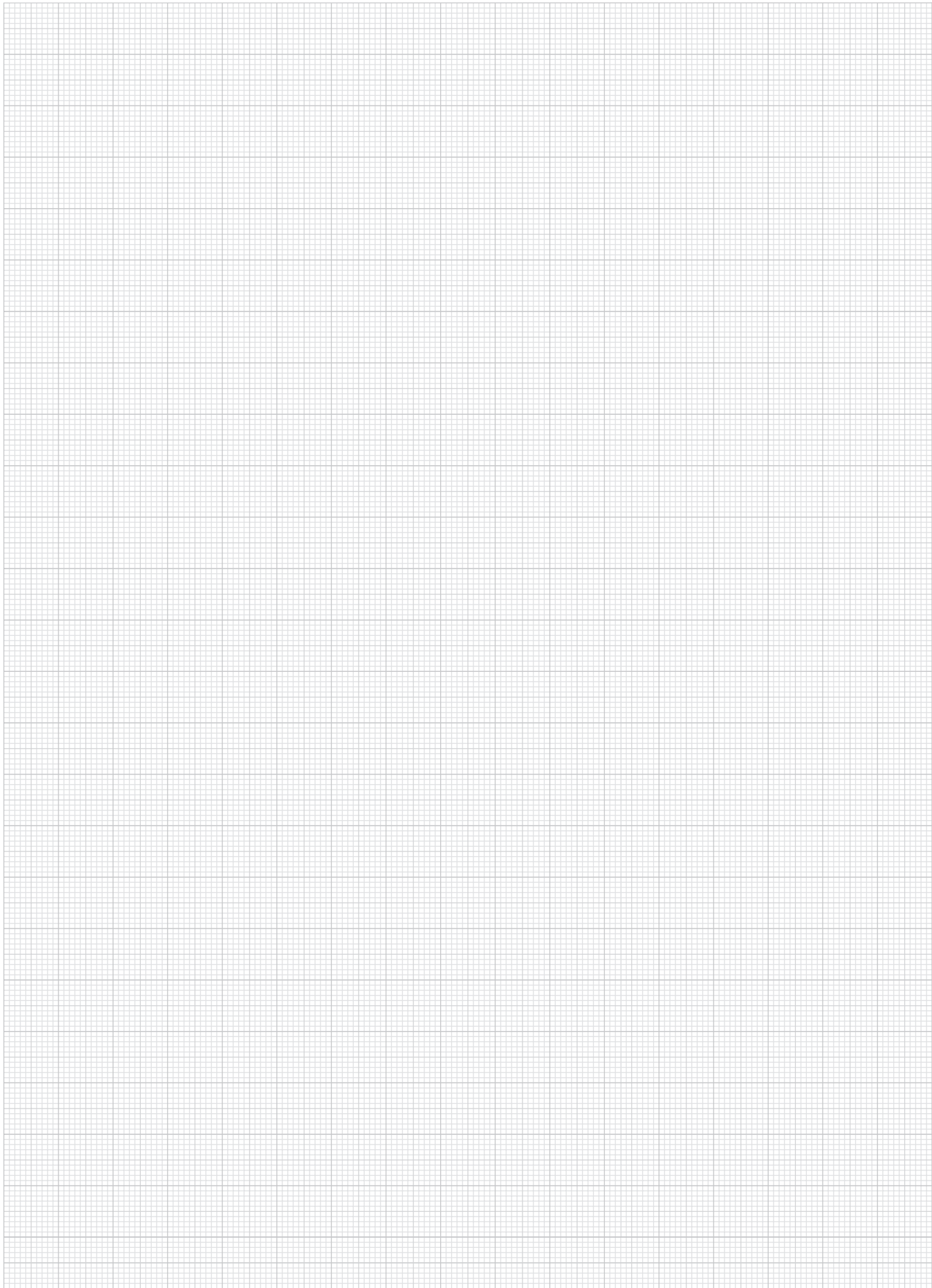
Specifications

Size	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2
8	53,6	36	12H7	M4	40	10	10	4	22	4,5	70	18	44

Force tables

Size	F1 N	F2 N	F3 N	M1 Nm	M2 Nm
8	200	200	80	1,2	1,8

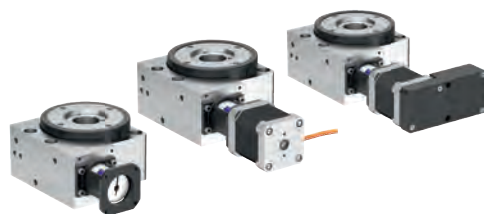
Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Rotary stages with coaxial electric drive,

high load



Material:

Base and rotary table aluminium alloy.
Hollow shaft stainless steel.
Pre-loaded worm gear steel.
Claw coupling aluminium with polyurethane coupling spider.

Version:

Aluminium alloy anodised.

Sample order:

nIm 21085-01-10120

Note for ordering:

The unit is supplied with the position of cable outlet or control unit as shown in the drawing.

Note:

Rotary positioning stages for motorised adjustment and positioning tasks. The pre-loaded worm gear runs virtually play-free. The bearing of the worm shaft offers maximum radial rotational accuracy. Cables can be routed through the large bore in the hollow shaft. The adjustable positioning ring is used to determine the rotational reference point to the position of the assembled part. Proximity switches can be mounted with the optionally available sensor holder (21094). The suitable programming software and interface cable for the stepper motor with positioning control are available as accessories (25000-15).

The stepper motor with a resolution of 200 increments per rotation allows a single direction calculated positioning accuracy of 0.005 mm. The absolute single direction positioning accuracy is 0.01 mm. The system can be operated with a duty cycle of 100%.

Can be combined with all other parts of the same size.

Technical data:

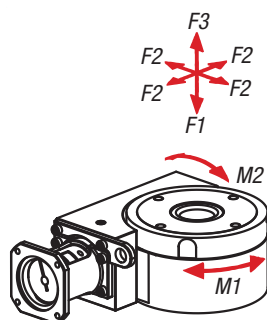
21085-01-10*:
Transmission ratio: 10:1
Backlash: <0.2°
Radial play: <0.02 mm
Max. input speed: 600 rpm
Max. duty cycle: 100 %
Required input torque: 0.13 Nm
Rigidity: see diagram
Rotation: 360°, infinite
Application temperature: +10 °C to +50 °C

21085-01-45*:
Transmission ratio: 45:1
Backlash: <0.6°
Radial play: <0.02 mm
Max. input speed: 600 rpm
Max. duty cycle: 100 %
Required input torque: 0.13 Nm
Rigidity: see diagram
Rotation: 360°, infinite
Application temperature: +10 °C to +50 °C

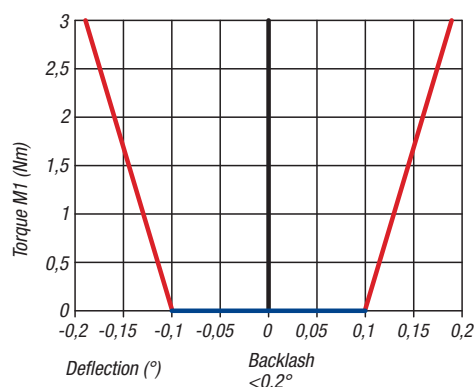
Order No. Transmission ratio 10:1	Order No. Transmission ratio 45:1	Size	Form	Form-Type	Cable outlet alignment	Control alignment
21085-01-10120	21085-01-45120	12	A	without motor	-	-
21085-01-101211	21085-01-451211	12	B	with stepper motor	right	-
21085-01-101212	21085-01-451212	12	B	with stepper motor	beneath	-
21085-01-101213	21085-01-451213	12	B	with stepper motor	left	-
21085-01-101214	21085-01-451214	12	B	with stepper motor	above	-
21085-01-101221	21085-01-451221	12	C	stepper motor with control	-	right
21085-01-101222	21085-01-451222	12	C	stepper motor with control	-	beneath
21085-01-101223	21085-01-451223	12	C	stepper motor with control	-	left
21085-01-101224	21085-01-451224	12	C	stepper motor with control	-	above

Rotary stages with coaxial electric drive,

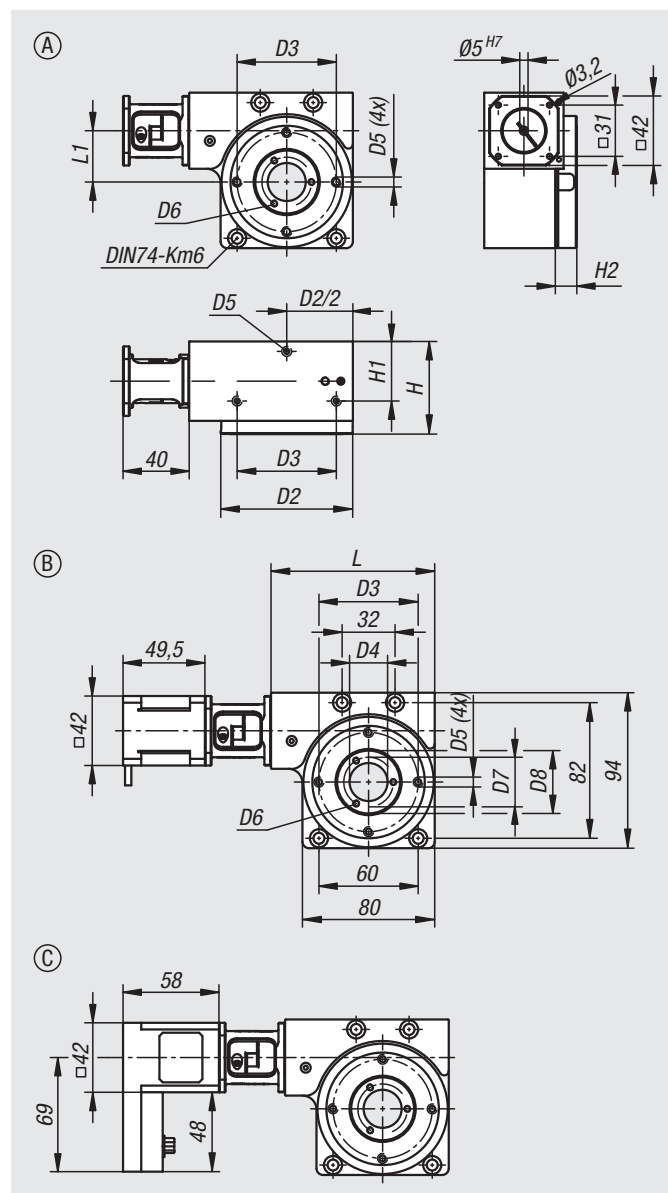
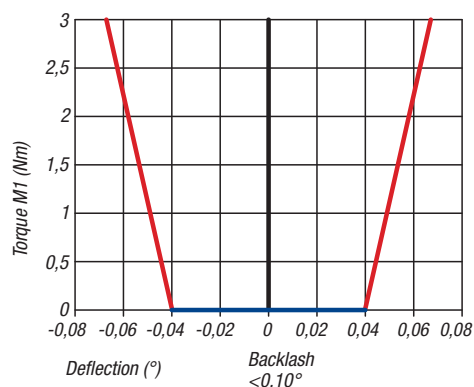
high load



Rigidity chart 21085-01-10...



Rigidity chart 21085-01-45...



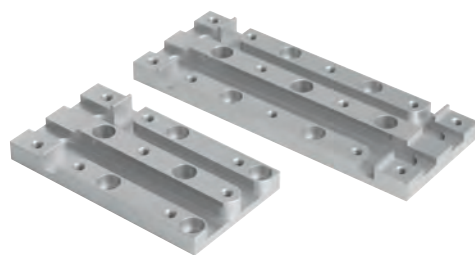
Specifications

Size	D2	D3	D4	D5	D6	D7	D8	H	H1	H2	L	L1
12	79,8	60	23H7	M6	M4	30	38,01H7	56	36	13	99	31

Force tables

Size	F1 N	F2 N	F3 N	M1 Nm	M2 Nm
12	600	600	300	3	3

Mounting plates horizontal



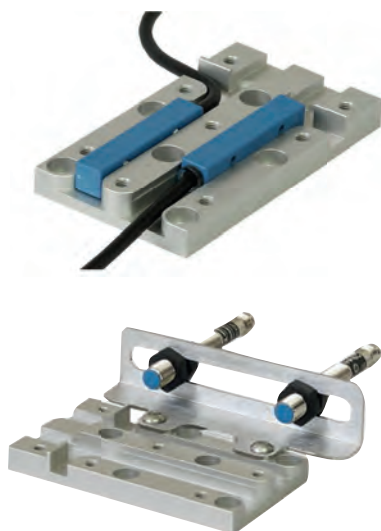
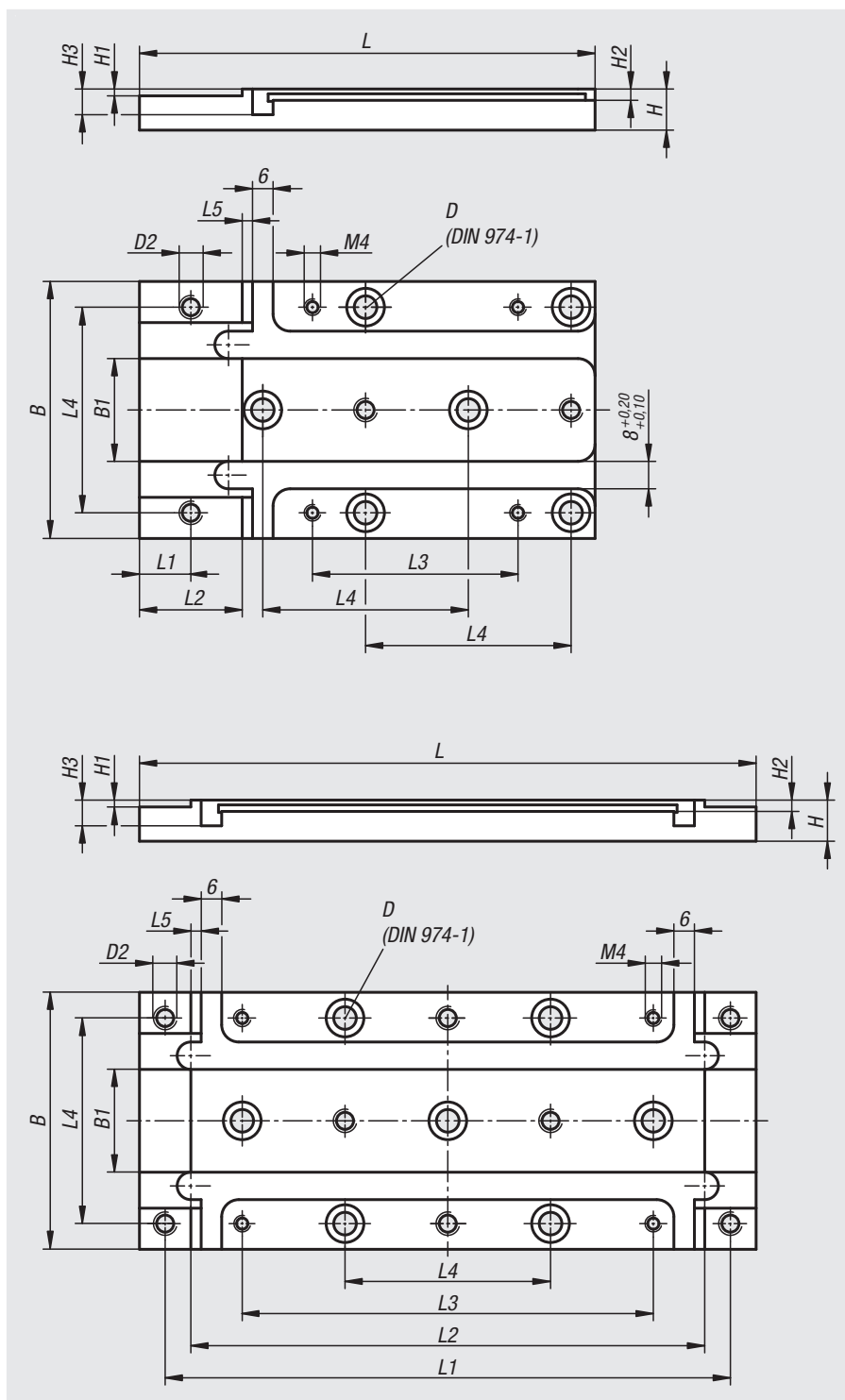
Material:
Aluminium alloy.

Version:
anodised.

Sample order:
nlm 21090-081

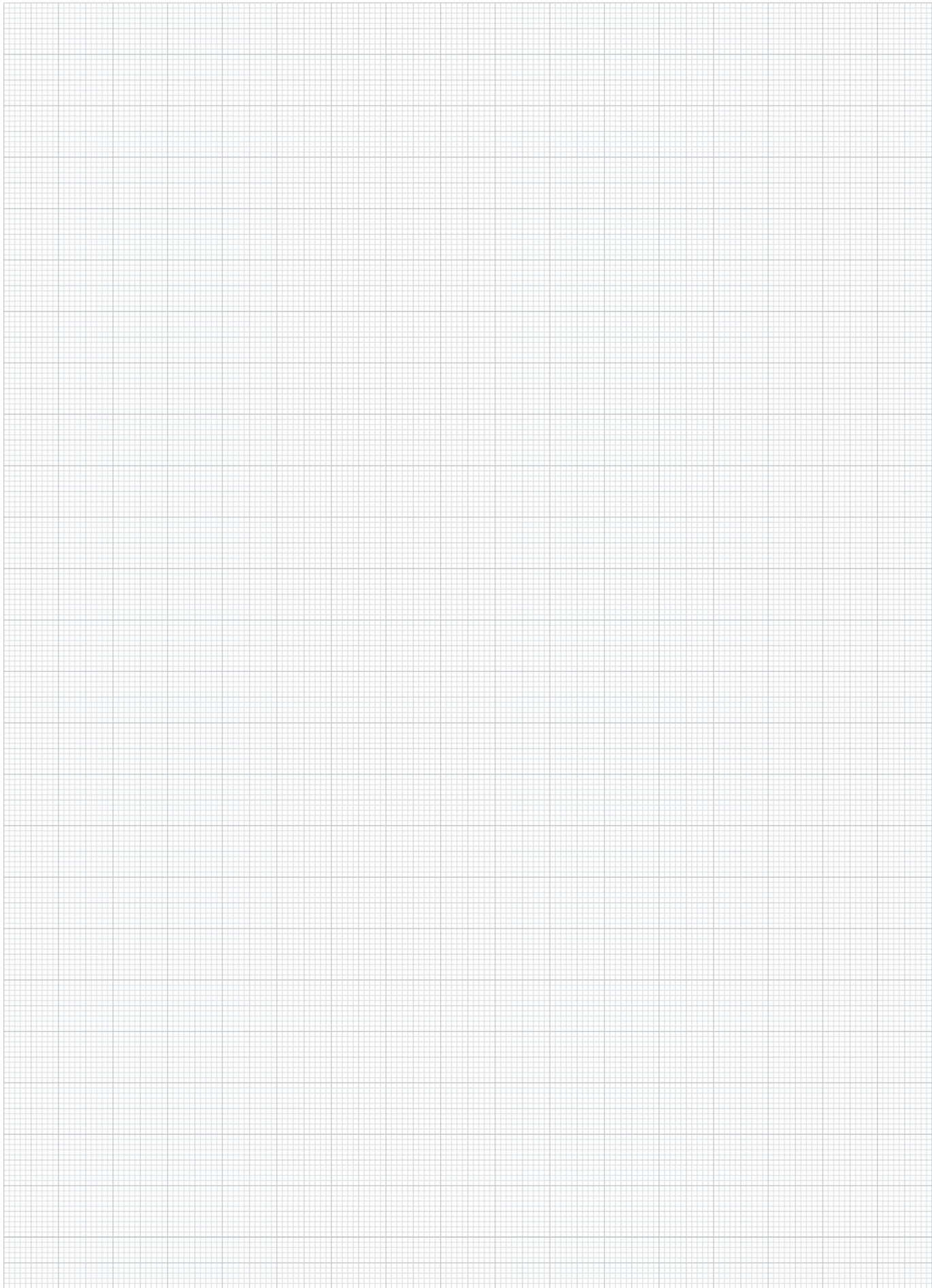
Note:
The mounting plate is used for the horizontal mounting of the short or long positioning stages with electric drive. With slots for direct support of inductive proximity switch (20905-005). The proximity switch can be adjusted when the positioning unit is mounted. The threaded holes M4 are used to fasten the sensor holder 21093.

Can be combined with all other parts of the same size.



Order No.	Size	Version	B	B1	D	D2	H	H1	H2	H3	L	L1	L2	L3	L4	L5
21090-081	8	short	46	10	4	M4	10	2	2,3	6,5	82,5	9	15	40	36	1,5
21090-121	12	short	75	30	6	M6	12	2	3,3	7,5	133	15	30	60	60	3
21090-082	8	long	46	10	4	M4	10	2	2,3	6,5	120	108	96	72	36	1,5
21090-122	12	long	75	30	6	M6	12	2	3,3	7,5	180	165	150	120	60	3

Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Mounting plates vertical


Material:

Aluminium alloy.

Version:

anodised.

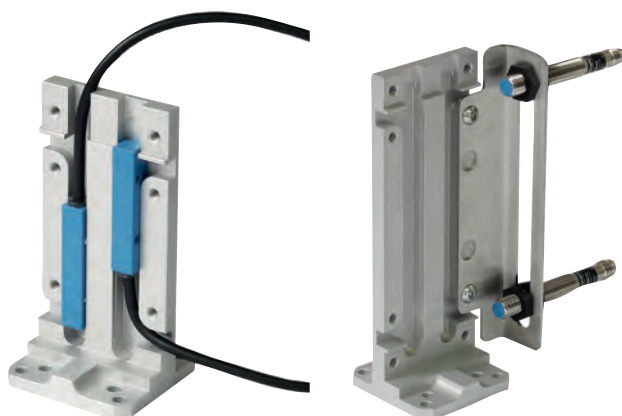
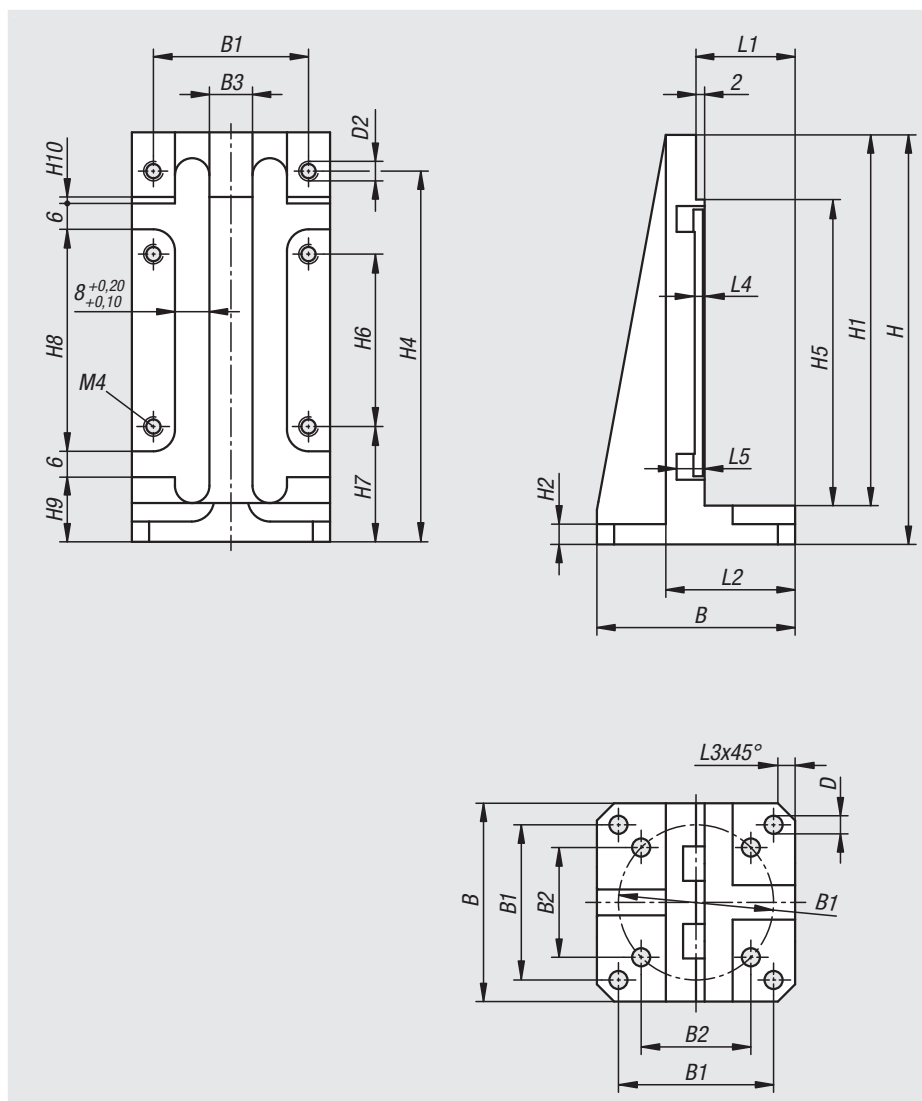
Sample order:

nln 21091-081

Note:

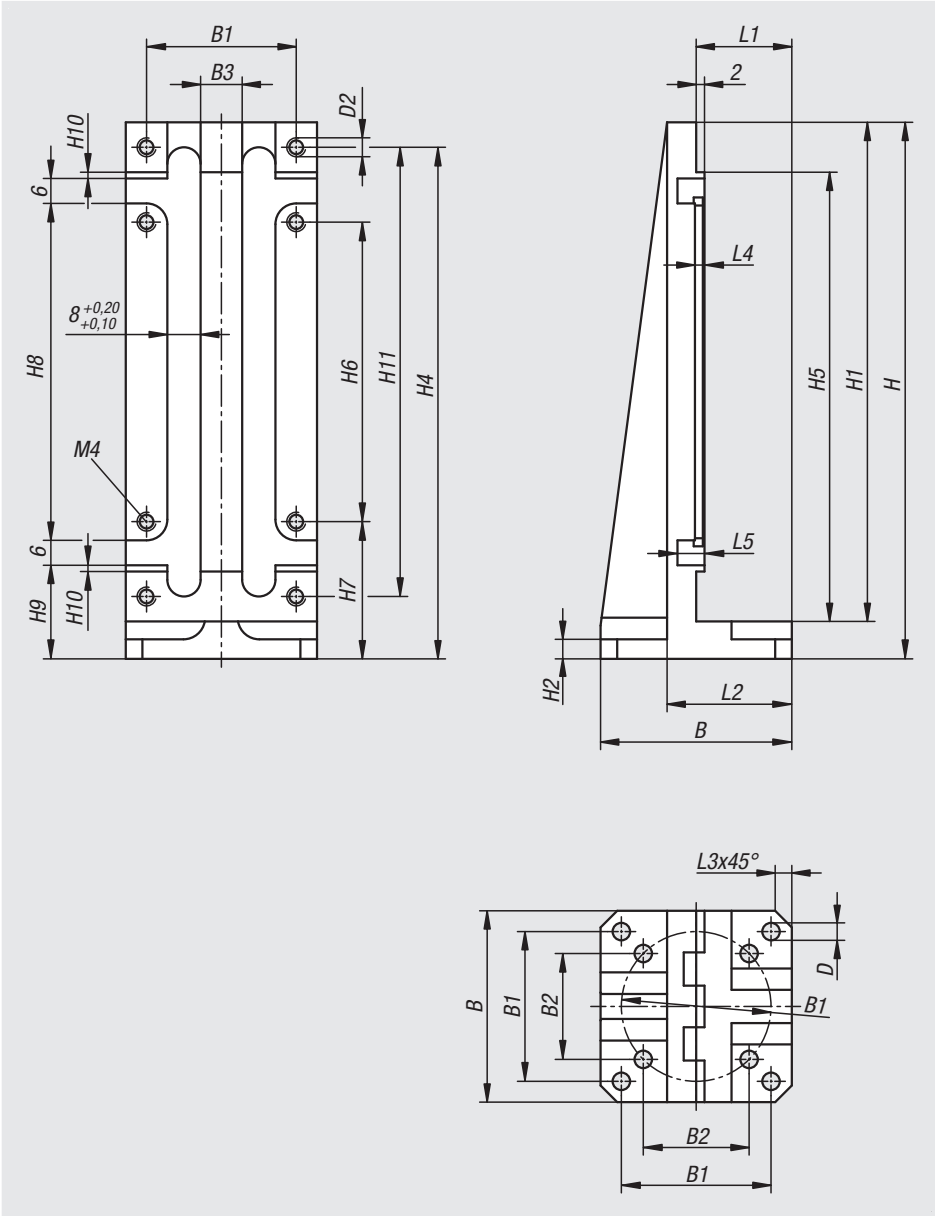
The mounting plate is used for the vertical mounting of the short or long positioning stages with electric drive. With slots for direct support of inductive proximity switch (20905-005). The proximity switch can be adjusted when the positioning unit is mounted. The threaded holes M4 are used to fasten the sensor holder 21093.

Can be combined with all other parts of the same size.



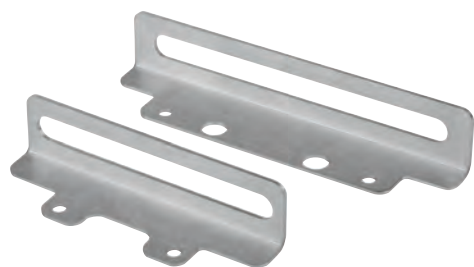
Order No.	Size	Version	B	B1	B2	B3	D	D2	H	H1	H2	H4	H5	H6	H7	H8	H9	H10	L1	L2	L3	L4	L5
21091-081	8	short	46	36	25,5	10	4,2	M4	95	86	4,7	86	71	40	26,75	51,5	15	1,5	23	30	4	2,3	6,5
21091-121	12	short	75	60	42,4	30	6,4	M6	146	136	5,7	131	106	60	35,5	83	18	3	27	36	7	3,3	7,5

Mounting plates vertical



Order No.	Size	Version	B	B1	B2	B3	D	D2	H	H1	H2	H4	H5	H6	H7	H8	H9	H10	H11	L1	L2	L3	L4	L5
21091-082	8	long	46	36	25,5	10	4,2	M4	129	120	4,7	123	108	72	33	81	22,9	1,5	108	23	30	4	2,3	6,5
21091-122	12	long	75	60	42,4	30	6,4	M6	192	180	5,7	184,5	177	120	42	132	30	3	165	27	36	7	3,3	7,5

Sensor holder

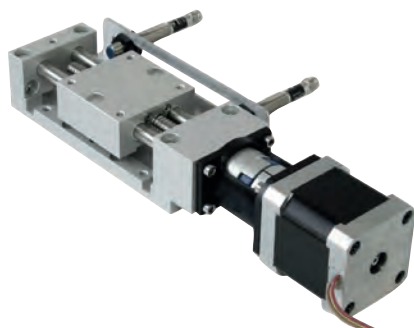
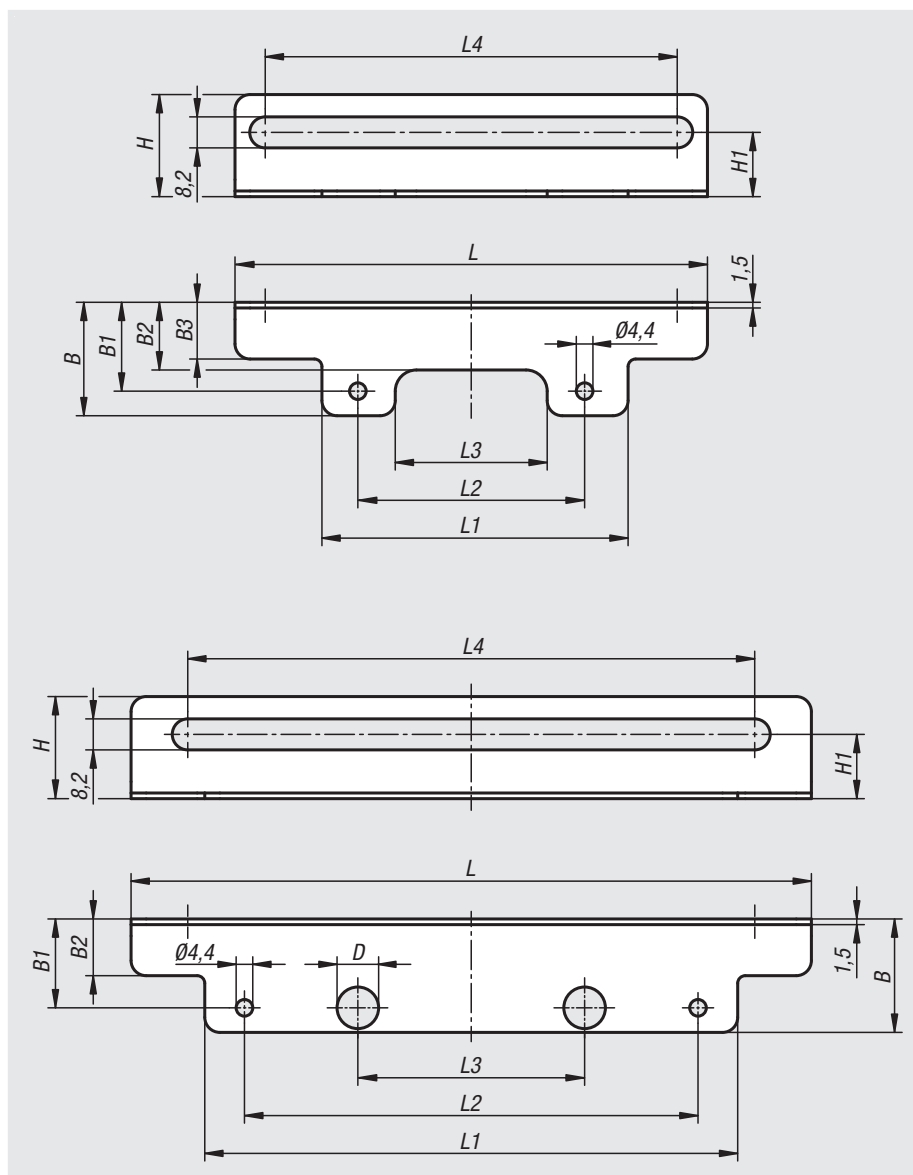


Material:
Aluminium alloy.

Version:
anodised.

Sample order:
nlm 21093-081

Note:
The sensor holder is used to fasten inductive proximity switches (e.g. 83000-10-050) to the mounting plate or on the customer's part.



Order No.	Size	Version	B	B1	B2	B3	D	H	H1	L	L1	L2	L3	L4
21093-081	8	short	25	20	15,9	13,5	4,1	22	12	90	50	40	21,7	74
21093-121	12	short	30	23,5	17,9	15	5,6	27	17	125	81	60	40,2	109
21093-082	8	long	25	20	12,5	-	8	22	12	120	88	72	36	96
21093-122	12	long	30	23,5	15	-	11	27	17	180	141	120	60	150

Sensor holder

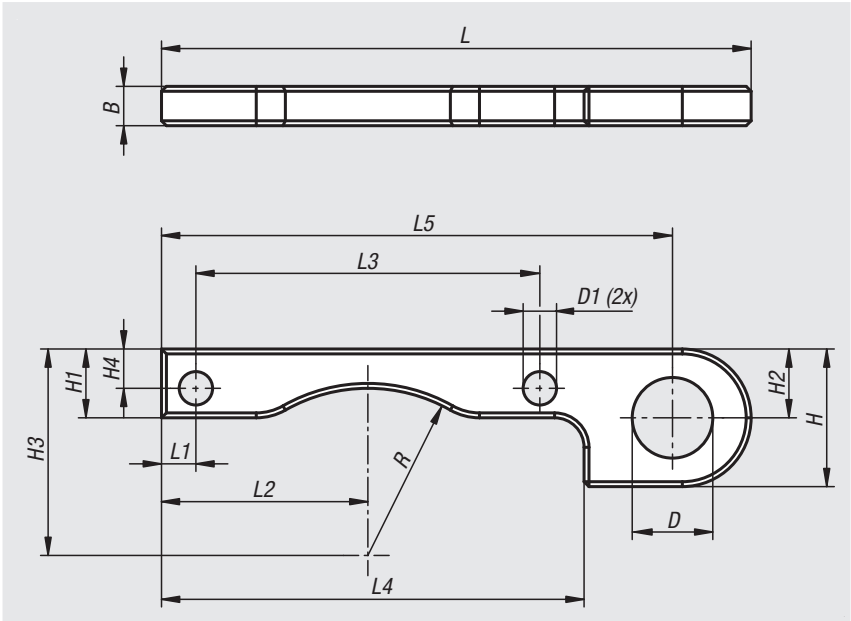


Material:
Aluminium alloy.

Version:
Black anodised

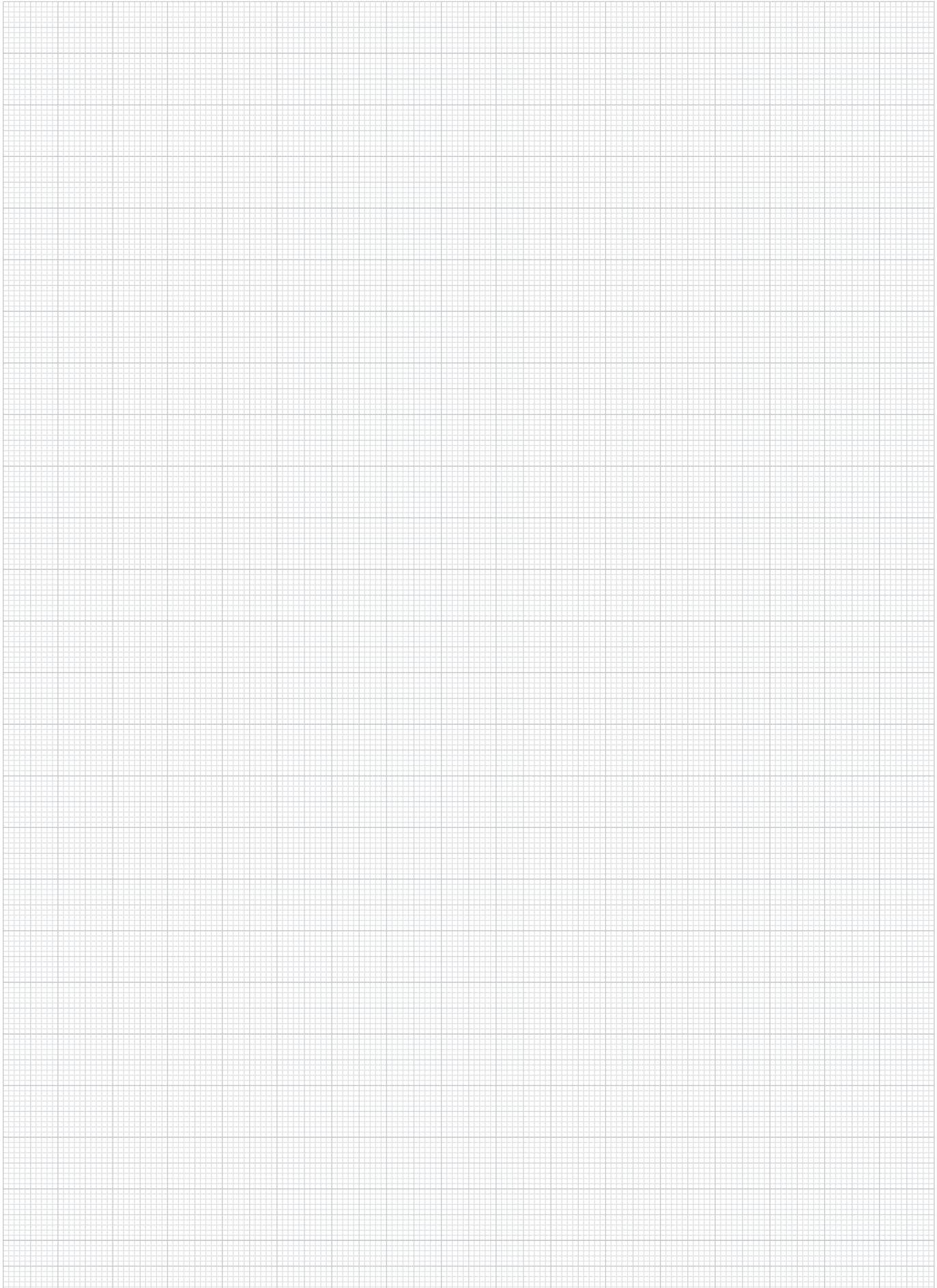
Sample order:
nlm 21094-12

Note:
The sensor holder is used to fasten inductive proximity switches (e.g. 83000-10-050) to the rotary positioning stages with electric drive allowing the switch point to be positioned anywhere. The ring with the switch slot can be freely rotated counter to the rotary disc.



Order No.	Size	B	D	D1	H	H1	H2	H3	H4	L	L1	L2	L3	L4	L5	R
21094-12	12	4	8,2	3,2	14	7	7	21	4	60	3,5	21	35	43	52	17

Notes



Positioning stages, short



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

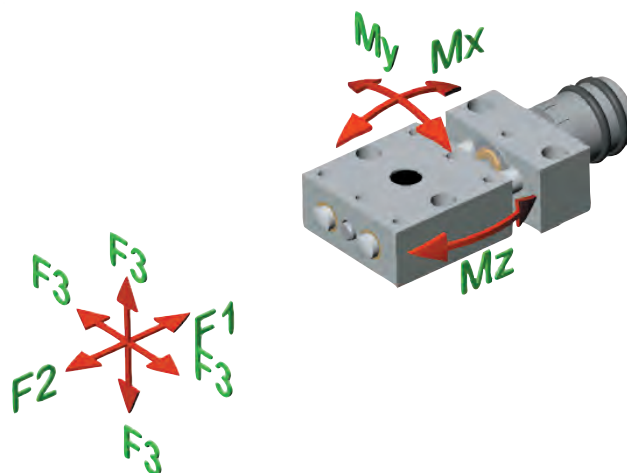
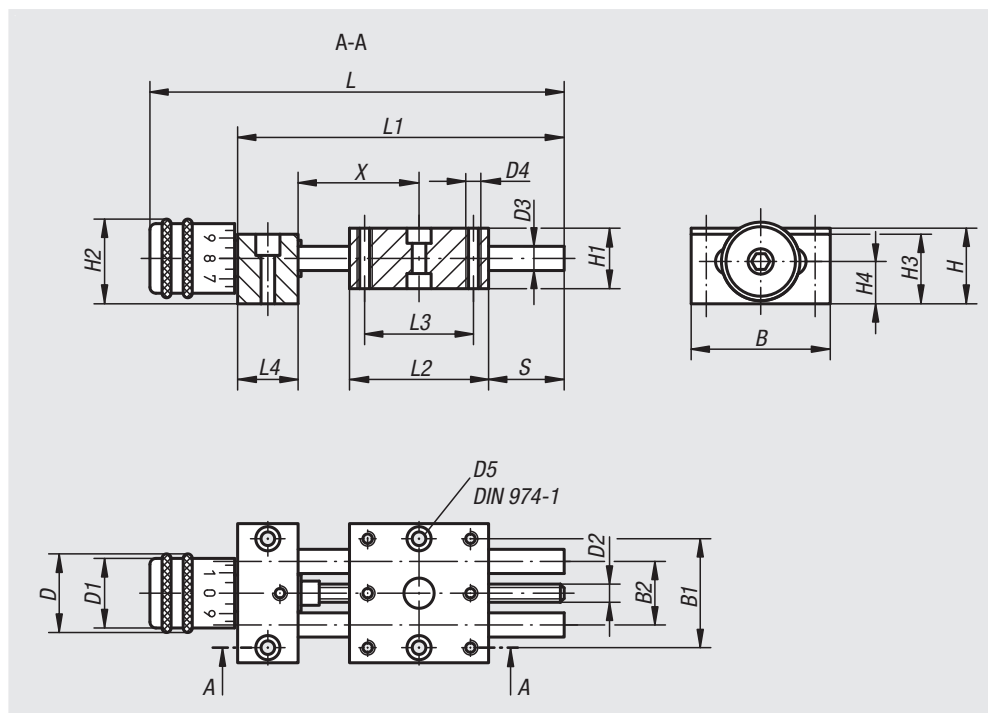
nlm 21100-04

Note:

Due to the practically play-free guides and absolutely play-free spindle, loosening or clamping of the spindle is not required during adjustments.

Scale graduation is 5 or 10 increments, 1 increment is equal to 0.1 mm travel.

Within the respective sizes, the positioning stages can be easily combined using the modular principle.



Order No.	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2	L3	L4	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21100-04	29	22	12	13	11,5	M3x0,5	4	M3	3	14	12	14,5	13	8	64,5	50	29	22	10	11	70	70	X = 28 (10)	0,25	0,11	0,25
21100-08	46	36	21	26	23	M6x1	8	M4	4	24	20	27	23	14	108,5	80	46	36	20	14	200	200	X = 39 (50)	1,9	0,9	1,9
21100-12	75	60	38	26	23	M6x1	12	M6	6	28	25	29	27	15,5	162	133	75	60	30	25	300	300	X = 58 (100)	5,5	3	5,5

Positioning stages, short

with position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

nIm 21102-08

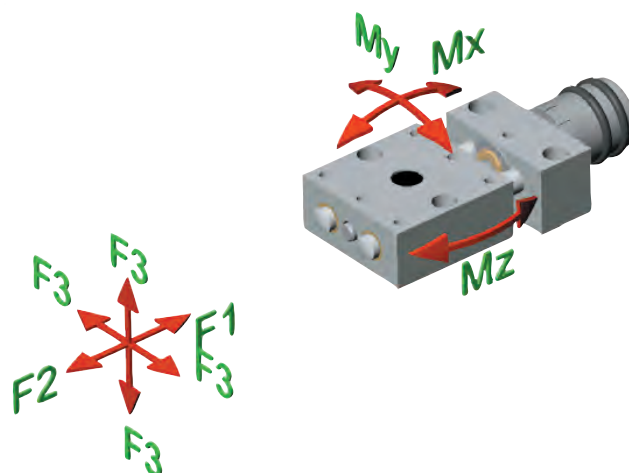
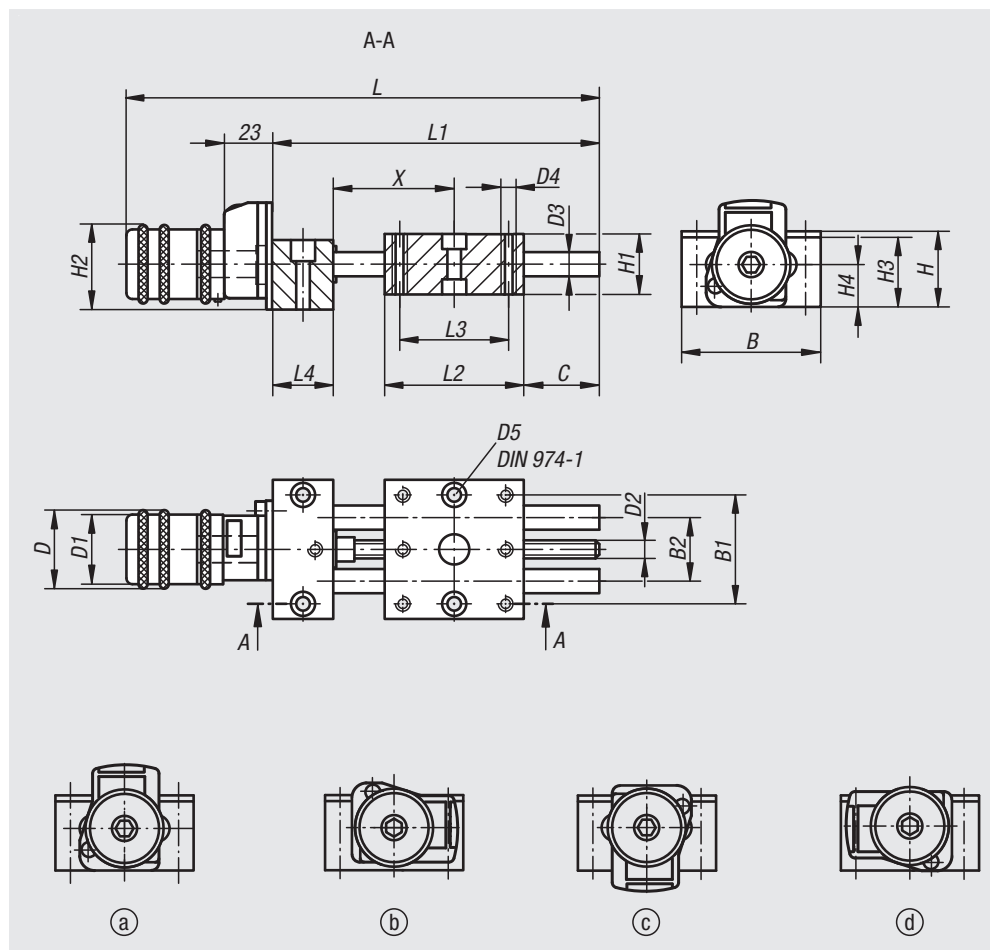
Note:

Due to the practically play-free guides and absolutely play-free spindle, loosening or clamping of the spindle is not required during adjustments.
Digital position indicators with 0.1 mm display accuracy, digits increase with right rotation.
The display value of the position indicator can be adjusted by turning the carrier ring. The mounted position of the position indicator can be set in 4 positions with a screw.
Within the respective sizes, the positioning stages can be easily combined using the modular principle.

Drawing reference:

Assembly position of position indicator:

- a) top (standard)
- b) right
- c) bottom
- d) left



Order No.	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2	L3	L4	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21102-08	46	36	21	26	23	M6x1	8	M4	4	24	20	27	23	14	135	80	46	36	20	14	200	200	X = 39 (50)	1,9	0,9	1,9
21102-12	75	60	38	26	23	M6x1	12	M6	6	28	25	29	27	15,5	187,5	133	75	60	30	25	300	300	X = 58 (100)	5,5	3	5,5

Positioning stages, short

with electronic position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

nlm 21104-08

Note:

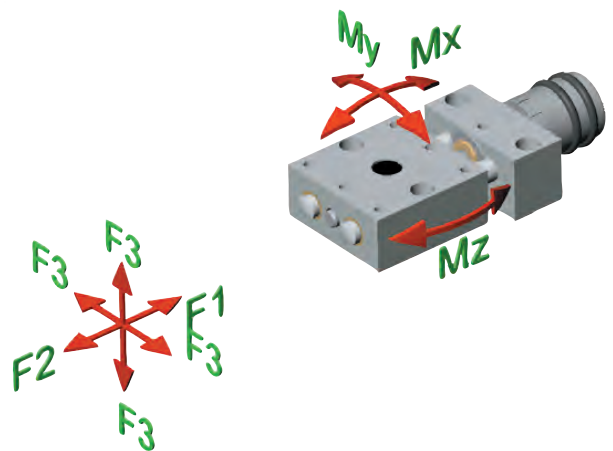
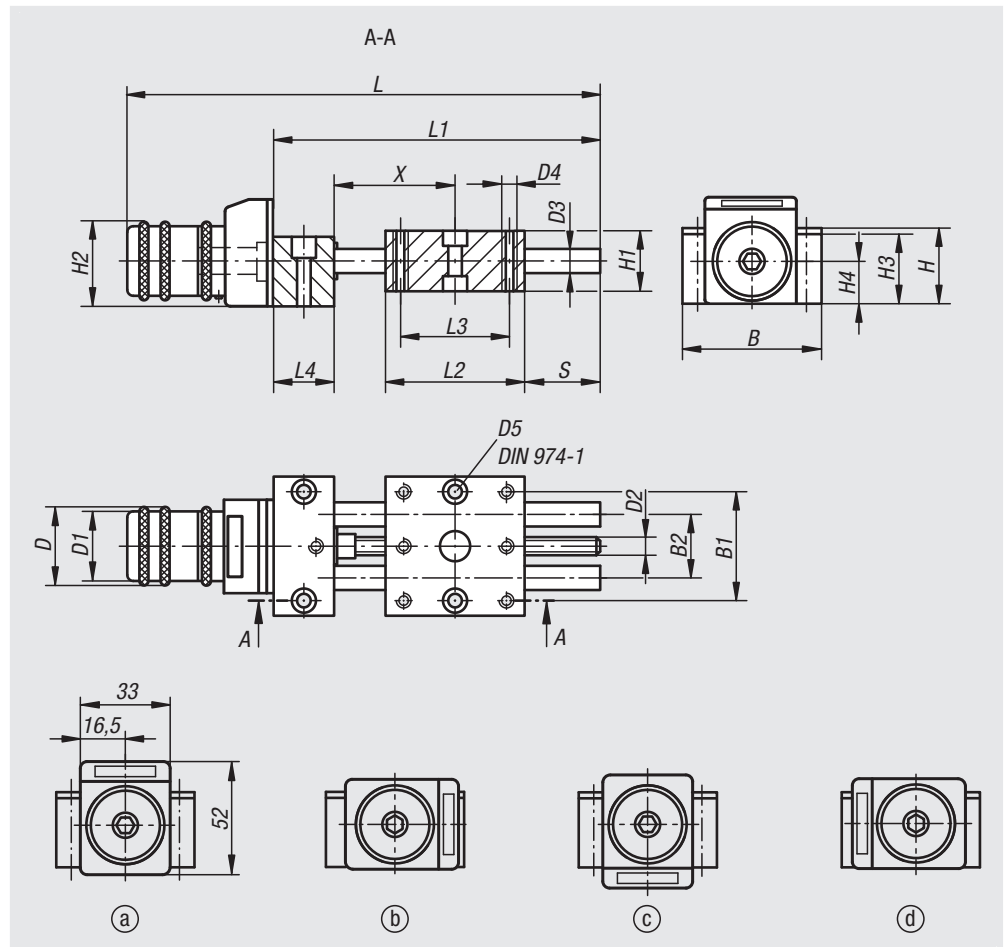
The almost play-free guides and absolutely play-free spindle enables adjustment without the need to loosen or clamp the spindle. Electronic position indicator with 0.01 mm display accuracy and large LCD display. Reset, chain dimension and offset settings can be made via the keypad. 2 years battery life. The battery is quick and easy to replace.

The mounting position of the position indicator is set in 4 positions using one screw. The modular design enables the positioning stage to be easily combined with other items of the same size.

Drawing reference:

Assembly position of position indicator:

- a) top (standard)
- b) right
- c) bottom
- d) left



Order No.	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2	L3	L4	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21104-08	46	36	21	26	23	M6x1	8	M4	4	24	20	27	23	14	139	80	46	36	20	14	200	200	X = 39 (50)	1,9	0,9	1,9
21104-12	75	60	38	26	23	M6x1	12	M6	6	28	25	29	27	15,5	192	133	75	60	30	25	300	300	X = 58 (100)	5,5	3	5,5

Positioning stages, long



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

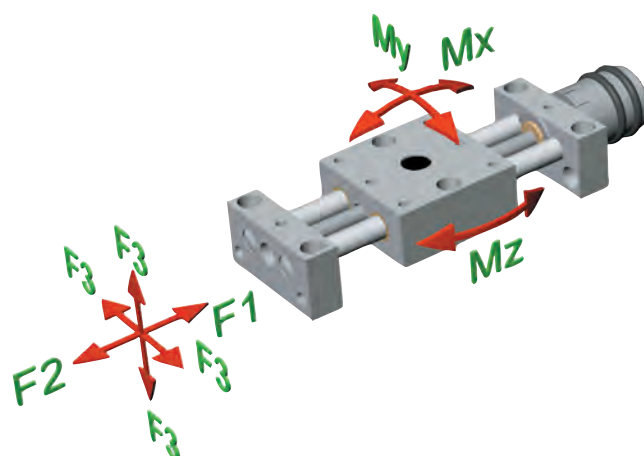
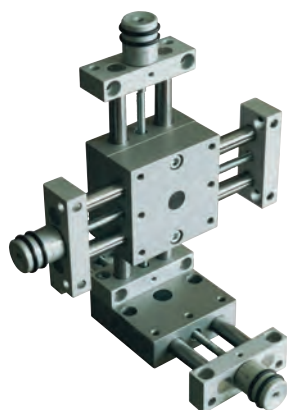
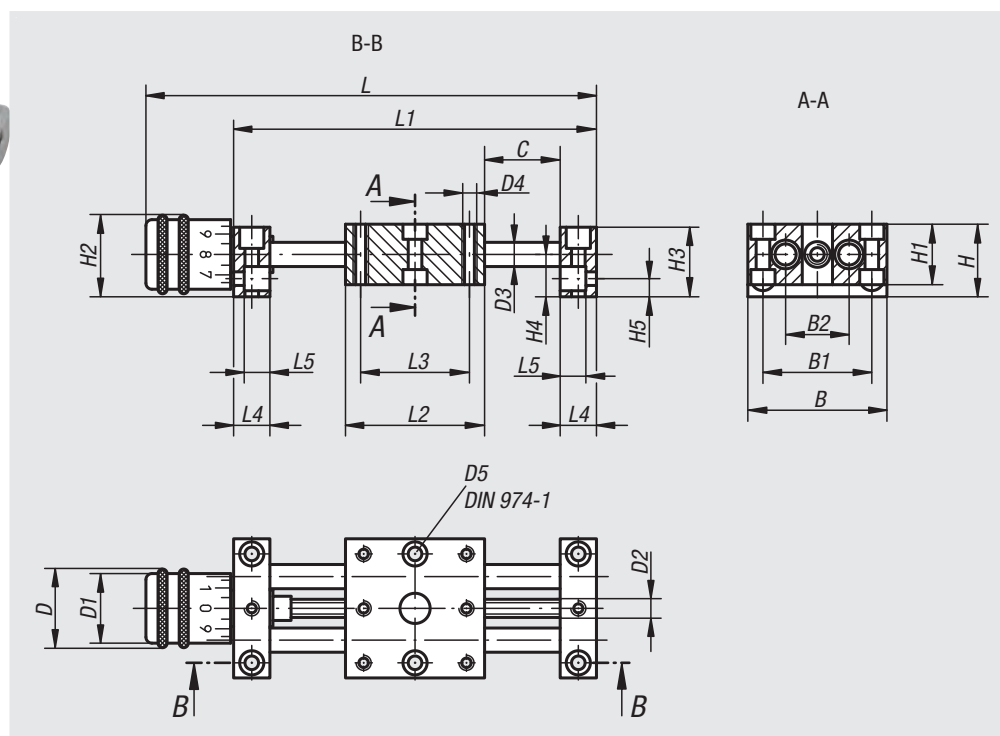
nlm 21120-04

Note:

Due to the practically play-free guides and absolutely play-free spindle, loosening or clamping of the spindle is not required during adjustments.

Scale wgraduation is 5 or 10 increments, 1 increment is equal to 0.1 mm travel.

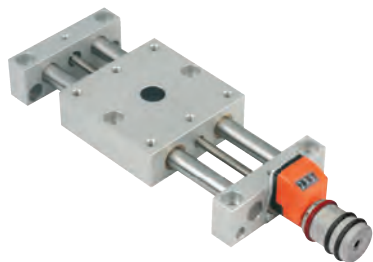
Within the respective sizes, the positioning stages can be easily combined using the modular principle.



Order No.	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2	L3	L4	L5	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21120-04	29	22	12	13	12	M3x0,5	4	M3	3	14	12	14,5	13	8	4	84,5	70	29	22	8	6	23	70	70	70	0,77	0,77	0,77
21120-08	46	36	21	26	23	M6x1	8	M4	4	24	20	27	23	14	6	148,5	120	46	36	12	8,5	48	200	200	200	3,6	3,6	3,6
21120-12	75	60	38	26	23	M6x1	12	M6	6	28	25	28,5	27	15,5	7	209	180	75	60	15	11	73	300	300	300	18	18	18
21120-25	150	130	90	52	46	M16x2	25	M10	10	53	50	54	52	28	13	347	290	150	130	25	18	86	1000	1000	1000	65	65	65

Positioning stages, long

with position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.

Guide columns stainless steel, ground.

Spindle stainless steel, rolled thread.

Guide bearing maintenance-free.

Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.

No axial backlash.

Spindle self-locking, with additional lock.

Sample order:

nlm 21122-08

Note:

Due to the practically play-free guides and absolutely play-free spindle, loosening or clamping of the spindle is not required during adjustments.

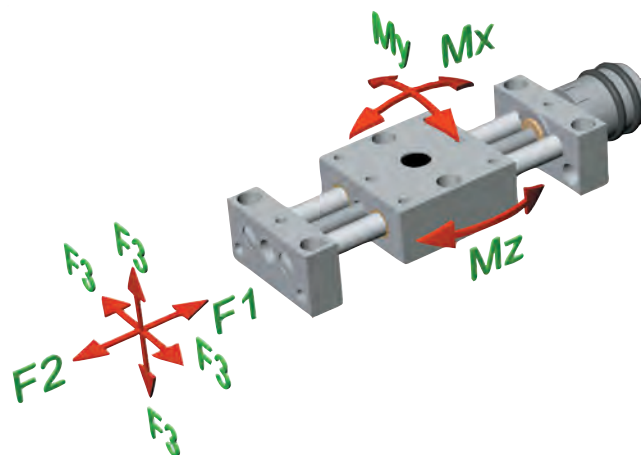
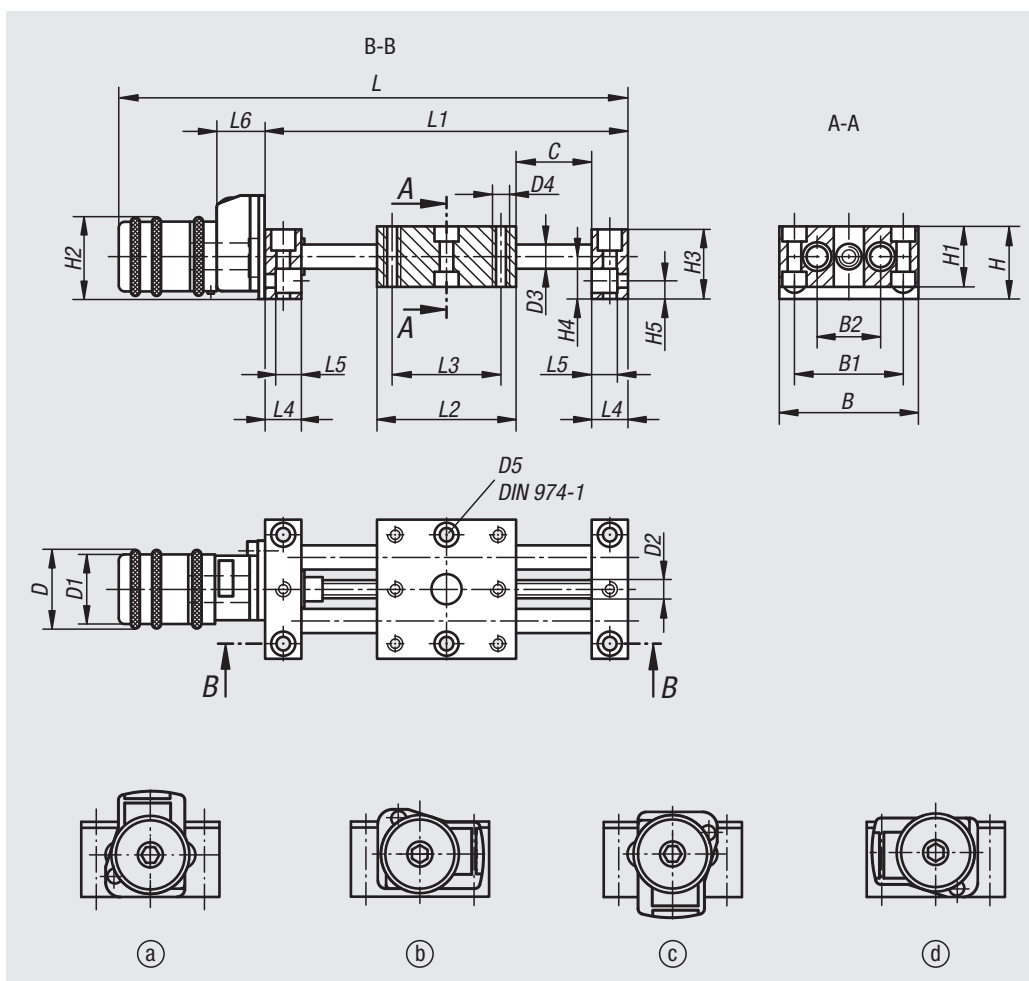
Digital position indicators with 0.1 mm display accuracy, digits increase with right rotation. The display value of the position indicator can be adjusted by turning the carrier ring. The mounted position of the position indicator can be set in 4 positions with a screw. Size 25 can be mounted in 3 positions (up, right and left).

Within the respective sizes, the positioning stages can be easily combined using the modular principle.

Drawing reference:

Assembly position of position indicator:

- a) top (standard)
- b) right
- c) bottom
- d) left



Order No.	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2	L3	L4	L5	L6	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21122-08	46	36	21	26	23	M6x1	8	M4	4	24	20	27	23	14	6	175	120	46	36	12	8,5	23	48	200	200	200	3,6	3,6	3,6
21122-12	75	60	38	26	23	M6x1	12	M6	6	28	25	28,5	27	15,5	7	235	180	75	60	15	11	23	73	300	300	300	18	18	18
21122-25	150	130	90	52	46	M16x2	25	M10	10	53	50	54	52	28	13	388	290	150	130	25	18	36	86	1000	1000	1000	65	65	18

Positioning stages, long

with electronic position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.

Guide columns stainless steel, ground.

Spindle stainless steel, rolled thread.

Guide bearing maintenance-free.

Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.

No axial backlash.

Spindle self-locking, with additional lock.

Sample order:

nlm 21124-08

Note:

The almost play-free guides and absolutely play-free spindle enables adjustment without the need to loosen or clamp the spindle.

Electronic position indicator with 0.01 mm display accuracy and large LCD display. Reset, chain dimension and offset settings can be made via the keypad.

2 years battery life. The battery is quick and easy to replace.

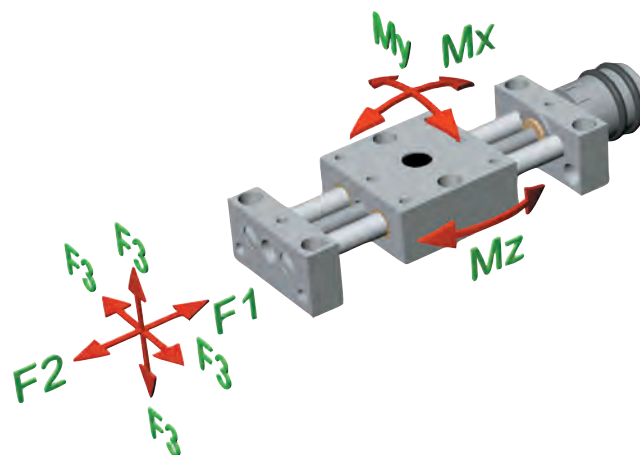
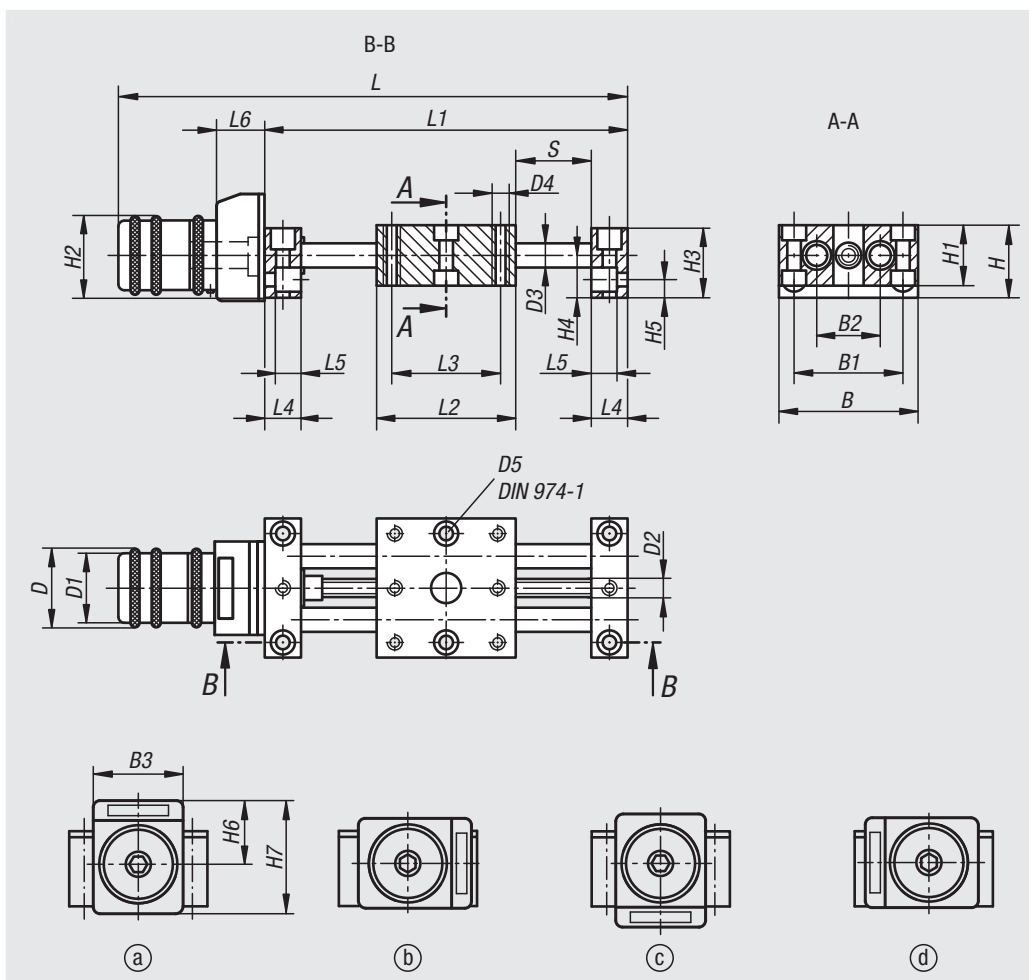
The mounting position of the position indicator is set in 4 positions using one screw.

The modular design enables the positioning stage to be easily combined with other items of the same size.

Drawing reference:

Mounting position of the position indicator:

- a) top (standard)
b) right
c) bottom not possible for 21124-25
d) left



Positioning stages, long

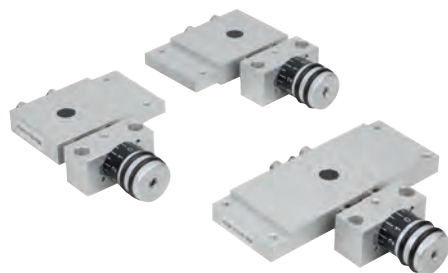
with electronic position indicator



Order No.	B	B1	B2	B3	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4
21124-08	46	36	21	33	26	23	M6x1	8	M4	4	24	20	27	23	14
21124-12	75	60	38	33	26	23	M6x1	12	M6	6	28	25	28,5	27	15,5
21124-25	150	130	90	48	52	46	M16x2	25	M10	10	53	50	54	52	28

Order No.	H5	H6	H7	L	L1	L2	L3	L4	L5	L6	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21124-08	6	31	52	179	120	46	36	12	8,5	29,4	48	200	200	200	3,6	3,6	3,6
21124-12	7	31	52	239	180	75	60	15	11	29,4	73	300	300	300	18	18	18
21124-25	13	42,4	71,4	376	290	150	130	20	18	36,4	86	1000	1000	1000	65	65	18

Cross stages, short



Material:

Bearing block and carriage aluminium alloy, anodised.

Guide columns stainless steel, ground.

Spindle stainless steel, rolled thread.

Guide bearing maintenance-free.

Version:

Radial play on guide < 0.02 mm.

No axial backlash.

Spindle self-locking, with additional lock.

Sample order:

n1m 21130-104

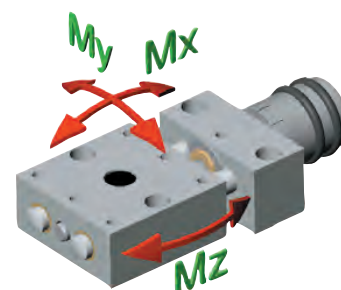
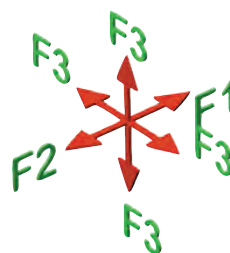
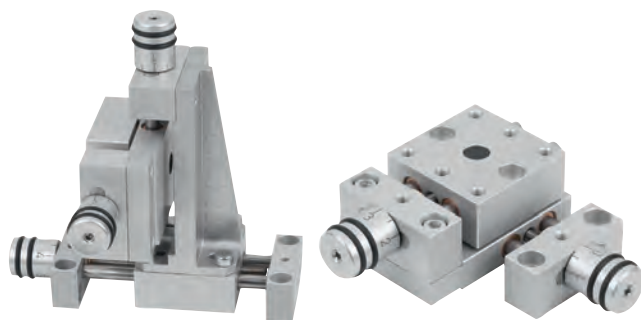
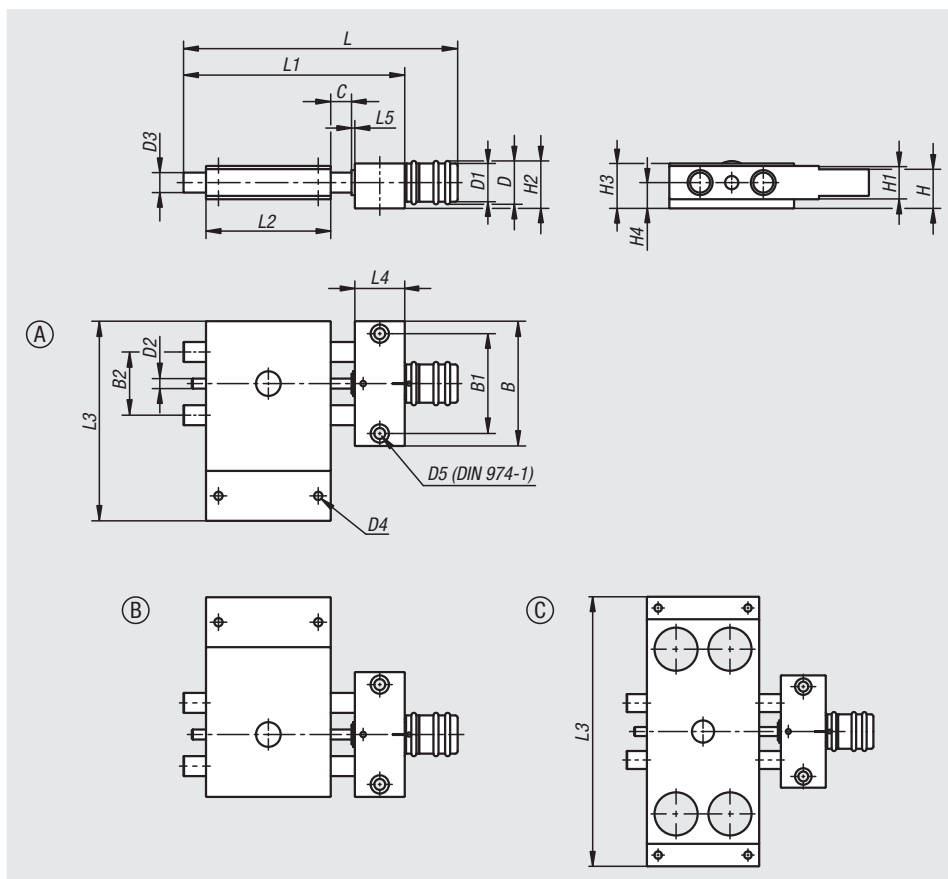
Note:

The almost play-free guides and absolutely play-free spindle allow for adjustment without the need to loosen or clamp the spindle.

The scale graduation is in 5 or 10 increments;

1 increment corresponds to 0.1 mm of travel.

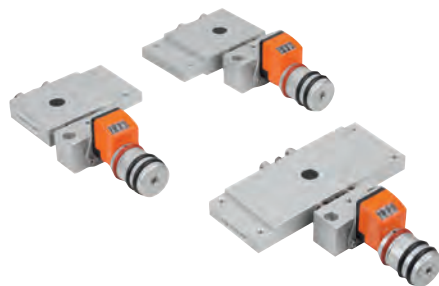
The cross stage can be easily combined with positioning stages, vertical stages and other accessories of respective size by the modular principle.



Order No.	Form	B	B1	B2	C	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2	L3	L4	L5	F1	F2	F3	Mx	My	Mz
					(travel)																		N	N	N	Nm	Nm	Nm
21130-104	A	29	22	12	11	13	11,5	M3x0,5	4	M3	3	11	8	14,5	13	8	64,5	50	29	46	10	1,5	70	70	X = 28 (10)	0,25	0,11	0,25
21130-108	A	46	36	21	14	26	23	M6x1	8	M4	4	18	14	27	23	14	108,5	80	46	75	20	2	200	200	X = 39 (50)	1,9	0,9	1,9
21130-112	A	75	60	38	25	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	162	133	75	120	30	2	300	300	X = 58 (100)	5,5	3	5,5
21130-204	B	29	22	12	11	13	11,5	M3x0,5	4	M3	3	11	8	14,5	13	8	64,5	50	29	46	10	1,5	70	70	X = 28 (10)	0,25	0,11	0,25
21130-208	B	46	36	21	14	26	23	M6x1	8	M4	4	18	14	27	23	14	108,5	80	46	75	20	2	200	200	X = 39 (50)	1,9	0,9	1,9
21130-212	B	75	60	38	25	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	162	133	75	120	30	2	300	300	X = 58 (100)	5,5	3	5,5
21130-304	C	29	22	12	11	13	11,5	M3x0,5	4	M3	3	11	8	14,5	13	8	64,5	50	29	70	10	1,5	70	70	X = 28 (10)	0,25	0,11	0,25
21130-308	C	46	36	21	14	26	23	M6x1	8	M4	4	18	14	27	23	14	108,5	80	46	120	20	2	200	200	X = 39 (50)	1,9	0,9	1,9
21130-312	C	75	60	38	25	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	162	133	75	180	30	2	300	300	X = 58 (100)	5,5	3	5,5

Cross stages, short

with position indicators



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

n1m 21132-108

Note:

The almost play-free guides and absolutely play-free spindle allow for adjustment without the need to loosen or clamp the spindle.

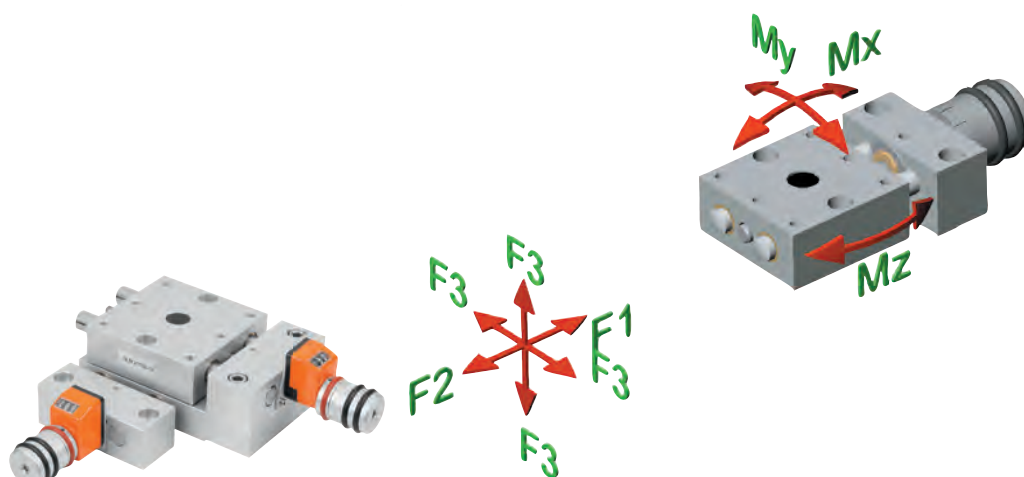
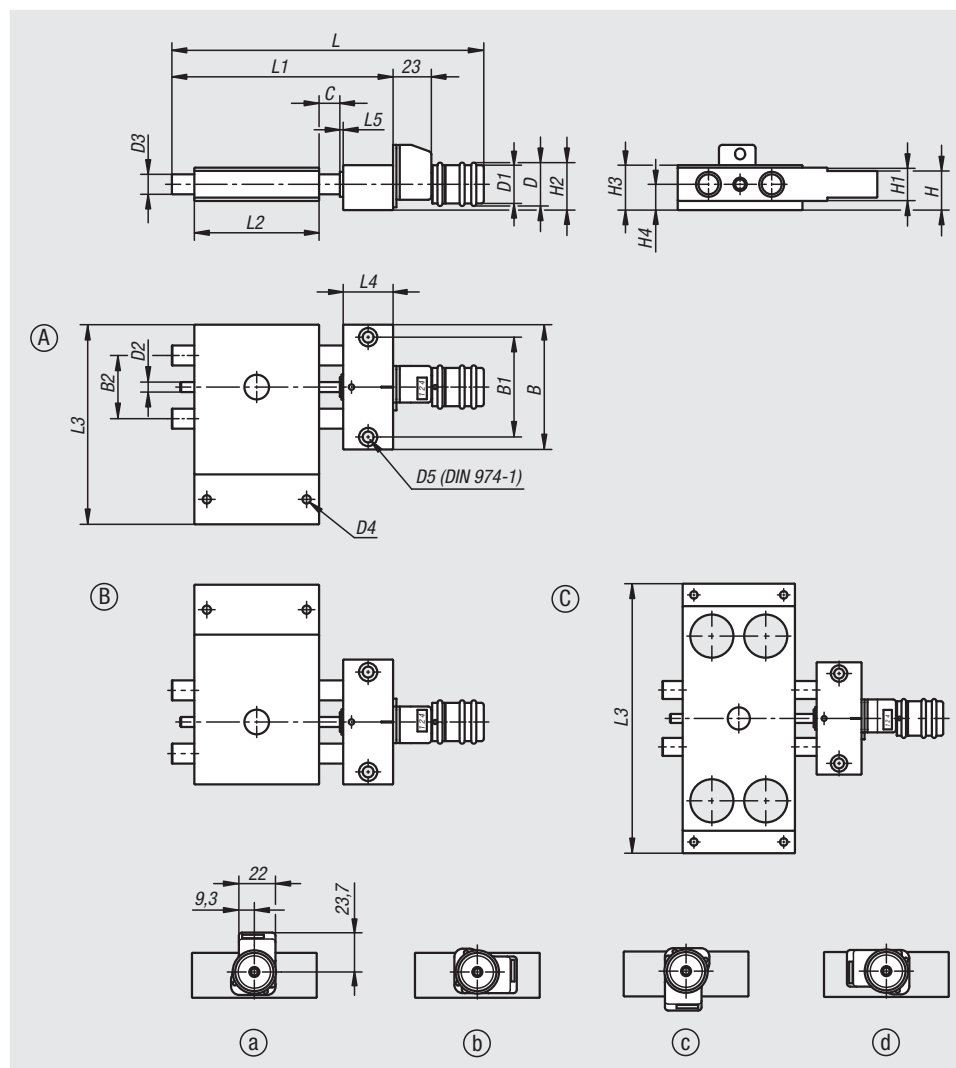
Digital position indicator with 0.1 mm indicator accuracy, digits increase by clockwise rotation. The display value is set by turning the outer ring. The indicator can be mounted in 4 positions using a screw.

The cross stage can be easily combined with positioning stages, vertical stages and other accessories of respective size by the modular principle.

Drawing reference:

Assembly position of position indicator:

- a) top (standard)
- b) right
- c) bottom
- d) left



Order No.	Form	B	B1	B2	C (travel)	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2	L3	L4	L5	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21132-108	A	46	36	21	14	26	23	M6x1	8	M4	4	18	14	27	23	14	134,5	80	46	75	20	2	200	200	X = 39 (50)	1,9	0,9	1,9
21132-112	A	75	60	38	25	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	187,5	133	75	120	30	2	300	300	X = 58 (100)	5,5	3	5,5
21132-208	B	46	36	21	14	26	23	M6x1	8	M4	4	18	14	27	23	14	134,5	80	46	75	20	2	200	200	X = 39 (50)	1,9	0,9	1,9
21132-212	B	75	60	38	25	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	187,5	133	75	120	30	2	300	300	X = 58 (100)	5,5	3	5,5
21132-308	C	46	36	21	14	26	23	M6x1	8	M4	4	18	14	27	23	14	134,5	80	46	120	20	2	200	200	X = 39 (50)	1,9	0,9	1,9
21132-312	C	75	60	38	25	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	187,5	133	75	180	30	2	300	300	X = 58 (100)	5,5	3	5,5

Cross slides, short

with electronic position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

n1m 21133-108

Note:

The almost play-free guides and absolutely play-free spindle enables adjustment without the need to loosen or clamp the spindle.

Electronic position indicator with 0.01 mm display accuracy and large LCD display. Reset, chain dimension and offset settings can be made via the keypad.

2 years battery life. The battery is quick and easy to replace.

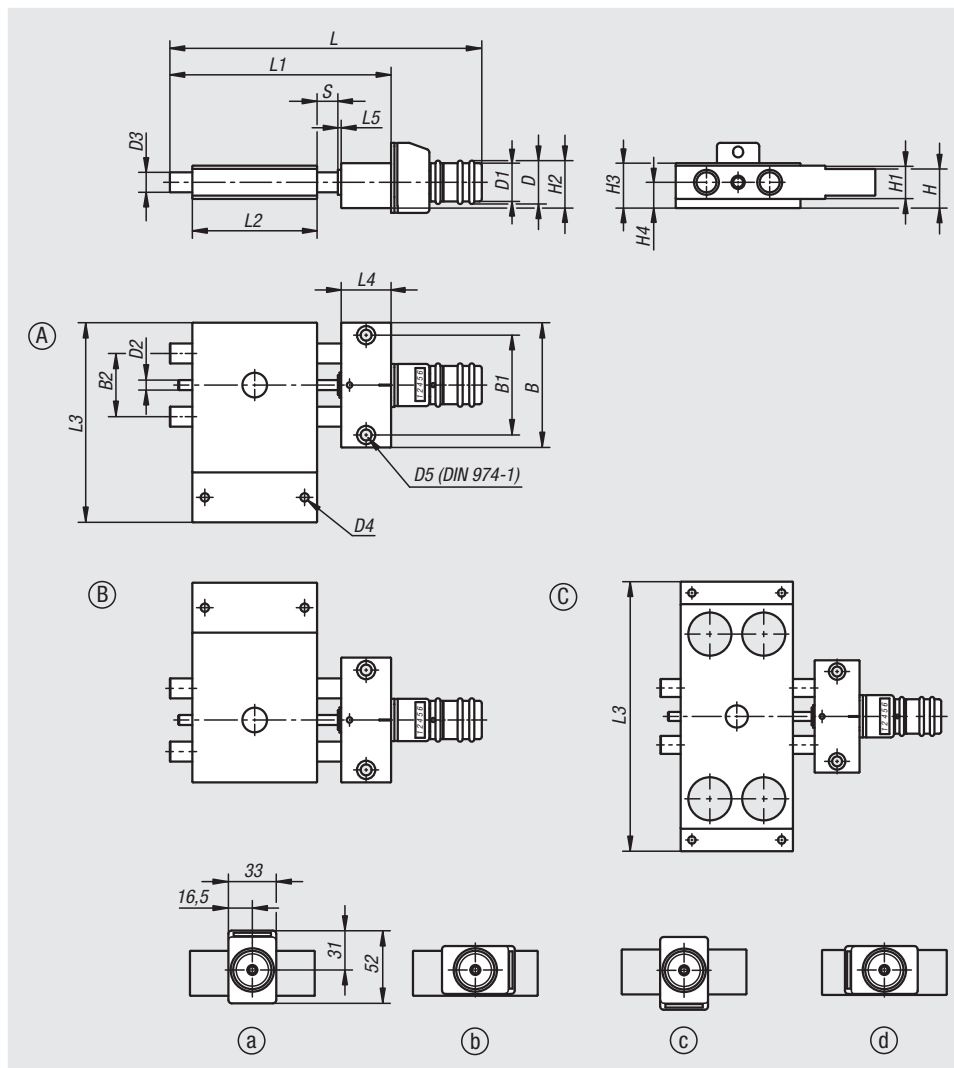
The mounting position of the position indicator is set in 4 positions using one screw.

The modular design enables the cross slide to be easily combined with positioning stages, vertical stages and other accessories of the same size.

Drawing reference:

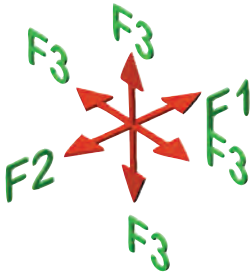
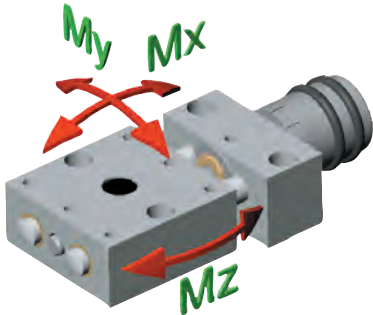
Assembly position of position indicator:

- a) top (standard)
- b) right
- c) bottom
- d) left



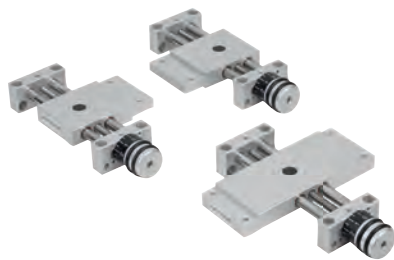
Cross slides, short

with electronic position indicator



Order No.	Form	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	L	L1	L2	L3	L4	L5	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21133-108	A	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	139	80	46	75	20	2	14	200	200	X = 39 (50)	1,9	0,9	1,9
21133-112	A	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	192	133	75	120	30	2	25	300	300	X = 58 (100)	5,5	3	5,5
21133-208	B	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	139	80	46	75	20	2	14	200	200	X = 39 (50)	1,9	0,9	1,9
21133-212	B	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	192	133	75	120	30	2	25	300	300	X = 58 (100)	5,5	3	5,5
21133-308	C	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	139	80	46	120	20	2	14	200	200	X = 39 (50)	1,9	0,9	1,9
21133-312	C	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	192	133	75	180	30	2	25	300	300	X = 58 (100)	5,5	3	5,5

Cross stages, long



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.

Version:

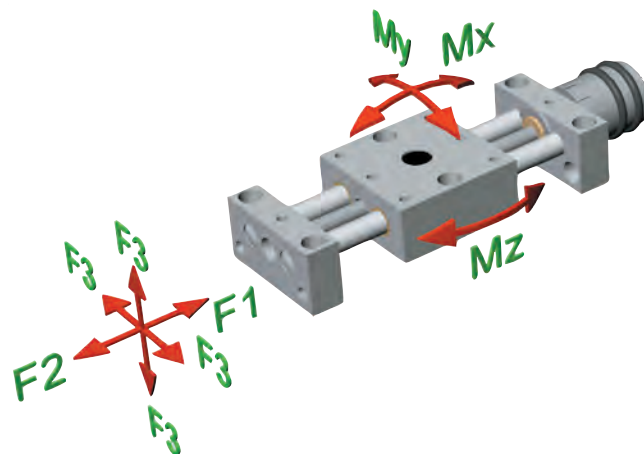
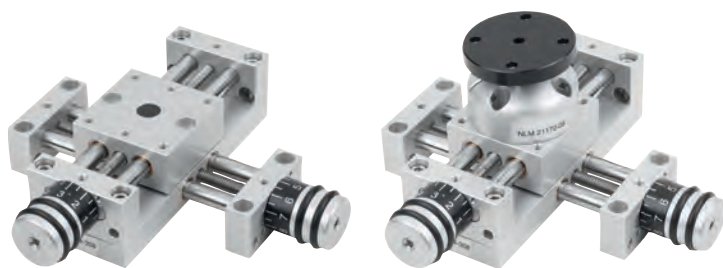
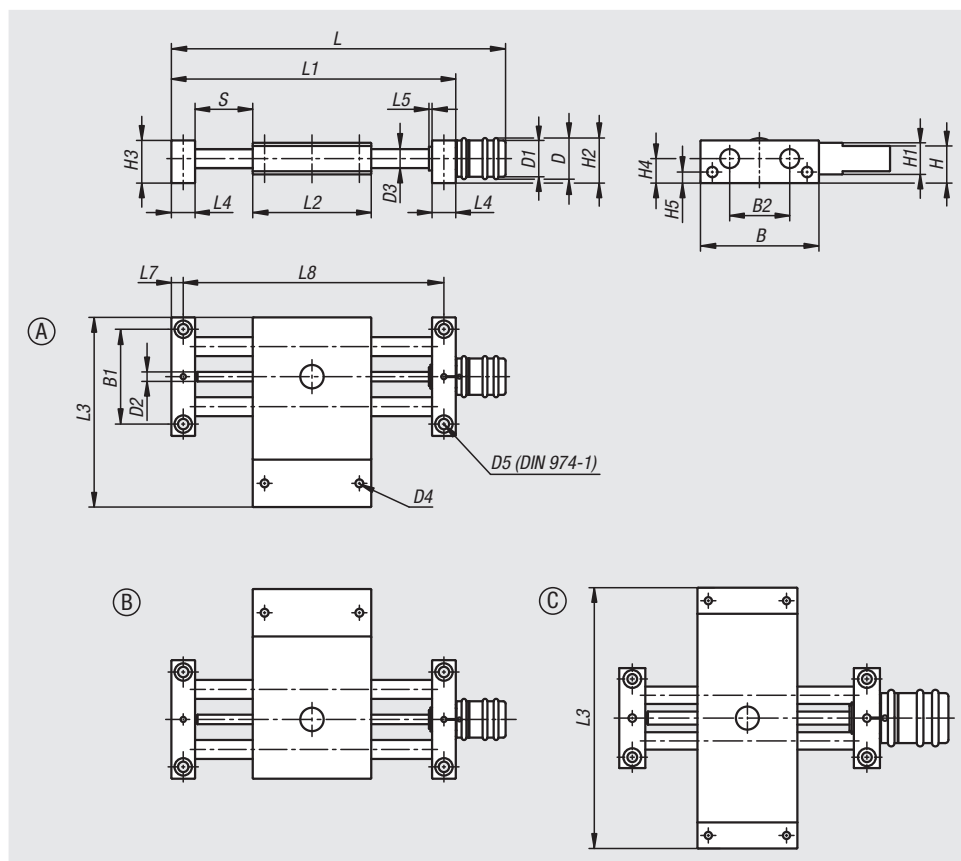
Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

n1m 21134-104

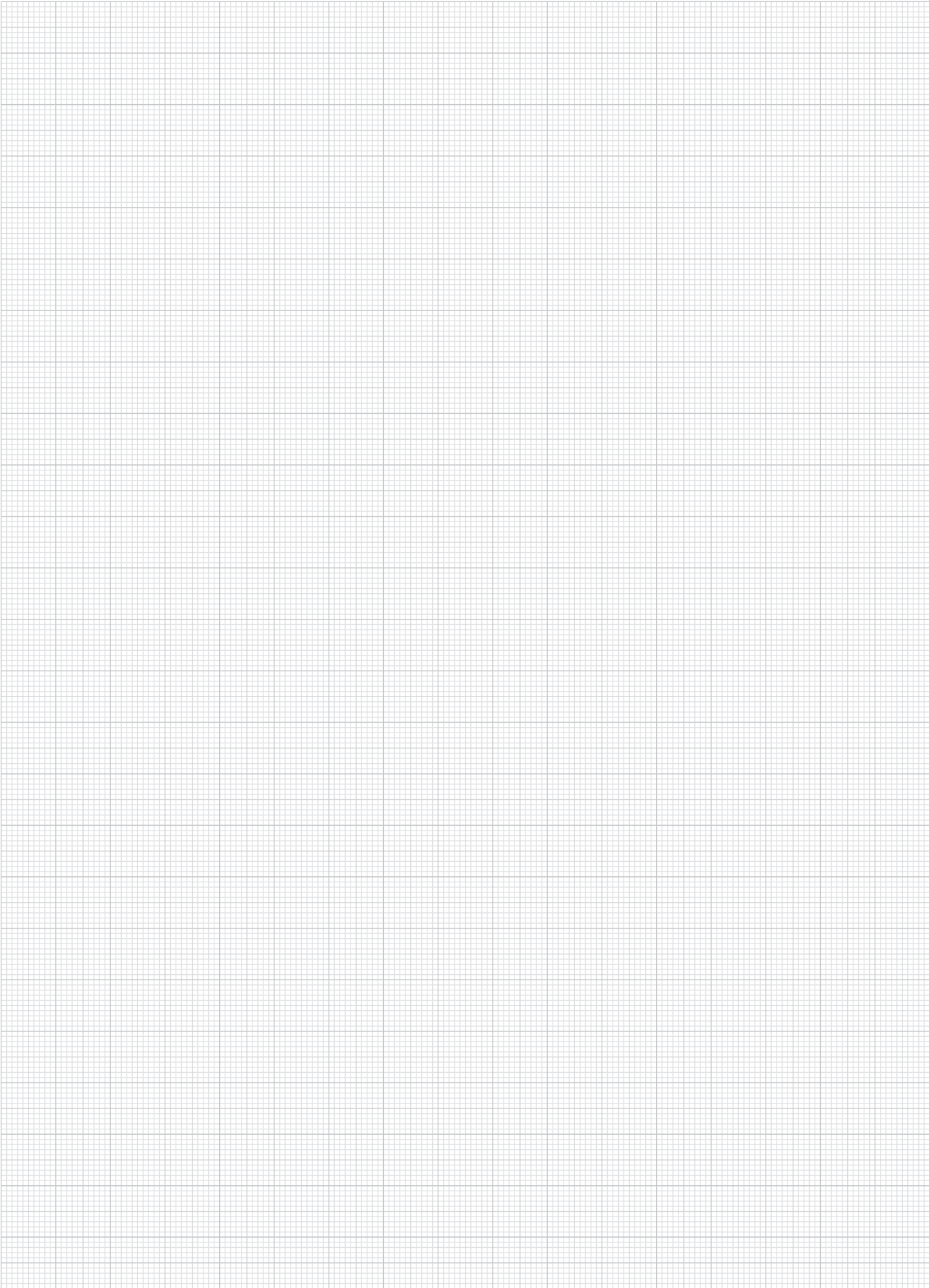
Note:

The almost play-free guides and absolutely play-free spindle allow for adjustment without the need to loosen or clamp the spindle.
The scale graduation is in 5 or 10 increments; 1 increment corresponds to 0.1 mm of travel.
The cross stage can be easily combined with positioning stages, vertical stages and other accessories of respective size by the modular principle.



Order No.	Form	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2	L3	L4	L5	L7	L8	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21134-104	A	29	22	12	13	11,5	M3x0,5	4	M3	3	11	8	14,5	13	8	4	84,5	70	29	46	8	1,5	4	62	23	70	70	70	0,77	0,77	0,77
21134-108	A	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	6	148,5	120	46	75	12	2	6	108	48	200	200	200	3,6	3,6	3,6
21134-112	A	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	209	180	75	120	15	2	7,5	165	73	300	300	300	18	18	18
21134-204	B	29	22	12	13	11,5	M3x0,5	4	M3	3	11	8	14,5	13	8	4	84,5	70	29	46	8	1,5	4	62	23	70	70	70	0,77	0,77	0,77
21134-208	B	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	6	148,5	120	46	75	12	2	6	108	48	200	200	200	3,6	3,6	3,6
21134-212	B	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	209	180	75	120	15	2	7,5	165	73	300	300	300	18	18	18
21134-304	C	29	22	12	13	11,5	M3x0,5	4	M3	3	11	8	14,5	13	8	4	84,5	70	29	70	8	1,5	4	62	23	70	70	70	0,77	0,77	0,77
21134-308	C	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	6	148,5	120	46	120	12	2	6	108	48	200	200	200	3,6	3,6	3,6
21134-312	C	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	209	180	75	180	15	2	7,5	165	73	300	300	300	18	18	18

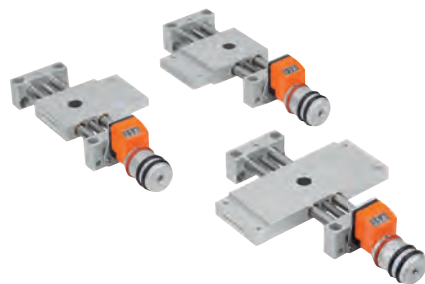
Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Cross stages, long

with position indicators



Material:

Bearing block and carriage
aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

n1m 21136-108

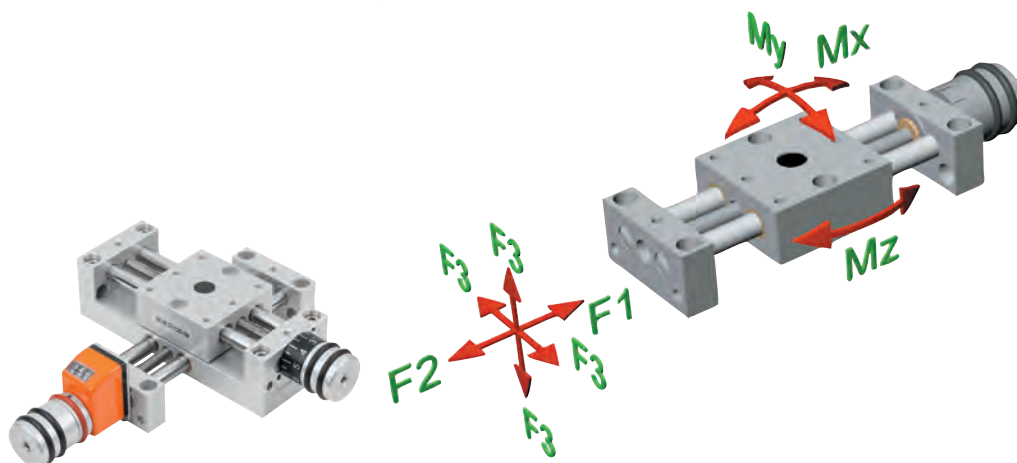
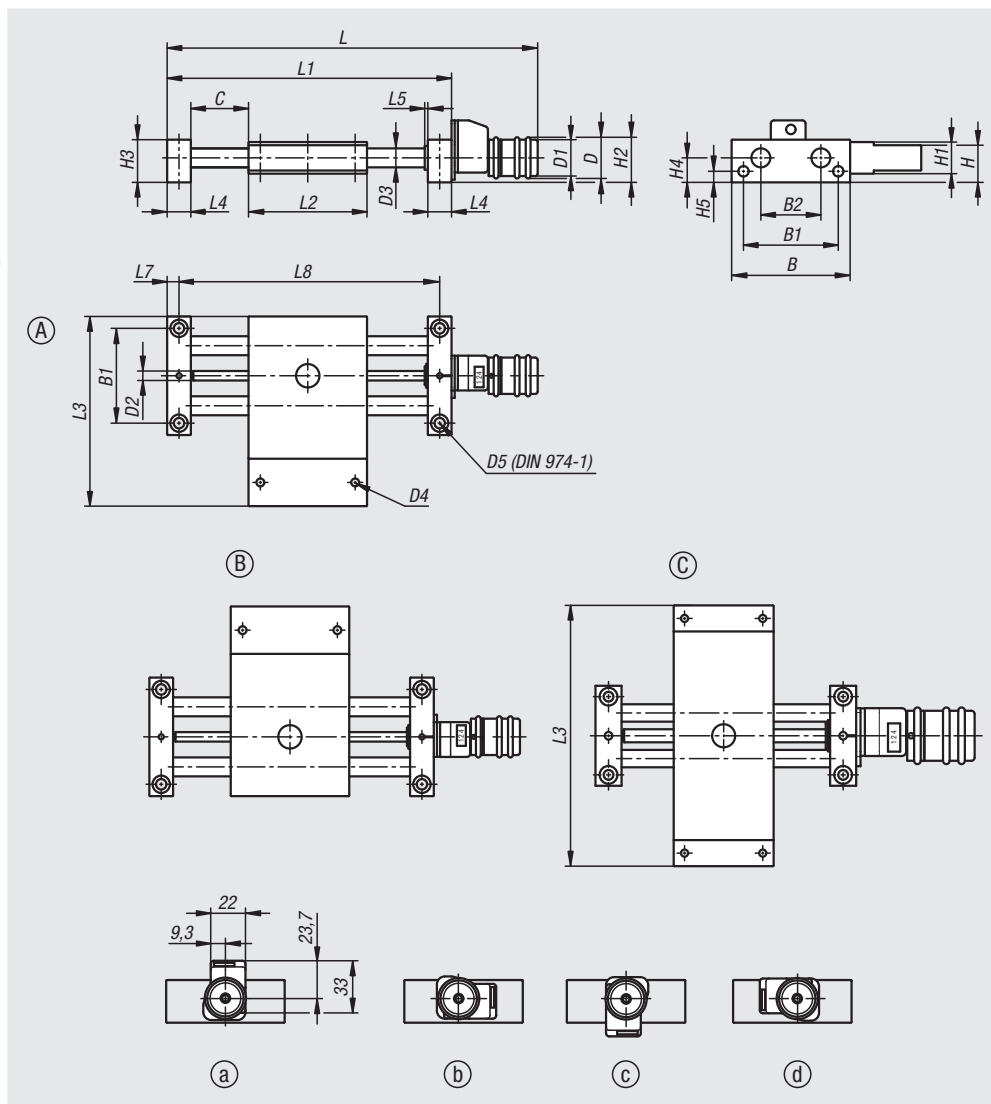
Note:

The almost play-free guides and absolutely play-free spindle allow for adjustment without the need to loosen or clamp the spindle.
Digital position indicator with 0.1 mm indicator accuracy, digits increase by clockwise rotation. The display value is set by turning the outer ring. The indicator can be mounted in 4 positions using a screw.
The cross stage can be easily combined with positioning stages, vertical stages and other accessories of respective size by the modular principle.

Drawing reference:

Assembly position of position indicator:

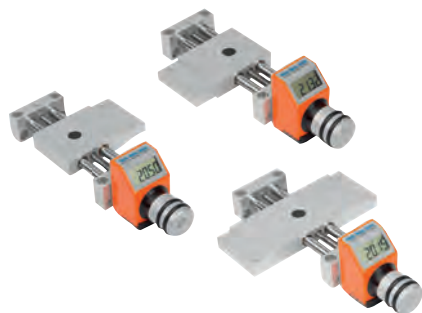
- a) top (standard)
- b) right
- c) bottom
- d) left



Order No.	Form	B	B1	B2	C (travel)	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2	L3	L4	L5	L7	L8	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21136-108	A	46	36	21	48	26	23	M6x1	8	M4	4	18	14	27	23	14	6	174,5	120	46	75	12	2	6	108	200	200	200	3,6	3,6	3,6
21136-112	A	75	60	38	73	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	235	180	75	120	15	2	7,5	165	300	300	300	18	18	18
21136-208	B	46	36	21	48	26	23	M6x1	8	M4	4	18	14	27	23	14	6	174,5	120	46	75	12	2	6	108	200	200	200	3,6	3,6	3,6
21136-212	B	75	60	38	73	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	235	180	75	120	15	2	7,5	165	300	300	300	18	18	18
21136-308	C	46	36	21	48	26	23	M6x1	8	M4	4	18	14	27	23	14	6	174,5	120	46	120	12	2	6	108	200	200	200	3,6	3,6	3,6
21136-312	C	75	60	38	73	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	235	180	75	180	15	2	7,5	165	300	300	300	18	18	18

Cross slides, long

with electronic position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Radial play on guide < 0.02 mm.
No axial backlash.
Spindle self-locking, with additional lock.

Sample order:

n1m 21137-108

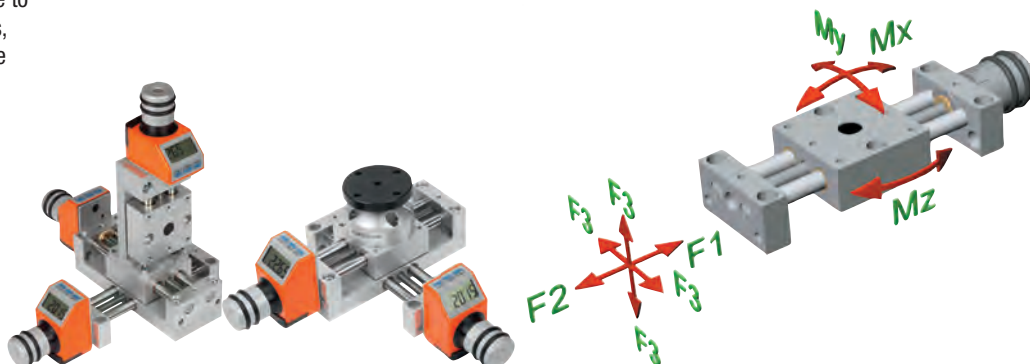
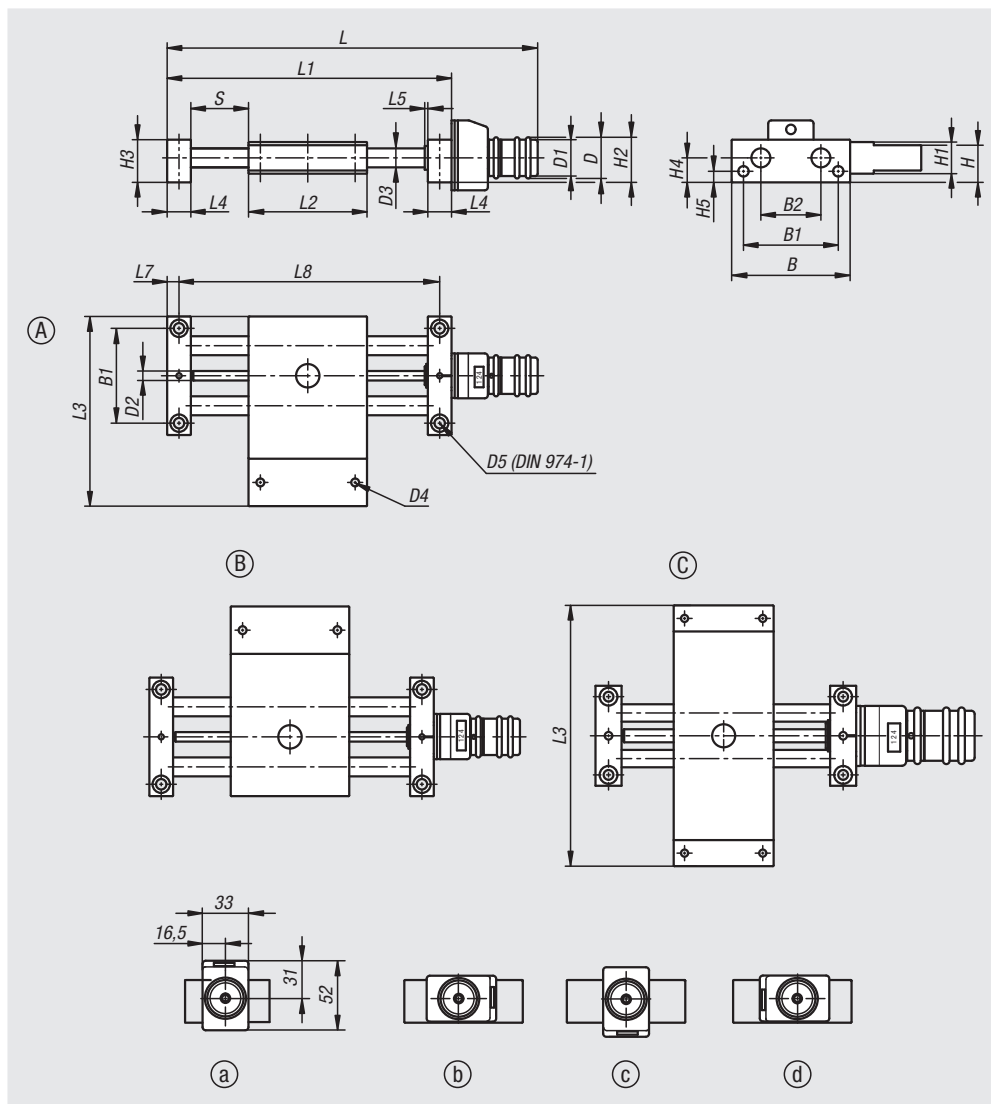
Note:

The almost play-free guides and absolutely play-free spindle enables adjustment without the need to loosen or clamp the spindle.
Electronic position indicator with 0.01 mm display accuracy and large LCD display.
Reset, chain dimension and offset settings can be made via the keypad.
2 years battery life. The battery is quick and easy to replace.
The mounting position of the position indicator is set in 4 positions using one screw.
The modular design enables the cross slide to be easily combined with positioning stages, vertical stages and other accessories of the same size.

Drawing reference:

Assembly position of position indicator:

- a) top (standard)
- b) right
- c) bottom
- d) left



Order No.	Form	B	B1	B2	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2	L3	L4	L5	L7	L8	Travel S	F1 N	F2 N	F3 N	Mx Nm	My Nm	Mz Nm
21137-108	A	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	6	179	120	46	75	12	2	6	108	48	200	200	200	3,6	3,6	3,6
21137-112	A	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	239	180	75	120	15	2	7,5	165	73	300	300	300	18	18	18
21137-208	B	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	6	179	120	46	75	12	2	6	108	48	200	200	200	3,6	3,6	3,6
21137-212	B	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	239	180	75	120	15	2	7,5	165	73	300	300	300	18	18	18
21137-308	C	46	36	21	26	23	M6x1	8	M4	4	18	14	27	23	14	6	179	120	46	120	12	2	6	108	48	200	200	200	3,6	3,6	3,6
21137-312	C	75	60	38	26	23	M6x1	12	M6	6	23,5	20	29	27	15,5	7	239	180	75	180	15	2	7,5	165	73	300	300	300	18	18	18

Vertical bracket

short



Material:

Aluminium alloy.

Version:

anodised.

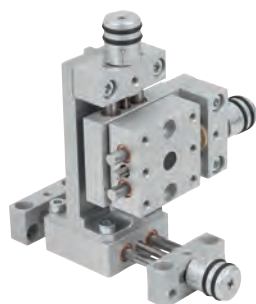
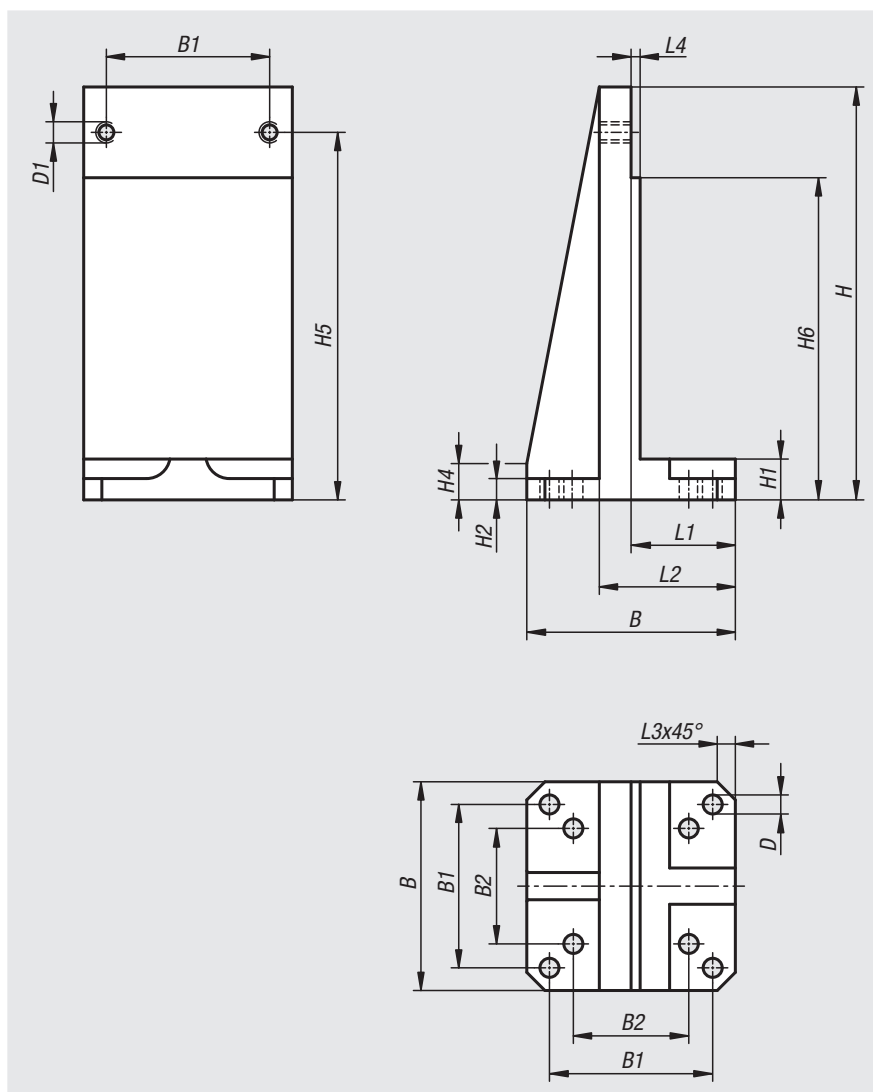
Sample order:

n1m 21138-04

Note:

The vertical bracket is mounted vertically to the mounting surface.

Can be combined with positioning stages, cross stages, vertical stages and all other components of the same size.



Order No.	Size	B	B1	B2	D	D1	H	H1	H2	H4	H5	H6	L1	L2	L3	L4
21138-04	4	29	22	15,56	3,2	M3	58	6	2,8	6	53	48	13	18	3	1
21138-08	8	46	36	25,46	4,2	M4	91	9	4,7	8	81	71	23	30	4	2
21138-12	12	75	60	42,43	6,4	M6	146	12	5,7	8	131	116	27	36	7	2

Vertical bracket

long



Material:

Aluminium alloy.

Version:

anodised.

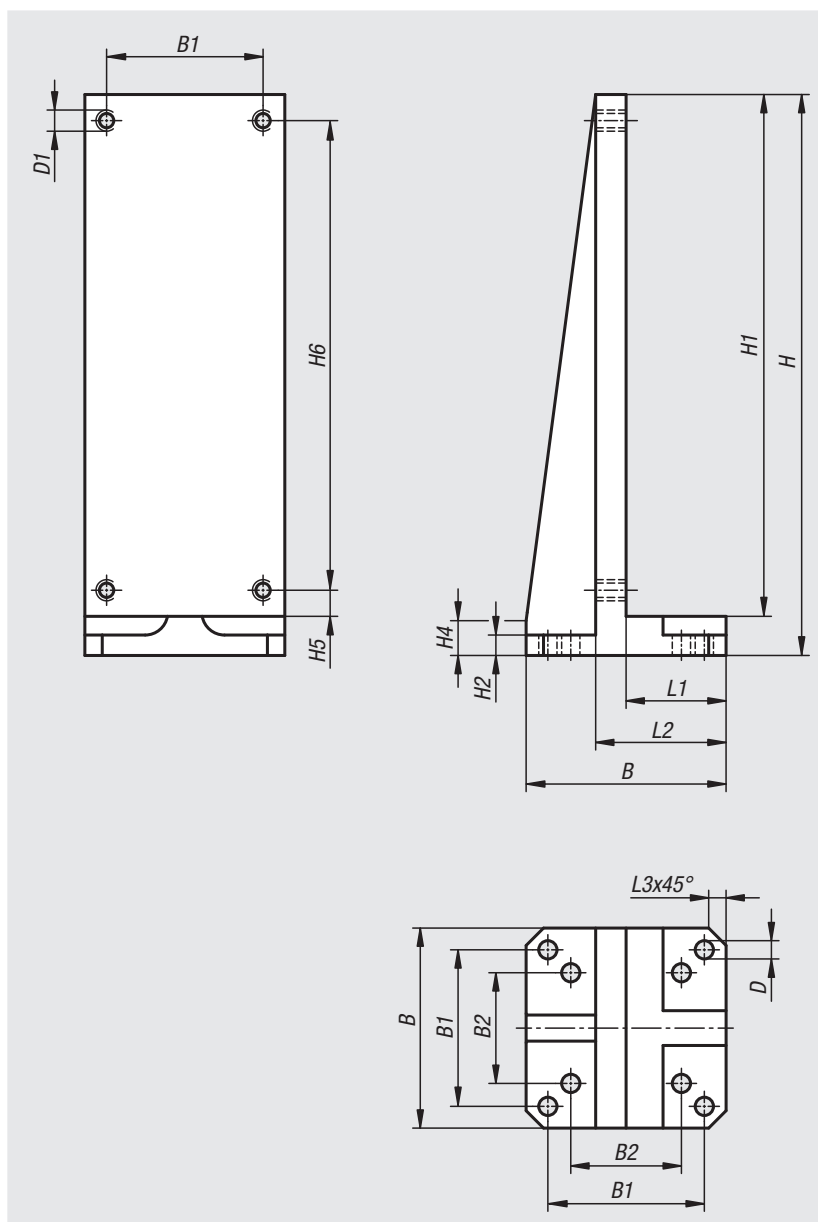
Sample order:

nlm 21139-04

Note:

The vertical bracket is mounted vertically to the mounting surface.

Can be combined with positioning stages, cross stages, vertical stages and all other components of the same size.



Order No.	Size	B	B1	B2	D	D1	H	H1	H2	H4	H5	H6	L1	L2	L3
21139-04	4	29	22	15,56	3,2	M3	76	70	2,8	6	4	62	13	18	3
21139-08	8	46	36	25,46	4,2	M4	129	120	4,7	8	6	108	23	30	4
21139-12	12	75	60	42,43	6,4	M6	192	180	5,7	8	7,5	165	27	36	7

Vertical stages



Material:

Vertical stage, bearing blocks and scale knob
Al alloy, anodised.
Guiding columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing, maintenance-free

Version:

Guide backlash < 0.05 mm.
Spindle self-locking, with additional lock.

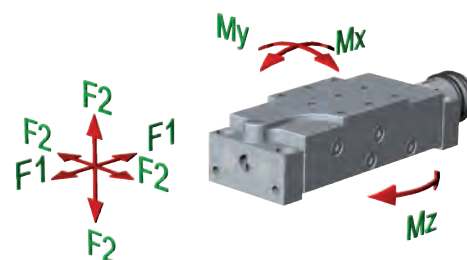
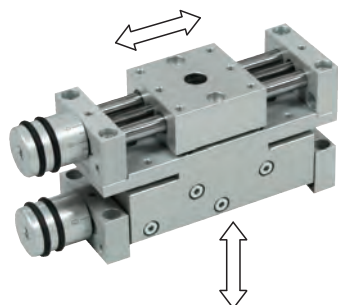
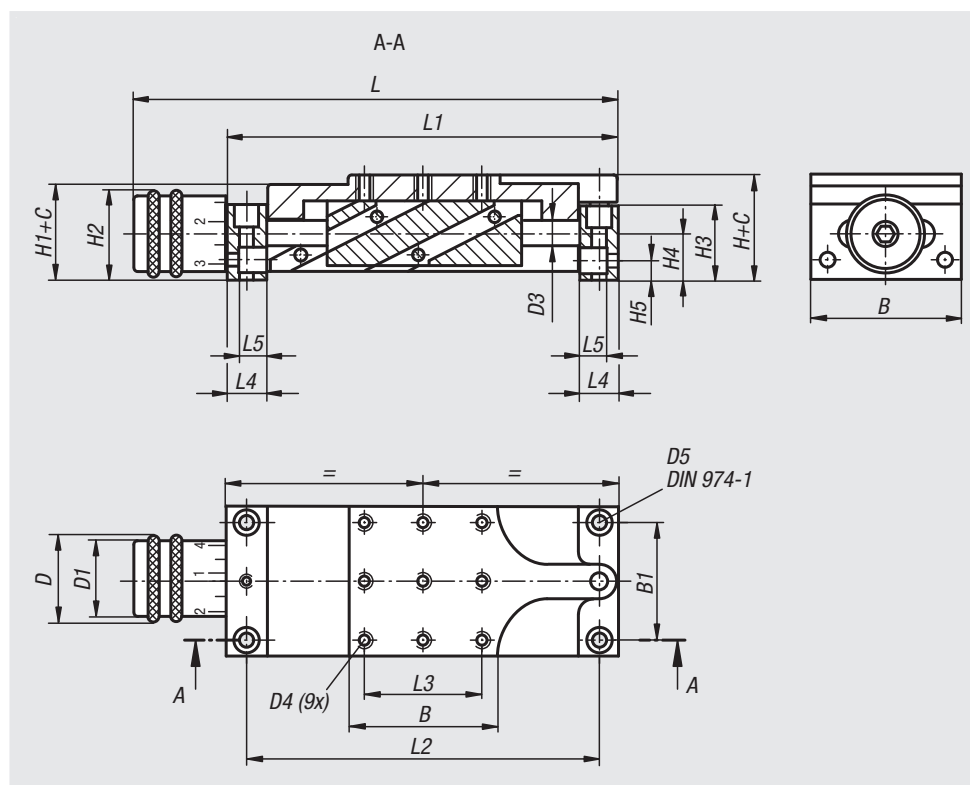
Sample order:

n1m 21140-04

Note:

For positioning the height of all types of components and assemblies e.g. stops, sensors, limit switches, tables, cameras, entire assemblies etc. The height of the stage is adjusted manually by turning the scale knob. 1 increment of the scale equals 0.1 mm travel.

Within the respective sizes, the vertical stages can be easily combined using the modular principle.



Order No.	B	B1	C (travel)	D	D1	D3	D4	D5	H	H1	H2	H3	H4	H5	L	L1	L2	L3	L4	L5	F1 N	F2 N	Mx Nm	My Nm	Mz Nm
21140-04	29	22	4	13	12	4	M3	3	19	17	14	13	8	4	84,5	70	62	22	8	6	30	50	0,5	0,5	2
21140-08	46	36	8	26	23	8	M4	4	32	29	27	23	14	6	148,5	120	108	36	12	8,5	80	100	2,5	2,5	5
21140-12	75	60	12	26	23	12	M6	6	38	36	28,5	27	15,5	7	209	180	165	60	15	11	150	200	10	10	20
21140-25	150	130	25	52	46	25	M10	10	68	64	54	52	28	13	347	290	265	130	25	18	500	700	50	50	100

Vertical stages

with electronic position indicator



Material:

Bearing block and carriage aluminium alloy, anodised.
Guide columns stainless steel, ground.
Spindle stainless steel, rolled thread.
Guide bearing maintenance-free.
Position indicator plastic.

Version:

Guide backlash < 0.05 mm.
Spindle self-locking, with additional lock.

Sample order:

nln 21142-08

Note:

For height-positioning of components and assemblies of all types (e.g. stops, sensors, limit switches, tables, cameras, entire assemblies, etc.).
Electronic position indicator with 0.01 mm display accuracy and large LCD display. Reset, chain dimension and offset settings can be made via the keypad.

2 years battery life. The battery is quick and easy to replace.

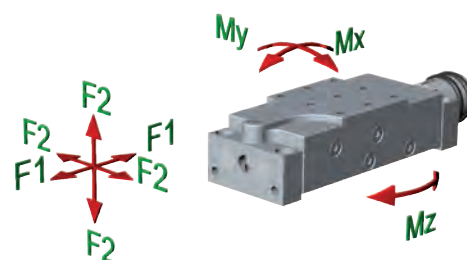
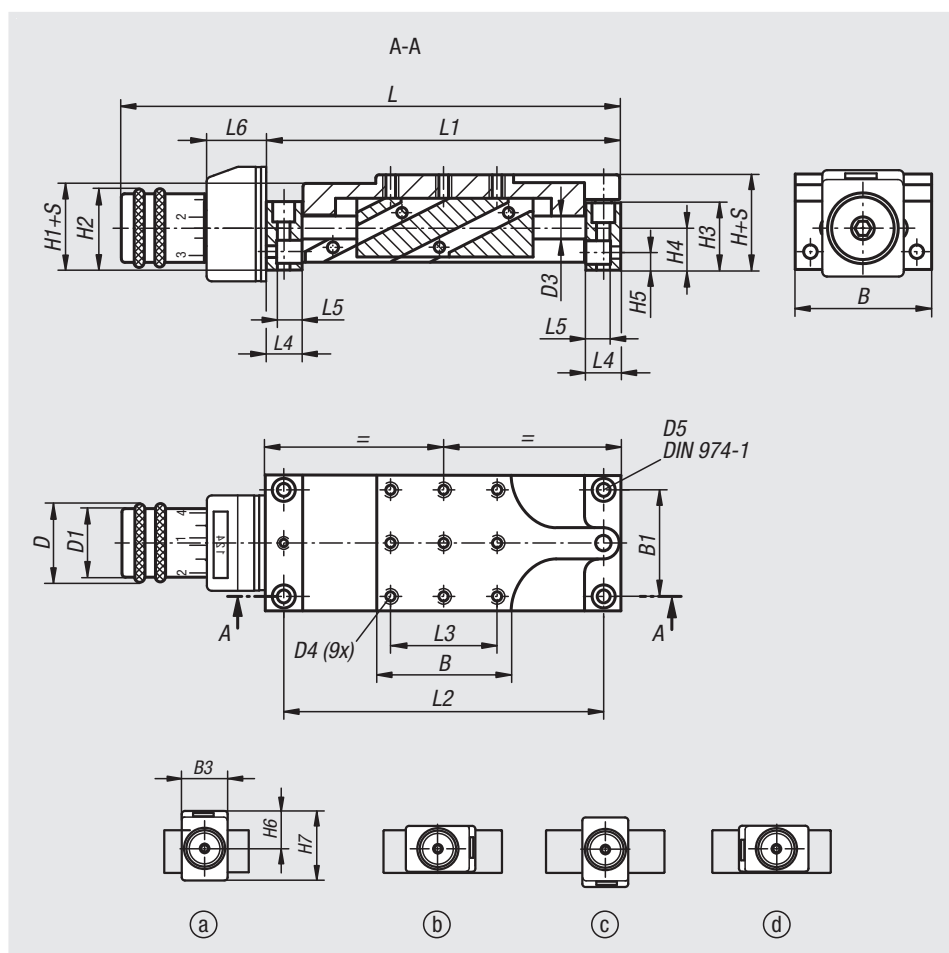
The mounting position of the position indicator is set in 4 positions using one screw.

The modular design enables the vertical stage to be easily combined with positioning stages, cross slides and other accessories of the same size.

Drawing reference:

Mounting position of the position indicator:

- a) top (standard)
- b) right
- c) bottom not possible for 21142-25
- d) left



Order No.	B	B1	B3	D	D1	D3	D4	D5	H	H1	H2	H3	H4	H5	H6	H7
21142-08	46	36	33	26	23	8	M4	4	32	29	27	23	14	6	31	52
21142-12	75	60	33	26	23	12	M6	6	38	36	28,5	27	15,5	7	31	52
21142-25	150	130	48	52	46	25	M10	10	68	64	54	52	28	13	42,4	71,4
Order No.	L	L1	L2	L3	L4	L5	L6	Travel S	F1 N	F2 N	Mx Nm	My Nm	Mz Nm			
21142-08	179	120	108	36	12	8,5	29,4	8	80	100	2,5	2,5	5			
21142-12	239	180	165	60	15	11	29,4	12	150	200	10	10	20			
21142-25	376	290	265	130	25	18	36,4	25	500	700	50	50	100			

Rotary discs


Material:

Body and rotary disc Al alloy.
Shaft stainless steel.

Version:

Body and rotary disc anodised.

Sample order:

n1m 21150-04

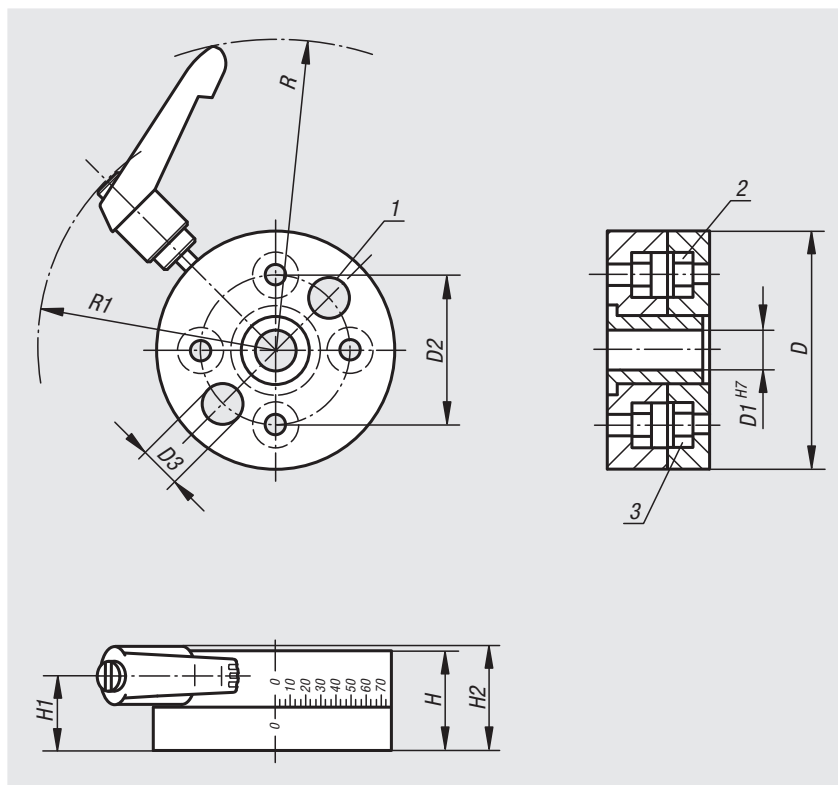
Note:

Loosen the clamping lever to revolve the rotary disc on the body. Rotates through 360°. The rotary disc indexes every 90° (21150-25 every 45°). Indexing is carried out by a ball plunger which can be easily removed.

Angular adjustment is set by a scale accurate to within 2°. The rotary disc can be easily combined with other modules of the same size.

Drawing reference:

- 1) Assembly hole for pressing out the nut
- 2) DIN 934 nut (x8) can be pressed out M (D4)
- 3) DIN 974-1 countersink (D4)



Order No.	D	D1	D2	D3	D4	H	H1	H2	R	R1	F1 N	F2 N	F3 N	M1 Nm
21150-04	35	6	22	6	3	15	9,5	16,5	64	44	50	30	50	2
21150-08	54	16	36	8	4	20	13,5	20,5	73	56	100	70	100	10
21150-12	80	25	60	13	6	25	17,5	24,5	85	69	150	100	150	15
21150-25	150	55	130	18,5	10	40	26	35,5	139	110	300	200	300	50

Rotary positioning stages



Material:

Body and rotary table Al alloy, anodised.
Spindle steel, case-hardened.
Spindle bearing maintenance-free.

Version:

Radial play of rotation axis < 0.015 mm.
Axial play of rotation axis < 0.02 mm.
Repeat accuracy < 0.05°.
Spindle self-locking.

Sample order:

n1m 21160-08

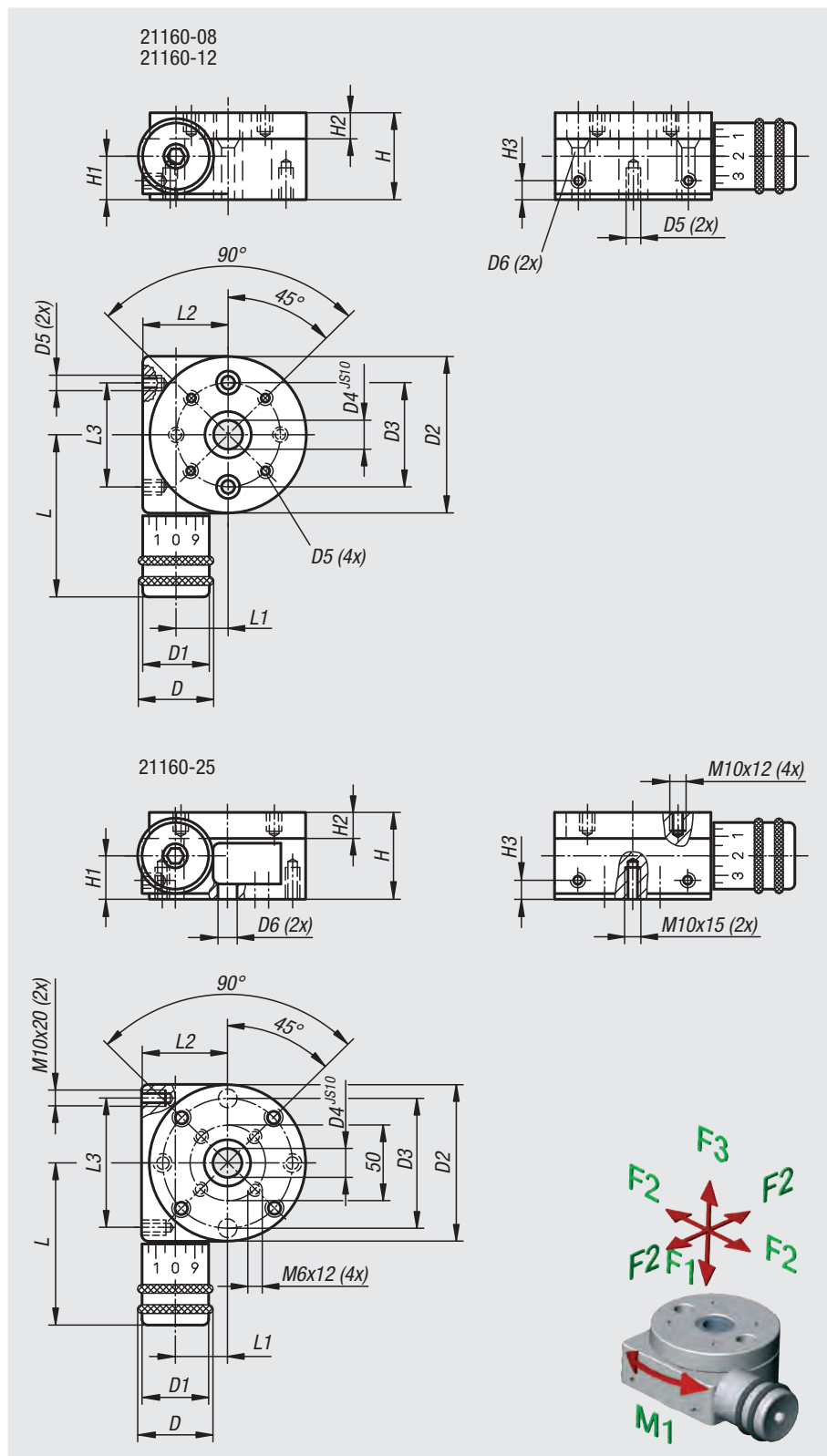
Note:

360° adjustment, no end stop.
Scale graduation is 10 increments.
Transmission ratio:
21160-08 = 50:1
21160-12 = 55:1
21160-25 = 50:1

The rotary stage can be easily combined with other modules of the same size.

Drawing reference:

All counterbores to DIN 74-Bm (D6)



Order No.	D	D1	D2	D3	D4	D5	D6	H	H1	H2	H3	L	L1	L2	L3	F1 N	F2 N	F3 N	M1 Nm
21160-08	26	23	54	36	10	M4x6	4	30	14	9	6	56	17	29	36	500	500	200	3
21160-12	26	23	80	60	15	M6x9	6	40	17,5	12	6	69	31	43	60	500	500	200	5
21160-25	51	46	150	130	40	-	10,2	75	35	18	12	134	53	80	130	1000	1000	500	10

Rotary positioning stages

with position indicators



Material:

Body and rotary table Al alloy, anodised.
Spindle steel, case-hardened.
Spindle bearing maintenance-free.
Position indicator plastic.

Version:

Radial play of rotation axis < 0.015 mm.
Axial play of rotation axis < 0.02 mm.
Repeat accuracy < 0.05°.
Spindle self-locking.

Sample order:

nlm 21161-08

Note:

360° adjustment, no end stop.
The position indicator reads in increments of 0.1° increasing clockwise from 0.0° to 9.9° while the rotary table rotates counter-clockwise. A scale on the circumference of the rotary stage is marked every 10°.
The position indicator can be re-mounted in any of 4 positions by removing the grip and loosening the two screws.

Transmission ratio:

21161-08 = 50:1

$$21161-12 = 55:1$$

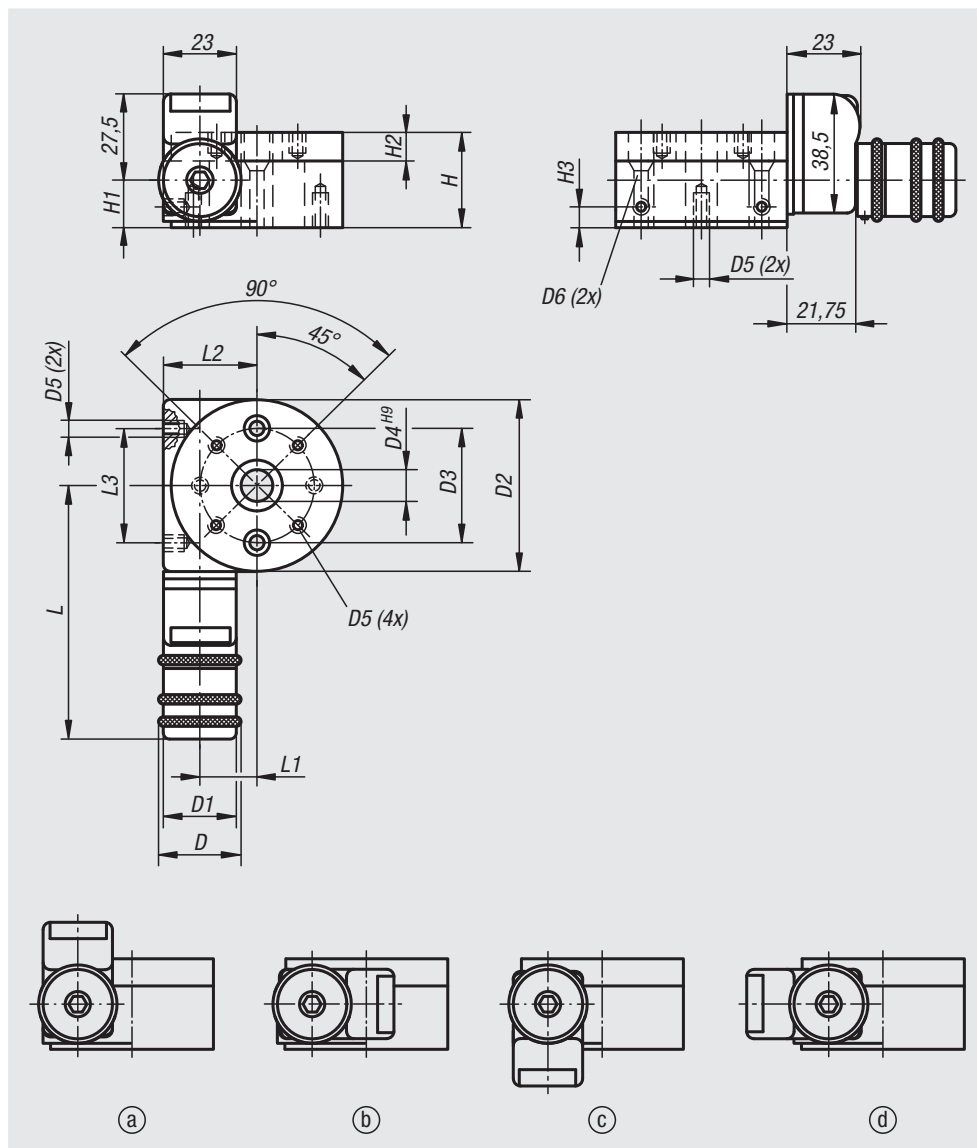
The rotary stage can be easily combined with other modules of the same size.

Drawing reference:

Assembly position of position indicator:

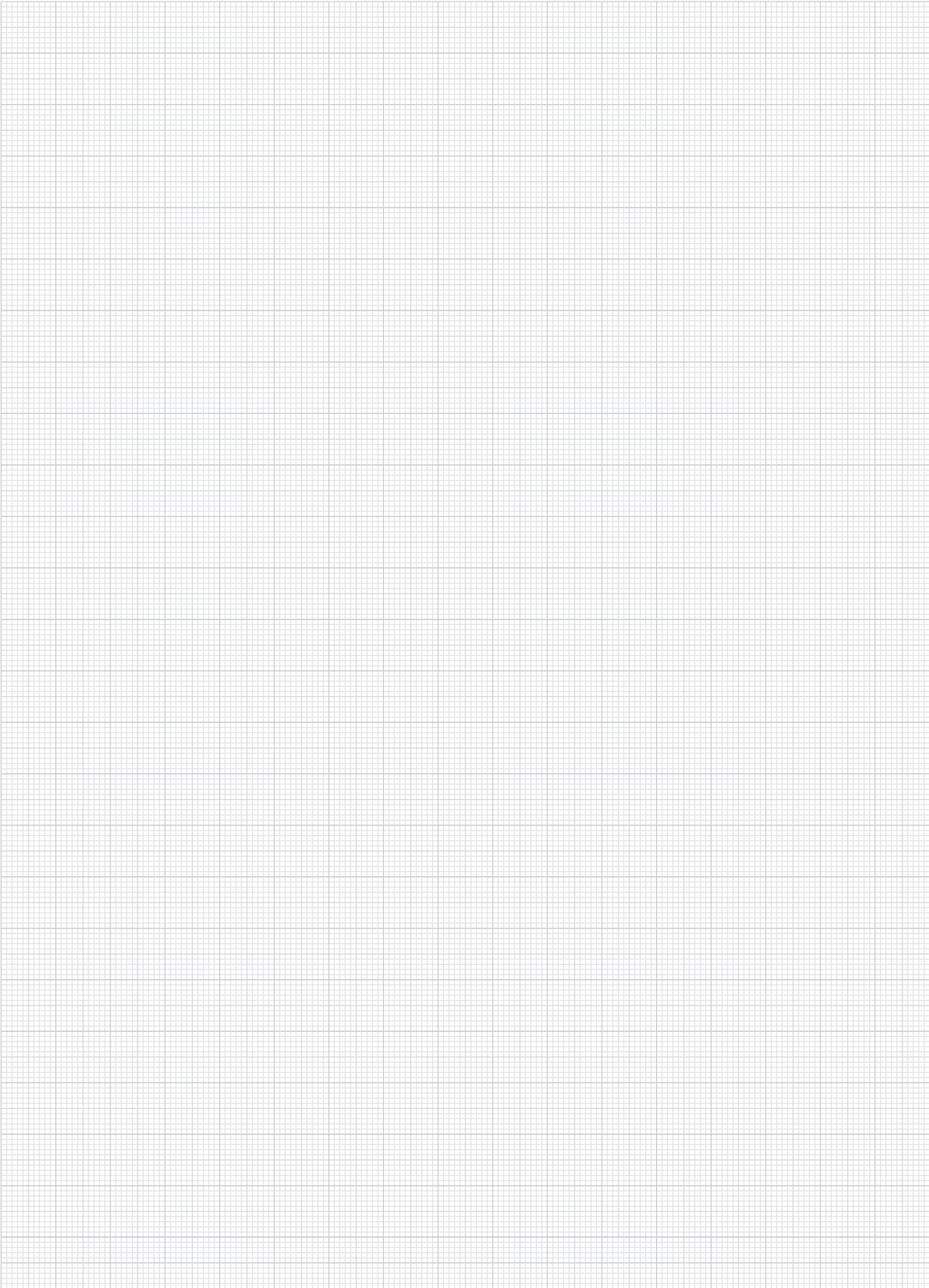
- a) top (standard)
- b) right
- c) bottom
- d) left

All counterbores to DIN 74-Bm (D6)



Order No.	D	D1	D2	D3	D4	D5	D6	H	H1	H2	H3	L	L1	L2	L3	F1 N	F2 N	F3 N	M1 Nm
21161-08	26	23	54	36	10	M4x6	4	30	14	9	6	80	17	29	36	500	500	200	3
21161-12	26	23	80	60	15	M6x9	6	40	17,5	12	6	93	31	43	60	500	500	200	5

Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Rotary stages

with electronic position indicator



Material:

Body and rotary table Al alloy, anodised.
Spindle steel, case-hardened.
Spindle bearing maintenance-free.
Position indicator plastic.

Version:

Radial play of rotation axis < 0.015 mm.
Axial play of rotation axis < 0.02 mm.
Repeat accuracy < 0.05°.
Spindle self-locking.

Sample order:

nlm 21161-10-08

Note:

360° adjustment with no end stop.
The position indicator displays in 0.1° increments clockwise. The angle of rotation is indicated directly on the large LCD display.
The rotary stage rotates anti-clockwise. Reset, chain dimension and offset settings can be made via the keypad.
2 years battery life. The battery is quick and easy to replace.
The mounting position of the position indicator is set in 4 positions using one screw.

Transmission ratio:

21161-10-08 = 50:1

21161-10-12 = 55:1

21161-10-25 = 50:1

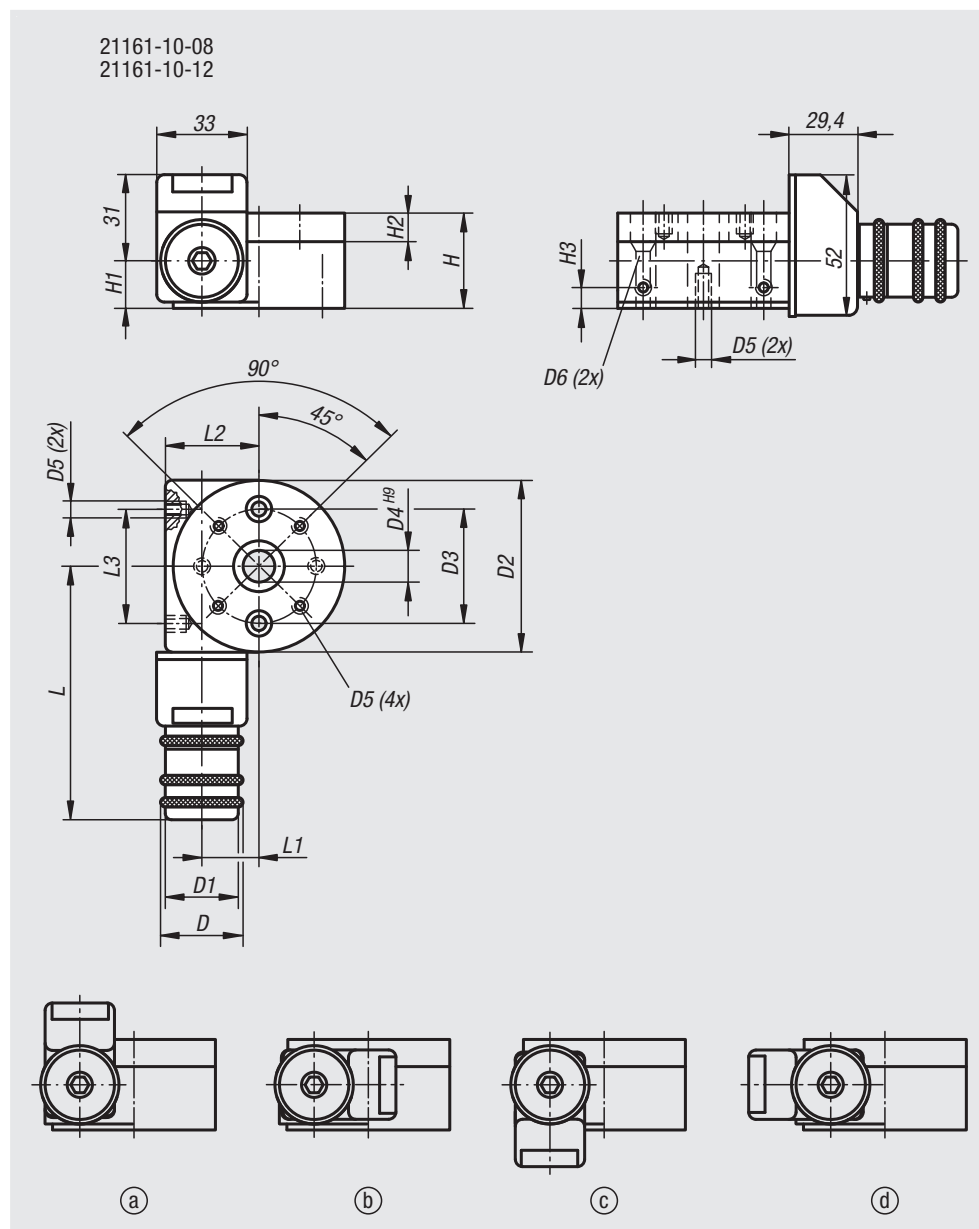
The modular design enables the rotary stage to be easily combined with other items of the same size.

Drawing reference:

Assembly position of position indicator:

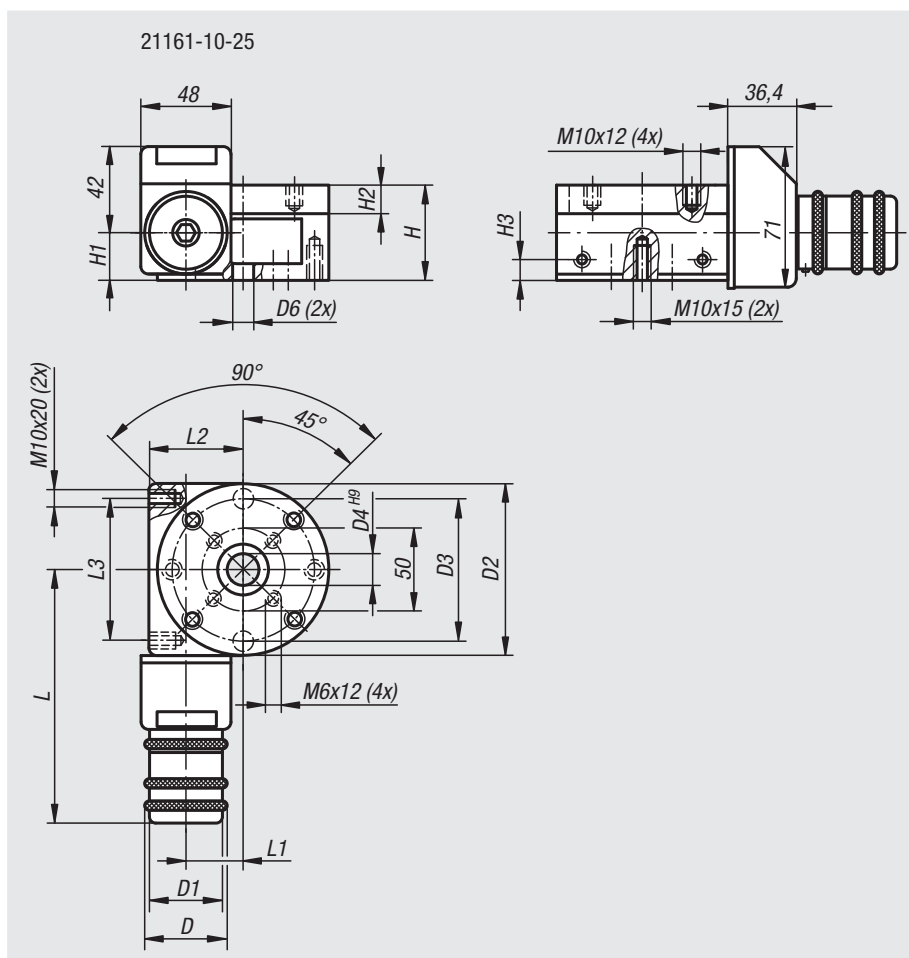
- a) top (standard)
- b) right
- c) bottom
- d) left

All counterbores to DIN 74-Bm (D6)



Rotary stages

with electronic position indicator



Order No.	D	D1	D2	D3	D4	D5	D6	H	H1	H2	H3	L	L1	L2	L3	F1 N	F2 N	F3 N	M1 Nm
21161-10-08	26	23	54	36	10	M4x6	4	30	14	9	6	86	17	29	36	500	500	200	3
21161-10-12	26	23	80	60	15	M6x9	6	40	17,5	12	6	99	31	60	60	500	500	200	5
21161-10-25	51	46	150	130	40	-	10,4	75	35	18	12	161	53	80	130	1000	1000	500	10

Swivel angles


Material:

Aluminium alloy.

Version:

Milled and anodised

Sample order:

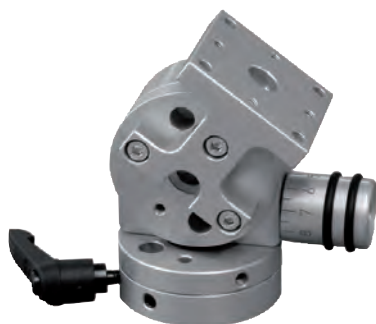
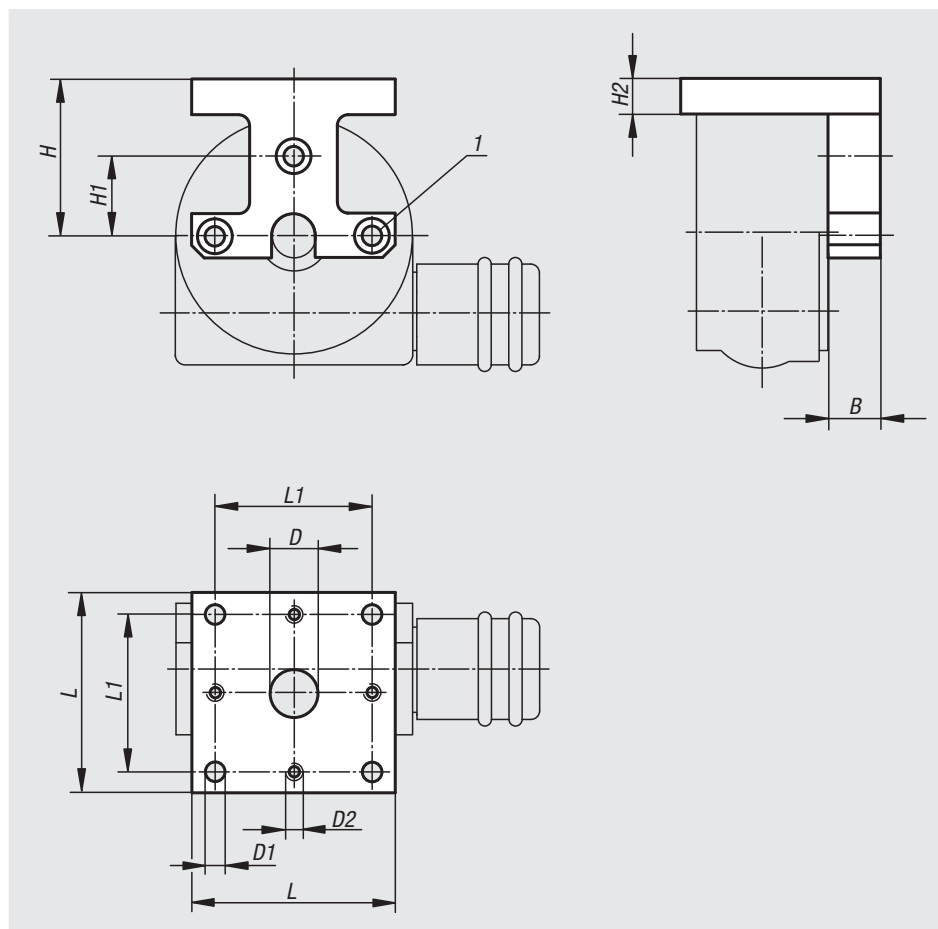
nlm 21162-04

Note:

The swivel angle is mounted on a rotary positioning table and offers further mounting possibilities. Suitable for 21160 in matching sizes.

Drawing reference:

1) D3 for socket head screw ISO 4762



Order No.	B	D	D1	D2	D3	H	H1	H2	L	L1
21162-04	7	6	3,3	M3	M3	22	11	6	29	22
21162-08	12	11	4,5	M4	M4	36	18	8	46	36
21162-12	20	16	6,5	M6	M6	51	30	10	75	60
21162-25	25	40	11	M10	M10	98	65	20	150	130

Pivot heads

swivel angle 30°



Material:

Aluminium alloy.

Version:

anodised.

Sample order:

nIm 21170-12

Note:

Suitable for 21100, 21102, 21120, 21122, 21150, 21160, 21162 and 21180.

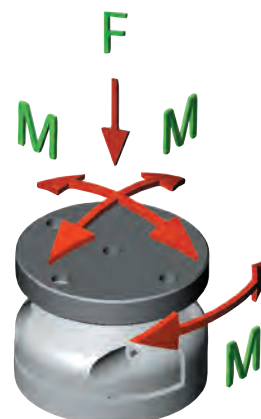
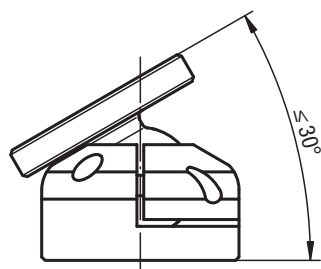
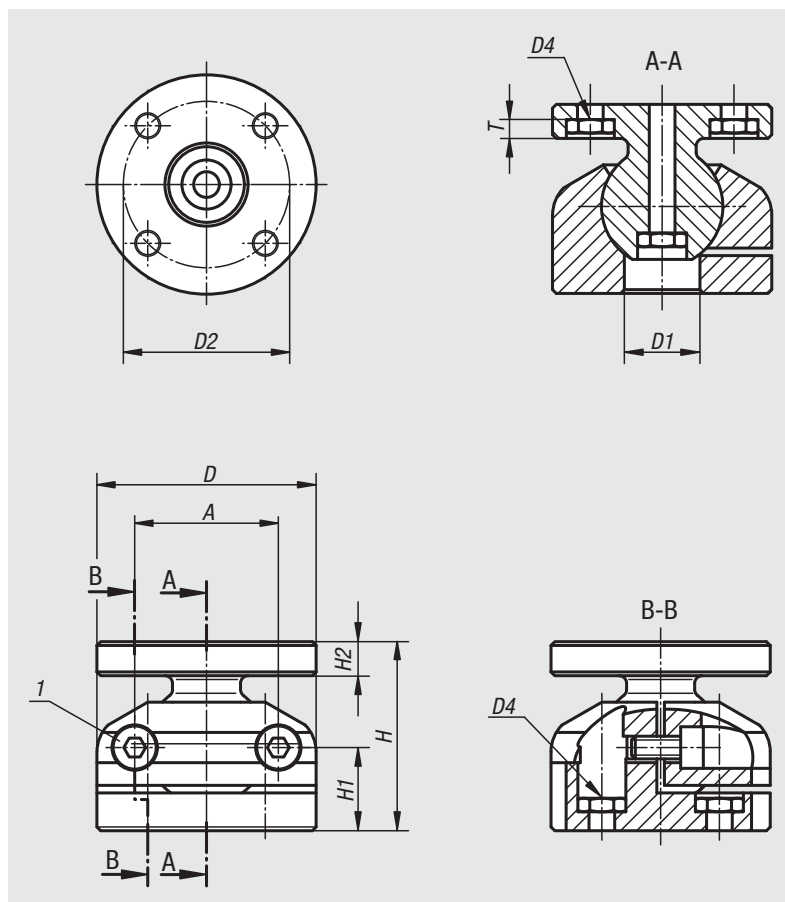
Drawing reference:

all (9x) counterbores to DIN 974-1 (D4),

all (9x) nuts DIN 934 M (D4)

By pressing out the nuts countersinks for socket screws become available allowing both fastening variations to be used.

1) D3 clamping screw (2x)



Order No.	A	D	D1	D2	D3	D4	H	H1	H2	T	F N	M Nm	Tightening torque of clamping screws (Nm)
21170-04	19	29	10	22	M3	3	25	11	5,5	3,5	300	3	1,11
21170-08	30	46	13	36	M4	4	35	15,5	7	4,5	700	8	2,55
21170-12	46	75	24	60	M6	6	54	23	11	6,6	2200	30	8,6
21170-25	92	150	40	130	M10	10	105	49	20	11	9000	150	42

Base plates


Material:

Aluminium alloy.

Version:

anodised.

Sample order:

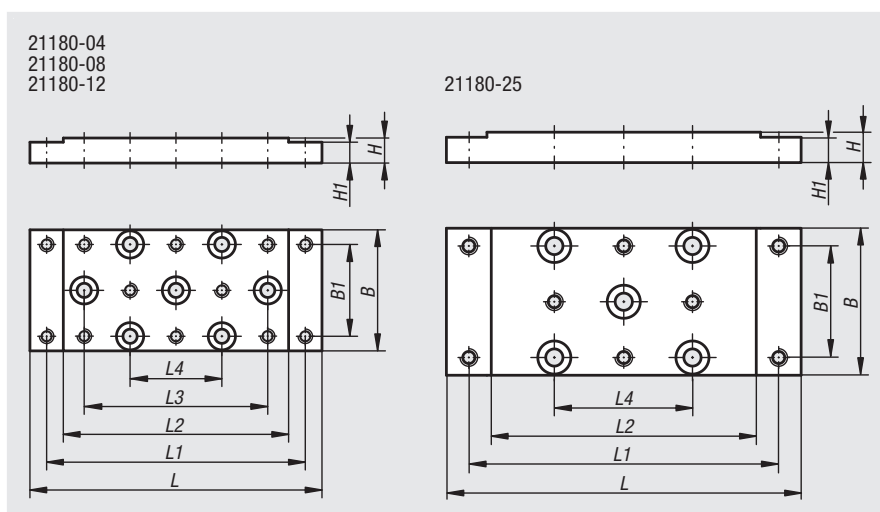
nlm 21180-04

Note:

Suitable for 21100, 21102, 21120, 21122, 21150, 21160, 21162 and 21190 in the respective size.

Drawing reference:

All counterbores to DIN 974-1 (D),
all threads M (D).



Order No.	B	B1	D	H	H1	L	L1	L2	L3	L4
21180-04	29	22	3	6	5	70	62	54	44	22
21180-08	46	36	4	8	6	120	108	96	72	36
21180-12	75	60	6	12	10	180	165	150	120	60
21180-25	150	130	10	20	18	290	265	240	-	130

Angle plates

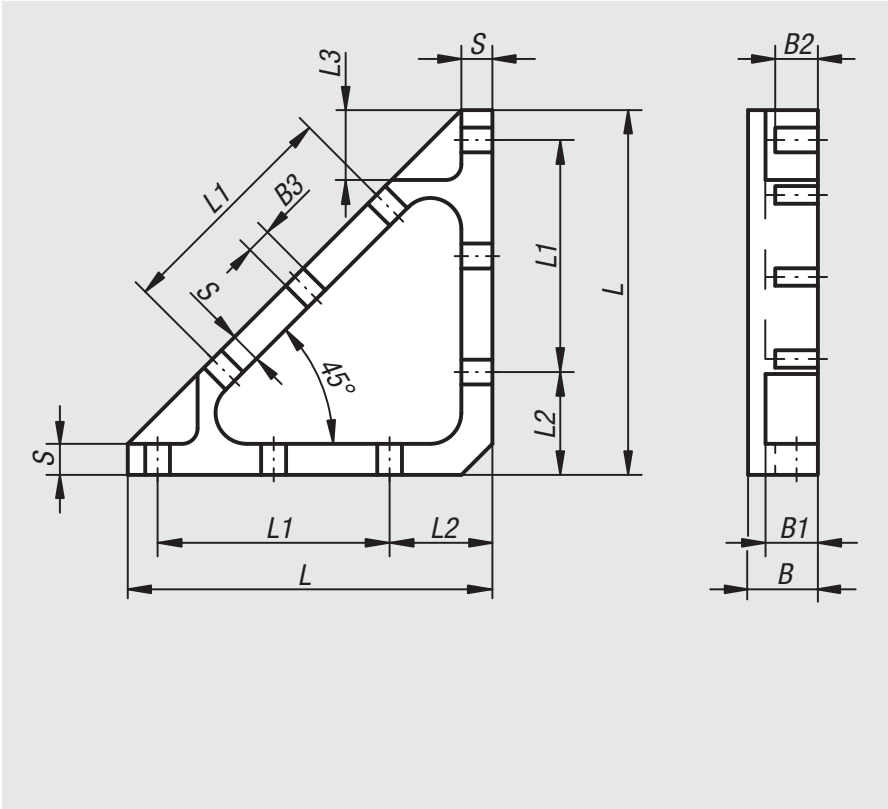


Material:
Aluminium alloy.

Version:
Milled and anodised

Sample order:
nlm 21190-04

Note:
Suitable for 21100, 21102, 21120, 21122, 21150, 21160, 21162 and 21180 in the respective size.



Order No.	B	B1	B2	B3	L	L1	L2	L3	S
21190-04	8	6	4,5	3,3	40	22	14,5	8	3
21190-08	12	10	8	4,5	58	36	17	11	4
21190-12	18	13,5	10,8	6,6	94	60	26,5	17,5	8
21190-25	25	20	15,5	11	180	130	35	31	15

Technical data for carriage rails

Off-centre forces

The following recommendations should be followed for the successful use of maintenance-free DryLin® linear bearings. A higher coefficient of friction compared to roller guides results in higher drive forces. The largest possible gap between bearings on a rail and lowest possible torque stress through drive and mass have a positive effect on the running and wear properties of the guide.

Quiet running

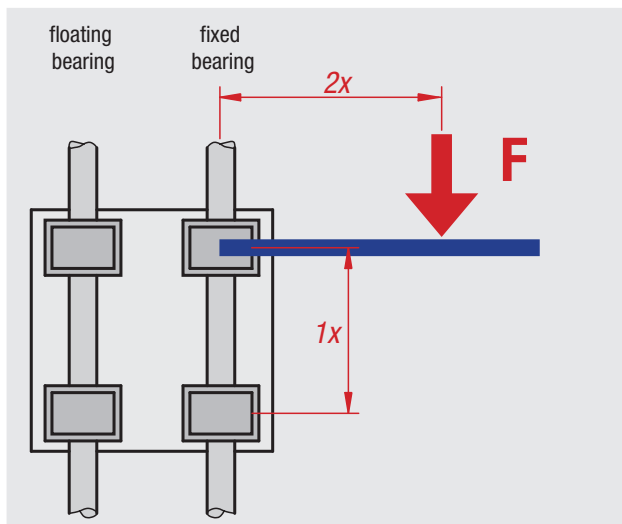
Plastic bearings which run on ground shafts or profiled rails are almost silent. Contrary to conventional ball-bearing guides, the noise level does not increase as the speed increases.

Design notes:

When using systems with two parallel rails, one side must be installed as a floating bearing. For every mounted position, whether horizontal, vertical or lateral, there is the correct fixed-floating bearing solution. This method of installation prevents difficulty of access or jamming of the guide where there are differences in the parallelism between the rails.

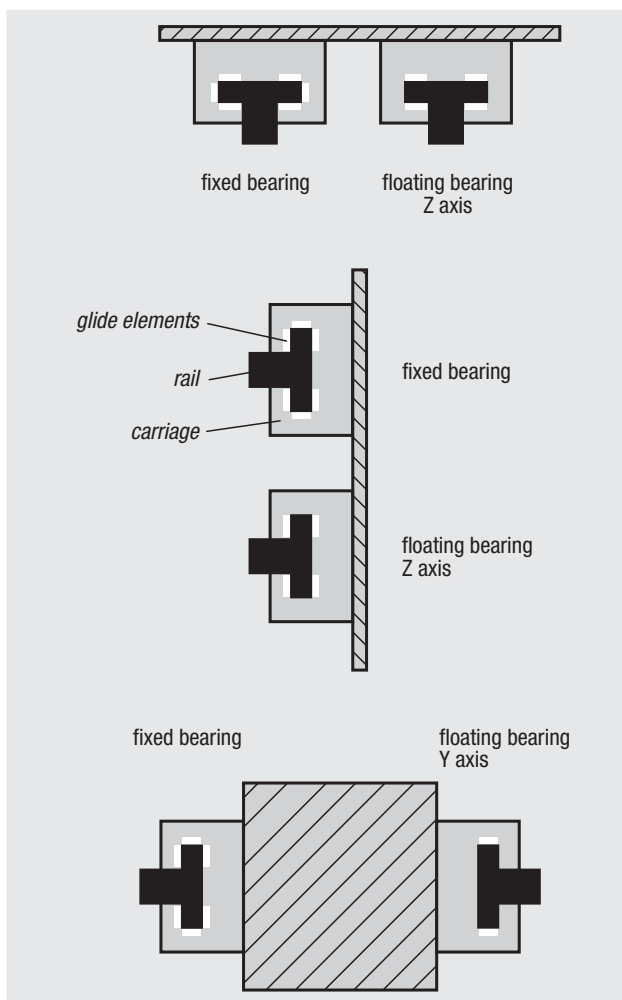
The floating bearing is made by removing the static overdefined glide elements. This creates an additional degree of freedom on one rail to compensate for possible errors in parallelism.

In a fixed-floating bearing installation, errors in parallelism between the mounted rails can be compensated up to a maximum of 0.5 mm. When installing, ensure that the floating bearing has an equal amount of play in both directions. You can see the layout of the fixed-floating bearing system in the adjacent diagrams. To avoid warping in the system, the base surface for the rails and carriage should be flat and even (e.g. milled surface). Small amounts of unevenness on the base surface can be compensated for by up to 0.5 mm by allowing for more play between carriage and rail. Adjusting the amount of play is only effective when the system is unloaded.



The 2:1 rule

If the 2:1 rule is not followed when using linear glide bearings, uneven movements may occur or the system may even jam. Help can often be provided by relatively simple alterations. The principle does not depend on the load or the drive force, it is a product of friction and always relates to the fixed bearing. The further away the drive is from the guide bearing, the greater will be the wear and the drive force required. If the distance between the driving force and the fixed bearing is more than double the distance between the bearings (2:1 rule), the guide will, in theory, jam by an adhesion friction value of 0.25.



Horizontal variant with the floating bearing in the z axis

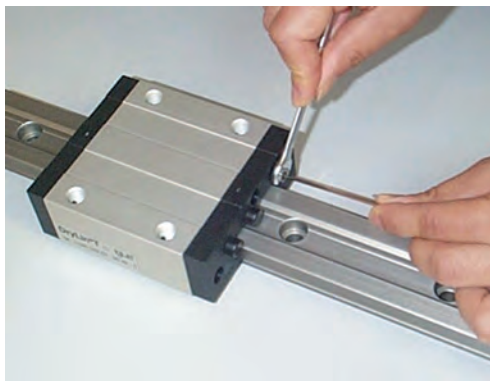
Lateral variant with the floating bearing in the z axis

Horizontal variant with lateral positioned carriages and floating bearing in the y axis

Technical data for carriage rails

DryLin® T - play adjustment

DryLin® linear guide rails always require a minimum amount of play between the slide and rail. They are supplied ready to use with the play pre-set. If you have special requirements please state whether you require a particularly small or particularly large amount of play. The play in the bearing of the guide slides can be re-adjusted later if necessary. This should always be carried out while unloaded.



1. Loosen the locknuts after removing the caps.

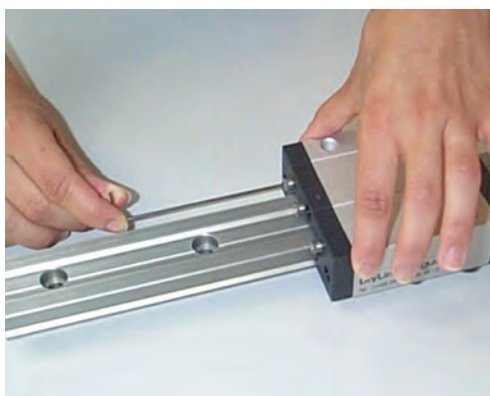
Spanner size:

5 mm for 21200-15..

5 mm for 21200-20..

7 mm for 21200-25..

7 mm for 21200-30..



2. Re-adjust the bearing play for the three guide points with a hex key.

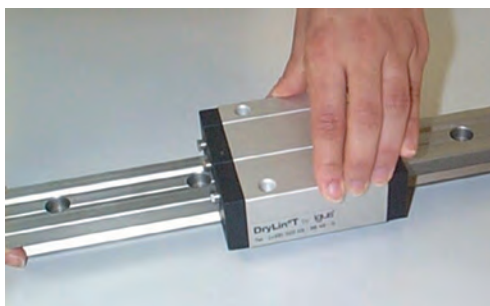
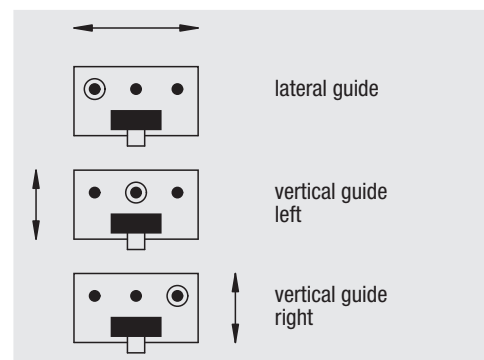
Socket size:

1.5 mm for 21200-15..

1.5 mm for 21200-20..

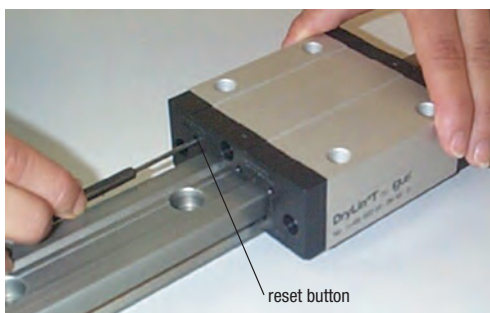
2.0 mm for 21200-25..

2.0 mm for 21200-30..



3. Check the play in the guide slides after adjustment.

If it is sufficient, tighten the locknuts and replace the protective caps.



4. If too little play has been set so that the rail jams, it is not sufficient to just reset the cap screw. After resetting the screw, press the reset button on the side opposite the screw to release the slide elements.

For this, use the following sized pins:

2.5 mm for 21200-15..

2.5 mm for 21200-20..

3.0 mm for 21200-25..

3.0 mm for 21200-30..

Carriages DryLin® T

**Material:**

Sliding carriage: Base structure in extruded section, aluminium EN AW-6060.

Sliding elements: Maintenance free plain bearing iglidur® J.

Cap: Thermoplastic

Version:

Eloxal-coated E6/EV1. Black thermoplastic

Sample order:

n1m 21200-1500

Note:

With a low rate of inertia, high accelerations and short term extreme speeds up to 30 m/s are possible. DryLin® T linear glide guides are resistant to dirt and corrosion and are adjustable, maintenance-free and quiet.

Application temperature max. 80 °C.

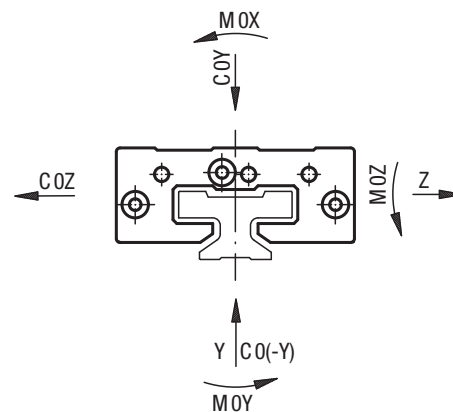
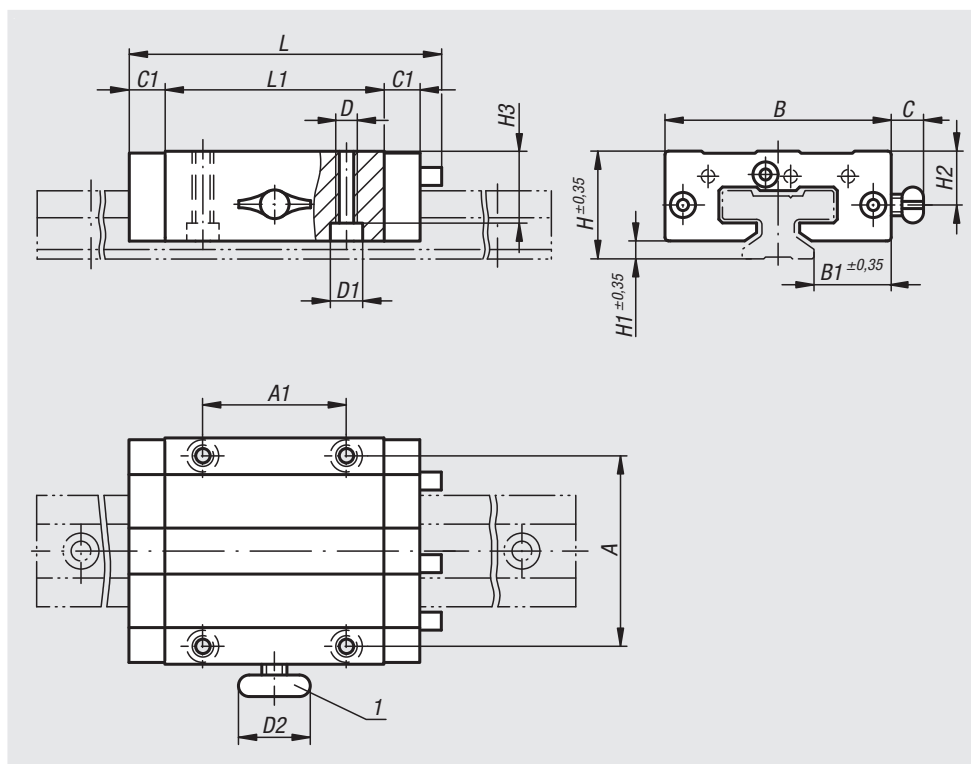
As no lubricants are used they are recommended for use in food, medical, and clean room technologies.

Manual clamping was developed for simple functions. Polymer under constant pressure has a tendency to creep which causes a decrease in clamping force over time (up to 70%), which means that no safety-relevant parts should be clamped.

Suitable guide rails see 21200.

Drawing reference:

1) manual clamping



Order No. standard fixed bearing	Order No. fixed bearing with manual clamping	Order No. floating bearing y axis	Order No. floating bearing z axis	Size	COY kN	CO(-Y) kN	COZ kN	MOX Nm	MOY Nm	MOZ Nm	A	A1	B	B1
21200-1500	21200-1510	21200-1520	21200-1530	15	4	4	2	32	25	25	38	30	47	16
21200-2000	21200-2010	21200-2020	21200-2030	20	7,4	7,4	3,7	85	45	45	53	40	63	21,5
21200-2500	21200-2510	21200-2520	21200-2530	25	10	10	5	125	65	65	57	45	70	23,5
21200-3000	21200-3010	21200-3020	21200-3030	30	14	14	7	200	100	100	72	52	90	31

Order No. standard fixed bearing	Order No. fixed bearing with manual clamping	Order No. floating bearing y axis	Order No. floating bearing z axis	C	C1	D	D1 for screw to DIN 912	D2	H	H1	H2	H3	L	L1	Manual clamp thread
21200-1500	21200-1510	21200-1520	21200-1530	-/19/-/-	9	M5	M4	-/20/-/-	24	4	-/11,5/-/-	16	74	50	-/M6/-/-
21200-2000	21200-2010	21200-2020	21200-2030	-/18/-/-	10	M6	M5	-/28/-/-	30	5	-/15/-/-	19,8	87	61	-/M8/-/-
21200-2500	21200-2510	21200-2520	21200-2530	-/17/-/-	11	M8	M6	-/28/-/-	36	5	-/19/-/-	24,8	96	68	-/M8/-/-
21200-3000	21200-3010	21200-3020	21200-3030	-/20/-/-	12	M10	M8	-/28/-/-	42	6,5	-/21,5/-/-	27	109	79	-/M8/-/-

Guide rails DryLin® T



Material:

Extruded section, aluminium EN AW-6060.

Version:

Hard anodised aluminium, 50 µm. Hardness 500 HV.

Sample order:

nIm 21200-1530X3960 (L max.)

Ordering example guide rail:

nIm 21200-1520X500

(customer specific guide rail size 15)

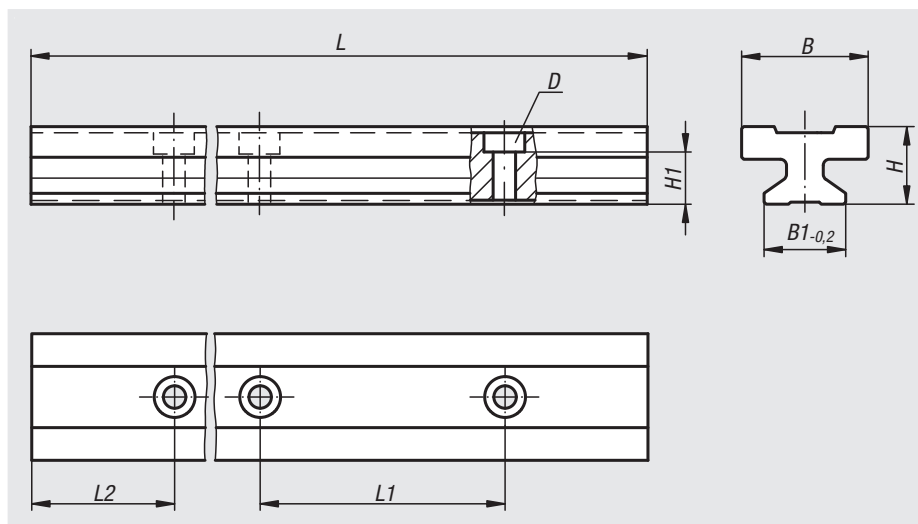
** lengths L2 = 20 mm

* and L = 500 mm included

L2 and L only available in full mm.

Note:

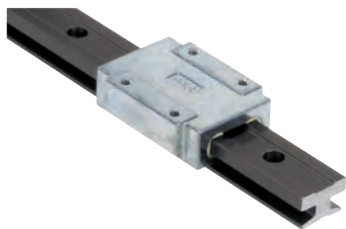
The aluminium guide rail has good thermal conductivity and importantly heats only at continuously very high speeds.



Order No.	Version	Size	L max.	L2	B	B1	D for screw DIN 912	H	H1	L1
21200-1530X3960	L max.	15	3960	30	22	15	M4	15,5	10	60
21200-2030X3960	L max.	20	3960	30	31	20	M5	19	12,3	60
21200-2530X3960	L max.	25	3960	30	34	23	M6	21,5	13,8	60
21200-3020X3960	L max.	30	3960	20	40	28	M8	26	15,8	80

Order No.	Version	Size	L max.	L	L2	L2 min.	L2 max.	B	B1	D for screw DIN 912	H	H1	L1
21200-15**X*	L2 and L customer specific	15	3960	*	**	20	49	22	15	M4	15,5	10	60
21200-20**X*	L2 and L customer specific	20	3960	*	**	20	49	31	20	M5	19	12,3	60
21200-25**X*	L2 and L customer specific	25	3960	*	**	20	49	34	23	M6	21,5	13,8	60
21200-30**X*	L2 and L customer specific	30	3960	*	**	20	49	40	28	M8	26	15,8	80

Miniature linear guides DryLin® T



Material:

Slide carriage body die-cast zinc.
Slide elements maintenance-free iglidur® J.
Guide rail extruded profile EN AW-6060.

Version:

Hard anodised aluminium, 50 µm. Hardness 500 HV.

Sample order:

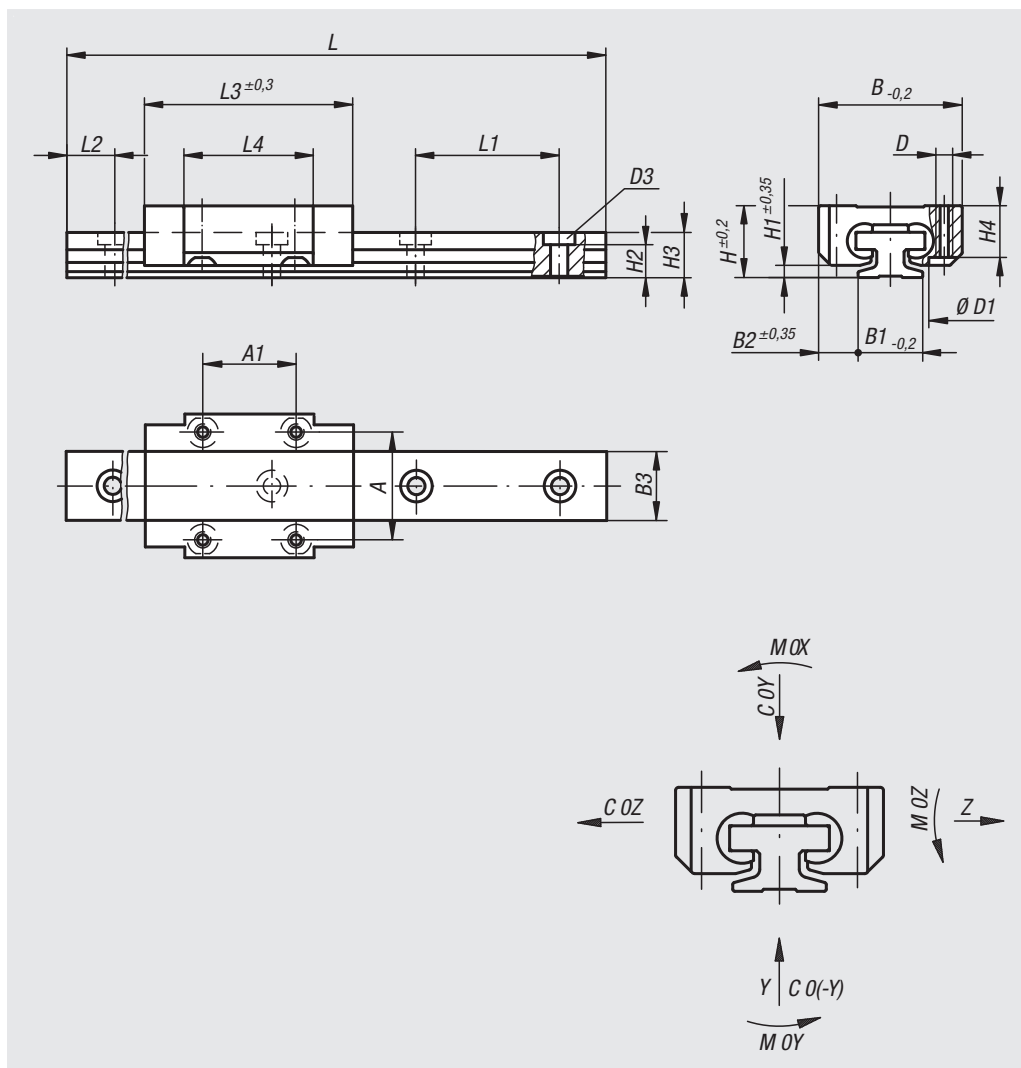
nIm 21210-0900 (Carriages)

Ordering example guide rail:

nIm 21210-1212X0800 (L max.)
nIm 21210-1512X500 (customer specific
guide rail size 15)
** lengths L2 = 12 mm
* and L = 500 mm included
L2 and L only available as full mm.

Note:

Due to their ability to run dry and their resistance to corrosion, miniature linear guides are completely maintenance-free. The slider components in iglidur® J are wear-resistant and replaceable. Can be used in a temperature range up to max. 80 °C. The small dimensions are a major advantage of these miniature linear guides.



Miniature linear guides DryLin® T

Carriages

Order No. standard fixed bearing	Order No. floating bearing y axis	Order No. floating bearing z axis	Size	COY N	CO(-Y) N	COZ N	MOX Nm	MOY Nm	MOZ Nm
21210-0900	21210-0920	21210-0930	9	480	480	240	3,4	1,8	1,8
21210-1200	21210-1220	21210-1230	12	960	960	480	9,2	4,4	4,4
21210-1500	21210-1520	21210-1530	15	1400	1400	700	17	8	8

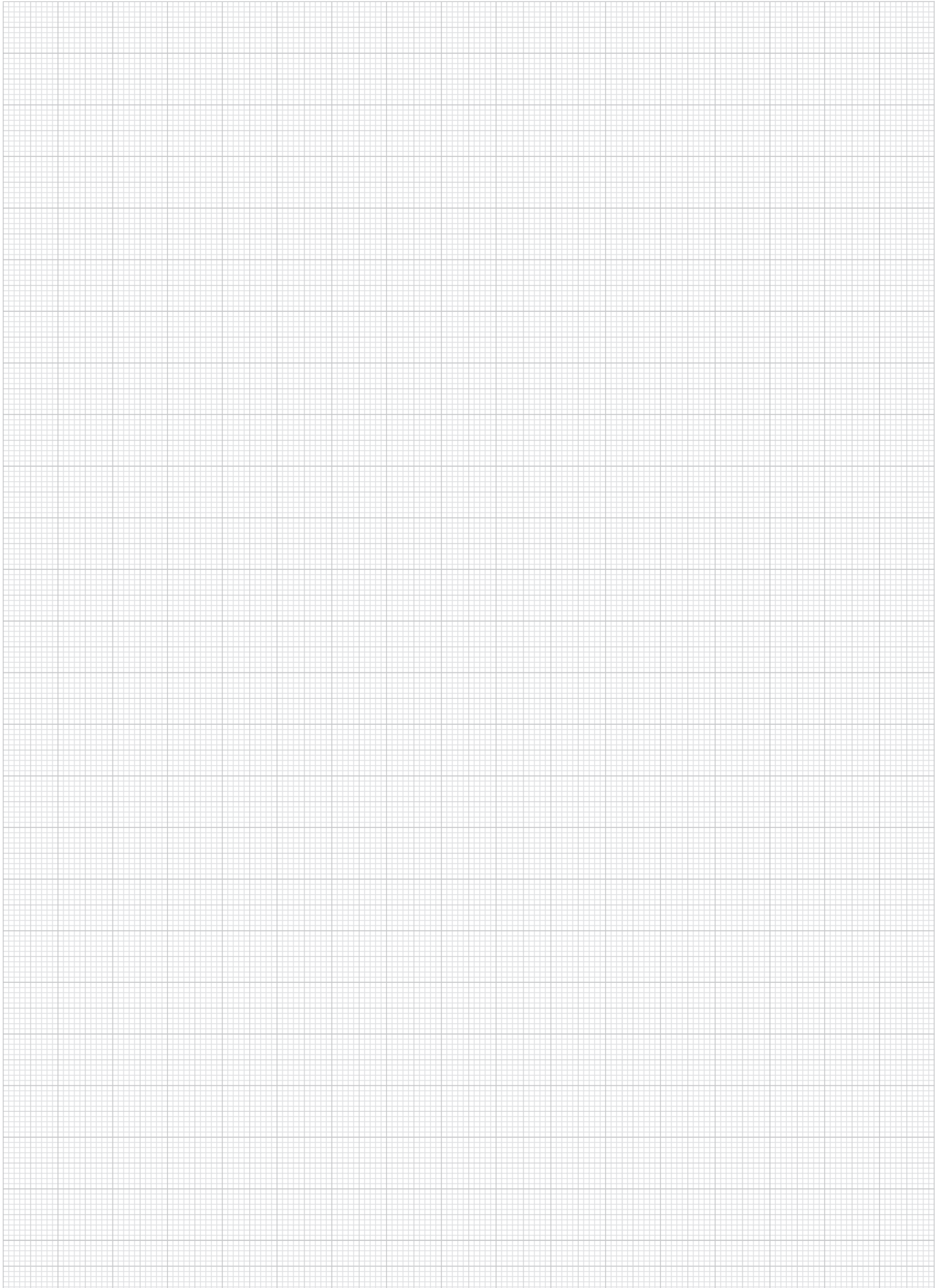
Order No. standard fixed bearing	Order No. floating bearing y axis	Order No. floating bearing z axis	Size	A	A1	B	B2	D	D1	H	H1	H4	L3	L4
21210-0900	21210-0920	21210-0930	9	15	13	20	5,5	M2	4,4	10	1,7	7,2	29	18
21210-1200	21210-1220	21210-1230	12	20	15	27	7,5	M3	6,5	13	2,2	9,5	34	22
21210-1500	21210-1520	21210-1530	15	25	20	32	8,5	M3	6,5	16	2,8	11	42	31

Guide rails

Order No.	Size	L max.	L2	B1	B3	D3 for screw to DIN 912	H2	H3	L1
21210-0910X0800	9	800	10	9	9,6	M2	4,6	6,3	20
21210-1212X0800	12	800	12	12	13	M3	5,9	8,6	25
21210-1520X3000	15	3000	20	15	17	M3	7	10,8	40

Order No.	Version 2	Size	L	L2	L2 min.	L2 max.	B1	B3	D3 for screw to DIN 912	H2	H3	L1
21210-09**X*	L2 and L customer specific	9	*	**	5	14,5	6	9,6	M2	4,6	6,3	20
21210-12**X*	L2 and L customer specific	12	*	**	5	17	12	13	M3	5,9	8,6	25
21210-15**X*	L2 and L customer specific	15	*	**	10	29,5	15	17	M3	7	10,8	40

Notes



Miniature slide guides DryLin® N



Material:

Bearing material maintenance-free iglidur® J.
Rails anodised aluminium.

Version:

Guide rail natural colour anodised.
Carriage fastening thread brass.

Sample order:

n1m 21320-1700 (Guide car, fixed bearing)

Ordering example guide rail:

n1m 21230-1720X1960 (L max.)

n1m 21230-1720X500 (customer specific guide rail)

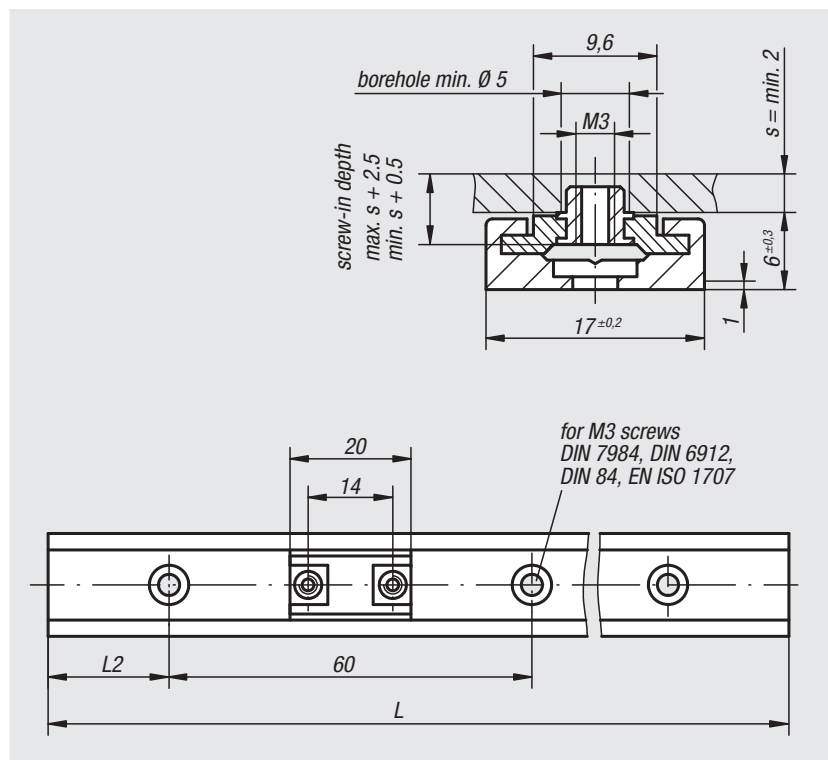
** lengths L2 = 20 mm

* and L = 500 mm included

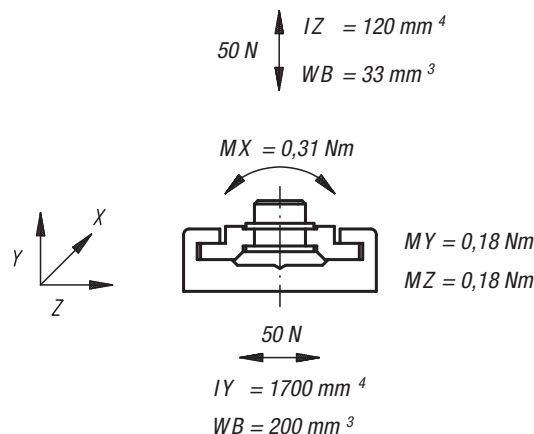
L2 and L only available in full mm.

Note:

Miniature slide guides are maintenance-free and corrosion resistant. Very high speeds and accelerations are possible due to the low weight. Applicable temperature max. 80 °C. Miniature slide guides are insensitive to dust and ideally suited to dry running.



static load capacity and geometrical moment of inertia



Carriage

Order No.	Version
21230-1700	fixed bearing
21230-1710	floating bearing

Guide rails

Order No.	Version	L max.	L2
21230-1720X1960	L max.	1960	20

Order No.	Version	L2	L2 min.	L2 max.
21230-17**X*	L2 and L customer specific	**	20	49

Miniature slide guides DryLin® N



Material:

Carriage body zinc.
Plastic bearing material iglidur® J.
Rails anodised aluminium.

Version:

Body chromed.
Guide rail natural colour anodised.

Sample order:

n1m 21320-2700 (guide carriage with hole,
fixed bearing)

Ordering example guide rail:

n1m 21230-2730X3000 (L max.)
n1m 21230-2730X1000 (customer specific
guide rail)

** length L2 = 30 mm and

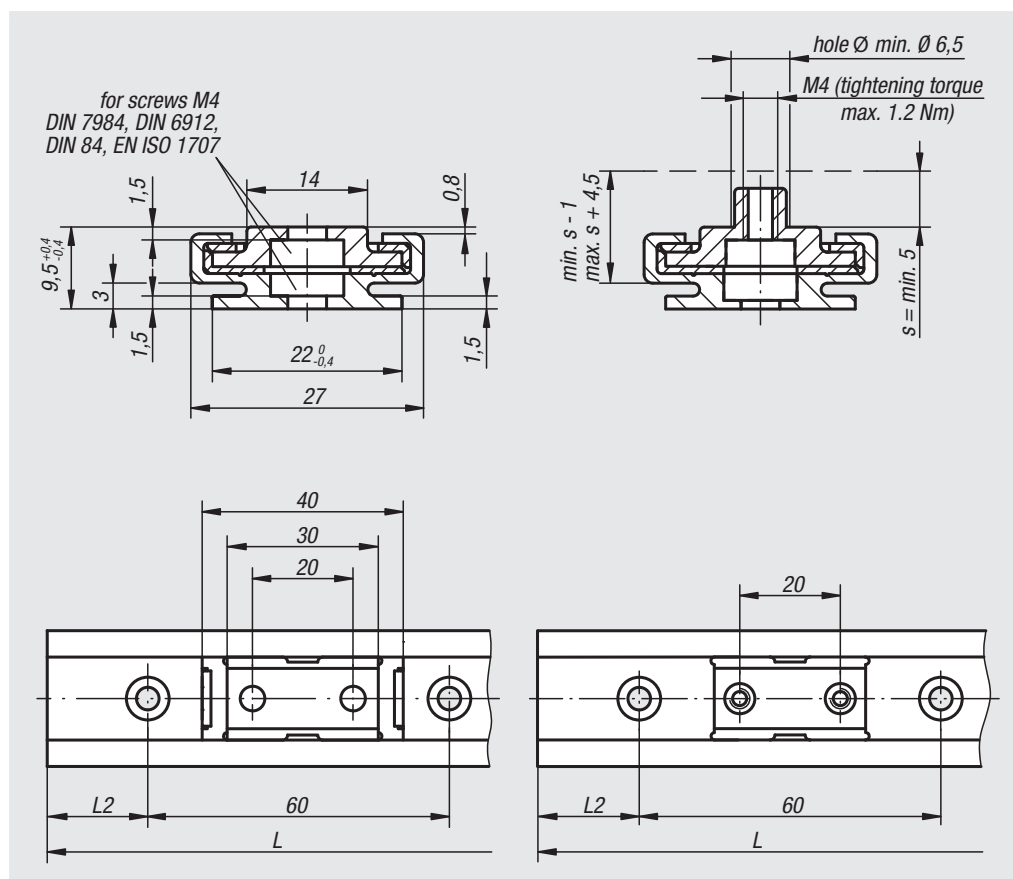
* L = 1000 mm included

L2 and L only available in full mm.

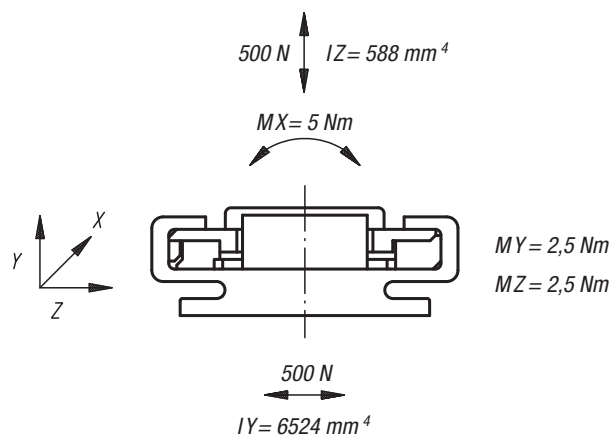
Note:

Miniature slide guides are maintenance-free and corrosion resistant. Very high speeds and accelerations are possible due to the low weight. Applicable temperature max. 80 °C.

Miniature slide guides are insensitive to dust and are ideal for dry running.



static load capacity and geometrical moment of inertia



Carriage

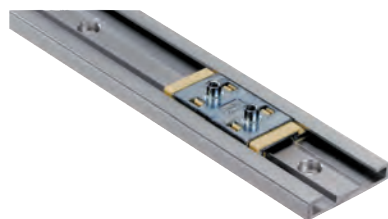
Order No. fixed bearing	Order No. floating bearing	Version
21230-2700	21230-2701	carriages drilled through
21230-2710	21230-2711	carriages with tapped hole

Guide rails

Order No.	Version 2	L max.	L2
21230-2730X3000	with through hole	3000	30

Order No.	Version 2	L2	L2 min.	L2 max.
21230-27**X*	with through hole	**	20	49

Miniature slide guides DryLin® N



Material:

Carriage body zink.
Plastic bearing material iglidur® J.
Rail anodised aluminium.

Version:

Body chromed.
Guide rail natural colour anodised.

Sample order:

n1m 21230-4000 (guide carriage, fixed bearing)

Ordering example guide rail:

n1m 21230-4030X3000 (L max.)
n1m 21230-4030X1000 (customer specific guide rail)

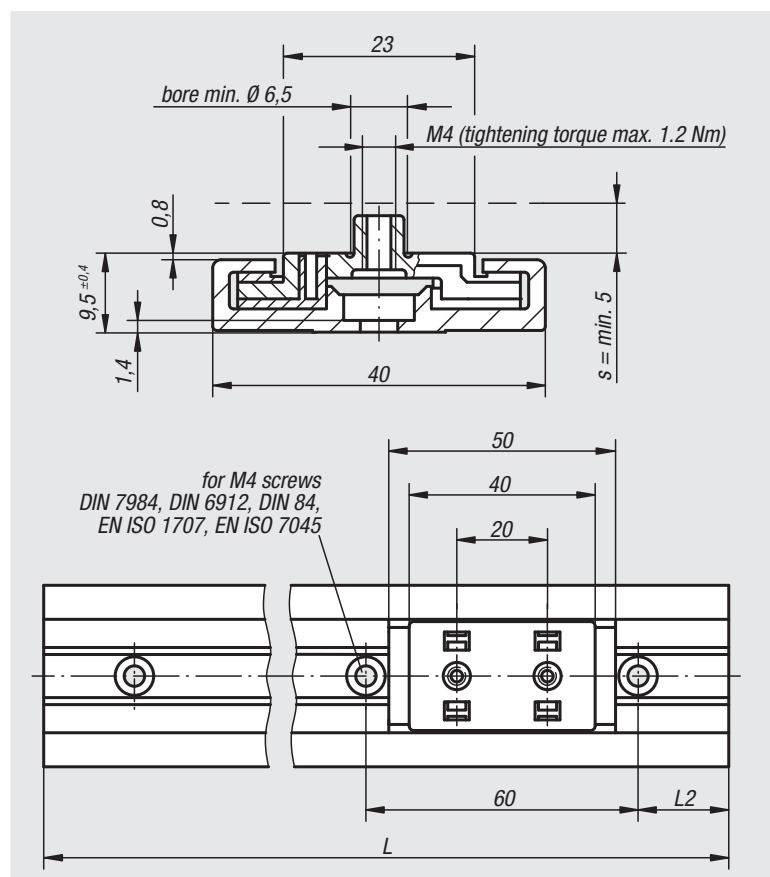
** length L2 = 30 mm and

* L = 1000 mm included

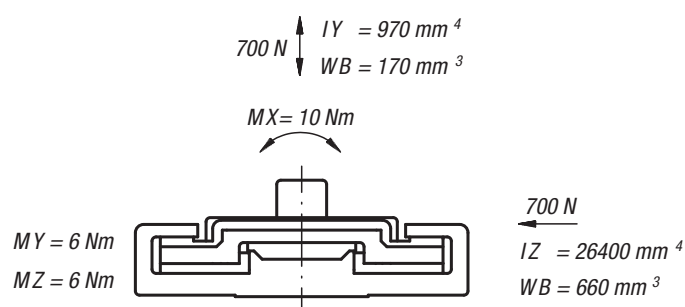
L2 and L only available in full mm.

Note:

Miniature slide guides are maintenance-free and corrosion resistant. Very high speeds and accelerations are possible due to the low weight. Applicable temperature max. 80 °C. Miniature slide guides are insensitive to dust and are ideal for dry running.



static load capacity and geometrical moment of inertia



Carriage

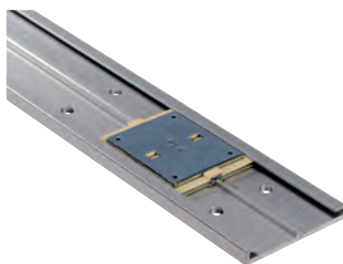
Order No.	Version
21230-4000	-
21230-4010	floating bearing

Guide rails

Order No.	Version	L max.	L2
21230-4030X3000	L max.	3000	30

Order No.	Version	L2	L2 min.	L2 max.
21230-40**X*	L2 and L customer specific	**	20	49

Flat guides DryLin® N



Material:

Carriage body zink.
Plastic bearing material iglidur® J.
Rail anodised aluminium.

Version:

Body chromed.
Guide rail natural colour anodised.

Sample order:

nIm 21230-8000 (guide carriage, fixed bearing)

Ordering example guide rail:

nIm 21230-8030X3960 (L max.)

nIm 21230-8030X1000 (customer specific guide rail)

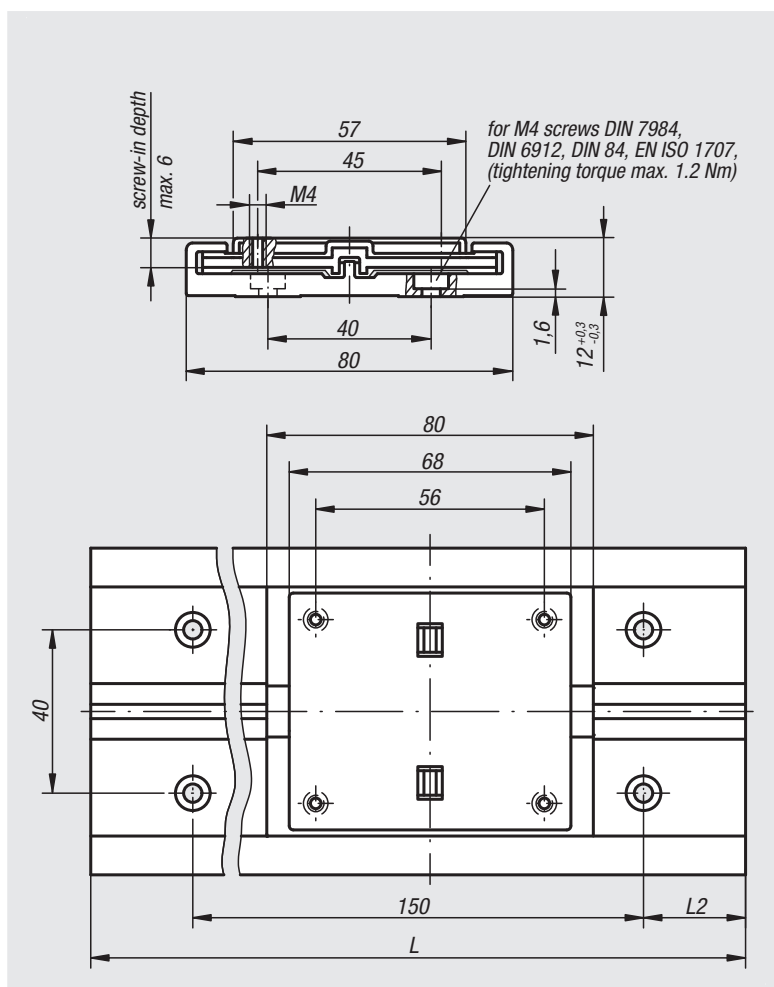
** length L2 = 30 mm and

* L = 1000 mm included

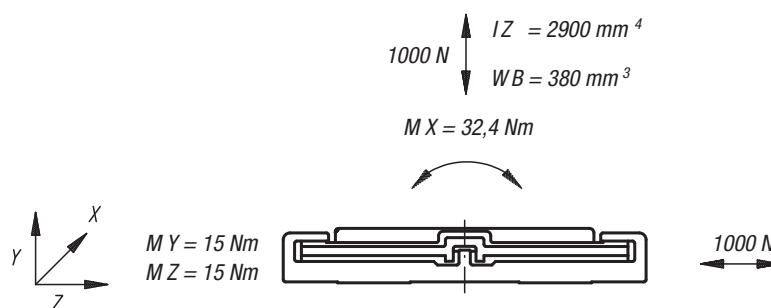
L2 and L only available in full mm.

Note:

Flat slide guides are maintenance-free and corrosion resistant. Very high speeds and accelerations are possible due to the low weight. Applicable temperature max. 80 °C. Miniature slide guides are insensitive to dust and are ideal for dry running.



static load capacity and geometrical moment of inertia



Carriage

Order No.	Version 2
21230-8000	fixed bearing
21230-8010	floating bearing

Guide rails

Order No.	Version	L max.	L2
21230-8030X3960	L max.	3960	30

Order No.	Version	L2	L2 min.	L2 max.
21230-80**X*	L2 and L customer specific	**	25	100

Carriages DryLin® W



Material:

Carriage die-cast zinc.
Mounting plate aluminium.
Bearing material iglidur® J.

Version:

Carriage chromed.
Mounting plate anodised.

Sample order:

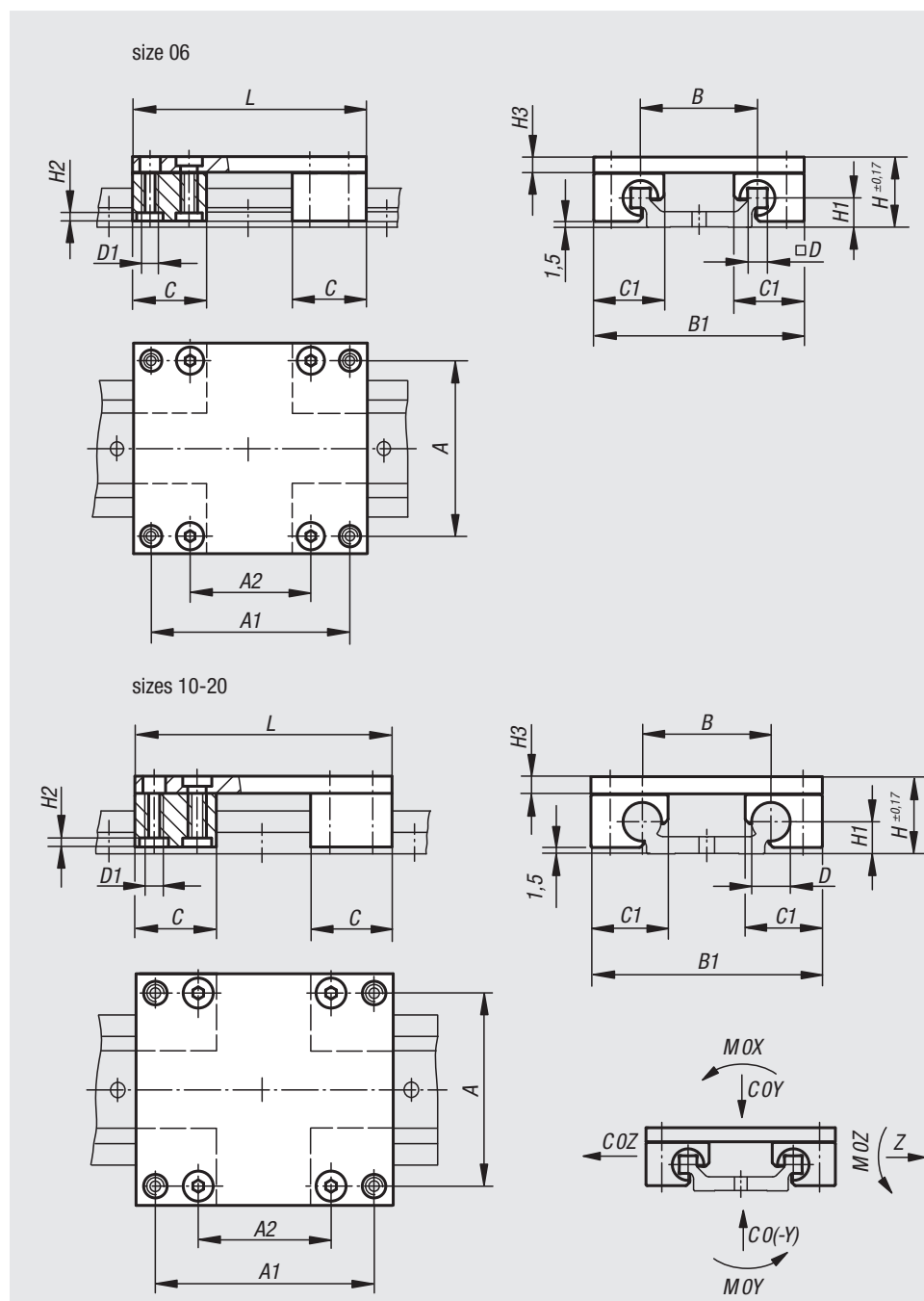
nlm 21240-0600060

Note:

DryLin® W carriages are maintenance-free and corrosion resistant. Lacking the need of lubrication makes the system highly dirt resistant. Low friction coefficient in dry running and very quiet. Due to the flat and wide design, high torques are possible. Speeds up to 15 m/s. Applicable temperature -40 °C to +90 °C.

Accessories:

Double guide rails 21240.



Order No.	Size	A	A1	A2	B	B1	C	C1	D	D1	H	H1	H2	H3	L	COY kN	CO(-Y) kN	COZ kN	MOX Nm	MOY Nm	MOZ Nm
21240-0600060	6	45	51	31	30	54	19	18	5	M4	18	7,5	2	4	60	1,68	1,68	1,68	25	34	34
21240-0600080	6	45	71	51	30	54	19	18	5	M4	18	7,5	2	4	80	1,68	1,68	1,68	25	51	51
21240-0600100	6	45	91	71	30	54	19	18	5	M4	18	7,5	2	4	100	1,68	1,68	1,68	25	68	68
21240-1000100	10	60	87	55	40	73	29	26	10	M6	24	9	3,5	6	100	4,8	4,8	4,8	96	170	170
21240-1000150	10	60	137	105	40	73	29	26	10	M6	24	9	3,5	6	150	4,8	4,8	4,8	96	290	290
21240-1000200	10	60	187	155	40	73	29	26	10	M6	24	9	3,5	6	200	4,8	4,8	4,8	96	410	410
21240-1600100	16	86	82	46	58	104	36	34,5	16	M8	35	14	4	8	100	8,4	8,4	8,4	240	270	270
21240-1600150	16	86	132	96	58	104	36	34,5	16	M8	35	14	4	8	150	8,4	8,4	8,4	240	480	480
21240-1600200	16	86	182	146	58	104	36	34,5	16	M8	35	14	4	8	200	8,4	8,4	8,4	240	690	690
21240-2000150	20	116	132	78	82	134	45	42,5	20	M8	44	20	4	8	150	12,8	12,8	12,8	525	670	670
21240-2000200	20	116	182	128	82	134	45	42,5	20	M8	44	20	4	8	200	12,8	12,8	12,8	525	990	990
21240-2000250	20	116	232	178	82	134	45	42,5	20	M8	44	20	4	8	250	12,8	12,8	12,8	525	1250	1250

Slide carriages DryLin® W

**Material:**

Die-cast zinc.
Bearing material iglidur® J.

Version:

Chromed

Sample order:

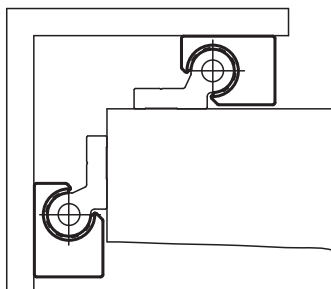
nln 21240-0600

Note:

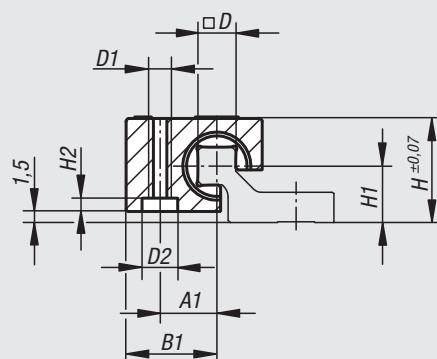
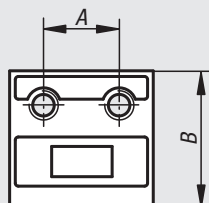
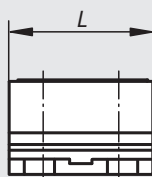
DryLin® W slide carriages are maintenance-free and corrosion resistant. Lacking the need of lubrication makes the system highly dirt resistant. Low friction coefficient in dry running and very quiet. Suitable for single or double rails. Speeds up to 15 m/s. Applicable temperature -40 °C to +90 °C.

Accessories:

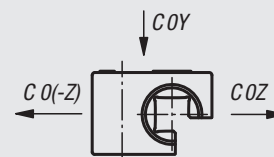
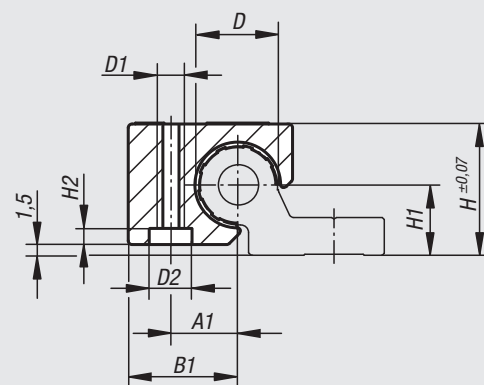
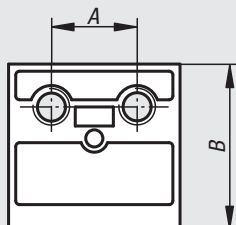
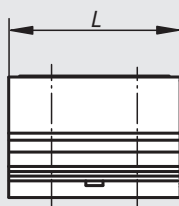
Guide rails 21240.



size 06



sizes 10-20



Order No.	Version 2	Size	A	A1	B	B1	D	D1	D2	H	H1	H2	L	C0Y kN	C0Z kN	C0(-Z) kN
21240-0600	standard fixed bearing	6	10	7,5	18	12	5	M4	7	14	7,5	2	19	0,42	0,42	0,14
21240-0620	floating bearing y axis	6	10	7,5	18	12	5	M4	7	14	7,5	2	19	0,42	0,42	0,14
21240-0630	floating bearing z axis	6	10	7,5	18	12	5	M4	7	14	7,5	2	19	0,42	0,42	0,14
21240-1000	standard fixed bearing	10	16	10	26	16,5	10	M6	9,5	18	9	3,5	29	1,2	1,2	0,25
21240-1020	floating bearing	10	16	10	26	16,5	10	M6	9,5	18	9	3,5	29	1,2	1,2	0,25
21240-1600	standard fixed bearing	16	18	14	34,5	23	16	M8	11,5	27	14	4	36	2,1	2,1	0,4
21240-2000	standard fixed bearing	20	27	17	42,5	26	20	M8	11,5	36	20	4	45	3,2	3,2	0,5
21240-2020	floating bearing	20	27	17	42,5	26	20	M8	11,5	36	20	4	45	3,2	3,2	0,5

Guide rails DryLin® W

single



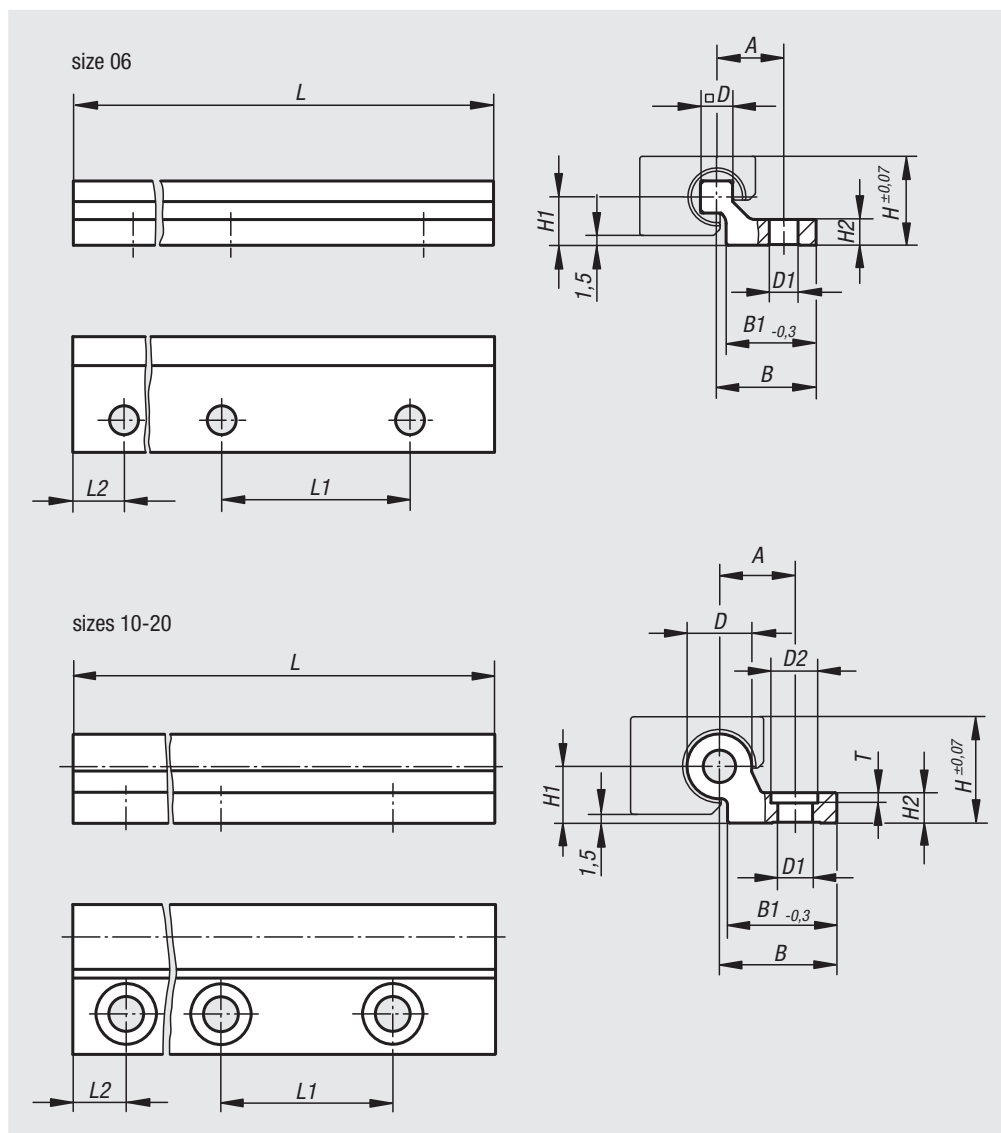
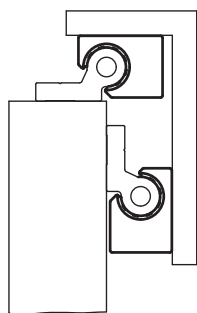
Material:
Aluminium.

Version:
Hard anodised, layer thickness 50 µm.
Hardness 500 HV

Sample order:
nlm 21240-10630X3000 (L max.)

Ordering example guide rail:
nlm 21240-10620X500
(customer specific guide rail size 06)
** include length L2 = 20 mm and
* L = 500 mm
L2 and L only available in full mm.

Note:
Single guide rails enable highest flexibility during construction and easy assembly. Can be used to compensate for height differences in height. Hard anodised aluminium is used as rail material and ensures best friction and wear results. Robust and dirt resistant for transporting heavy loads safely and maintenance-free.

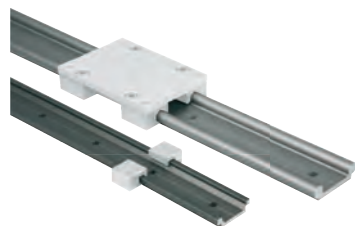


Order No.	Version	Size	L max.	L2	A	B	B1	D	D1	D2	H	H1	H2	L1	T
21240-10630X3000	L max.	6	3000	30	10,5	15,5	14	5	4,5	-	14	7,5	4	60	-
21240-11030X4000	L max.	10	4000	30	17	27	27	10	6,6	-	18	9	5,5	120	-
21240-11630X4000	L max.	16	4000	30	19	29	27	16	9	15	27	14	7,5	120	4
21240-12030X4000	L max.	20	4000	30	21	31	27	20	9	15	36	20	9,5	120	5

Order No.	Version	Size	L max.	L2	L2 min.	L2 max.	A	B	B1	D	D1	D2	H	H1	H2	L1	T
21240-106**X*	L2 and L customer specific	6	*	**	20	49,5	10,5	15,5	14	5	4,5	-	14	7,5	4	60	-
21240-110**X*	L2 and L customer specific	10	*	**	20	79,5	17	27	27	10	6,6	-	18	9	5,5	120	-
21240-116**X*	L2 and L customer specific	16	*	**	20	79,5	19	29	27	16	9	15	27	14	7,5	120	4
21240-120**X*	L2 and L customer specific	20	*	**	20	79,5	21	31	27	20	9	15	36	20	9,5	120	5

Guide rails DryLin® W

double



Material:

Aluminium.

Version:

Hard anodised, layer thickness 50 µm.
Hardness 500 HV

Sample order:

n1m 21240-20630X3000 (L max.)

Ordering example guide rail:

n1m 21240-20620X500
(customer specific guide rail size 06)

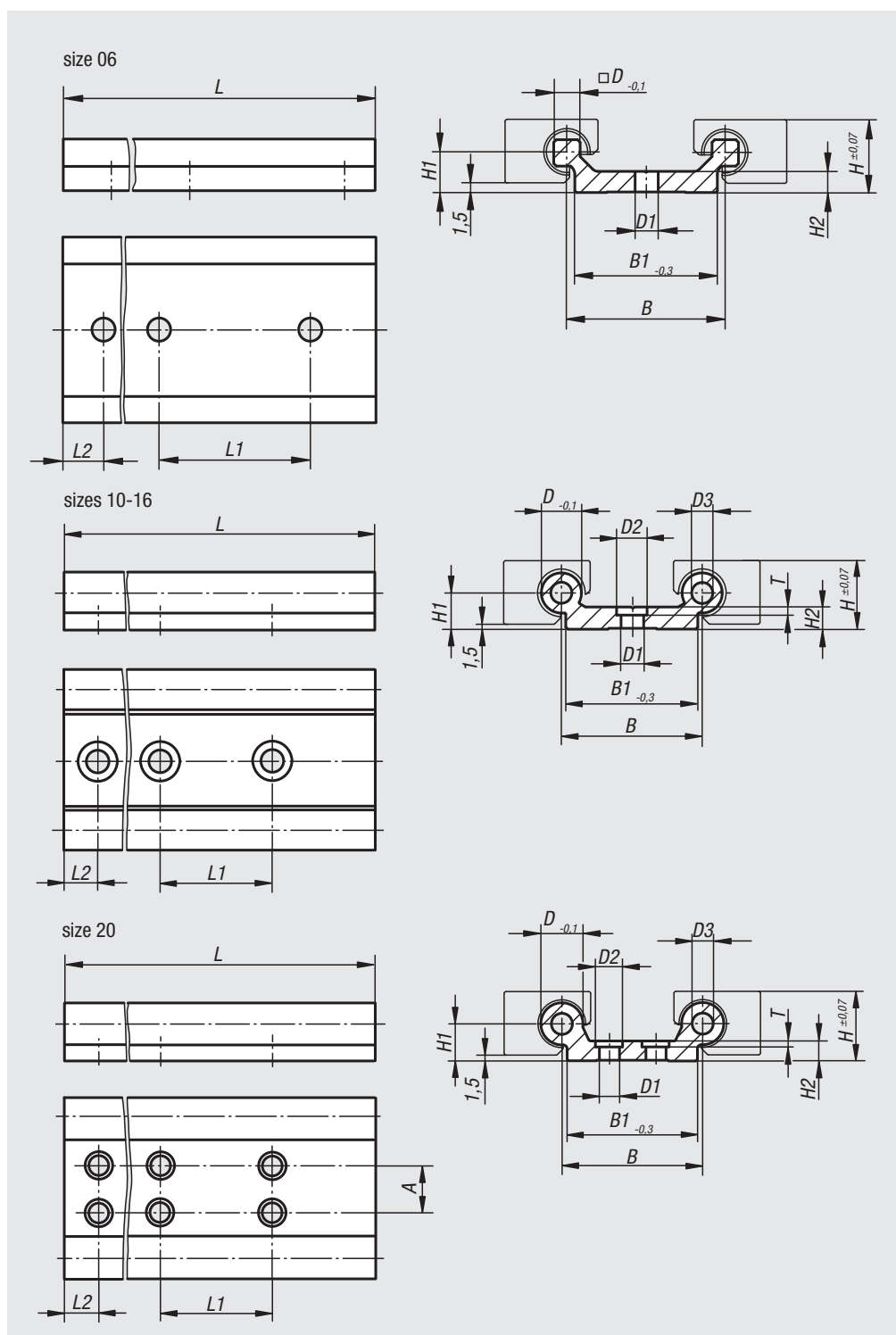
** include length L2 = 20 mm and

* L = 500 mm

L2 and L only available in full mm.

Note:

Extremely flat rails with wide guides reaching to the edge for optimally support high torque. Robust and dirt resistant for transporting heavy loads safely and maintenance-free.



Order No.	Version	Size	L max.	L2	L2 min.	L2 max.	A	B	B1	D	D1	D2	D3	H	H1	H2	L1	T
21240-20630X3000	L max.	6	3000	30	-	-	-	30	27	5	4,5	-	-	14	7,5	4	60	-
21240-21030X4000	L max.	10	4000	30	-	-	-	40	40	10	6,6	-	-	18	9	5,5	120	-
21240-21630X4000	L max.	16	4000	30	-	-	-	58	54	16	9	15	8	27	14	7,5	120	4
21240-22030X4000	L max.	20	4000	30	-	-	40	82	74	20	9	15	14	36	20	9,5	120	5
21240-206**X*	L2 and L customer specific	6	*	**	20	49,5	-	30	27	5	4,5	-	-	14	7,5	4	60	-
21240-210**X*	L2 and L customer specific	10	*	**	20	79,5	-	40	40	10	6,6	-	-	18	9	5,5	120	-
21240-216**X*	L2 and L customer specific	16	*	**	20	79,5	-	58	54	16	9	15	8	27	14	7,5	120	4
21240-220**X*	L2 and L customer specific	20	*	**	20	79,5	40	82	74	20	9	15	14	36	20	9,5	120	5

Plain bearings for rotary stages



Material:

Aluminium outer ring

Inner ring made of Iglidur® J plain bearing plastic material.

Stainless steel A2 screws and nuts.

Version:

Anodised outer ring.

Sample order:

nlm 21245-1108020

Note:

Extremely low weight plain bearings for rotary stages. The inner ring is made of a high-performance bearing material that surrounds the anodised aluminium outer ring. Such a combination of materials guarantees absolutely lubricant and maintenance-free running.

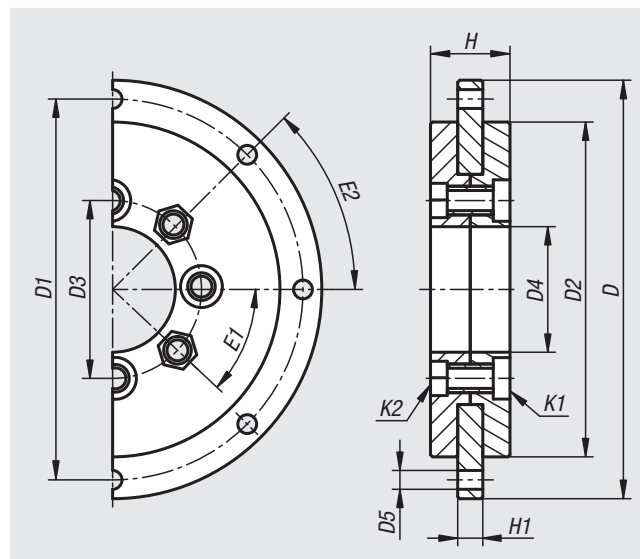
Simple assembly.

High wear resistance.

For high loads, high rigidity.

Temperature range:

-50°C to +90°C.



Order No.	D	D1	D2	D3	D4	D5	E1	E2	H	H1	K1	K2 for nut
21245-1108020	80	70	60	31	20	4,5	6X60°	6X60°	16	5	DIN 7984 M5	ISO 4035 M5
21245-1110030	100	91	80	42,5	30	4,5	8X45°	8X45°	19	6	DIN 7984 M5	ISO 4035 M5
21245-1116060	160	145	130	86	60	5,5	12X30°	20X18°	30	10	Ø 16 cuntersink 6,5 deep	Ø 16 cuntersink 6,5 deep

Order No.	Static axial load rating N	Dynamic axial load rating N	Static radial load rating N	Dynamic radial load rating N	tilt moment max. Nm	Rev. limit n max. rpm
21245-1108020	13000	4000	2000	500	60	250
21245-1110030	25000	7000	2500	700	100	200
21245-1116060	45000	12000	10000	2800	200	120

Plain bearing for rotary stages


Material:

Aluminium outer ring and inner ring.
Iglidur® J plastic slide elements.
Stainless steel A2 screws.

Version:

Anodised outer ring and inner ring.

Sample order:

nln 21245-01-1108020

Note:

Aluminium plain bearings with replaceable, high performance material glide elements for rotary stages. Such a combination of materials guarantees absolutely lubricant and maintenance-free running.

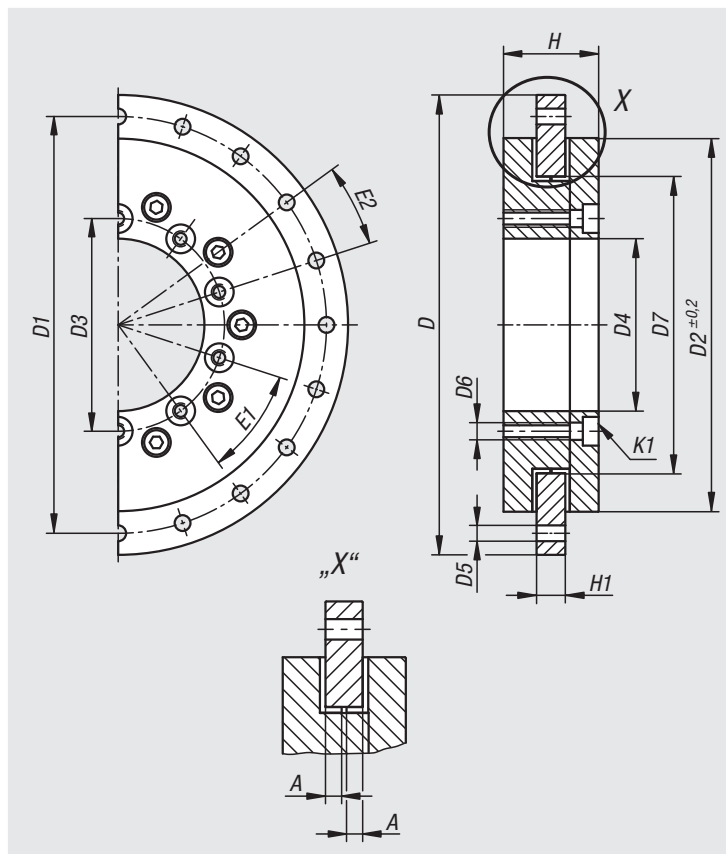
Simple assembly.

High wear resistance.

For high loads, high rigidity.

Temperature range:

-50°C to +90°C.



Order No.	A	D	D1	D2	D3	D4	D5	D6	D7	E1	E2	H	H1
21245-01-1108020	3,5	80	70	60	31	20	4,5	M4	40	6X60°	6X60°	24	8
21245-01-1110030	4,5	100	91	82	42,5	30	4,5	M4	58	8X45°	8X45°	29	10
21245-01-1116060	4,5	160	145	130	74	60	5,5	M5	103	10X36°	20X18°	33	10

Order No.	K1	Static axial load rating N	Dynamic axial load rating N	Static radial load rating N	Dynamic radial load rating N	tilt moment max. Nm	Rev. limit n max. rpm
21245-01-1108020	DIN 7984 M4	15000	4000	2300	600	100	300
21245-01-1110030	DIN 7984 M4	27000	7000	5000	1500	200	250
21245-01-1116060	ISO 4762 M5	50000	15000	10000	3000	800	200

Clamping element

for rotary stage plain bearing


Material:

Clamping element steel, clamping screws brass.

Version:

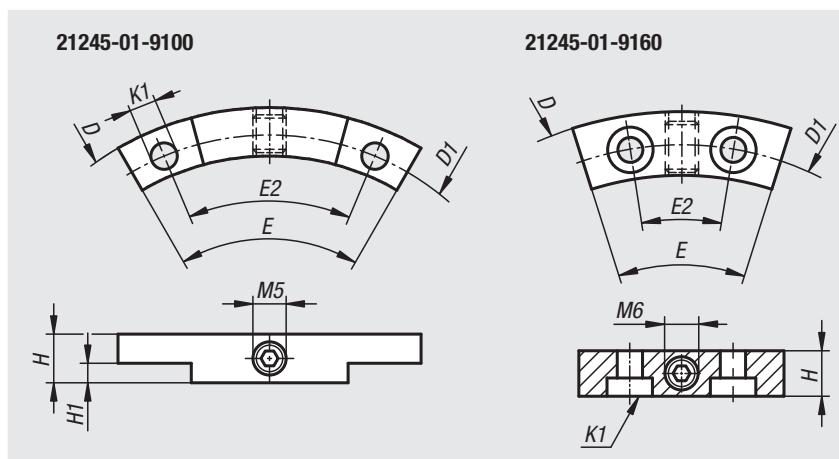
Clamping element bright.

Sample order:

nlm 21245-01-9100

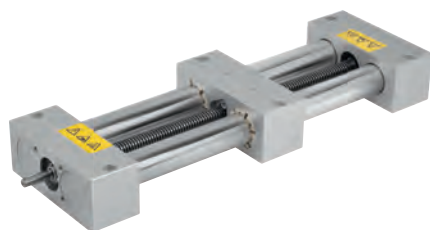
Note:

Clamping element for screwing onto the outer ring of the rotary stage plain bearing 21245-01.
1 Nm tightening torque gives 10 Nm retaining torque.



Order No.	D	D1	E	E2	H	H1	K1	Suitable for
21245-01-9100	100	91	60°	45°	8	3,2	Ø 4,5	21245-01-1110030
21245-01-9160	160	145	35°	18°	10	-	DIN 7984 M5	21245-01-1116060

Double tube linear actuator


Material:

Housing aluminium.
Precision tube nickel plated steel.
Trapezoidal thread spindle steel.

Sample order:

nln 21250-030X500

Note:

The double-tube linear actuator can be operated manually or electrically. Due to the short duty cycle, the units can be adjusted several times a day at low speed and with high stability. Width, length and height adjustment possible.

Temperature range:

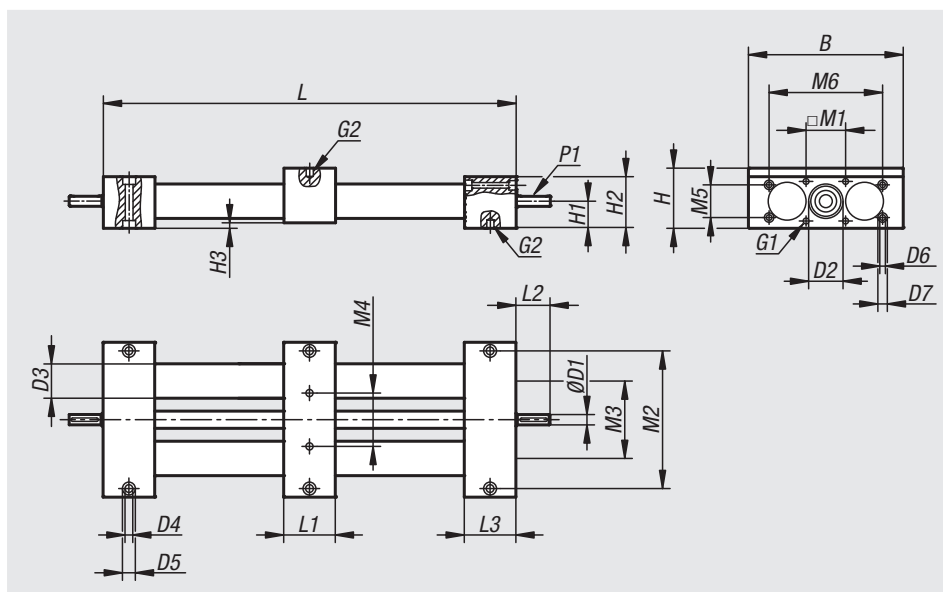
Temperature range 0° C to +60 °C

On request:

Other lengths.

Technical data:

Duty cycle: S3, 30% (at 60 min.)



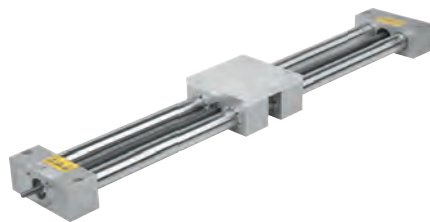
Double tube linear actuator

Order No.	Version 1	Spindle	B	D1	D2	D3	D4	D5	D6	D7	G1	G2	H	H1	H2	H3	Travel S
21250-030X300	with plain bearing	Tr 14x3	130	8	30H8	30	7	11	-	-	M6	M6	54	27	52	2	150
21250-030X500	with plain bearing	Tr 14x3	130	8	30H8	30	7	11	-	-	M6	M6	54	27	52	2	350
21250-030X800	with plain bearing	Tr 14x3	130	8	30H8	30	7	11	-	-	M6	M6	54	27	52	2	650
21250-130X300	with ball bearing	Tr 14x3	130	8	30H8	30	7	11	-	-	M6	M6	54	27	52	2	150
21250-130X500	with ball bearing	Tr 14x3	130	8	30H8	30	7	11	-	-	M6	M6	54	27	52	2	350
21250-130X800	with ball bearing	Tr 14x3	130	8	30H8	30	7	11	-	-	M6	M6	54	27	52	2	650
21250-040X300	with plain bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	120
21250-040X500	with plain bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	320
21250-040X800	with plain bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	620
21250-040X1000	with plain bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	820
21250-140X300	with ball bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	120
21250-140X500	with ball bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	320
21250-140X800	with ball bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	620
21250-140X1000	with ball bearing	Tr 20x4	180	12	40H8	40	9	15	6,5	11	M8	M8	63	31,5	60	3	820

Order No.	L	L1	L2	L3	M1	M2	M3	M4	M5	M6	P1
21250-030X300	300	50	26	50	40x30	114,5	70	42	-	-	2x2x20
21250-030X500	500	50	26	50	40x30	114,5	70	42	-	-	2x2x20
21250-030X800	800	50	26	50	40x30	114,5	70	42	-	-	2x2x20
21250-130X300	300	50	26	50	40x30	114,5	70	42	-	-	2x2x20
21250-130X500	500	50	26	50	40x30	114,5	70	42	-	-	2x2x20
21250-130X800	800	50	26	50	40x30	114,5	70	42	-	-	2x2x20
21250-040X300	300	60	38	60	46	160	90	62	38	132	4x4x32
21250-040X500	500	60	38	60	46	160	90	62	38	132	4x4x32
21250-040X800	800	60	38	60	46	160	90	62	38	132	4x4x32
21250-040X1000	1000	60	38	60	46	160	90	62	38	132	4x4x32
21250-140X300	300	60	38	60	46	160	90	62	38	132	4x4x32
21250-140X500	500	60	38	60	46	160	90	62	38	132	4x4x32
21250-140X800	800	60	38	60	46	160	90	62	38	132	4x4x32
21250-140X1000	1000	60	38	60	46	160	90	62	38	132	4x4x32

Double tube linear actuator

with mounting bracket



Material:

Housing aluminium.
Precision tube nickel plated steel.
Trapezoidal thread spindle steel.

Sample order:

nlm 21250-01-030X800

Note:

The double-tube linear actuator can be operated manually or electrically. Due to the short duty cycle, the units can be adjusted several times a day at low speed and with high stability. Width, length and height adjustment possible.

Temperature range:

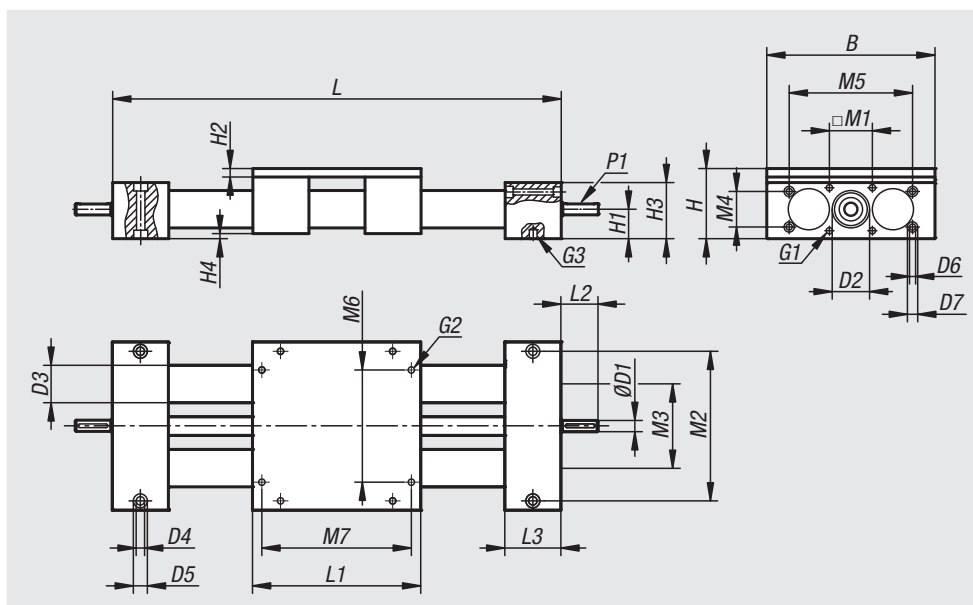
Temperature range 0° C to +60 °C

On request:

Other lengths.

Technical data:

Duty cycle: S3, 30% (at 60 min.)



Order No.	Version 1	Spindle	Travel S	B	D1	D2	D3	D4	D5	D6	D7	G1	G2	G3
21250-01-030X500	with plain bearing	Tr 14x3	270	130	8	30H8	30	7	11	-	-	M6	M6	M6
21250-01-030X800	with plain bearing	Tr 14x3	570	130	8	30H8	30	7	11	-	-	M6	M6	M6
21250-01-130X500	with ball bearing	Tr 14x3	270	130	8	30H8	30	7	11	-	-	M6	M6	M6
21250-01-130X800	with ball bearing	Tr 14x3	570	130	8	30H8	30	7	11	-	-	M6	M6	M6
21250-01-040X500	with plain bearing	Tr 20x4	200	180	12	40H8	40	9	15	6,5	11	M8	M8	M8
21250-01-040X800	with plain bearing	Tr 20x4	500	180	12	40H8	40	9	15	6,5	11	M8	M8	M8
21250-01-040X1000	with plain bearing	Tr 20x4	700	180	12	40H8	40	9	15	6,5	11	M8	M8	M8
21250-01-140X500	with ball bearing	Tr 20x4	200	180	12	40H8	40	9	15	6,5	11	M8	M8	M8
21250-01-140X800	with ball bearing	Tr 20x4	500	180	12	40H8	40	9	15	6,5	11	M8	M8	M8
21250-01-140X1000	with ball bearing	Tr 20x4	700	180	12	40H8	40	9	15	6,5	11	M8	M8	M8

Order No.	H	H1	H2	H3	H4	L	L1	L2	L3	M1	M2	M3	M4	M5	M6	M7	P1
21250-01-030X500	64	27	10	52	2	500	130	26	50	40x30	114,5	70	-	-	80	114	2x2x20
21250-01-030X800	64	27	10	52	2	800	130	26	50	40x30	114,5	70	-	-	80	114	2x2x20
21250-01-130X500	64	27	10	52	2	500	130	26	50	40x30	114,5	70	-	-	80	114	2x2x20
21250-01-130X800	64	27	10	52	2	800	130	26	50	40x30	114,5	70	-	-	80	114	2x2x20
21250-01-040X500	75	31,5	12	60	3	500	180	38	60	46	160	90	38	132	120	160	4x4x32
21250-01-040X800	75	31,5	12	60	3	800	180	38	60	46	160	90	38	132	120	160	4x4x32
21250-01-040X1000	75	31,5	12	60	3	1000	180	38	60	46	160	90	38	132	120	160	4x4x32
21250-01-140X500	75	31,5	12	60	3	500	180	38	60	46	160	90	38	132	120	160	4x4x32
21250-01-140X800	75	31,5	12	60	3	800	180	38	60	46	160	90	38	132	120	160	4x4x32
21250-01-140X1000	75	31,5	12	60	3	1000	180	38	60	46	160	90	38	132	120	160	4x4x32

Roller carriages

compact and heavy-duty version



Material:
Steel.

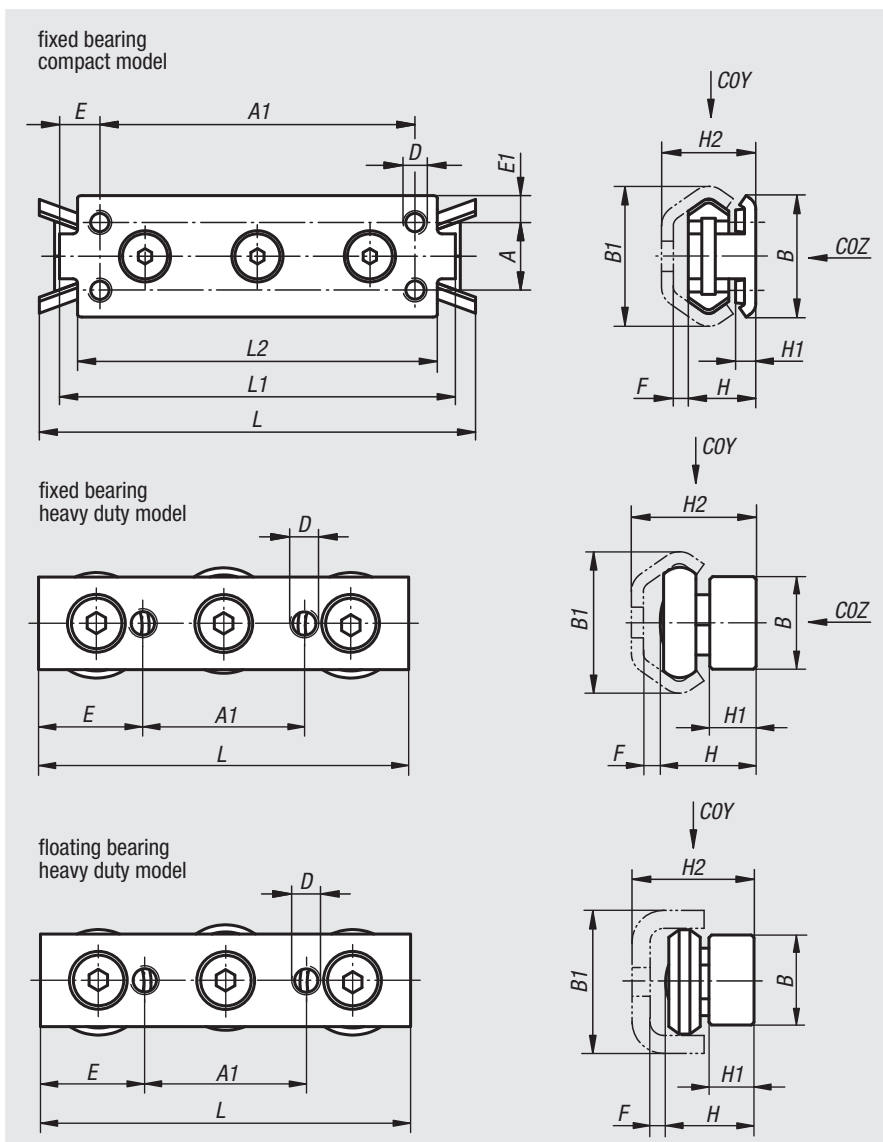
Version:
Electro zinc-plated.

Sample order:
nlm 21320-120080

Note:

Roller carriage with low coefficient of friction, therefore very free-running. The roller journals are lifetime-lubricated and have a 2Z (dust cover) seal. By simply moving the centre cam roller, the roller carriage can be adjusted to be play-free or under the desired initial tension in the rail. The compact version has a plastic stripper for cleaning the tracks.

Application temperature -30 °C to +120 °C.



Fixed bearing, compact version

Order No.	Size	A	A1	B	B1	D	E	E1	F	H	H1	H2	L	L1	L2	COY N	COZ N
21320-120080	20	-	60	18	19,2	M5	10	9	3	11,5	5,5	16	90	80	71	300	170
21320-130088	30	15	70	27	29,5	M5	5	6	4	14,1	4,5	20,5	97	88	80	800	400
21320-145150	45	23	120	40	46,4	M6	7,5	8,5	5	22	4	31	160	150	135	1600	860

Fixed bearing, heavy-duty version

Order No.	Size	A1	B	B1	D	E	F	H	H1	H2	L	COY N	COZ N
21320-220060	20	20	10	19,2	M5	20	2,6	13	6	17,8	60	326	185
21320-230080	30	35	20	29,5	M6	22,5	3,3	20,7	10	26,5	80	870	435
21320-245120	45	55	25	46,4	M8	32,5	5,1	28,9	12	38	120	1740	935

Floating bearing, heavy-duty version

Order No.	Size	A1	B	B1	D	E	F	H	H1	H2	L	COY N
21320-320060	20	20	10	20,5	M5	20	2,5	11,55	6	18,25 ±0,6	60	300
21320-330080	30	35	20	29,8	M6	22,5	3,5	19,2	10	27,95 ±1,0	80	800
21320-345120	45	55	25	43,8	M8	32,5	5	25,5	12	37,25 ±1,75	120	1600

Roller guide rails



Material:
Steel.

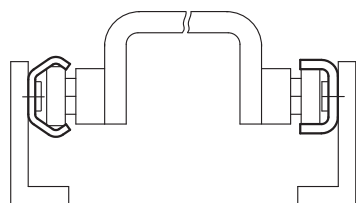
Version:
Electro zinc-plated.

Sample order:
nlm 21320-120X0800
(include length L)

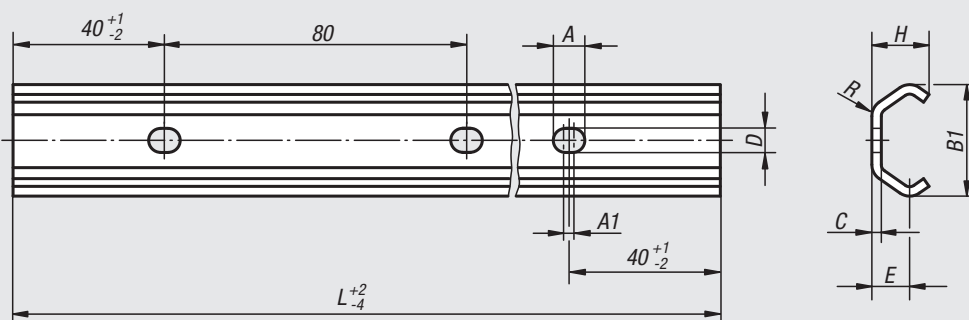
Note:
Stamped and rolled guide rails.

The fixed bearing rail is the main absorber of radial and axial forces. The floating bearing rail serves to absorb the load of radial forces and, in combination with the fixed bearing rail, as a support bearing for absorbing torques that occur. In the connection of the fixed and the floating bearings, the floating bearing rail compensates for parallelism errors and tolerances.

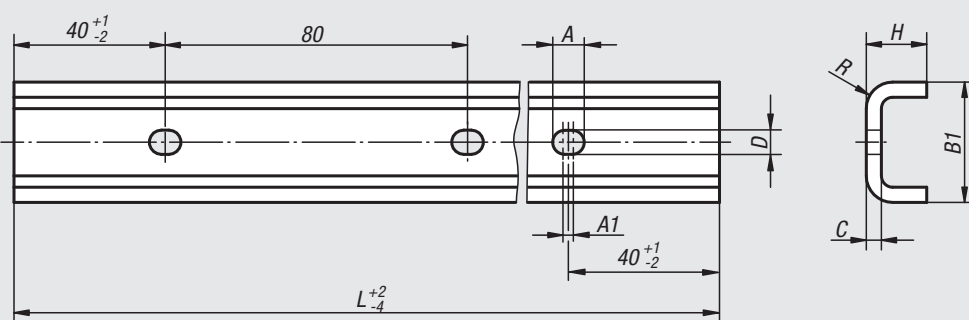
On request:
Lengths up to a max. 3120 mm.



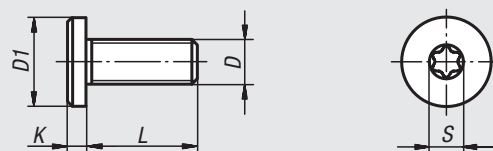
roller guide rail for
fixed bearing



roller guide rail for
floating bearing



fastening screw



Roller guide rails for fixed bearing

Order No.	Size	A	A1	B1	C	D	E	H	L	R
21320-120X	20	7	2	19,2	2	5	7	10	800/1040/2080/3120	3
21320-130X	30	8,4	2	29,5	2,5	6,4	10	14,1	800/1040/2080/3120	4,5
21320-145X	45	11	2	46,4	4	9	15,5	24	800/1040/2080/3120	6,5

Roller guide rails for floating bearing

Order No.	Size	A	A1	B1	C	D	H	L	R
21320-220X	20	7	2	20,5	3	5	11	800/1040/2080/3120	5,5
21320-230X	30	8,4	2	29,8	3	6,4	16	800/1040/2080/3120	7
21320-245X	45	11	2	43,8	4	9	24,5	800/1040/2080/3120	9,5

Fastening screws

Order No.	D	D1	K	L	S	Suitable for	Tightening torque Nm
21320-0408	M4	8	2	8	T20	size 20	4
21320-0510	M5	10	2	10	T25	size 30	9
21320-0816	M8	16	3	16	T40	size 45	22

Roller carriages

steel



Material:

Race body steel.

Wiper modified polyamide.

Rollers steel 1.3505.

Version:

Race body electro zinc-plated.

Sample order:

n1m 21322-1128080

Note:

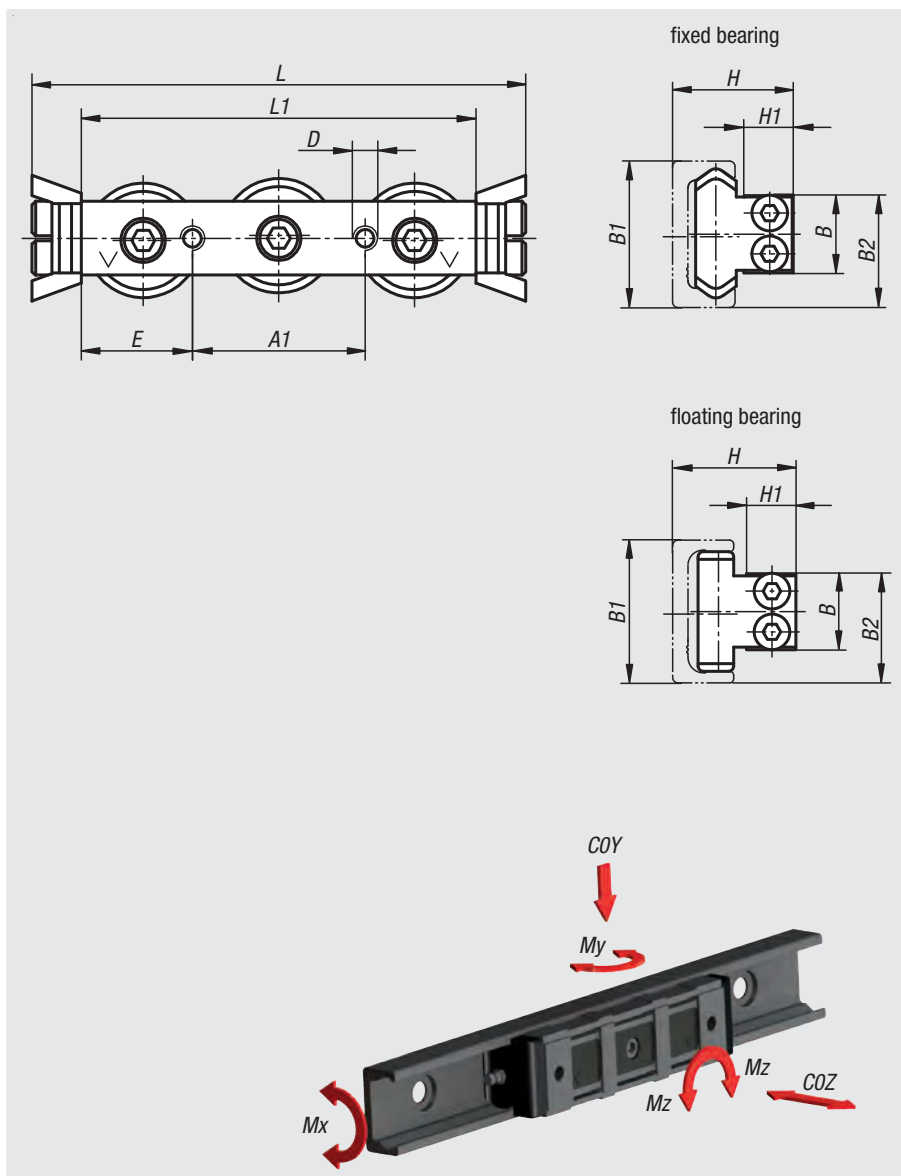
Roller carriages with lifetime lubricated ball bearings and polyamide wipers that protect the tracks from dirt. A simple adjustment of the middle roller makes the roller carriage play-free or sets the desired preload in the rail.

High traverse speeds of up to 7 m/s and extremely quiet (faster and quieter than systems with recycling ball bearings).

Application temperature -30°C to +120°C.

On request:

Roller carriages with 4 or 5 rollers.



Fixed bearing

Order No.	Size	A1	B	B1	B2	D	E	H	H1	L	L1	C dynamic N	COY N	COZ N	Mx Nm	My Nm	Mz Nm
21322-1118060	18	20	9,5	18	14	M5	20	15	5,7	76	60	1530	820	260	1,5	4,7	8,2
21322-1128080	28	35	14,9	28	21,7	M5	22,5	23,9	9,7	100	80	4260	2170	640	6,2	16	27,2
21322-1135100	35	45	19,9	35	27,85	M6	27,5	30,2	11,9	120	100	8040	3510	1060	12,9	33,7	61,5
21322-1143120	43	55	24,9	43	34,3	M8	32,5	37	14,5	140	120	12280	5500	1570	23,6	60	104,5

Floating bearing

Order No.	Size	A1	B	B1	B2	D	E	H min.	H max.	H1	L	L1	C dynamic N	COY N	Mz Nm
21322-1218060	18	20	9,5	18	14	M5	20	14,7	16,1	5,7	76	60	1530	820	8,2
21322-1228080	28	35	14,9	28	21,7	M5	22,5	23,3	25,2	9,7	100	80	4260	2170	27,2
21322-1235100	35	45	19,9	35	27,85	M6	27,5	28,9	32,9	11,9	120	100	8040	3510	61,5
21322-1243120	43	55	24,9	43	34,3	M8	32,5	35,6	39,5	14,5	140	120	12280	5500	104,5

Roller guide carriage steel


Material:

Race body steel.
Wipers plastic/felt.
Longitudinal sealing lips rubber.
Rollers steel 1.3505.

Version:

Race body electro zinc-plated.

Sample order:

nln 21322-18070

Note:

Roller carriage with lifetime-lubrication roller bearings and wipers which lubricate the system when moving.

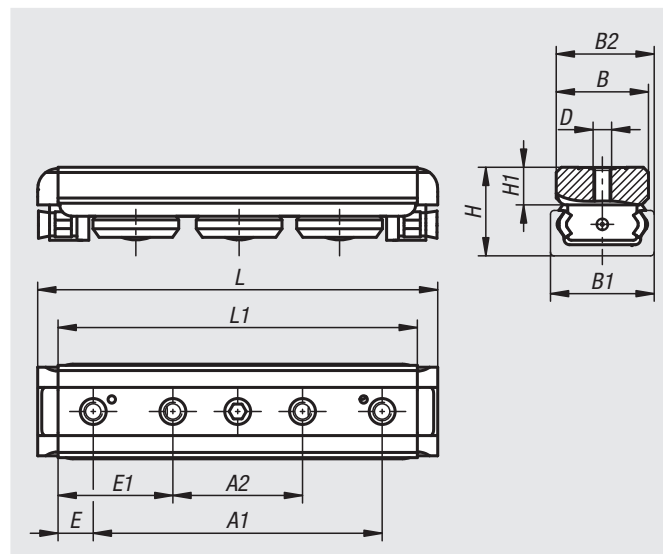
By simply moving the centre cam roller, the roller carriage can be adjusted so that it is free of play or has the desired pre-tension in the rail.

High travel speeds up to 7 m/s and extremely quiet (faster and quieter than systems that use recirculating balls).

The wipers are fitted with an oil-soaked felt. This felt is in constant contact with the track to ensure perfect lubrication. The felts can be recharged using an oil pump through the lubrication points on the front.

On request:

Roller carriages with 4 or 5 rollers.



Order No.	Size	A1	A2	B	B1	B2	D	E	E1	H	H1	L	L1	C dynamic N	COY N	COZ N	Mx Nm	My Nm	Mz Nm
21322-18070	18	52	20	16	18	17	M5	9	25	16,5	7,2	78	70	1530	820	260	1,5	4,7	8,2
21322-28097	28	78	35	24,9	28	26,45	M5	9,5	31	24	9,7	108	97	4260	2170	640	6,2	16	27,2
21322-43139	43	114	55	39,5	43	41,25	M8	12,5	42	37	14,5	150	139	12280	5500	1570	23,6	60	104,5

Roller guide rails



Material:
Ball bearing steel

Version:
Electro zinc-plated.
Tracks inductively hardened and ground.

Sample order:
nlm 21322-128X0400 (include length L)

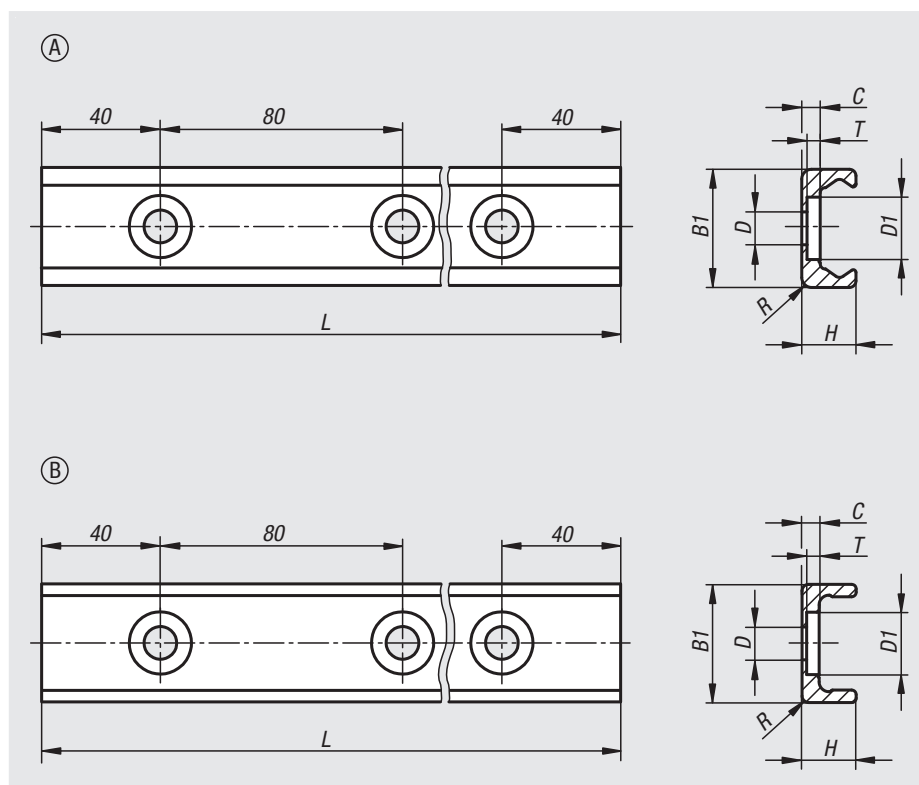
Note for ordering:
Fastening screws are supplied.

Note:
Compact C-profile guide rails with internal hardened tracks. The system runs with low noise even under heavy loads.

There is play between the screw and the fastening hole to allow the rail to be aligned during installation.

To achieve the desired running properties there must always be a film of lubricant between track and roller, this also provides corrosion protection for the ground tracks.

On request:
Lengths up to max. 4080 mm.



Roller guide rails Form A for fixed bearings

Order No.	Form	Size	B1	C	D for screw	D1	H	L	R	T
21322-118X	A	18	18	2,8	M4	9,5	8,25	240/400/560/800/1040/1200	1,5	2
21322-128X	A	28	28	3	M5	11	12,25	400/560/800/1040/1200/1440	1	2
21322-135X	A	35	35	3,5	M6	14,5	16	400/560/800/1040/1200/1440	2	2,7
21322-143X	A	43	43	4,5	M8	18	21	400/560/800/1040/1200/1520/2000	2,5	3,1

Roller guide rails Form B for floating bearings

Order No.	Form	Size	B1	C	D for screw	D1	H	L	R	T
21322-218X	B	18	18	2,6	M4	9,5	8,25	240/400/560/800/1040/1200	1	1,9
21322-228X	B	28	28	3	M5	11	12	400/560/800/1040/1200/1440	1	2
21322-235X	B	35	35	3,5	M6	14,5	16	400/560/800/1040/1200/1440	1	2,7
21322-243X	B	43	43	4,5	M8	18	21	400/560/800/1040/1200/1520/2000	1	3,1

Linear ball bearing

with internal race



Material:

Rail and race ball-bearing steel.
Balls, ball-bearing steel.
Ball cage steel.

Version:

Rail, runner and ball cage electro zinc-plated.
Race inductively hardened.
Balls hardened.

Sample order:

nIm 21330-280600130

Note:

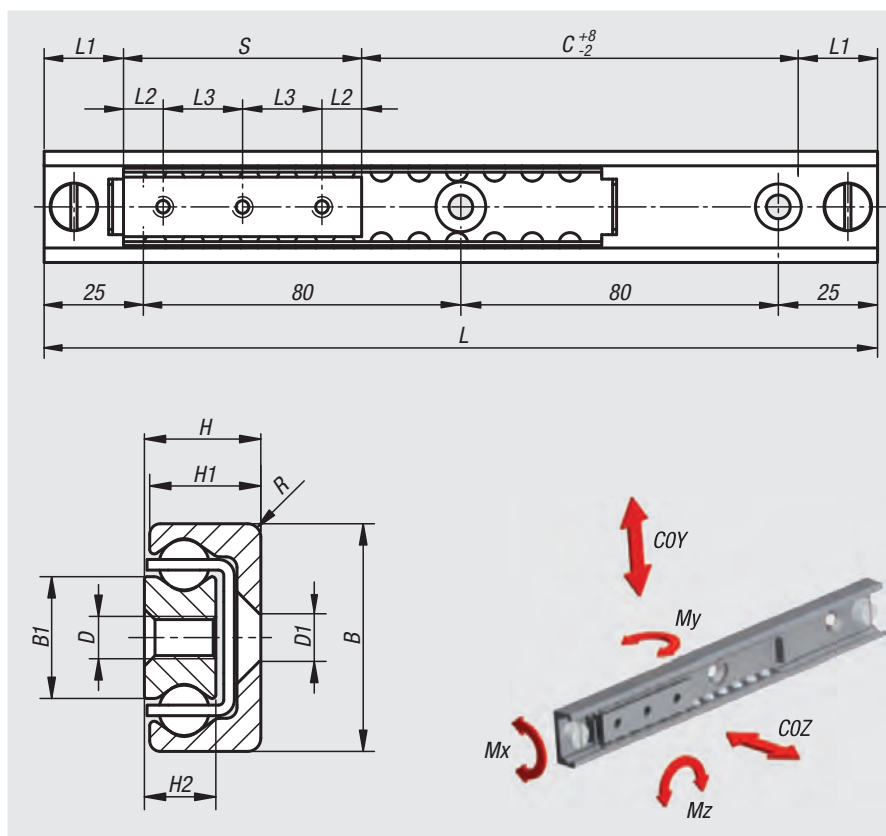
Linear ball bearing consisting of a guide rail and a race which runs within the ball cage in the guide rail.
Mounting should be carried out horizontally if possible.

The internal stops limit the cage. Provide external stops for a loaded system.

Use grade 10.9 DIN EN ISO 10642 countersunk head screws to install the rail.

The maximum traversing speed is 0.8 m/s.

Application temperature -30 °C to +170 °C.



Linear ball bearing

with internal race

Order No.	Size	B	B1	C (travel)	D for screw	D1	H	H1	H2	L	L1	L2	L3	R	S	C0Y N	C0Z N	Mx	My	Mz	No. of holes
21330-280600130	28	28	15	30	M5	M5	13	12,25	7,5	130	20	10	20	1	60	3480	2436	17,1	24	35	3
21330-280600210	28	28	15	110	M5	M5	13	12,25	7,5	210	20	10	20	1	60	3480	2436	17,1	24	35	3
21330-280600290	28	28	15	190	M5	M5	13	12,25	7,5	290	20	10	20	1	60	3480	2436	17,1	24	35	3
21330-280600370	28	28	15	270	M5	M5	13	12,25	7,5	370	20	10	20	1	60	3480	2436	17,1	24	35	3
21330-280800290	28	28	15	170	M5	M5	13	12,25	7,5	290	20	10	20	1	80	4640	3248	22,7	43	62	4
21330-280800370	28	28	15	250	M5	M5	13	12,25	7,5	370	20	10	20	1	80	4640	3248	22,7	43	62	4
21330-280800450	28	28	15	330	M5	M5	13	12,25	7,5	450	20	10	20	1	80	4640	3248	22,7	43	62	4
21330-280800610	28	28	15	490	M5	M5	13	12,25	7,5	610	20	10	20	1	80	4640	3248	22,7	43	62	4
21330-281300290	28	28	15	120	M5	M5	13	12,25	7,5	290	20	25	80	1	130	7540	5278	36,9	114	163	2
21330-281300370	28	28	15	200	M5	M5	13	12,25	7,5	370	20	25	80	1	130	7540	5278	36,9	114	163	2
21330-281300450	28	28	15	280	M5	M5	13	12,25	7,5	450	20	25	80	1	130	7540	5278	36,9	114	163	2
21330-281300610	28	28	15	440	M5	M5	13	12,25	7,5	610	20	25	80	1	130	7540	5278	36,9	114	163	2
21330-281300690	28	28	15	520	M5	M5	13	12,25	7,5	690	20	25	80	1	130	7540	5278	36,9	114	163	2
21330-282100450	28	28	15	200	M5	M5	13	12,25	7,5	450	20	25	80	1	210	12180	8526	59,7	298	426	3
21330-282100610	28	28	15	360	M5	M5	13	12,25	7,5	610	20	25	80	1	210	12180	8526	59,7	298	426	3
21330-282101010	28	28	15	760	M5	M5	13	12,25	7,5	1010	20	25	80	1	210	12180	8526	59,7	298	426	3
21330-351300290	35	35	15,8	110	M6	M6	17	16	10	290	25	25	80	2	130	9750	6825	47,2	148	211	2
21330-351300450	35	35	15,8	270	M6	M6	17	16	10	450	25	25	80	2	130	9750	6825	47,2	148	211	2
21330-351300770	35	35	15,8	590	M6	M6	17	16	10	770	25	25	80	2	130	9750	6825	47,2	148	211	2
21330-352100450	35	35	15,8	190	M6	M6	17	16	10	450	25	25	80	2	210	15750	11025	76,3	386	551	3
21330-352100690	35	35	15,8	430	M6	M6	17	16	10	690	25	25	80	2	210	15750	11025	76,3	386	551	3
21330-352101010	35	35	15,8	750	M6	M6	17	16	10	1010	25	25	80	2	210	15750	11025	76,3	386	551	3
21330-352900610	35	35	15,8	270	M6	M6	17	16	10	610	25	25	80	2	290	21750	15225	105,3	736	1051	4
21330-352900930	35	35	15,8	590	M6	M6	17	16	10	930	25	25	80	2	290	21750	15225	105,3	736	1051	4
21330-352901330	35	35	15,8	990	M6	M6	17	16	10	1330	25	25	80	2	290	21750	15225	105,3	736	1051	4
21330-432100450	43	43	23	190	M8	M8	22	21	13,5	450	25	25	80	2,5	210	22470	15729	155,1	551	786	3
21330-432100690	43	43	23	430	M8	M8	22	21	13,5	690	25	25	80	2,5	210	22470	15729	155,1	551	786	3
21330-432101010	43	43	23	750	M8	M8	22	21	13,5	1010	25	25	80	2,5	210	22470	15729	155,1	551	786	3
21330-433700770	43	43	23	350	M8	M8	22	21	13,5	770	25	25	80	2,5	370	39590	27713	273,2	1709	2441	5
21330-433701010	43	43	23	590	M8	M8	22	21	13,5	1010	25	25	80	2,5	370	39590	27713	273,2	1709	2441	5
21330-433701490	43	43	23	1070	M8	M8	22	21	13,5	1490	25	25	80	2,5	370	39590	27713	273,2	1709	2441	5

Telescopic slides, steel

for side mounting full extension, load capacity up to 20 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nlm 21334-0200

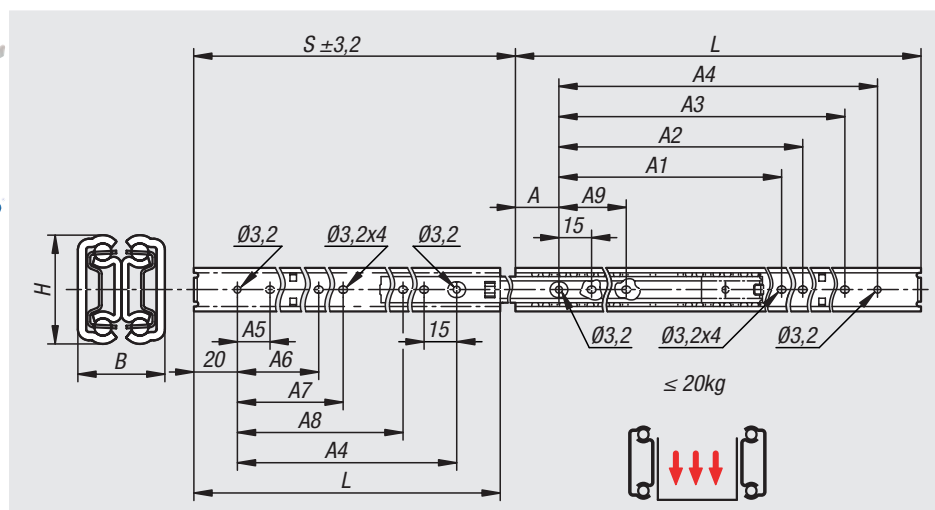
Note for ordering:

Sold in pairs.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 80,000 cycles.

Not suitable for horizontal mounting.



The head height of the fastening screws should not exceed 1.8 mm otherwise there is a risk of collision with other parts of the slide.

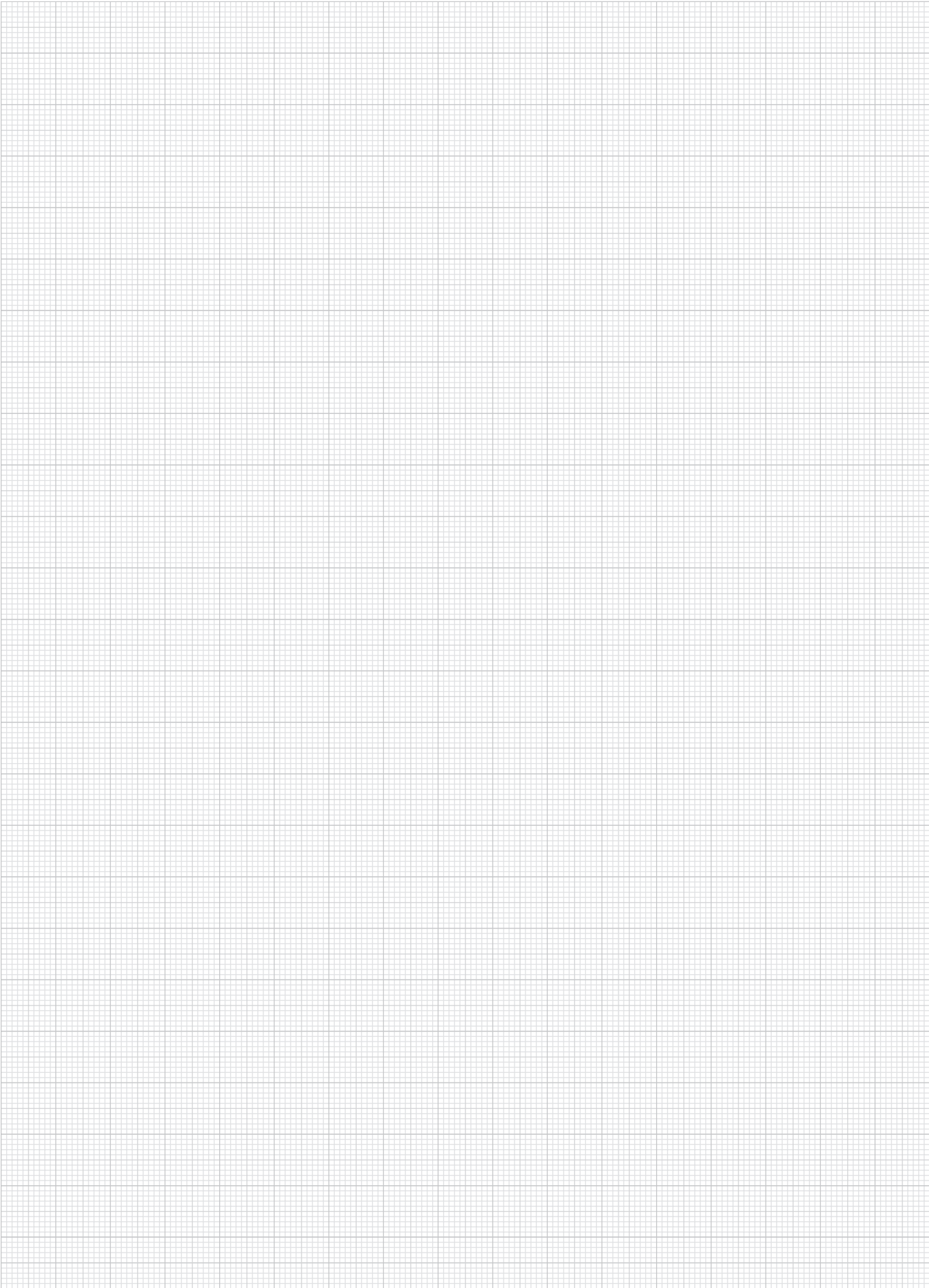
Advantages:

Low slide thickness
Light running
Precise guidance for high lateral stability

Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-0150	side mounting	standard	15	1 piece = 1 pair
21334-0200	side mounting	standard	17	1 piece = 1 pair
21334-0250	side mounting	standard	19	1 piece = 1 pair
21334-0300	side mounting	standard	20	1 piece = 1 pair
21334-0350	side mounting	standard	20	1 piece = 1 pair
21334-0400	side mounting	standard	18	1 piece = 1 pair
21334-0450	side mounting	standard	16	1 piece = 1 pair
21334-0500	side mounting	standard	13	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	B	H	Travel S	L
21334-0150	20	-	-	95	110	15	-	-	-	-	16	20	156	150
21334-0200	20	-	-	145	160	15	-	-	60	100	16	20	231	200
21334-0250	20	-	-	195	210	15	-	-	110	100	16	20	280	250
21334-0300	20	-	160	245	260	15	100	-	160	100	16	20	329	300
21334-0350	20	-	210	295	310	15	100	-	210	100	16	20	379	350
21334-0400	20	-	260	345	360	15	100	-	260	100	16	20	428	400
21334-0450	20	205	310	395	410	15	100	205	310	100	16	20	477	450
21334-0500	20	230	360	445	460	15	100	230	360	100	16	20	526	500

Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Telescopic slides, steel

for surface mounting, partial extension both sides, load capacity up to 35 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-05-0356

Note for ordering:

Sold in pairs.
Fastening material included.

Note:

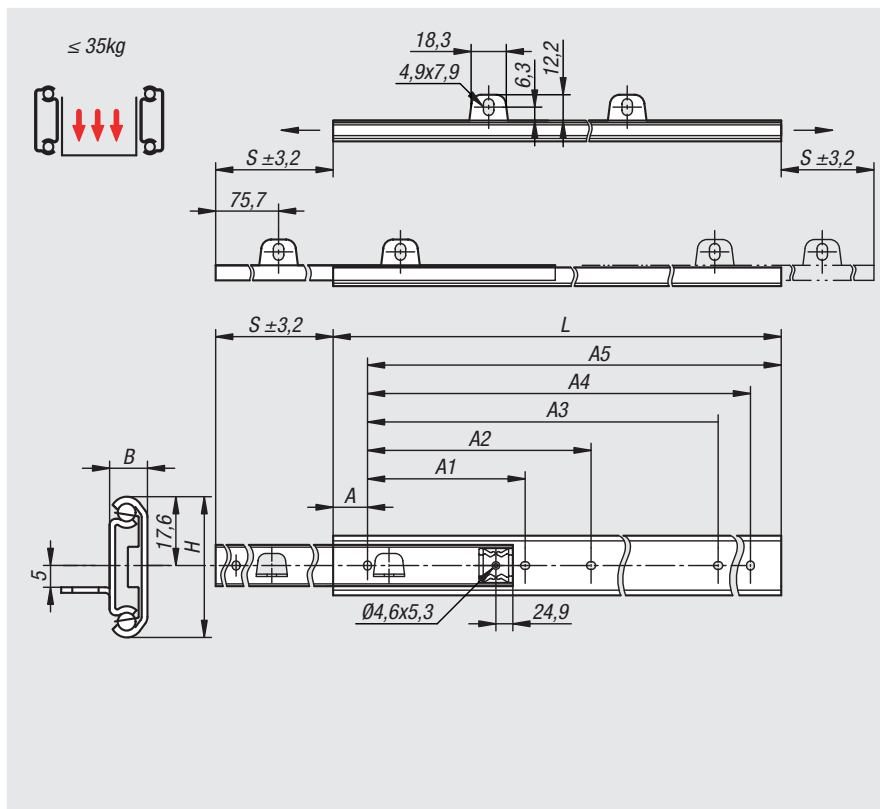
On telescopic slides with partial extension both sides, the travel is less than the installed length. These are a low-cost solution for guiding drawers or similar items with little friction and high lateral stability. Latches in the middle position. The side fasteners on the inner rail are replaced by support brackets. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 50,000 cycles.

Not suitable for horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Pulls out in both directions
Light running
Precise guidance for high lateral stability



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-05-0305	surface mounting	standard	35	1 piece = 1 pair
21334-05-0356	surface mounting	standard	35	1 piece = 1 pair
21334-05-0406	surface mounting	standard	35	1 piece = 1 pair
21334-05-0457	surface mounting	standard	35	1 piece = 1 pair
21334-05-0508	surface mounting	standard	32	1 piece = 1 pair
21334-05-0558	surface mounting	standard	31	1 piece = 1 pair
21334-05-0610	surface mounting	standard	29	1 piece = 1 pair
21334-05-0660	surface mounting	standard	27	1 piece = 1 pair
21334-05-0711	surface mounting	standard	24	1 piece = 1 pair

Telescopic slides, steel

for surface mounting, partial extension both sides, load capacity up to 35 kg



Order No.	A	A1	A2	A3	A4	A5	B	H	Travel S	L
21334-05-0305	28,9	111	-	-	247,7	276,1	9,5	35,3	221,5	305
21334-05-0356	29,1	111	-	187,2	298,5	326,9	9,5	35,3	272,3	356
21334-05-0406	28,3	111	-	136,4	349,3	377,7	9,5	35,3	297,7	406
21334-05-0457	28,5	111	199,9	288,8	400,1	428,5	9,5	35,3	323,1	457
21334-05-0508	28,7	111	225,3	339,6	450,9	479,3	9,5	35,3	373,9	508
21334-05-0558	27,9	111	250,7	390,4	501,7	530,1	9,5	35,3	399,3	558
21334-05-0610	29,1	111	276,1	441,2	552,5	580,9	9,5	35,3	424,7	610
21334-05-0660	28,3	111	301,5	492	603,3	631,7	9,5	35,3	475,5	660
21334-05-0711	28,5	111	326,9	542,8	654,1	682,5	9,5	35,3	500,9	711

Telescopic slides, steel

for side mounting, full extension, load capacity up to 45 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

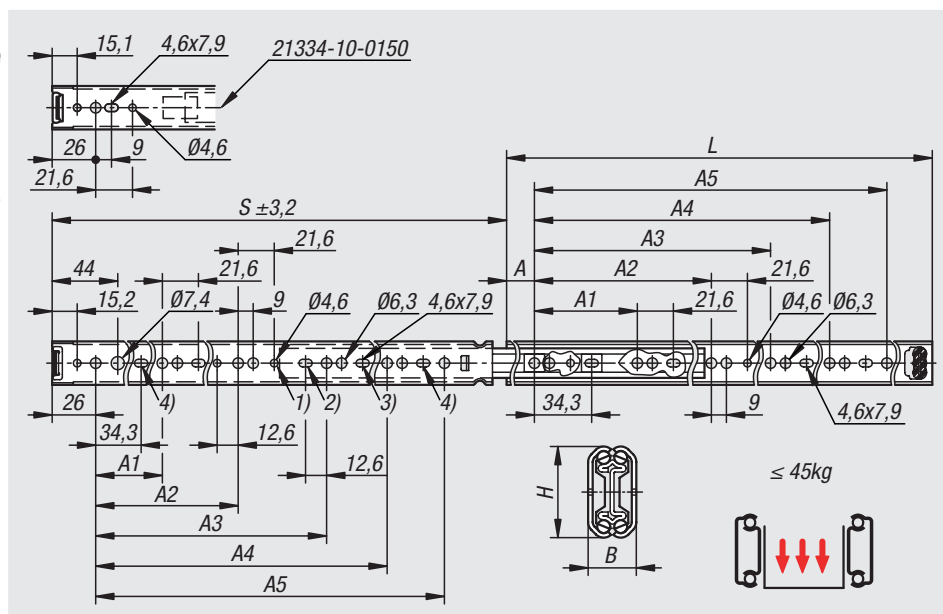
Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nlm 21334-10-0200

Note for ordering:

Sold in pairs.



Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. Latches in closed position.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 80,000 cycles.

Not suitable for horizontal mounting.

The head height of the fastening screws should not exceed 2 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Latches in closed position
Low slide thickness
Light running

Drawing reference:

- 1) Mounting hole by 21334-10-0300 not provided
- 2) Mounting hole by 21334-10-0400 provided
- 3) Mounting hole by 21334-10-0400 not provided
- 4) Mounting hole by 21334-10-0150 not provided

Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-10-0150	side mounting	standard	12	1 piece = 1 pair
21334-10-0200	side mounting	standard	16	1 piece = 1 pair
21334-10-0250	side mounting	standard	25	1 piece = 1 pair
21334-10-0300	side mounting	standard	32	1 piece = 1 pair
21334-10-0350	side mounting	standard	35	1 piece = 1 pair
21334-10-0400	side mounting	standard	45	1 piece = 1 pair
21334-10-0450	side mounting	standard	45	1 piece = 1 pair
21334-10-0500	side mounting	standard	35	1 piece = 1 pair
21334-10-0550	side mounting	standard	30	1 piece = 1 pair

Telescopic slides, steel

for side mounting, full extension, load capacity up to 45 kg



Order No.	A	A1	A2	A3	A4	A5	B	H	Travel S	L
21334-10-0150	26	78	-	-	-	-	12,7	26,3	147,5	150
21334-10-0200	26	128	-	-	-	-	12,7	26,3	209	200
21334-10-0250	26	128	-	-	-	-	12,7	26,3	259	250
21334-10-0300	26	128	224	-	-	-	12,7	26,3	308	300
21334-10-0350	26	128	224	-	-	-	12,7	26,3	357	350
21334-10-0400	26	128	224	320	-	-	12,7	26,3	406	400
21334-10-0450	26	128	224	352	-	-	12,7	26,3	456	450
21334-10-0500	26	128	224	352	416	-	12,7	26,3	505	500
21334-10-0550	26	128	224	352	448	489	12,7	26,3	554	550

Telescopic slides, steel

for side mounting, full extension, load capacity up to 50 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

n1m 21334-15-10400

Note for ordering:

Sold in pairs.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. When the release lever is actuated, the drawer can be taken out easily and separated from the guide. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used.

Not suitable for horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Form A:

When closing, the movement of the telescopic slides is dampened by the soft closing feature and they move automatically into the end position.

The load capacities specified are based on the maximum value by 80,000 cycles.

Form B:

The telescopic slides slide automatically and almost soundlessly out with just a light push. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 80,000 cycles.

Form C:

Latches in open and closed positions. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 or 80,000 cycles.

Form D:

Latches in closed position.

The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 80,000 cycles.

Form E:

The self-retraction function enables the slides to slide automatically into the closed position. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 or 80,000 cycles.

Temperature range:

Form A:
+10 °C to +40 °C.

Form B:

-20 °C to +70 °C.

Form C:

-20 °C to +70 °C.

Form D:

-20 °C to +70 °C.

Advantages:

Soft close
Push to open
Self-retracting
Latches in open and closed positions
Quick frontal release

Accessories:

Steel mounting bracket for telescopic slides 21335-80

Drawing reference:

Form B:

1) Mounting hole by 21334-15-2040022, 21334-15-2050022, 21334-15-2060022, 21334-15-2040035, 21334-15-2050035 and 21334-15-2060035 not provided

Form C:

1) Mounting hole by 21334-15-30600, 21334-15-30650 and 21334-15-30700 provided
2) Mounting hole by 21334-15-30250 not provided

Form D:

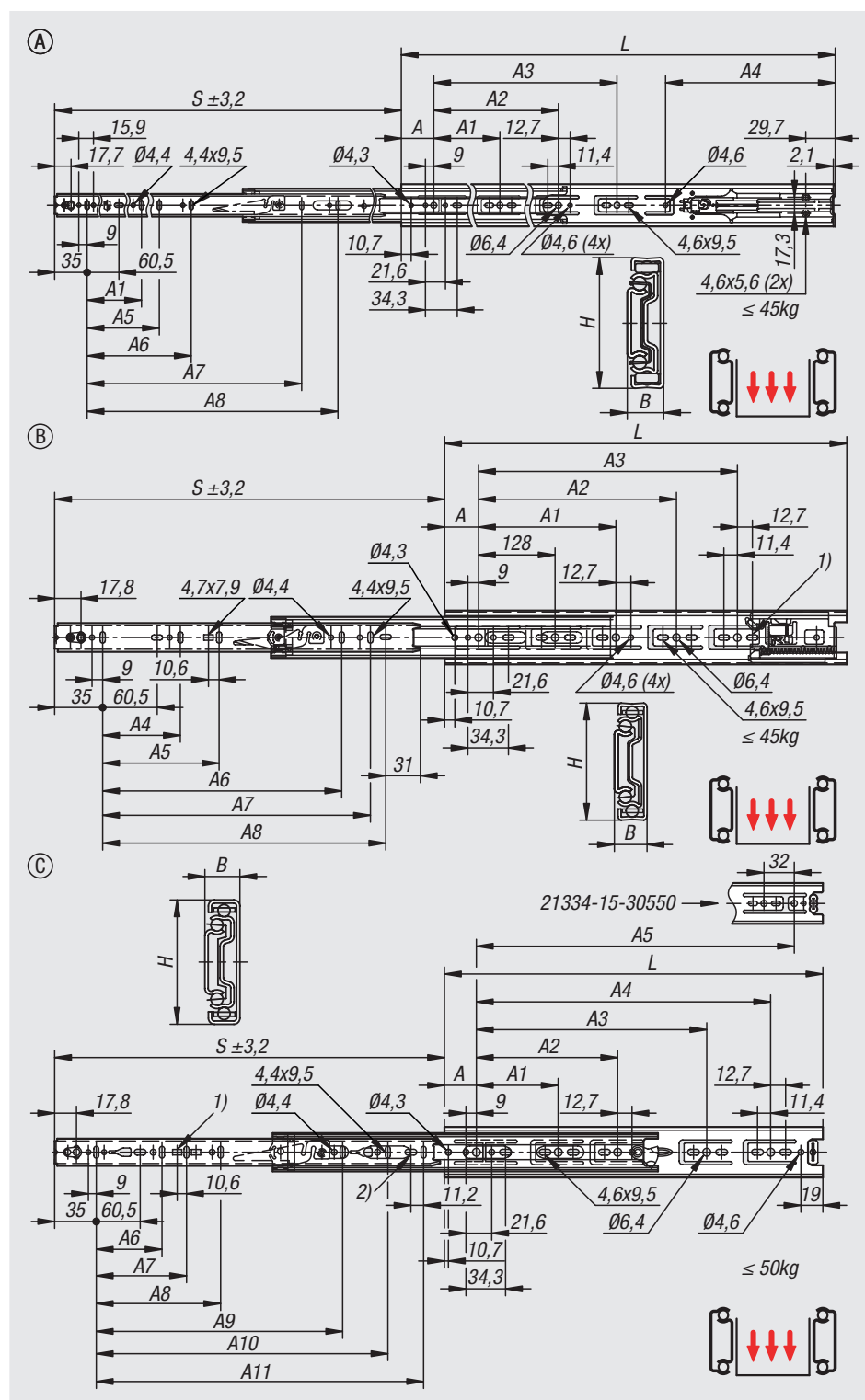
1) Mounting hole by 21334-15-40148, 21334-15-40199 and 21334-15-40250 not provided
2) Mounting hole by 21334-15-40600, 21334-15-40650 and 21334-15-40700 provided
3) Mounting hole by 21334-15-30600 and 21334-15-30650 not provided

Form E:

1) Mounting hole by 21444-15-5040027, 21554-15-5050027, 21447-15-5040041 and 21557-15-5050041 not provided

Telescopic slides, steel

for side mounting, full extension, load capacity up to 50 kg



Telescopic slides, steel

for side mounting, full extension, load capacity up to 50 kg

Order No.	Form	Form-Type	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Packaging type
21334-15-10350	A	Soft close	side mounting	standard	43	1 piece = 1 pair
21334-15-10400	A	Soft close	side mounting	standard	44	1 piece = 1 pair
21334-15-10450	A	Soft close	side mounting	standard	45	1 piece = 1 pair
21334-15-10500	A	Soft close	side mounting	standard	45	1 piece = 1 pair
21334-15-10550	A	Soft close	side mounting	standard	45	1 piece = 1 pair
21334-15-10600	A	Soft close	side mounting	standard	45	1 piece = 1 pair
21334-15-10650	A	Soft close	side mounting	standard	44	1 piece = 1 pair
21334-15-10700	A	Soft close	side mounting	standard	43	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21334-15-10350	35	-	-	-	180,8	-	-	206	-	12,7	45,7	310	350
21334-15-10400	35	128	-	-	180,8	-	-	257	-	12,7	45,7	406	400
21334-15-10450	35	128	224	-	-	-	-	305	-	12,7	45,7	457	450
21334-15-10500	35	128	224	-	180,8	-	-	352	-	12,7	45,7	508	500
21334-15-10550	35	128	224	-	180,8	-	-	407	352	12,7	45,7	559	550
21334-15-10600	35	128	224	352	-	224	-	-	416	12,7	45,7	610	600
21334-15-10650	35	128	224	352	180,8	224	-	-	416	12,7	45,7	660	650
21334-15-10700	35	128	224	352	180,8	224	288	-	544	12,7	45,7	711	700

Order No.	Form	Form-Type	Activating force N	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Packaging type
21334-15-2030022	B	Push to open	22	side mounting	standard	42	1 piece = 1 pair
21334-15-2035022	B	Push to open	22	side mounting	standard	43	1 piece = 1 pair
21334-15-2040022	B	Push to open	22	side mounting	standard	44	1 piece = 1 pair
21334-15-2045022	B	Push to open	22	side mounting	standard	45	1 piece = 1 pair
21334-15-2050022	B	Push to open	22	side mounting	standard	45	1 piece = 1 pair
21334-15-2055022	B	Push to open	22	side mounting	standard	45	1 piece = 1 pair
21334-15-2060022	B	Push to open	22	side mounting	standard	45	1 piece = 1 pair
21334-15-2065022	B	Push to open	22	side mounting	standard	44	1 piece = 1 pair
21334-15-2070022	B	Push to open	22	side mounting	standard	43	1 piece = 1 pair
21334-15-2030035	B	Push to open	35	side mounting	standard	42	1 piece = 1 pair
21334-15-2035035	B	Push to open	35	side mounting	standard	43	1 piece = 1 pair
21334-15-2040035	B	Push to open	35	side mounting	standard	44	1 piece = 1 pair
21334-15-2045035	B	Push to open	35	side mounting	standard	45	1 piece = 1 pair
21334-15-2050035	B	Push to open	35	side mounting	standard	45	1 piece = 1 pair
21334-15-2055035	B	Push to open	35	side mounting	standard	45	1 piece = 1 pair
21334-15-2060035	B	Push to open	35	side mounting	standard	45	1 piece = 1 pair
21334-15-2065035	B	Push to open	35	side mounting	standard	44	1 piece = 1 pair
21334-15-2070035	B	Push to open	35	side mounting	standard	43	1 piece = 1 pair

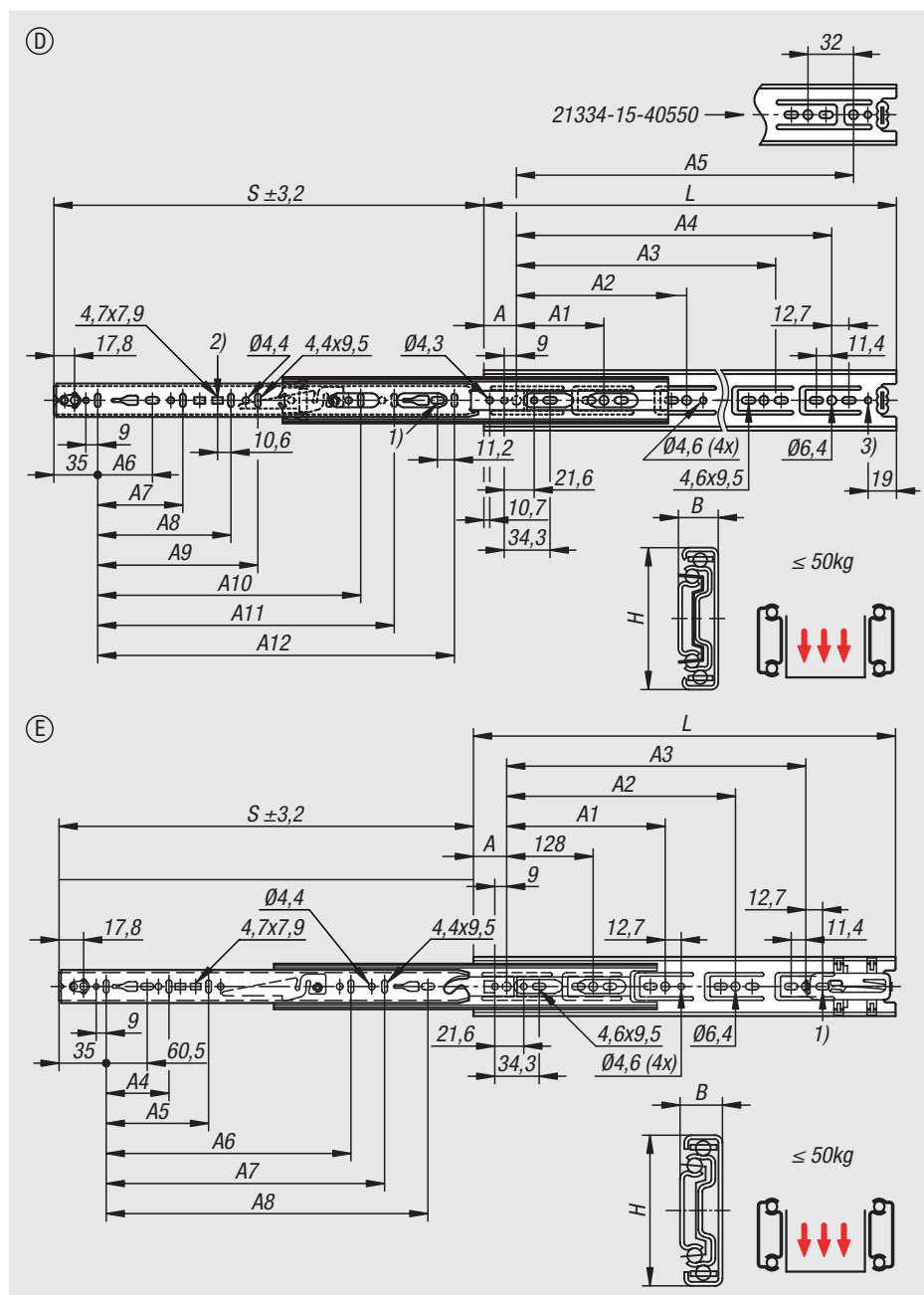
Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21334-15-2030022	35	-	-	-	-	-	-	-	192	12,7	45,7	305	300
21334-15-2035022	35	224	-	-	128	-	-	-	242	12,7	45,7	356	350
21334-15-2040022	35	224	288	-	128	-	-	-	292	12,7	45,7	406	400
21334-15-2045022	35	224	320	-	128	-	320	-	342	12,7	45,7	457	450
21334-15-2050022	35	224	384	-	128	-	320	-	392	12,7	45,7	508	500
21334-15-2055022	35	224	416	-	128	224	416	-	442	12,7	45,7	559	550
21334-15-2060022	35	224	352	480	128	224	416	-	492	12,7	45,7	610	600
21334-15-2065022	35	224	352	512	128	224	416	512	542	12,7	45,7	660	650
21334-15-2070022	35	224	352	544	128	224	416	512	592	12,7	45,7	711	700
21334-15-2030035	35	-	-	-	-	-	-	-	192	12,7	45,7	305	300
21334-15-2035035	35	224	-	-	128	-	-	-	242	12,7	45,7	356	350
21334-15-2040035	35	224	288	-	128	-	-	-	292	12,7	45,7	406	400
21334-15-2045035	35	224	320	-	128	-	320	-	342	12,7	45,7	457	450
21334-15-2050035	35	224	384	-	128	-	320	-	392	12,7	45,7	508	500
21334-15-2055035	35	224	416	-	128	224	416	-	442	12,7	45,7	559	550
21334-15-2060035	35	224	352	480	128	224	416	-	492	12,7	45,7	610	600
21334-15-2065035	35	224	352	512	128	224	416	512	542	12,7	45,7	660	650
21334-15-2070035	35	224	352	544	128	224	416	512	592	12,7	45,7	711	700

Order No.	Form	Form-Type	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21334-15-30250	C	latches in closed and open positions	side mounting	standard	41	47	1 piece = 1 pair
21334-15-30300	C	latches in closed and open positions	side mounting	standard	42	48	1 piece = 1 pair
21334-15-30350	C	latches in closed and open positions	side mounting	standard	43	49	1 piece = 1 pair
21334-15-30400	C	latches in closed and open positions	side mounting	standard	44	50	1 piece = 1 pair
21334-15-30450	C	latches in closed and open positions	side mounting	standard	45	50	1 piece = 1 pair
21334-15-30500	C	latches in closed and open positions	side mounting	standard	45	50	1 piece = 1 pair
21334-15-30550	C	latches in closed and open positions	side mounting	standard	45	50	1 piece = 1 pair
21334-15-30600	C	latches in closed and open positions	side mounting	standard	45	50	1 piece = 1 pair
21334-15-30650	C	latches in closed and open positions	side mounting	standard	44	49	1 piece = 1 pair
21334-15-30700	C	latches in closed and open positions	side mounting	standard	43	48	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B	H	Travel S	L
21334-15-30250	35	-	160	-	-	-	96	-	-	-	-	192	12,7	45,7	243	250
21334-15-30300	35	-	224	-	-	-	96	-	-	-	-	242	12,7	45,7	305	300
21334-15-30350	35	128	224	-	-	-	128	-	-	-	-	292	12,7	45,7	356	350
21334-15-30400	35	128	224	320	-	-	128	-	-	-	-	342	12,7	45,7	406	400
21334-15-30450	35	128	-	352	-	-	128	-	-	320	-	392	12,7	45,7	457	450
21334-15-30500	35	128	-	416	-	-	128	-	-	320	-	442	12,7	45,7	508	500
21334-15-30550	35	128	-	352	-	480	128	-	-	320	416	492	12,7	45,7	559	550
21334-15-30600	35	128	224	352	480	-	128	224	-	416	-	542	12,7	45,7	610	600
21334-15-30650	35	128	224	352	544	-	128	224	-	416	544	592	12,7	45,7	660	650
21334-15-30700	35	128	224	352	544	-	128	224	288	416	544	642	12,7	45,7	711	700

Telescopic slides, steel

for side mounting, full extension, load capacity up to 50 kg



Order No.	Form	Form-Type	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Packaging type
21334-15-40148	D	latches in closed position	side mounting	standard	45	1 piece = 1 pair
21334-15-40199	D	latches in closed position	side mounting	standard	46	1 piece = 1 pair
21334-15-40250	D	latches in closed position	side mounting	standard	47	1 piece = 1 pair
21334-15-40300	D	latches in closed position	side mounting	standard	48	1 piece = 1 pair
21334-15-40350	D	latches in closed position	side mounting	standard	49	1 piece = 1 pair
21334-15-40400	D	latches in closed position	side mounting	standard	50	1 piece = 1 pair
21334-15-40450	D	latches in closed position	side mounting	standard	50	1 piece = 1 pair
21334-15-40500	D	latches in closed position	side mounting	standard	50	1 piece = 1 pair
21334-15-40550	D	latches in closed position	side mounting	standard	50	1 piece = 1 pair
21334-15-40600	D	latches in closed position	side mounting	standard	50	1 piece = 1 pair
21334-15-40650	D	latches in closed position	side mounting	standard	49	1 piece = 1 pair
21334-15-40700	D	latches in closed position	side mounting	standard	49	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	B	H	Travel S	L
21334-15-40148	35	77,2	-	-	-	-	-	-	-	-	-	-	96	12,7	45,7	138	148
21334-15-40199	35	128	-	-	-	-	60,5	128	-	-	-	-	141	12,7	45,7	203	199
21334-15-40250	35	128	-	-	-	-	60,5	96	-	-	-	-	192	12,7	45,7	354	250
21334-15-40300	35	128	224	-	-	-	60,5	96	-	-	-	-	242	12,7	45,7	305	300
21334-15-40350	35	128	224	-	-	-	60,5	128	-	-	-	-	292	12,7	45,7	356	350
21334-15-40400	35	128	224	320	-	-	60,5	128	-	-	-	-	342	12,7	45,7	406	400
21334-15-40450	35	128	224	352	-	-	60,5	128	-	-	320	-	392	12,7	45,7	457	450
21334-15-40500	35	128	224	416	-	-	60,5	128	-	-	320	-	442	12,7	45,7	508	500
21334-15-40550	35	128	224	352	448	480	60,5	128	-	-	320	416	492	12,7	45,7	559	550
21334-15-40600	35	128	224	352	480	-	60,5	128	224	-	416	-	542	12,7	45,7	610	600
21334-15-40650	35	128	224	352	544	-	60,5	128	224	-	416	544	592	12,7	45,7	660	650
21334-15-40700	35	128	224	352	544	-	60,5	128	224	288	416	544	642	12,7	45,7	711	700

Order No.	Form	Form-Type	Assembly	Product type	Close/open force N per rail	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21334-15-5030027	E	self-retraction	side mounting	standard	14-27	42	48	1 piece = 1 pair
21334-15-5035027	E	self-retraction	side mounting	standard	14-27	43	49	1 piece = 1 pair
21334-15-5040027	E	self-retraction	side mounting	standard	14-27	44	50	1 piece = 1 pair
21334-15-5045027	E	self-retraction	side mounting	standard	14-27	45	50	1 piece = 1 pair
21334-15-5050027	E	self-retraction	side mounting	standard	14-27	45	50	1 piece = 1 pair
21334-15-5055027	E	self-retraction	side mounting	standard	14-27	45	50	1 piece = 1 pair
21334-15-5060027	E	self-retraction	side mounting	standard	14-27	45	50	1 piece = 1 pair
21334-15-5065027	E	self-retraction	side mounting	standard	14-27	44	49	1 piece = 1 pair
21334-15-5030041	E	self-retraction	side mounting	standard	27-41	42	48	1 piece = 1 pair
21334-15-5035041	E	self-retraction	side mounting	standard	27-41	43	49	1 piece = 1 pair
21334-15-5040041	E	self-retraction	side mounting	standard	27-41	44	50	1 piece = 1 pair
21334-15-5045041	E	self-retraction	side mounting	standard	27-41	45	50	1 piece = 1 pair
21334-15-5050041	E	self-retraction	side mounting	standard	27-41	45	50	1 piece = 1 pair
21334-15-5055041	E	self-retraction	side mounting	standard	27-41	45	50	1 piece = 1 pair
21334-15-5060041	E	self-retraction	side mounting	standard	27-41	45	50	1 piece = 1 pair
21334-15-5065041	E	self-retraction	side mounting	standard	27-41	44	49	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21334-15-5030027	35	-	-	-	-	-	-	-	231	12,7	45,7	286	300
21334-15-5035027	35	224	-	-	128	-	-	-	281	12,7	45,7	356	350
21334-15-5040027	35	224	288	-	128	-	-	-	331	12,7	45,7	406	400
21334-15-5045027	35	224	320	-	128	-	320	-	381	12,7	45,7	457	450
21334-15-5050027	35	224	384	-	128	-	-	-	431	12,7	45,7	508	500
21334-15-5055027	35	224	416	-	128	-	416	-	481	12,7	45,7	559	550
21334-15-5060027	35	224	352	480	128	224	416	-	531	12,7	45,7	610	600
21334-15-5065027	35	224	352	512	128	224	416	544	581	12,7	45,7	660	650
21334-15-5030041	35	-	-	-	-	-	-	-	231	12,7	45,7	286	300
21334-15-5035041	35	224	-	-	128	-	-	-	281	12,7	45,7	356	350
21334-15-5040041	35	224	288	-	128	-	-	-	331	12,7	45,7	406	400
21334-15-5045041	35	224	320	-	128	-	320	-	381	12,7	45,7	457	450
21334-15-5050041	35	224	384	-	128	-	-	-	431	12,7	45,7	508	500
21334-15-5055041	35	224	416	-	128	-	416	-	481	12,7	45,7	559	550
21334-15-5060041	35	224	352	480	128	224	416	-	531	12,7	45,7	610	600
21334-15-5065041	35	224	352	512	128	224	416	544	581	12,7	45,7	660	650

Telescopic slides, steel

for side mounting, partial extension, load capacity up to 50 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages steel.
Balls hardened.

Sample order:

nIm 21334-20-0356

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with partial extension, the travel is less than the installed length.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used.

The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

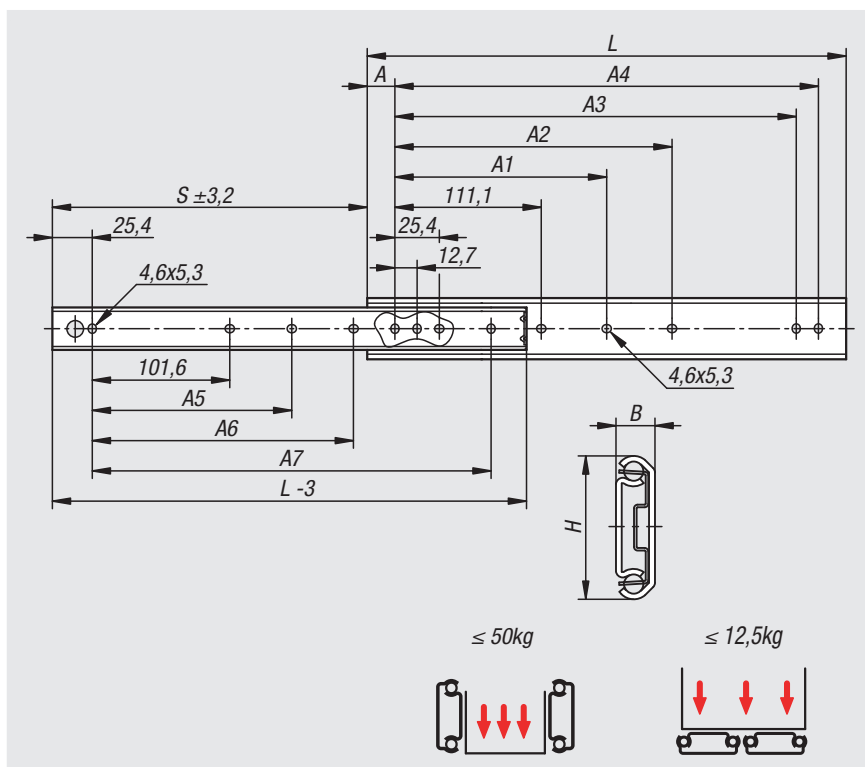
The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Temperature range:

-20°C to +110°C.

Advantages:

Suitable for flat mounting
Light running
Precise guidance for high lateral stability



Telescopic slides, steel

for side mounting, partial extension, load capacity up to 50 kg



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-20-0305	side mounting	standard	50	1 piece = 1 pair
21334-20-0356	side mounting	standard	50	1 piece = 1 pair
21334-20-0406	side mounting	standard	45	1 piece = 1 pair
21334-20-0457	side mounting	standard	45	1 piece = 1 pair
21334-20-0508	side mounting	standard	40	1 piece = 1 pair
21334-20-0559	side mounting	standard	40	1 piece = 1 pair
21334-20-0610	side mounting	standard	35	1 piece = 1 pair
21334-20-0660	side mounting	standard	30	1 piece = 1 pair
21334-20-0711	side mounting	standard	30	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	B	H	Travel S	L
21334-20-0305	15,9	-	149,2	260,3	273	-	152,4	254	9,5	35,3	227	305
21334-20-0356	15,9	-	200	311,1	323,8	-	203,2	304,8	9,5	35,3	277	356
21334-20-0406	15,9	-	250,8	361,9	374,6	-	254	355,6	9,5	35,3	302	406
21334-20-0457	15,9	212,7	301,6	412,7	425,4	203,2	304,8	406,4	9,5	35,3	328	457
21334-20-0508	15,9	238,1	352,4	463,5	476,2	228,6	355,6	457,2	9,5	35,3	379	508
21334-20-0559	15,9	263,5	403,2	514,3	527	254	406,4	508	9,5	35,3	405	559
21334-20-0610	15,9	288,9	454	565,1	577,8	279,4	457,2	558,8	9,5	35,3	429	610
21334-20-0660	15,9	314,3	504,8	615,9	628,6	304,8	508	609,6	9,5	35,3	481	660
21334-20-0711	15,9	339,7	555,6	666,8	679,4	330,2	558,8	660,4	9,5	35,3	506	711

Telescopic slides, steel

for side mounting, partial extension both sides, load capacity up to 50 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

n1m 21334-25-0350

Note for ordering:

Sold in pairs.

Note:

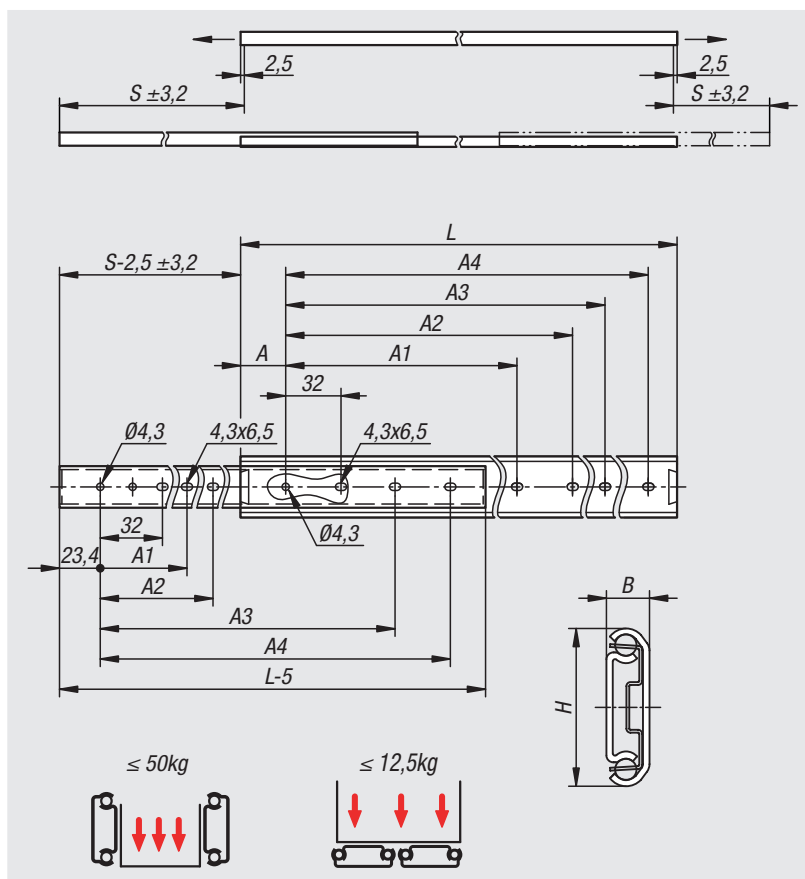
On telescopic slides with partial extension both sides, the travel is less than the installed length. Latches in open position on both sides. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 50,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Pulls out in both directions
Latches in open position on both sides
Light running



Telescopic slides, steel

for side mounting, partial extension both sides, load capacity up to 50 kg



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-25-0300	side mounting	standard	50	1 piece = 1 pair
21334-25-0350	side mounting	standard	50	1 piece = 1 pair
21334-25-0400	side mounting	standard	45	1 piece = 1 pair
21334-25-0450	side mounting	standard	40	1 piece = 1 pair
21334-25-0500	side mounting	standard	40	1 piece = 1 pair
21334-25-0550	side mounting	standard	35	1 piece = 1 pair
21334-25-0600	side mounting	standard	35	1 piece = 1 pair
21334-25-0650	side mounting	standard	30	1 piece = 1 pair
21334-25-0700	side mounting	standard	30	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	B	H	Travel S	L
21334-25-0300	26	128	160	224	256	9,5	35,3	208,8	300
21334-25-0350	26	160	192	256	288	9,5	35,3	246,1	350
21334-25-0400	26	192	224	320	352	9,5	35,3	283,4	400
21334-25-0450	26	224	256	352	384	9,5	35,3	320,7	450
21334-25-0500	26	256	288	416	448	9,5	35,3	358	500
21334-25-0550	26	256	288	480	512	9,5	35,3	395,3	550
21334-25-0600	26	288	320	512	544	9,5	35,3	432,6	600
21334-25-0650	26	288	320	576	608	9,5	35,3	469,9	650
21334-25-0700	26	320	352	608	640	9,5	35,3	507,2	700

Telescopic slides, steel

for side mounting, partial extension, load capacity up to 50 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-30-10300

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with partial extension, the travel is less than the installed length. Latches in closed position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load-bearing capacities specified refer to the maximum value at 10,000 or 80,000 cycles.

Not suitable for horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Form B:

Additionally with latching in open position.

Advantages:

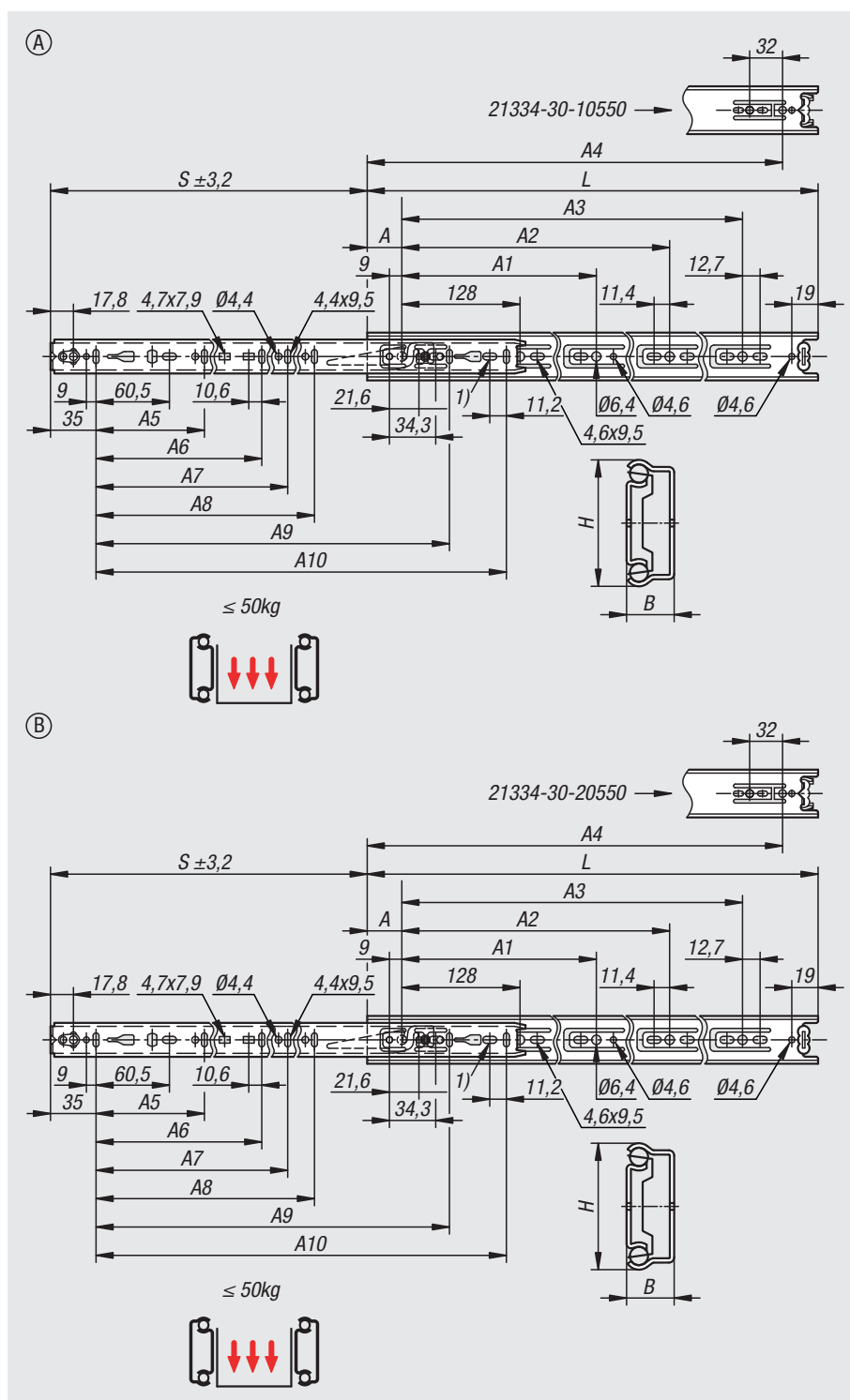
Latches in open and closed positions
Quick frontal release
Light running

Accessories:

Steel mounting bracket for telescopic slides 21335-80

Drawing reference:

1) Mounting hole by 21334-30-10250 and 21334-30-20250 not provided



Order No.	Form	Form-Type	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21334-30-10250	A	latches in closed position	side mounting	standard	35	50	1 piece = 1 pair
21334-30-10300	A	latches in closed position	side mounting	standard	35	50	1 piece = 1 pair
21334-30-10350	A	latches in closed position	side mounting	standard	35	50	1 piece = 1 pair
21334-30-10400	A	latches in closed position	side mounting	standard	35	50	1 piece = 1 pair
21334-30-10450	A	latches in closed position	side mounting	standard	35	48	1 piece = 1 pair
21334-30-10500	A	latches in closed position	side mounting	standard	34	45	1 piece = 1 pair
21334-30-10550	A	latches in closed position	side mounting	standard	33	42	1 piece = 1 pair
21334-30-10600	A	latches in closed position	side mounting	standard	32	40	1 piece = 1 pair
21334-30-10650	A	latches in closed position	side mounting	standard	31	37	1 piece = 1 pair
21334-30-10700	A	latches in closed position	side mounting	standard	30	35	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	B	H	Travel S	L
21334-30-10250	35	-	-	-	-	96	-	-	-	-	192	12,7	35	163	250
21334-30-10300	35	224	-	-	-	96	-	-	-	-	242	12,7	35	205	300
21334-30-10350	35	224	-	-	-	128	-	-	-	-	292	12,7	35	260	350
21334-30-10400	35	224	-	320	-	128	-	-	-	-	342	12,7	35	281	400
21334-30-10450	35	224	-	352	-	128	224	-	-	-	392	12,7	35	331	450
21334-30-10500	35	224	-	416	-	128	224	-	-	-	442	12,7	35	376	500
21334-30-10550	35	224	352	-	480	128	224	320	-	-	492	12,7	35	415	550
21334-30-10600	35	224	352	480	-	128	224	320	-	-	542	12,7	35	451	600
21334-30-10650	35	224	352	544	-	128	224	320	416	544	592	12,7	35	488	650
21334-30-10700	35	224	352	544	-	128	224	288	416	-	642	12,7	35	526	700

Order No.	Form	Form-Type	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21334-30-20250	B	latches in closed and open positions	side mounting	standard	35	50	1 piece = 1 pair
21334-30-20300	B	latches in closed and open positions	side mounting	standard	35	50	1 piece = 1 pair
21334-30-20350	B	latches in closed and open positions	side mounting	standard	35	50	1 piece = 1 pair
21334-30-20400	B	latches in closed and open positions	side mounting	standard	35	50	1 piece = 1 pair
21334-30-20450	B	latches in closed and open positions	side mounting	standard	35	48	1 piece = 1 pair
21334-30-20500	B	latches in closed and open positions	side mounting	standard	34	45	1 piece = 1 pair
21334-30-20550	B	latches in closed and open positions	side mounting	standard	33	42	1 piece = 1 pair
21334-30-20600	B	latches in closed and open positions	side mounting	standard	32	40	1 piece = 1 pair
21334-30-20650	B	latches in closed and open positions	side mounting	standard	31	37	1 piece = 1 pair
21334-30-20700	B	latches in closed and open positions	side mounting	standard	30	35	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	B	H	Travel S	L
21334-30-20250	35	-	-	-	-	96	-	-	-	-	192	12,7	35	163	250
21334-30-20300	35	224	-	-	-	96	-	-	-	-	242	12,7	35	205	300
21334-30-20350	35	224	-	-	-	128	-	-	-	-	292	12,7	35	260	350
21334-30-20400	35	224	-	320	-	128	-	-	-	-	342	12,7	35	281	400
21334-30-20450	35	224	-	352	-	128	224	-	-	-	392	12,7	35	331	450
21334-30-20500	35	224	-	416	-	128	224	-	-	-	442	12,7	35	376	500
21334-30-20550	35	224	352	-	480	128	224	320	-	-	492	12,7	35	415	550
21334-30-20600	35	224	352	480	-	128	224	320	-	-	542	12,7	35	451	600
21334-30-20650	35	224	352	544	-	128	224	320	416	544	592	12,7	35	488	650
21334-30-20700	35	224	352	544	-	128	224	288	416	-	642	12,7	35	526	700

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 55 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-35-0400

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in closed position.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 80,000 cycles.

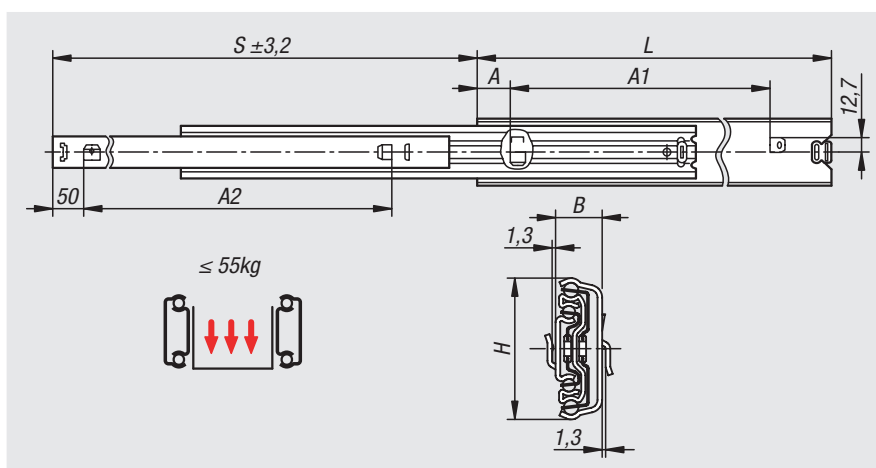
Not suitable for horizontal mounting.

Assembly:

Bayonet mounting.

Advantages:

Bayonet mounting
Latches in closed position
Light running

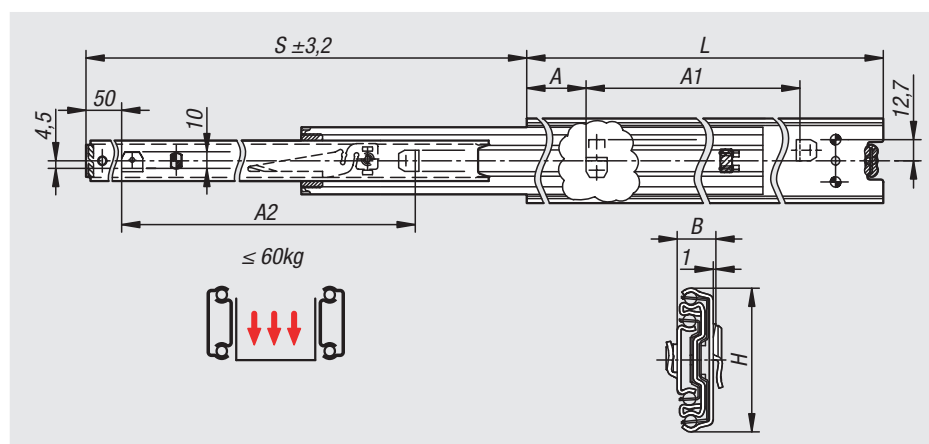


Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-35-0350	side mounting	standard	51	1 piece = 1 pair
21334-35-0400	side mounting	standard	53	1 piece = 1 pair
21334-35-0450	side mounting	standard	55	1 piece = 1 pair
21334-35-0500	side mounting	standard	55	1 piece = 1 pair
21334-35-0550	side mounting	standard	55	1 piece = 1 pair
21334-35-0600	side mounting	standard	53	1 piece = 1 pair
21334-35-0700	side mounting	standard	50	1 piece = 1 pair

Order No.	A	A1	A2	B	H	Travel S	L
21334-35-0350	50	250	250	17,5	53,4	374	350
21334-35-0400	50	300	300	17,5	53,4	424	400
21334-35-0450	50	350	350	17,5	53,4	473	450
21334-35-0500	50	400	400	17,5	53,4	522	500
21334-35-0550	50	450	450	17,5	53,4	571	550
21334-35-0600	50	500	500	17,5	53,4	620	600
21334-35-0700	50	600	600	17,5	53,4	731	700

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 60 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-40-0350

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in closed position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacities specified refer to the maximum value for 50,000 cycles.

Not suitable for horizontal mounting.

Assembly:

Bayonet mounting.

Advantages:

Bayonet mounting
Latches in closed position
Quick frontal release

Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-40-0300	side mounting	standard	55	1 piece = 1 pair
21334-40-0350	side mounting	standard	57	1 piece = 1 pair
21334-40-0400	side mounting	standard	58	1 piece = 1 pair
21334-40-0450	side mounting	standard	59	1 piece = 1 pair
21334-40-0500	side mounting	standard	60	1 piece = 1 pair
21334-40-0550	side mounting	standard	60	1 piece = 1 pair
21334-40-0600	side mounting	standard	59	1 piece = 1 pair
21334-40-0650	side mounting	standard	57	1 piece = 1 pair
21334-40-0700	side mounting	standard	55	1 piece = 1 pair

Order No.	A	A1	A2	B	H	Travel S	L
21334-40-0300	50	200	200	12,7	50,8	325	300
21334-40-0350	50	250	250	12,7	50,8	374	350
21334-40-0400	50	300	300	12,7	50,8	424	400
21334-40-0450	50	350	350	12,7	50,8	473	450
21334-40-0500	50	400	400	12,7	50,8	522	500
21334-40-0550	50	450	450	12,7	50,8	571	550
21334-40-0600	50	500	500	12,7	50,8	620	600
21334-40-0650	50	550	550	12,7	50,8	670	650
21334-40-0700	50	600	600	12,7	50,8	731	700

Telescopic slides, steel

for side mounting, partial extension, load capacity up to 65 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

n1m 21334-45-0356

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with partial extension, the travel is less than the installed length. Latches in open position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used.

The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

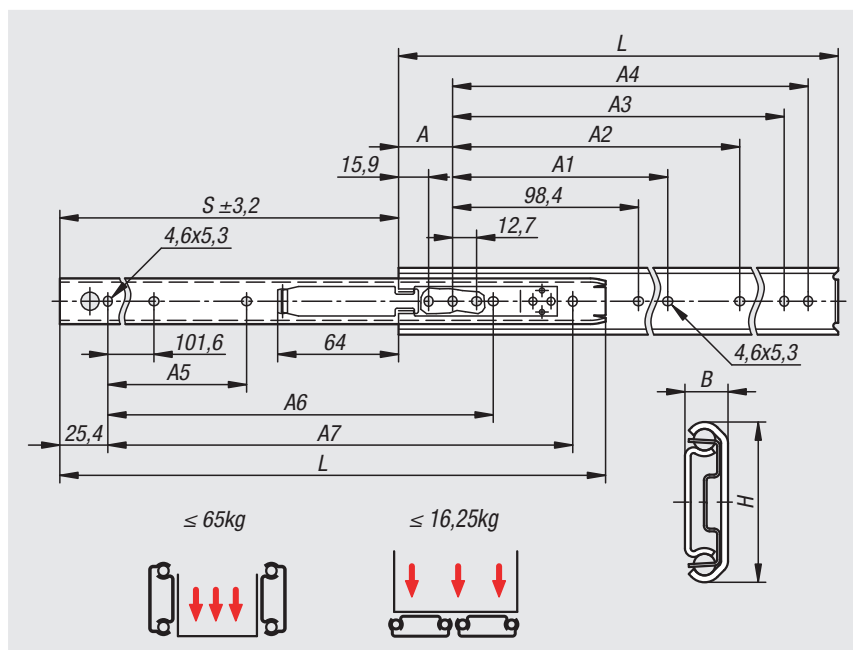
The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Temperature range:

-20°C to +70°C.

Advantages:

Latches in open position
Quick frontal release
Suitable for flat mounting



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-45-0305	side mounting	standard	65	1 piece = 1 pair
21334-45-0356	side mounting	standard	65	1 piece = 1 pair
21334-45-0406	side mounting	standard	60	1 piece = 1 pair
21334-45-0457	side mounting	standard	55	1 piece = 1 pair
21334-45-0508	side mounting	standard	50	1 piece = 1 pair
21334-45-0559	side mounting	standard	40	1 piece = 1 pair
21334-45-0610	side mounting	standard	35	1 piece = 1 pair
21334-45-0660	side mounting	standard	30	1 piece = 1 pair
21334-45-0711	side mounting	standard	30	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	B	H	Travel S	L
21334-45-0305	28,6	-	136,5	247,6	260,3	-	215,9	254	9,5	35,3	201,5	305
21334-45-0356	28,6	-	187,3	298,4	311,1	-	266,7	304,8	9,5	35,3	252,5	356
21334-45-0406	28,6	-	238,1	349,2	361,9	-	317,5	355,6	9,5	35,3	303	406
21334-45-0457	28,6	200	288,9	400	412,7	203,2	342,9	406,4	9,5	35,3	329	457
21334-45-0508	28,6	225,4	339,7	450,8	463,5	228,6	393,7	457,2	9,5	35,3	379,5	508
21334-45-0559	28,6	250,8	390,5	501,6	514,3	254	419,1	508	9,5	35,3	405	559
21334-45-0610	28,6	276,2	441,3	552,4	565,1	279,4	444,5	558,8	9,5	35,3	430,5	610
21334-45-0660	28,6	301,6	492,1	603,2	615,9	304,8	495,3	609,6	9,5	35,3	481,5	660
21334-45-0711	28,6	327	542,9	654	666,7	330,2	520,7	660,4	9,5	35,3	506,5	711

Telescopic slides, stainless steel

for side mounting, partial extension, load capacity up to 65 kg



Material:

Slides stainless steel 1.4301.
Ball cage stainless steel 1.4301.
Balls stainless steel 1.4034.

Version:

Slides bright.
Ball cages bright.
Balls bright.

Sample order:

n1m 21334-50-0300

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with partial extension, the travel is less than the installed length. Latches in closed position.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used.

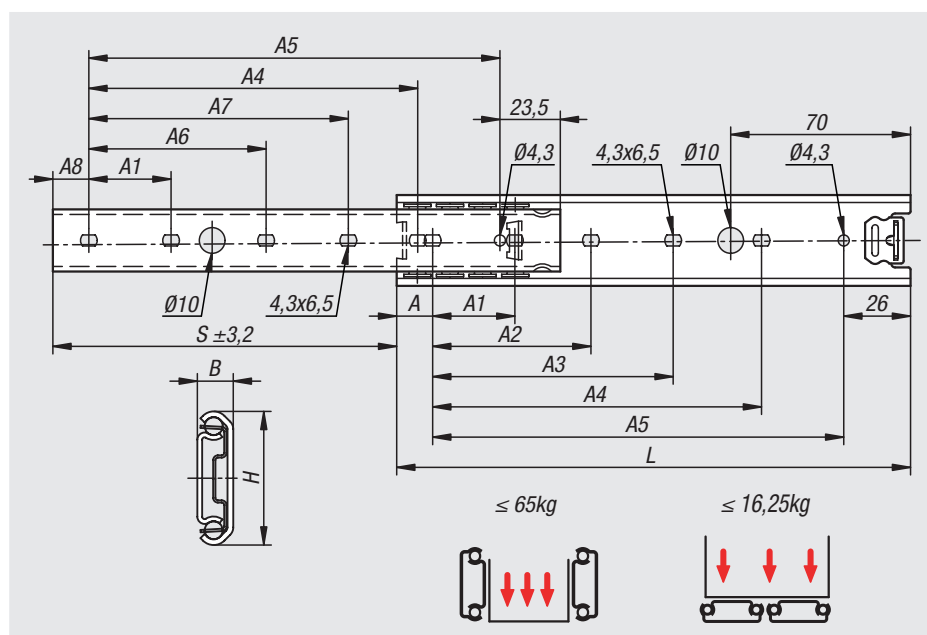
The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 or 80,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Latches in closed position
Suitable for flat mounting
Light running



Order No.	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21334-50-0300	side mounting	standard	60	65	1 piece = 1 pair
21334-50-0350	side mounting	standard	57	63	1 piece = 1 pair
21334-50-0400	side mounting	standard	54	59	1 piece = 1 pair
21334-50-0450	side mounting	standard	50	57	1 piece = 1 pair
21334-50-0500	side mounting	standard	47	53	1 piece = 1 pair
21334-50-0550	side mounting	standard	45	50	1 piece = 1 pair
21334-50-0600	side mounting	standard	43	46	1 piece = 1 pair
21334-50-0650	side mounting	standard	41	43	1 piece = 1 pair
21334-50-0700	side mounting	standard	40	42	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21334-50-0300	18	32	-	-	224	256	128	160	17,5	9,5	35,34	209	300
21334-50-0350	36	32	160	192	256	288	160	192	35,5	9,5	35,34	245	350
21334-50-0400	22	32	160	192	320	352	160	192	21,5	9,5	35,34	282	400
21334-50-0450	8	32	224	256	384	416	224	256	7,5	9,5	35,34	320	450
21334-50-0500	26	32	224	256	416	448	224	256	25,5	9,5	35,34	357	500
21334-50-0550	12	32	288	320	480	512	288	320	11,5	9,5	35,34	394	550
21334-50-0600	30	32	288	320	512	544	288	320	29,5	9,5	35,34	432	600
21334-50-0650	16	32	352	384	576	608	352	384	15,5	9,5	35,34	469	650
21334-50-0700	34	32	352	384	608	640	352	384	33,5	9,5	35,34	506	700

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 68 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-55-0356

Note for ordering:

Sold in pairs.
Fastening material included.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in open position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

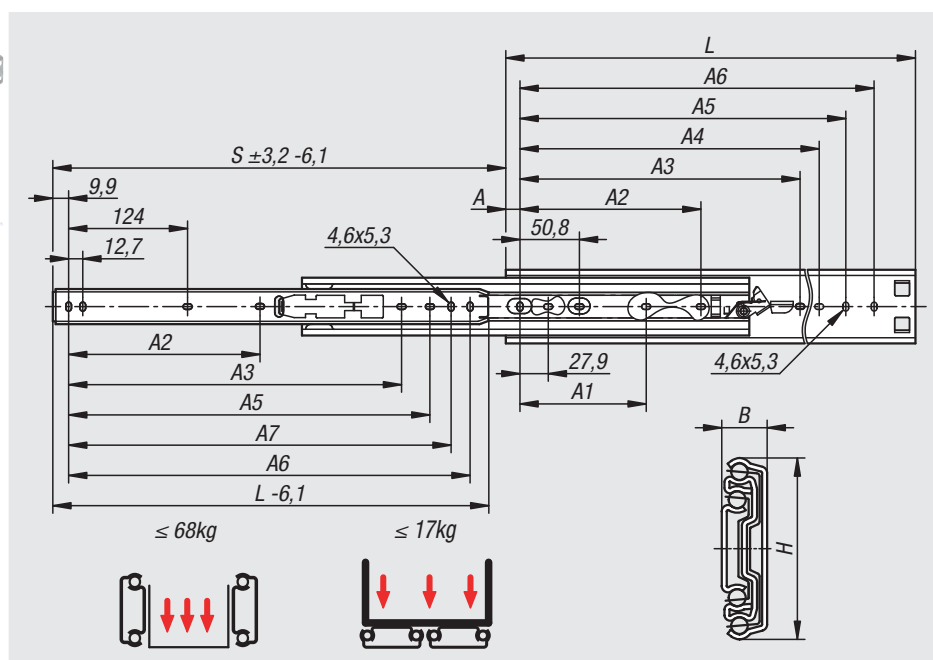
The load capacity is ca. 75% lower by horizontal mounting.

Temperature range:

-20°C to +70°C.

Advantages:

Latches in open position
Quick frontal release
Suitable for flat mounting



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-55-0305	side mounting	standard	68	1 piece = 1 pair
21334-55-0356	side mounting	standard	67	1 piece = 1 pair
21334-55-0406	side mounting	standard	67	1 piece = 1 pair
21334-55-0457	side mounting	standard	66	1 piece = 1 pair
21334-55-0508	side mounting	standard	66	1 piece = 1 pair
21334-55-0559	side mounting	standard	64	1 piece = 1 pair
21334-55-0610	side mounting	standard	61	1 piece = 1 pair
21334-55-0660	side mounting	standard	58	1 piece = 1 pair
21334-55-0711	side mounting	standard	55	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	B	H	Travel S	L
21334-55-0305	16	-	-	-	209,5	234,9	260,3	247,6	12,7	50,8	330	305
21334-55-0356	16	123,8	-	-	260,3	285,7	311,1	298,4	12,7	50,8	381	356
21334-55-0406	16	123,8	-	-	311,1	336,5	361,9	349,2	12,7	50,8	432	406
21334-55-0457	16	123,8	177,8	314,5	361,9	387,3	412,7	400	12,7	50,8	483	457
21334-55-0508	16	123,8	203,2	365,2	412,7	438,1	463,5	450,8	12,7	50,8	533	508
21334-55-0559	16	123,8	228,6	416	463,5	488,9	514,3	501,6	12,7	50,8	584	559
21334-55-0610	16	123,8	254	466,8	514,3	539,7	565,1	552,4	12,7	50,8	635	610
21334-55-0660	16	123,8	279,4	517,7	565,1	590,6	615,9	603,3	12,7	50,8	686	660
21334-55-0711	16	123,8	304,8	568,5	616	641,4	666,8	654,1	12,7	50,8	737	711

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 68 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-60-0356

Note for ordering:

Sold in pairs.
Fastening material included.

Note:

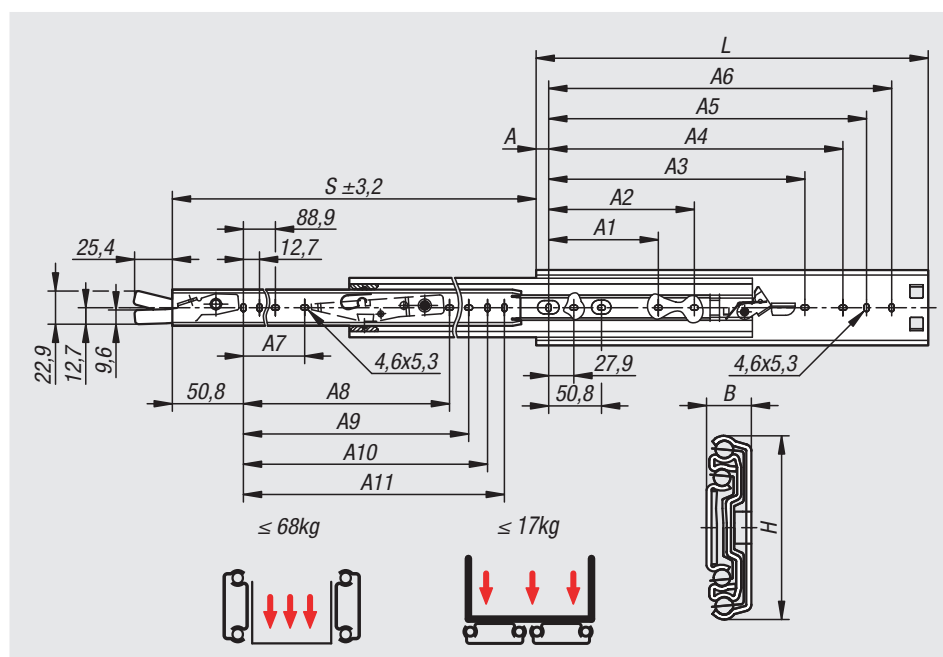
On telescopic slides with over-extension, the travel is greater than the installed length. Latches in open and closed positions. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

Advantages:

Latches in open and closed positions
Quick frontal release
Suitable for flat mounting

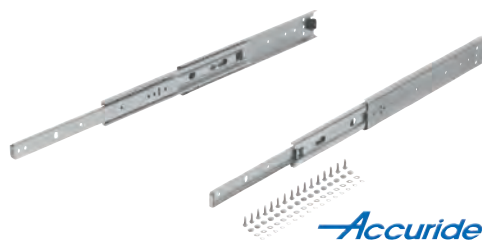


Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-60-0305	side mounting	standard	68	1 piece = 1 pair
21334-60-0356	side mounting	standard	67	1 piece = 1 pair
21334-60-0406	side mounting	standard	67	1 piece = 1 pair
21334-60-0457	side mounting	standard	66	1 piece = 1 pair
21334-60-0508	side mounting	standard	66	1 piece = 1 pair
21334-60-0559	side mounting	standard	64	1 piece = 1 pair
21334-60-0610	side mounting	standard	61	1 piece = 1 pair
21334-60-0660	side mounting	standard	58	1 piece = 1 pair
21334-60-0711	side mounting	standard	55	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B	H	Travel L	S
21334-60-0305	16	-	-	-	209,5	234,9	260,3	-	-	200,1	212,8	225,5	12,7	50,8	330	305
21334-60-0356	16	123,8	-	-	260,3	285,7	311,1	-	-	250,9	263,6	276,6	12,7	50,8	381	356
21334-60-0406	16	123,8	-	-	311,1	336,5	361,9	-	-	301,7	314,4	327,1	12,7	50,8	432	406
21334-60-0457	16	123,8	177,8	314,4	361,9	387,3	412,7	143	279,4	352,5	365,2	377,9	12,7	50,8	483	457
21334-60-0508	16	123,8	203,2	365,2	412,7	438,1	463,5	168,4	330,2	403,3	416	428,7	12,7	50,8	533	508
21334-60-0559	16	123,8	228,6	416	463,5	488,9	514,3	193,8	381	454,1	466,8	479,5	12,7	50,8	584	559
21334-60-0610	16	123,8	254	466,8	514,3	539,7	565,1	219,2	431,8	504,9	517,6	530,3	12,7	50,8	635	610
21334-60-0660	16	123,8	279,4	517,6	565,1	590,5	615,9	244,6	482,6	555,7	568,4	581,1	12,7	50,8	686	660
21334-60-0711	16	123,8	304,8	568,4	641,3	641,3	666,7	270	533,4	606,5	619,2	631,9	12,7	50,8	737	711

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 68 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-65-0356

Note for ordering:

Sold in pairs.
Fastening material included.

Note:

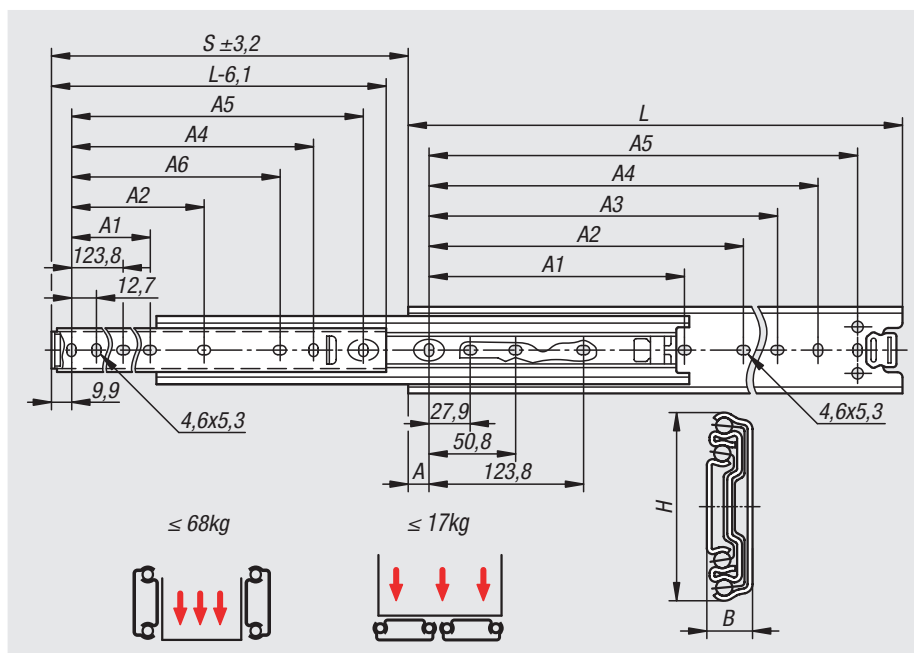
On telescopic slides with over-extension, the travel is greater than the installed length. Latches in closed position.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

Advantages:

Latches in closed position
Suitable for flat mounting
Light running



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-65-0305	side mounting	standard	68	1 piece = 1 pair
21334-65-0356	side mounting	standard	67	1 piece = 1 pair
21334-65-0406	side mounting	standard	67	1 piece = 1 pair
21334-65-0457	side mounting	standard	66	1 piece = 1 pair
21334-65-0508	side mounting	standard	66	1 piece = 1 pair
21334-65-0559	side mounting	standard	64	1 piece = 1 pair
21334-65-0610	side mounting	standard	61	1 piece = 1 pair
21334-65-0660	side mounting	standard	58	1 piece = 1 pair
21334-65-0711	side mounting	standard	55	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	B	H	Travel S	L
21334-65-0305	16	-	162,1	209,5	235	260,3	222,2	12,7	50,8	330	305
21334-65-0356	16	-	212,8	260,3	285,7	311,1	273	12,7	50,8	381	356
21334-65-0406	16	-	263,6	311,1	336,5	361,9	323,8	12,7	50,8	432	406
21334-65-0457	16	212,8	314,4	361,9	387,3	412,7	374,6	12,7	50,8	483	457
21334-65-0508	16	238,2	365,2	412,7	438,1	463,5	425,4	12,7	50,8	533	508
21334-65-0559	16	263,6	416	463,5	488,9	514,3	476,2	12,7	50,8	584	559
21334-65-0610	16	289	466,8	514,3	539,7	565,1	527	12,7	50,8	635	610
21334-65-0660	16	314,4	517,6	565,1	590,5	615,9	577,8	12,7	50,8	686	660
21334-65-0711	16	339,8	568,4	615,9	641,3	666,7	628,6	12,7	50,8	737	711

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 70 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nlm 21334-70-0356

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

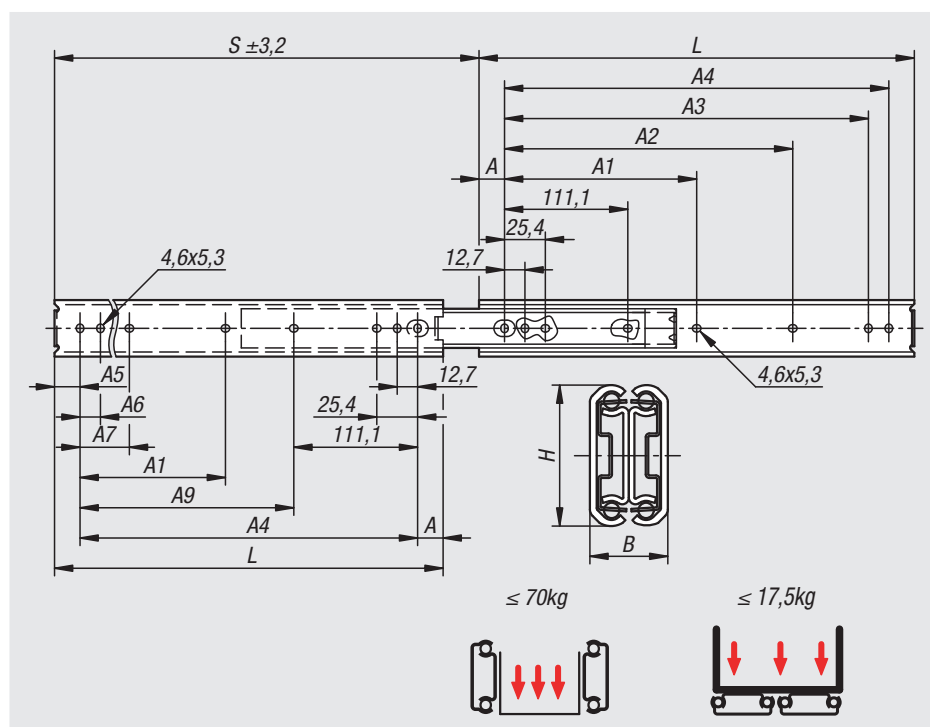
The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Temperature range:

-20°C to +70°C.

Advantages:

Suitable for flat mounting
Light running
Precise guidance for high lateral stability



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-70-0305	side mounting	standard	70	1 piece = 1 pair
21334-70-0356	side mounting	standard	67	1 piece = 1 pair
21334-70-0406	side mounting	standard	65	1 piece = 1 pair
21334-70-0457	side mounting	standard	63	1 piece = 1 pair
21334-70-0508	side mounting	standard	60	1 piece = 1 pair
21334-70-0559	side mounting	standard	55	1 piece = 1 pair
21334-70-0610	side mounting	standard	50	1 piece = 1 pair
21334-70-0660	side mounting	standard	45	1 piece = 1 pair
21334-70-0711	side mounting	standard	40	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A9	B	H	Travel S	L
21334-70-0305	15,9	-	149,2	260,3	273	16,1	12,7	123,8	161,9	19,1	35,3	327	305
21334-70-0356	15,9	-	200	311,1	323,8	16,3	12,7	123,8	212,7	19,1	35,3	378	356
21334-70-0406	15,9	-	250,8	361,9	374,6	15,5	12,7	123,8	263,5	19,1	35,3	429	406
21334-70-0457	15,9	212,7	301,6	412,7	425,4	15,7	12,7	123,8	314,3	19,1	35,3	480	457
21334-70-0508	15,9	238,1	352,4	463,5	476,2	15,9	12,7	123,8	365,1	19,1	35,3	530	508
21334-70-0559	15,9	263,5	403,2	514,3	527	16,1	12,7	123,8	415,9	19,1	35,3	581	559
21334-70-0610	15,9	288,9	454	565,1	577,8	16,3	12,7	123,8	466,7	19,1	35,3	632	610
21334-70-0660	15,9	314,3	504,8	615,9	628,6	15,5	12,7	123,8	517,5	19,1	35,3	683	660
21334-70-0711	15,9	339,7	555,6	666,7	679,4	15,7	12,7	123,8	568,3	19,1	35,3	734	711

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 70 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21334-75-0356

Note for ordering:

Sold in pairs.
Fastening material included.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in open position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacities specified refer to the maximum value for 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

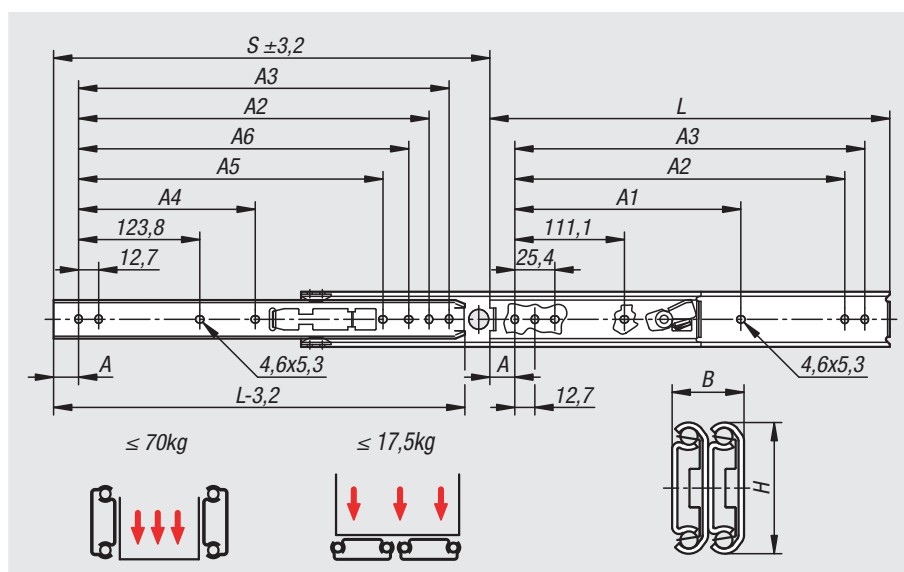
The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Temperature range:

-20°C to +110°C.

Advantages:

Latches in open position
Quick frontal release
Suitable for flat mounting



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-75-0305	side mounting	standard	70	1 piece = 1 pair
21334-75-0356	side mounting	standard	68	1 piece = 1 pair
21334-75-0406	side mounting	standard	65	1 piece = 1 pair
21334-75-0457	side mounting	standard	62	1 piece = 1 pair
21334-75-0508	side mounting	standard	57	1 piece = 1 pair
21334-75-0559	side mounting	standard	52	1 piece = 1 pair
21334-75-0610	side mounting	standard	46	1 piece = 1 pair
21334-75-0660	side mounting	standard	41	1 piece = 1 pair
21334-75-0711	side mounting	standard	36	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	B	H	Travel S	L
21334-75-0305	15,9	-	260,3	273	-	-	-	19,1	35,3	327	305
21334-75-0356	15,9	-	311,1	323,8	-	-	298,4	19,1	35,3	378	356
21334-75-0406	15,9	250,8	361,9	374,6	-	-	349,2	19,1	35,3	429	406
21334-75-0457	15,9	301,6	412,7	425,4	212,7	-	400	19,1	35,3	479,5	457
21334-75-0508	15,9	352,4	463,5	476,2	238,1	365,2	450,8	19,1	35,3	530,5	508
21334-75-0559	15,9	403,2	514,3	527	263,5	415,9	501,6	19,1	35,3	581	559
21334-75-0610	15,9	454	565,1	577,8	288,9	466,7	552,4	19,1	35,3	632	610
21334-75-0660	15,9	504,8	615,9	628,6	314,3	517,7	603,2	19,1	35,3	683	660
21334-75-0711	15,9	555,6	666,7	679,4	339,7	568,3	654	19,1	35,3	733,5	711

Telescopic slides, stainless steel

for side mounting, over-extension, load capacity up to 70 kg



Material:

Slides stainless steel 1.4301.
Ball cage stainless steel 1.4301.
Balls stainless steel 1.4034.

Version:

Slides bright.
Ball cages bright.
Balls bright.

Sample order:

nlm 21334-80-0356

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in open position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

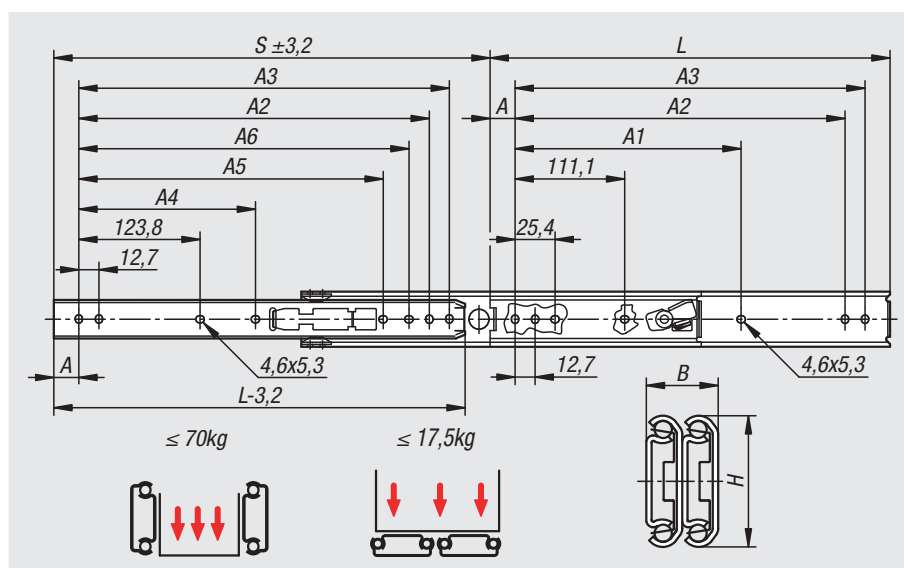
The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Temperature range:

-20°C to +110°C.

Advantages:

Latches in open position
Quick frontal release
Suitable for flat mounting



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-80-0305	side mounting	standard	70	1 piece = 1 pair
21334-80-0356	side mounting	standard	68	1 piece = 1 pair
21334-80-0406	side mounting	standard	65	1 piece = 1 pair
21334-80-0457	side mounting	standard	62	1 piece = 1 pair
21334-80-0508	side mounting	standard	57	1 piece = 1 pair
21334-80-0559	side mounting	standard	52	1 piece = 1 pair
21334-80-0610	side mounting	standard	46	1 piece = 1 pair
21334-80-0660	side mounting	standard	41	1 piece = 1 pair
21334-80-0711	side mounting	standard	36	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	B	H	Travel S	L
21334-80-0305	15,9	-	260,3	273	-	-	-	19,1	35,3	327	305
21334-80-0356	15,9	-	311,1	323,8	-	-	298,4	19,1	35,3	378	356
21334-80-0406	15,9	250,8	361,9	374,6	-	-	349,2	19,1	35,3	429	406
21334-80-0457	15,9	301,6	412,7	425,4	212,7	-	400	19,1	35,3	479,5	457
21334-80-0508	15,9	352,4	463,5	476,2	238,1	365,2	450,8	19,1	35,3	530,5	508
21334-80-0559	15,9	403,2	514,3	527	263,5	415,9	501,6	19,1	35,3	581	559
21334-80-0610	15,9	454	565,1	577,8	288,9	466,7	552,4	19,1	35,3	632	610
21334-80-0660	15,9	504,8	615,9	628,6	314,3	517,7	603,2	19,1	35,3	683	660
21334-80-0711	15,9	555,6	666,7	679,4	339,7	568,3	654	19,1	35,3	733,5	711

Telescopic slides, stainless steel

for side mounting, full extension, load capacity up to 80 kg



Material:

Slides stainless steel 1.4301.
Ball cage stainless steel 1.4301.
Balls stainless steel 1.4034.

Version:

Slides bright.
Ball cages bright.
Balls bright.

Sample order:

nIm 21334-85-0350

Note for ordering:

Sold in pairs.

Note:

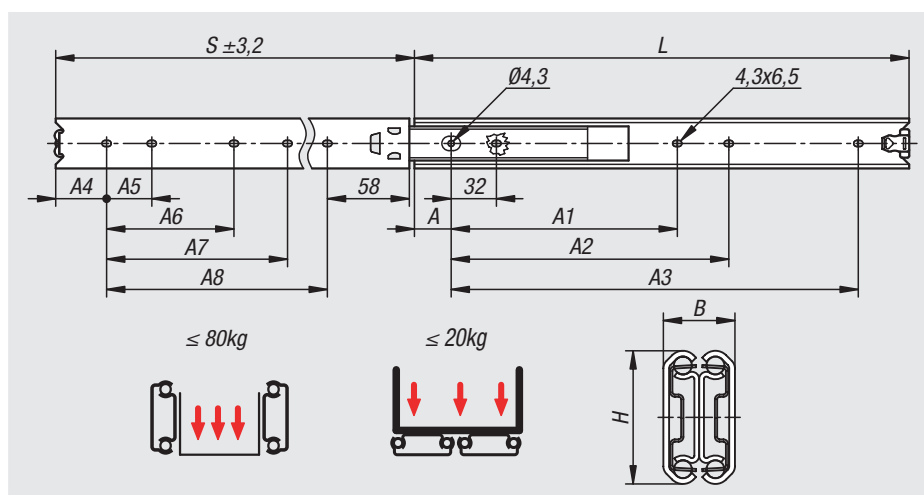
On telescopic slides with full extension, the travel is similar to the installed length, which ensures greater comfort and accessibility. Latches in closed position. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 or 80,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Latches in closed position
Suitable for flat mounting
Light running



Order No.	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21334-85-0300	side mounting	standard	50	65	1 piece = 1 pair
21334-85-0350	side mounting	standard	55	70	1 piece = 1 pair
21334-85-0400	side mounting	standard	60	75	1 piece = 1 pair
21334-85-0450	side mounting	standard	65	80	1 piece = 1 pair
21334-85-0500	side mounting	standard	57	75	1 piece = 1 pair
21334-85-0550	side mounting	standard	50	70	1 piece = 1 pair
21334-85-0600	side mounting	standard	45	65	1 piece = 1 pair
21334-85-0700	side mounting	standard	30	55	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21334-85-0300	26	-	192	224	18	32	-	-	224	19,1	35,3	304,5	300
21334-85-0350	26	-	224	256	36	32	-	-	256	19,1	35,3	354	350
21334-85-0400	26	-	192	320	22	32	-	160	320	19,1	35,3	403	400
21334-85-0450	26	-	224	352	40	32	-	160	352	19,1	35,3	452	450
21334-85-0500	26	256	288	416	26	32	160	192	416	19,1	35,3	501	500
21334-85-0550	26	288	320	480	44	32	160	192	448	19,1	35,3	550,5	550
21334-85-0600	26	320	352	512	30	32	192	224	512	19,1	35,3	600	600
21334-85-0700	26	352	384	608	34	32	256	288	608	19,1	35,3	698	700

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 82 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

n1m 21334-90-0457

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in open position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

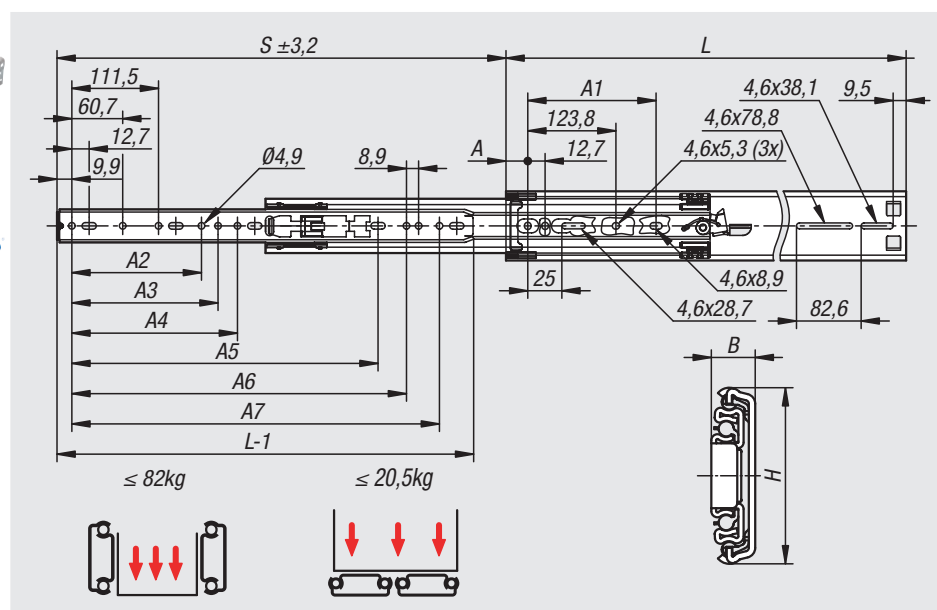
The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Latches in open position
Quick frontal release
Suitable for flat mounting



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-90-0406	side mounting	standard	71	1 piece = 1 pair
21334-90-0457	side mounting	standard	76	1 piece = 1 pair
21334-90-0508	side mounting	standard	80	1 piece = 1 pair
21334-90-0559	side mounting	standard	82	1 piece = 1 pair
21334-90-0610	side mounting	standard	81	1 piece = 1 pair
21334-90-0660	side mounting	standard	78	1 piece = 1 pair
21334-90-0711	side mounting	standard	73	1 piece = 1 pair
21334-90-0762	side mounting	standard	67	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	B	H	Travel S	L
21334-90-0406	16	153,7	-	-	-	-	162,6	336,5	12,7	51,6	457	406
21334-90-0457	16	178,8	-	-	164,8	-	-	387,3	12,7	51,6	508	457
21334-90-0508	16	203,8	-	172,1	203,2	-	-	438,1	12,7	51,6	559	508
21334-90-0559	16	228,8	-	-	213	-	407	488,9	12,7	51,6	610	559
21334-90-0610	16	253,8	254	273,7	-	-	457,8	539,7	12,7	51,6	660	610
21334-90-0660	16	278,7	140,3	232,4	269,1	-	508,6	590,5	12,7	51,6	711	660
21334-90-0711	16	303,8	191,1	283,2	304,8	526	559,4	641,4	12,7	51,6	762	711
21334-90-0762	16	328,8	-	241,9	319,9	527,1	610,2	692,1	12,7	51,6	813	762



Telescopic slides, stainless steel

for side mounting, over-extension, load capacity up to 90 kg



Material:

Slides stainless steel 1.4301.
Ball cage stainless steel 1.4301.
Balls stainless steel 1.4034.

Version:

Slides bright.
Ball cages bright.
Balls bright.

Sample order:

n1m 21334-95-0356

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in open position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide.

The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 400 mm and is based on the maximum value with 10,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

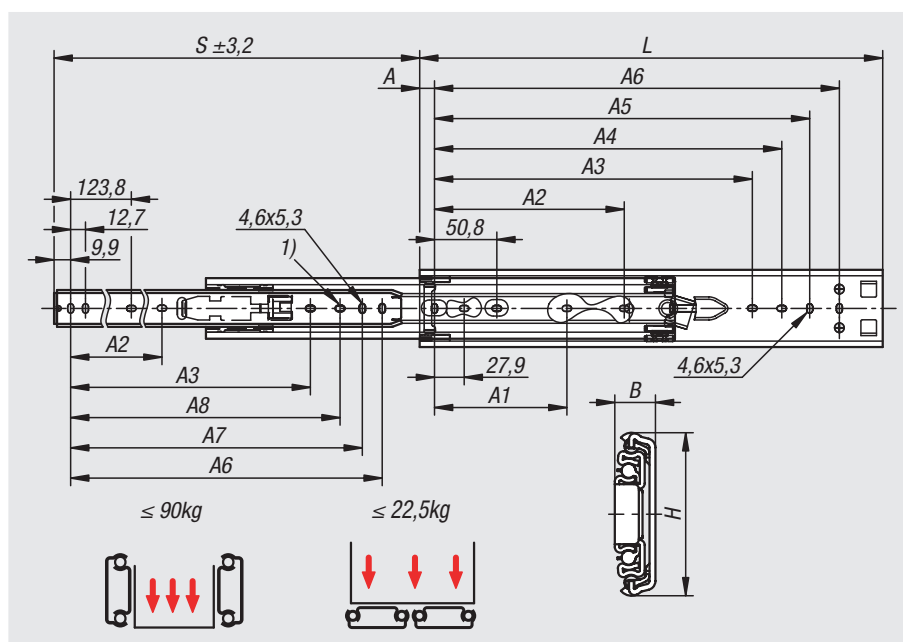
The head height of the fastening screws should not exceed 2.5 mm otherwise there is a risk of collision with other parts of the slide.

Advantages:

Latches in open position
Quick frontal release
Suitable for flat mounting

Drawing reference:

1) Mounting hole by 21334-95-0305 not provided



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21334-95-0305	side mounting	standard	56	1 piece = 1 pair
21334-95-0356	side mounting	standard	68	1 piece = 1 pair
21334-95-0406	side mounting	standard	80	1 piece = 1 pair
21334-95-0457	side mounting	standard	85	1 piece = 1 pair
21334-95-0508	side mounting	standard	90	1 piece = 1 pair
21334-95-0559	side mounting	standard	90	1 piece = 1 pair
21334-95-0610	side mounting	standard	90	1 piece = 1 pair
21334-95-0660	side mounting	standard	87	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21334-95-0305	15,9	-	-	-	209,6	235	260,4	247,7	-	12,7	51,6	330	305
21334-95-0356	15,9	-	-	-	260,4	285,8	311,2	298,5	285,8	12,7	51,6	381	356
21334-95-0406	15,9	123,8	-	-	311,2	336,6	362	349,3	336,6	12,7	51,6	432	406
21334-95-0457	15,9	123,8	177,8	314,4	362	387,4	412,8	400,1	387,4	12,7	51,6	483	457
21334-95-0508	15,9	123,8	203,2	365,3	412,8	438,2	463,6	450,9	438,2	12,7	51,6	533	508
21334-95-0559	15,9	123,8	228,6	416,1	463,6	489	514,4	501,7	489	12,7	51,6	584	559
21334-95-0610	15,9	123,8	254	466,9	514,4	539,8	565,2	552,5	539,8	12,7	51,6	635	610
21334-95-0660	15,9	123,8	279,4	517,7	565,2	590,6	616	603,3	590,6	12,7	51,6	686	660

Telescopic slides, steel

for side mounting, full extension, load capacity up to 100 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

n1m 21335-0450

Note for ordering:

Sold in pairs.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. When closing, the movement of the telescopic slides is dampened by the soft closing feature and they move automatically into the end position. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 80,000 cycles.

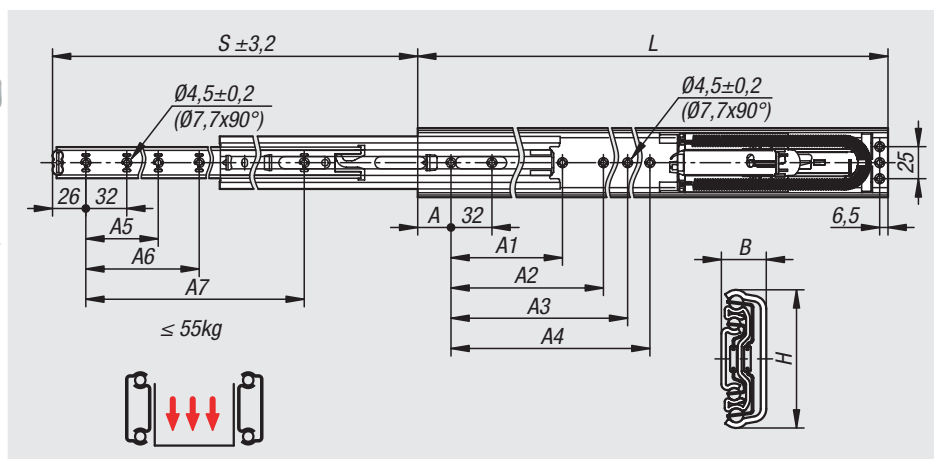
Not suitable for horizontal mounting.

Temperature range:

+10°C to +40°C.

Advantages:

Soft close
Light running
Precise guidance for high lateral stability



Order No.	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Packaging type
21335-0400	side mounting	standard	45	1 piece = 1 pair
21335-0450	side mounting	standard	45	1 piece = 1 pair
21335-0500	side mounting	standard	50	1 piece = 1 pair
21335-0550	side mounting	standard	50	1 piece = 1 pair
21335-0600	side mounting	standard	50	1 piece = 1 pair
21335-0700	side mounting	standard	55	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	B	H	Travel S	L
21335-0400	26	160	192	-	-	128	160	288	17,5	54	400,2	400
21335-0450	26	192	224	-	-	160	192	320	17,5	54	449,4	450
21335-0500	26	160	192	256	288	192	224	384	17,5	54	498,6	500
21335-0550	26	192	224	288	320	192	224	416	17,5	54	547,6	550
21335-0600	26	224	256	352	384	224	256	480	17,5	54	597	600
21335-0700	26	288	320	448	480	256	288	576	17,5	54	695,4	700



Telescopic slides, steel

for side mounting, over-extension, load capacity up to 100 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21335-05-0350

Note for ordering:

Sold in pairs.

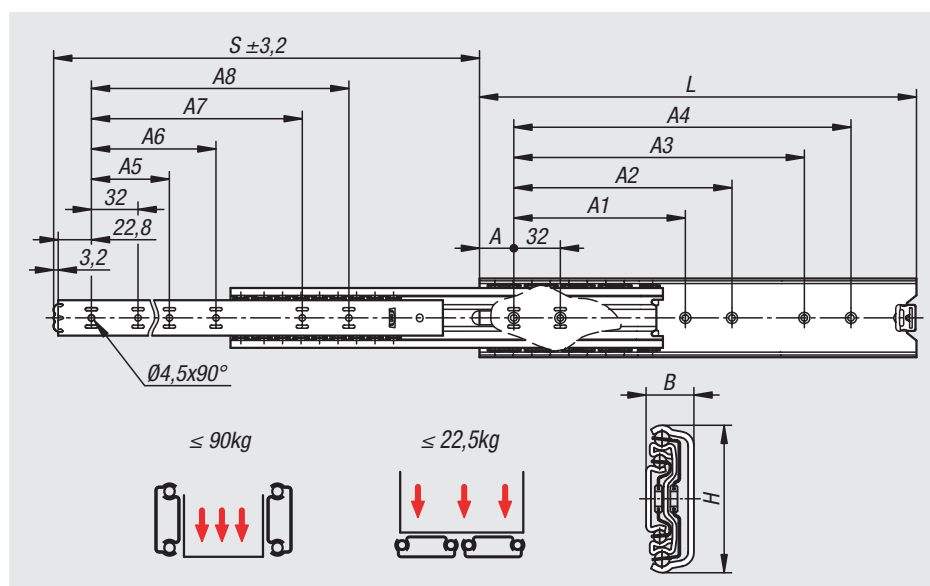
Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in closed position. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 or 80,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

Advantages:

Latches in closed position
Suitable for flat mounting
Light running



Order No.	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21335-05-0300	side mounting	standard	80	90	1 piece = 1 pair
21335-05-0350	side mounting	standard	80	90	1 piece = 1 pair
21335-05-0400	side mounting	standard	82	92	1 piece = 1 pair
21335-05-0450	side mounting	standard	84	95	1 piece = 1 pair
21335-05-0500	side mounting	standard	90	100	1 piece = 1 pair
21335-05-0550	side mounting	standard	90	100	1 piece = 1 pair
21335-05-0600	side mounting	standard	84	94	1 piece = 1 pair
21335-05-0650	side mounting	standard	82	92	1 piece = 1 pair
21335-05-0700	side mounting	standard	78	90	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21335-05-0300	26	-	-	224	256	-	-	-	256	17,5	54	340	300
21335-05-0350	26	-	-	224	256	-	-	-	256	17,5	54	389	350
21335-05-0400	26	160	192	320	352	128	160	-	352	17,5	54	438	400
21335-05-0450	26	160	192	320	352	128	160	320	352	17,5	54	487	450
21335-05-0500	26	192	224	416	448	160	192	-	416	17,5	54	537	500
21335-05-0550	26	224	-	448	480	160	192	-	448	17,5	54	586	550
21335-05-0600	26	256	288	480	512	192	224	480	512	17,5	54	635	600
21335-05-0650	26	288	320	544	576	192	256	-	544	17,5	54	684	650
21335-05-0700	26	288	416	576	608	256	288	576	608	17,5	54	733	700

Telescopic slides, steel

for side mounting, full extension, load capacity up to 124 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21335-10-0356

Note for ordering:

Sold in pairs.
Fastening material included.

Note:

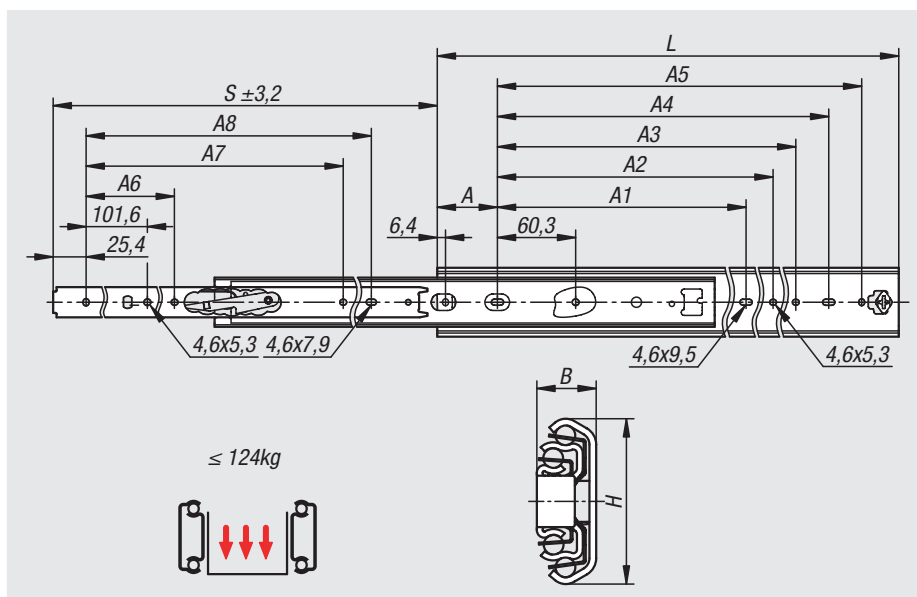
By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. When the release lever is actuated, the drawer can be taken out easily and separated from the guide. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacities specified refer to the maximum value for 10,000 cycles.

Not suitable for horizontal mounting.

Suitable for a slide spacing up to 1,000 mm.

Advantages:

Quick frontal release
Light running
Precise guidance for high lateral stability



Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21335-10-0305	side mounting	standard	90	1 piece = 1 pair
21335-10-0356	side mounting	standard	90	1 piece = 1 pair
21335-10-0406	side mounting	standard	100	1 piece = 1 pair
21335-10-0457	side mounting	standard	110	1 piece = 1 pair
21335-10-0508	side mounting	standard	124	1 piece = 1 pair
21335-10-0559	side mounting	standard	110	1 piece = 1 pair
21335-10-0610	side mounting	standard	100	1 piece = 1 pair
21335-10-0660	side mounting	standard	92	1 piece = 1 pair
21335-10-0711	side mounting	standard	83	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A11	B	H	Travel S	L
21335-10-0305	46,4	-	135,4	179,1	204,5	229,9	-	-	228,6	225,5	19,1	53,1	305	305
21335-10-0356	46,4	-	186,2	229,9	255,3	280,7	-	-	279,4	276,6	19,1	53,1	356	356
21335-10-0406	46,4	-	237	280,7	306,1	331,5	-	257,3	330,2	327,1	19,1	53,1	406	406
21335-10-0457	46,4	-	287,8	331,5	356,9	382,3	-	308,1	381	377,9	19,1	53,1	457	457
21335-10-0508	46,4	215,9	338,6	382,3	407,7	433,1	203,2	358,9	431,8	428,7	19,1	53,1	508	508
21335-10-0559	46,4	241,3	389,4	433,1	458,5	483,9	228,6	409,7	482,6	479,5	19,1	53,1	559	559
21335-10-0610	46,4	266,7	440,2	483,9	509,3	534,7	254	460,5	533,4	530,3	19,1	53,1	610	610
21335-10-0660	46,4	292,1	491	534,7	560,1	585,5	279,4	511,3	584,2	581,1	19,1	53,1	660	660
21335-10-0711	46,4	317,5	541,8	585,5	610,9	636,3	304,8	562,1	635	631,9	19,1	53,1	711	711

Telescopic slides, steel

for side mounting, full extension, load capacity up to 160 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

n1m 21335-15-0356

Note for ordering:

Sold in pairs.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. Latches in closed position. When the release lever is actuated, the drawer can be taken out easily and separated from the guide. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacities specified refer to the maximum value for 80,000 cycles.

The load capacity is ca. 75% lower by horizontal mounting.

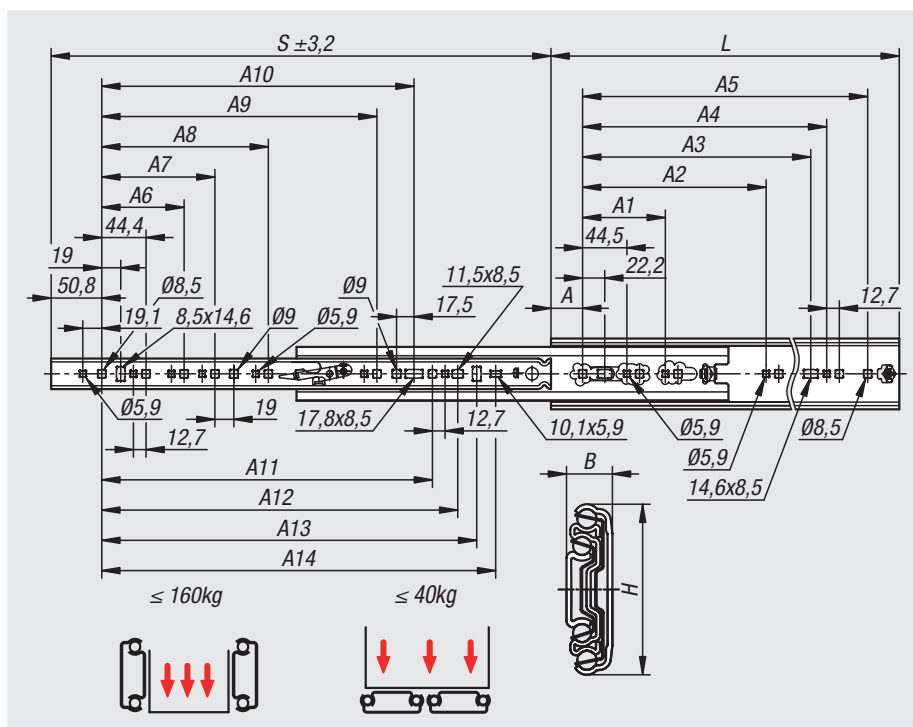
Suitable for a slide spacing up to 1,000 mm.

Temperature range:

-20°C to +70°C.

Advantages:

Latches in closed position
Quick frontal release
Suitable for flat mounting



Telescopic slides, steel

for side mounting, full extension, load capacity up to 160 kg

Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21335-15-0305	side mounting	standard	140	1 piece = 1 pair
21335-15-0356	side mounting	standard	140	1 piece = 1 pair
21335-15-0407	side mounting	standard	150	1 piece = 1 pair
21335-15-0457	side mounting	standard	150	1 piece = 1 pair
21335-15-0508	side mounting	standard	160	1 piece = 1 pair
21335-15-0559	side mounting	standard	160	1 piece = 1 pair
21335-15-0610	side mounting	standard	160	1 piece = 1 pair
21335-15-0660	side mounting	standard	160	1 piece = 1 pair
21335-15-0711	side mounting	standard	160	1 piece = 1 pair
21335-15-0762	side mounting	standard	160	1 piece = 1 pair
21335-15-0813	side mounting	standard	160	1 piece = 1 pair
21335-15-0864	side mounting	standard	160	1 piece = 1 pair
21335-15-0914	side mounting	standard	160	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	B	H	Travel S	L
21335-15-0305	31,8	-	-	184,2	200,2	241,3	-	-	-	-	-	-	-	179,4	198,5	19,1	70,8	304,8	304,8
21335-15-0356	31,8	-	-	235	251	292,1	-	-	-	-	-	-	-	230,2	249,3	19,1	70,8	355,6	355,6
21335-15-0407	31,8	-	-	285,8	301,8	342,9	108	-	-	-	-	236,6	262	281	300,1	19,1	70,8	406,4	406,4
21335-15-0457	31,8	-	-	336,6	352,6	393,7	108	-	-	-	-	287,4	312,8	331,8	350,9	19,1	70,8	457,2	457,2
21335-15-0508	31,8	-	-	387,4	403,4	444,5	108	171,5	-	-	-	338,2	363,6	382,6	401,7	19,1	70,8	508	508
21335-15-0559	31,8	-	-	438,2	454,2	495,3	108	171,5	-	-	328,7	389	414,4	433,4	452,5	19,1	70,8	558,8	558,8
21335-15-0610	31,8	-	-	489	505	546,1	108	171,5	-	-	379,5	439,8	465,2	484,2	503,3	19,1	70,8	609,6	609,6
21335-15-0660	31,8	-	-	539,8	555,8	596,9	108	171,5	-	-	430,3	490,6	516	535	554,1	19,1	70,8	660,4	660,4
21335-15-0711	31,8	-	-	590,6	606,6	647,7	108	171,5	-	-	481,1	541,4	566,8	585,8	604,9	19,1	70,8	711,2	711,2
21335-15-0762	31,8	203,2	469,9	641,4	657,4	698,5	108	171,5	-	-	531,9	592,2	617,6	636,6	655,7	19,1	70,8	762	762
21335-15-0813	31,8	203,2	520,7	692,2	708,2	749,3	108	171,5	-	-	582,7	643	688,4	687,4	706,5	19,1	70,8	812,8	812,8
21335-15-0864	31,8	203,2	571,5	743	759	800,1	108	171,5	349,3	-	633,5	693,8	719,2	738,2	757,3	19,1	70,8	863,6	863,6
21335-15-0914	31,8	203,2	622,3	793,8	809,8	850,9	108	171,5	349,3	501,7	684,3	744,6	770	789	808,1	19,1	70,8	914,4	914,4

Telescopic slides, steel

for side mounting, over-extension, load capacity up to 160 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nIm 21335-20-0350

Note for ordering:

Sold in pairs.

Note:

On telescopic slides with over-extension, the travel is greater than the installed length. Latches in closed position. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 450 mm and is based on the maximum value with 10,000 or 80,000 cycles.

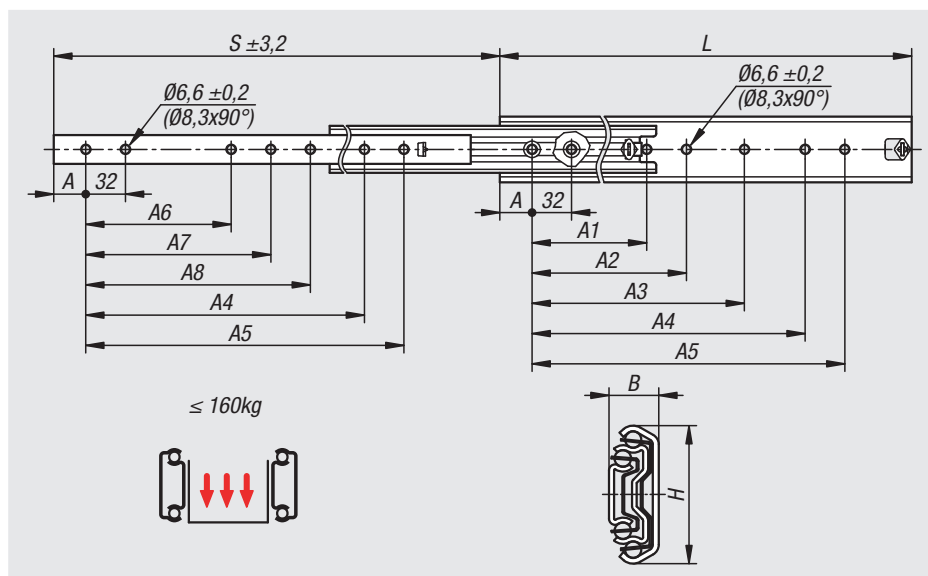
Not suitable for horizontal mounting.

Temperature range:

-20°C to +70°C.

Advantages:

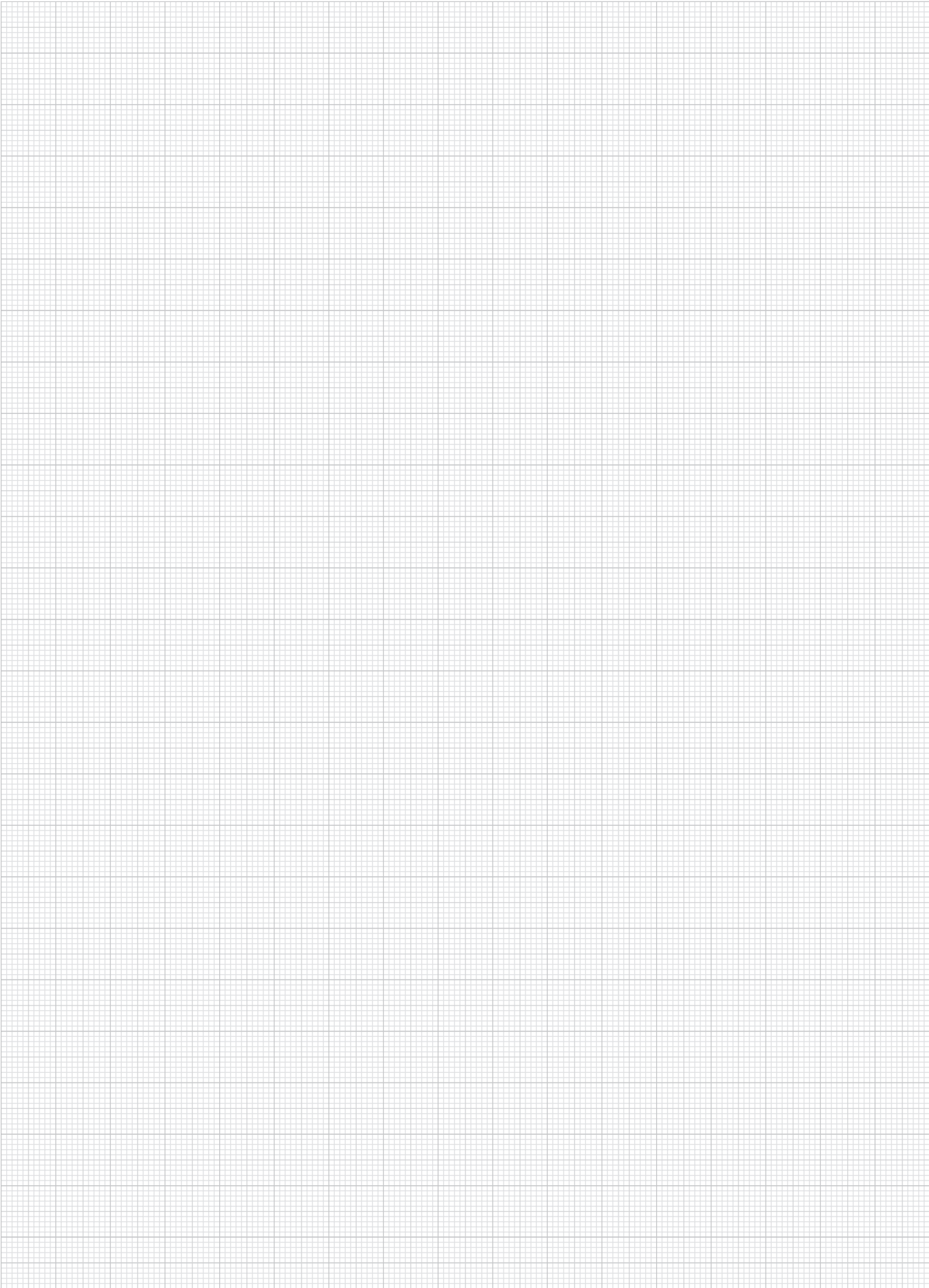
Latches in closed position
Light running
Precise guidance for high lateral stability



Order No.	Assembly	Product type	Load capacity per pair (80,000 cycles) kg	Loading pair (10,000 cycles) kg	Packaging type
21335-20-0300	side mounting	standard	120	130	1 piece = 1 pair
21335-20-0350	side mounting	standard	120	140	1 piece = 1 pair
21335-20-0400	side mounting	standard	130	150	1 piece = 1 pair
21335-20-0450	side mounting	standard	140	160	1 piece = 1 pair
21335-20-0500	side mounting	standard	140	160	1 piece = 1 pair
21335-20-0550	side mounting	standard	140	160	1 piece = 1 pair
21335-20-0600	side mounting	standard	120	150	1 piece = 1 pair
21335-20-0700	side mounting	standard	110	130	1 piece = 1 pair
21335-20-0790	side mounting	standard	100	100	1 piece = 1 pair
21335-20-0900	side mounting	standard	80	90	1 piece = 1 pair
21335-20-1000	side mounting	standard	70	80	1 piece = 1 pair
21335-20-1100	side mounting	standard	60	70	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	B	H	Travel S	L
21335-20-0300	26	-	-	-	192	224	-	-	-	19,1	53,1	323,5	300
21335-20-0350	26	-	-	-	224	256	-	-	-	19,1	53,1	373,5	350
21335-20-0400	26	-	160	192	288	320	128	160	-	19,1	53,1	423,5	400
21335-20-0450	26	-	160	192	320	352	128	160	-	19,1	53,1	473,5	450
21335-20-0500	26	-	192	224	384	416	160	192	-	19,1	53,1	523,5	500
21335-20-0550	26	-	192	224	416	448	160	192	-	19,1	53,1	573,5	550
21335-20-0600	26	-	256	288	480	512	192	256	-	19,1	53,1	623,5	600
21335-20-0700	26	288	320	544	576	608	256	288	544	19,1	53,1	723,5	700
21335-20-0790	26	-	352	384	672	704	320	352	384	19,1	53,1	803,5	790
21335-20-0900	26	-	448	480	768	800	352	384	416	19,1	53,1	923,5	900
21335-20-1000	26	448	480	512	864	896	448	480	-	19,1	53,1	1023,5	1000
21335-20-1100	26	448	544	576	992	1024	448	480	512	19,1	53,1	1123,5	1100

Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Telescopic slides, steel

for side mounting, full extension, load capacity up to 227 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nlm 1 Pair (latching both sides): 21335-25-****0 (left)
& 21335-25-****1 (right)
1 Pair (latching one side): 21335-25-****0 (left) or
21335-25-****1 (right) & 21335-30-****

Note for ordering:

Sold individually.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. Latches in open and closed positions. The telescopic slides can only be opened or closed after the release lever has been actuated. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacities specified refer to the maximum value for 10,000 cycles.

Not suitable for horizontal mounting.

The head height of the fastening screws should not exceed 4,8 mm otherwise there is a risk of collision with other parts of the slide.

These telescopic slides cannot be ordered as a pair. If double sided latching is desired, a left and a right version must be ordered.

If single sided latching is desired, a combination with 21335-30 is possible.

Advantages:

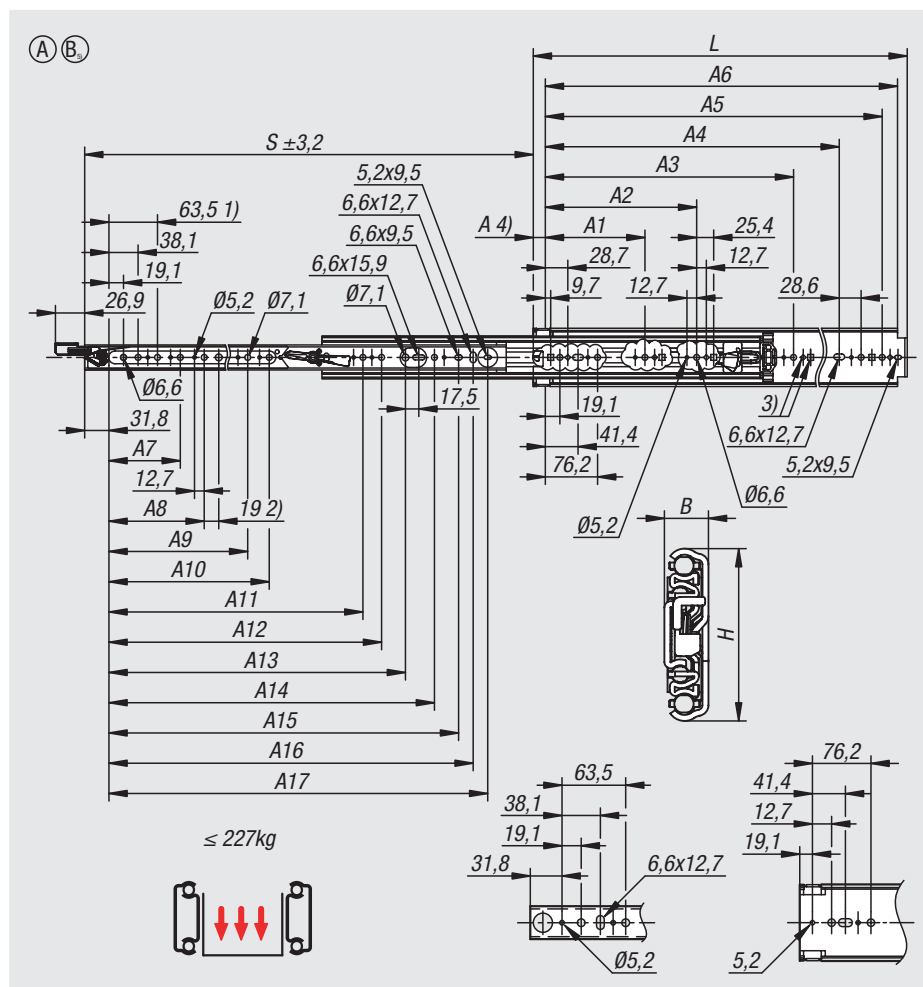
Latches in open and closed positions
For heavy duty use
Manual release
Light running

Accessories:

Steel telescopic slides 21335-30.

Attention:

The maximum load rating refers to a pair of telescopic slides.



Drawing reference:

- 1) Mounting hole by 21335-25-03050 and 21335-25-03051 not provided
- 2) Mounting hole by 21335-25-05590 and 21335-25-05591 not provided
- 3) Cut-out for carriage bolt
- 4) Reference dimension only, not a mounting hole
- 5) Form B, identical dimensions as the right-hand version



Telescopic slides, steel

for side mounting, full extension, load capacity up to 227 kg



Order No.	Form	Form-Type	Assembly	Product type	Loading per pair kg	Packaging type
21335-25-03050	A	left	side mounting	standard	227	packaged individually
21335-25-03560	A	left	side mounting	standard	227	packaged individually
21335-25-04060	A	left	side mounting	standard	227	packaged individually
21335-25-04570	A	left	side mounting	standard	227	packaged individually
21335-25-05080	A	left	side mounting	standard	227	packaged individually
21335-25-05590	A	left	side mounting	standard	227	packaged individually
21335-25-06100	A	left	side mounting	standard	227	packaged individually
21335-25-06600	A	left	side mounting	standard	227	packaged individually
21335-25-07110	A	left	side mounting	standard	227	packaged individually
21335-25-07620	A	left	side mounting	standard	222	packaged individually
21335-25-08130	A	left	side mounting	standard	218	packaged individually
21335-25-08640	A	left	side mounting	standard	213	packaged individually
21335-25-09140	A	left	side mounting	standard	209	packaged individually
21335-25-10160	A	left	side mounting	standard	200	packaged individually
21335-25-10670	A	left	side mounting	standard	195	packaged individually
21335-25-12190	A	left	side mounting	standard	182	packaged individually
21335-25-13720	A	left	side mounting	standard	168	packaged individually
21335-25-15240	A	left	side mounting	standard	154	packaged individually

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	B	H	Travel S	L
21335-25-03050	12,7	-	-	-	203,2	260,4	279,4	-	-	-	-	-	-	-	153,9	179,3	198,4	19,1	76,2	304,8	304,8
21335-25-03560	12,7	-	-	-	254	311,2	330,2	-	-	-	-	-	-	-	204,7	230,1	249,2	19,1	76,2	355,6	355,6
21335-25-04060	12,7	-	-	-	304,8	362	381	-	-	-	-	-	-	-	255,5	280,9	300	19,1	76,2	406,4	406,4
21335-25-04570	12,7	-	-	-	355,6	412,8	431,8	127	-	-	-	-	-	-	306,3	331,7	350,8	19,1	76,2	457,2	457,2
21335-25-05080	12,7	-	-	-	406,4	463,6	482,6	127	-	-	-	-	-	296,6	357,1	382,5	401,6	19,1	76,2	508	508
21335-25-05590	12,7	-	-	-	457,2	514,4	533,4	127	190,5	-	-	-	-	347,7	407,9	433,3	452,4	19,1	76,2	558,8	558,8
21335-25-06100	12,7	-	-	-	508	565,2	584,2	127	190,5	-	-	-	-	398,5	458,7	484,1	503,2	19,1	76,2	609,6	609,6
21335-25-06600	12,7	-	-	-	558,8	616	635	127	190,5	-	-	-	-	449,3	509,5	534,9	554	19,1	76,2	660,4	660,4
21335-25-07110	12,7	-	-	-	609,6	666,8	685,8	127	190,5	-	-	-	-	500,1	560,3	585,7	604,8	19,1	76,2	711,2	711,2
21335-25-07620	12,7	235	-	501,7	660,4	717,6	736,6	127	190,5	-	-	-	-	550,9	611,1	636,5	655,6	19,1	76,2	762	762
21335-25-08130	12,7	235	-	552,5	711,2	768,4	787,4	127	190,5	-	-	-	-	601,7	661,9	687,3	706,4	19,1	76,2	812,8	812,8
21335-25-08640	12,7	235	-	603,2	762	819,1	838,2	127	190,5	-	520,7	-	-	652,5	712,7	738,1	757,1	19,1	76,2	863,6	863,6
21335-25-09140	12,7	235	-	654,1	812,8	869,9	889	127	190,5	368,3	520,7	-	-	703,3	763,5	788,9	807,9	19,1	76,2	914,4	914,4
21335-25-10160	12,7	235	-	755,7	914,4	971,5	990,6	127	190,5	368,3	-	-	-	804,9	865,1	890,5	909,5	19,1	76,2	1016	1016
21335-25-10670	12,7	235	-	806,5	965,2	1022,4	1041,4	127	190,5	368,3	-	-	-	855,7	915,9	941,3	960,4	19,1	76,2	1066,8	1066,8
21335-25-12190	12,7	235	-	958,9	1117,6	1174,8	1193,8	127	190,5	368,3	520,7	825,5	-	1008,1	1068,3	1093,7	1112,8	19,1	76,2	1219,2	1219,2
21335-25-13720	12,7	235	-	958,9	1270	1327,2	1346,2	127	190,5	368,3	520,7	825,5	-	1160,5	1220,8	1246,2	1265,2	19,1	76,2	1371,6	1371,6
21335-25-15240	12,7	235	596,6	958,9	1422,4	1479,5	1498,6	127	190,5	368,3	520,7	825,5	1130,3	1312,9	1373,1	1398,5	1417,8	19,1	76,2	1524	1524

Telescopic slides, steel

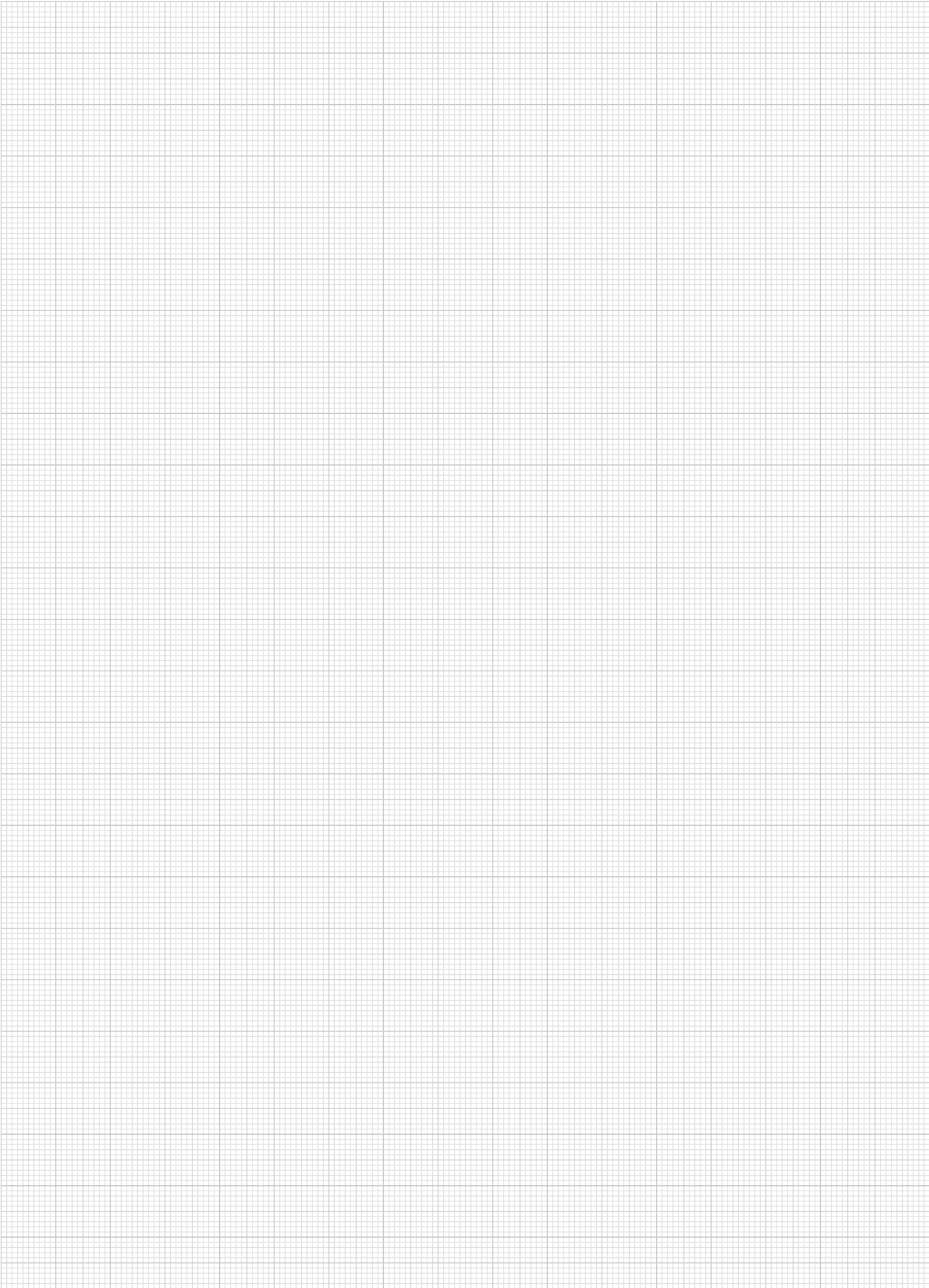
for side mounting, full extension, load capacity up to 227 kg



Order No.	Form	Form-Type	Assembly	Product type	Loading per pair kg	Packaging type
21335-25-03051	B	right	side mounting	standard	227	packaged individually
21335-25-03561	B	right	side mounting	standard	227	packaged individually
21335-25-04061	B	right	side mounting	standard	227	packaged individually
21335-25-04571	B	right	side mounting	standard	227	packaged individually
21335-25-05081	B	right	side mounting	standard	227	packaged individually
21335-25-05591	B	right	side mounting	standard	227	packaged individually
21335-25-06101	B	right	side mounting	standard	227	packaged individually
21335-25-06601	B	right	side mounting	standard	227	packaged individually
21335-25-07111	B	right	side mounting	standard	227	packaged individually
21335-25-07621	B	right	side mounting	standard	222	packaged individually
21335-25-08131	B	right	side mounting	standard	218	packaged individually
21335-25-08641	B	right	side mounting	standard	213	packaged individually
21335-25-09141	B	right	side mounting	standard	209	packaged individually
21335-25-10161	B	right	side mounting	standard	200	packaged individually
21335-25-10671	B	right	side mounting	standard	195	packaged individually
21335-25-12191	B	right	side mounting	standard	182	packaged individually
21335-25-13721	B	right	side mounting	standard	168	packaged individually
21335-25-15241	B	right	side mounting	standard	154	packaged individually

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	B	H	Travel S	L	
21335-25-03051	12,7	-	-	-	203,2	260,4	279,4	-	-	-	-	-	-	-	153,9	179,3	198,4	19,1	76,2	304,8	304,8	
21335-25-03561	12,7	-	-	-	254	311,2	330,2	-	-	-	-	-	-	-	204,7	230,1	249,2	19,1	76,2	355,6	355,6	
21335-25-04061	12,7	-	-	-	304,8	362	381	-	-	-	-	-	-	-	255,5	280,9	300	19,1	76,2	406,4	406,4	
21335-25-04571	12,7	-	-	-	355,6	412,8	431,8	127	-	-	-	-	-	-	306,3	331,7	350,8	19,1	76,2	457,2	457,2	
21335-25-05081	12,7	-	-	-	406,4	463,6	482,6	127	-	-	-	-	-	-	296,6	357,1	382,5	401,6	19,1	76,2	508	508
21335-25-05591	12,7	-	-	-	457,2	514,4	533,4	127	190,5	-	-	-	-	-	347,7	407,9	433,3	452,4	19,1	76,2	558,8	558,8
21335-25-06101	12,7	-	-	-	508	565,2	584,2	127	190,5	-	-	-	-	-	398,5	458,7	484,1	503,2	19,1	76,2	609,6	609,6
21335-25-06601	12,7	-	-	-	558,8	616	635	127	190,5	-	-	-	-	-	449,3	509,5	534,9	554	19,1	76,2	660,4	660,4
21335-25-07111	12,7	-	-	-	609,6	666,8	685,8	127	190,5	-	-	-	-	-	500,1	560,3	585,7	604,8	19,1	76,2	711,2	711,2
21335-25-07621	12,7	235	-	501,7	660,4	717,6	736,6	127	190,5	-	-	-	-	-	550,9	611,1	636,5	655,6	19,1	76,2	762	762
21335-25-08131	12,7	235	-	552,5	711,2	768,4	787,4	127	190,5	-	-	-	-	-	601,7	661,9	687,3	706,4	19,1	76,2	812,8	812,8
21335-25-08641	12,7	235	-	603,2	762	819,1	838,2	127	190,5	-	520,7	-	-	-	652,5	712,7	738,1	757,1	19,1	76,2	863,6	863,6
21335-25-09141	12,7	235	-	654,1	812,8	869,9	889	127	190,5	368,3	520,7	-	-	-	703,3	763,5	788,9	807,9	19,1	76,2	914,4	914,4
21335-25-10161	12,7	235	-	755,7	914,4	971,5	990,6	127	190,5	368,3	-	-	-	-	804,9	865,1	890,5	909,5	19,1	76,2	1016	1016
21335-25-10671	12,7	235	-	806,5	965,2	1022,4	1041,4	127	190,5	368,3	-	-	-	-	855,7	915,9	941,3	960,4	19,1	76,2	1066,8	1066,8
21335-25-12191	12,7	235	-	958,9	1117,6	1174,8	1193,8	127	190,5	368,3	520,7	825,5	-	-	1008,1	1068,3	1093,7	1112,8	19,1	76,2	1219,2	1219,2
21335-25-13721	12,7	235	-	958,9	1270	1327,2	1346,2	127	190,5	368,3	520,7	825,5	-	-	1160,5	1220,8	1246,2	1265,2	19,1	76,2	1371,6	1371,6
21335-25-15241	12,7	235	596,9	958,9	1422,4	1479,5	1498,6	127	190,5	368,3	520,7	825,5	1130,3	1312,9	1373,1	1398,5	1417,8	19,1	76,2	1524	1524	

Notes



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Telescopic slides, steel

for side mounting, full extension, load capacity up to 272 kg



Material:

Slides steel.
Ball cages steel.
Balls, steel.

Version:

Slides electro zinc-plated.
Ball cages, electro zinc-plated.
Balls hardened.

Sample order:

nlm 1 Pair (no latching): 21335-30-**** & 21335-30-****

1 Pair (latching one side): 21335-25-****0 (left) or 21335-25-****1 (right) & 21335-30-****

Note for ordering:

Sold individually.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacities specified refer to the maximum value for 10,000 cycles.

The load capacity is ca. 70% lower by horizontal mounting.

The head height of the fastening screws should not exceed 4,8 mm otherwise there is a risk of collision with other parts of the slide.

These telescopic slides cannot be ordered as a pair. If single sided latching is desired, a combination with 21335-25 is possible.

Temperature range:

-20°C to +70°C.

Advantages:

Suitable for flat mounting
For heavy duty use
Light running

Accessories:

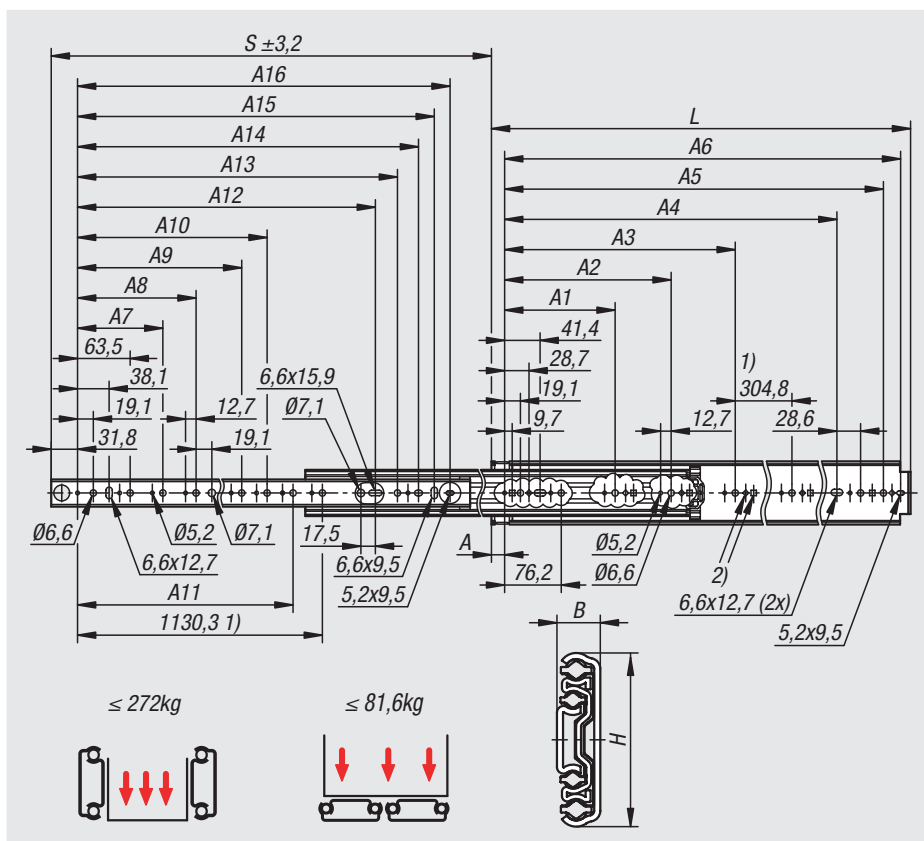
Steel telescopic slides 21335-25.

Attention:

The maximum load rating refers to a pair of telescopic slides.

Drawing reference:

- 1) Mounting hole by 21335-30-1524 provided
- 2) Cut-out for carriage bolt





Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21335-30-0254	side mounting	standard	272	packaged individually
21335-30-0305	side mounting	standard	272	packaged individually
21335-30-0356	side mounting	standard	272	packaged individually
21335-30-0406	side mounting	standard	272	packaged individually
21335-30-0457	side mounting	standard	272	packaged individually
21335-30-0508	side mounting	standard	272	packaged individually
21335-30-0559	side mounting	standard	272	packaged individually
21335-30-0610	side mounting	standard	267	packaged individually
21335-30-0660	side mounting	standard	264	packaged individually
21335-30-0711	side mounting	standard	261	packaged individually
21335-30-0762	side mounting	standard	258	packaged individually
21335-30-0813	side mounting	standard	256	packaged individually
21335-30-0864	side mounting	standard	253	packaged individually
21335-30-0914	side mounting	standard	248	packaged individually
21335-30-1016	side mounting	standard	237	packaged individually
21335-30-1067	side mounting	standard	228	packaged individually
21335-30-1118	side mounting	standard	218	packaged individually
21335-30-1220	side mounting	standard	204	packaged individually
21335-30-1372	side mounting	standard	196	packaged individually
21335-30-1524	side mounting	standard	182	packaged individually

Order No.	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	B	H	Travel S	L
21335-30-0254	12,7	-	-	-	152,4	209,6	228,6	-	-	-	-	-	-	103,1	128,5	147,6	166,6	19,1	76,2	254	254
21335-30-0305	12,7	-	-	-	203,2	260,4	279,4	-	-	-	-	-	-	153,9	179,3	198,4	217,4	19,1	76,2	304,8	304,8
21335-30-0356	12,7	-	-	-	254	311,2	330,2	-	-	-	-	-	-	204,7	230,1	249,2	268,2	19,1	76,2	355,6	355,6
21335-30-0406	12,7	-	-	-	304,8	362	381	127	-	-	-	-	-	255,5	280,9	300	319	19,1	76,2	406,4	406,4
21335-30-0457	12,7	-	-	-	355,6	412,8	431,8	127	-	-	-	-	246,1	306,3	331,7	350,8	369,8	19,1	76,2	457,2	457,2
21335-30-0508	12,7	-	-	-	406,4	463,6	482,6	127	190,5	-	-	-	296,9	357,1	382,5	401,6	420,6	19,1	76,2	508	508
21335-30-0559	12,7	-	-	-	457,2	514,4	533,4	127	190,5	-	-	-	347,7	407,9	433,3	452,4	471,4	19,1	76,2	558,8	558,8
21335-30-0610	12,7	-	-	-	508	565,2	584,2	127	190,5	-	-	-	398,5	458,7	484,1	503,2	522,2	19,1	76,2	609,6	609,6
21335-30-0660	12,7	-	-	-	558,8	616	635	127	190,5	-	-	-	449,3	509,5	534,9	554	573	19,1	76,2	660,4	660,4
21335-30-0711	12,7	-	-	-	609,6	666,8	685,8	127	190,5	-	-	-	500,1	560,3	585,7	604,8	623,8	19,1	76,2	711,2	711,2
21335-30-0762	12,7	235	-	501,7	660,4	717,6	736,6	127	190,5	368,3	-	-	550,9	611,1	636,5	655,6	674,6	19,1	76,2	762	762
21335-30-0813	12,7	235	393,7	552,5	711,2	768,4	787,4	127	190,5	368,3	-	-	601,7	661,9	687,3	706,4	725,4	19,1	76,2	812,8	812,8
21335-30-0864	12,7	235	419,1	603,3	762	819,2	838,2	127	190,5	368,3	469,9	-	652,5	712,7	738,1	757,2	776,2	19,1	76,2	863,6	863,6
21335-30-0914	12,7	235	444,5	654,1	812,8	870	889	127	190,5	368,3	520,7	-	703,3	763,5	788,9	808	827	19,1	76,2	914,4	914,4
21335-30-1016	12,7	235	546,1	755,7	914,4	971,6	990,6	127	190,5	368,3	520,7	-	804,9	865,1	890,5	909,6	928,6	19,1	76,2	1016	1016
21335-30-1067	12,7	235	546,1	806,5	965,2	1022,4	1041,4	127	190,5	368,3	520,7	-	855,7	915,9	941,3	960,4	979,4	19,1	76,2	1066,8	1066,8
21335-30-1118	12,7	235	546,1	857,3	1016	1073,2	1092,2	127	190,5	368,3	520,7	-	906,5	966,7	992,1	1011,2	1030,2	19,1	76,2	1117,6	1117,6
21335-30-1220	12,7	235	596,9	958,9	1117,6	1174,8	1193,8	127	190,5	368,3	520,7	825,51008,1	1068,3	1093,7	1112,8	1131,8	19,1	76,2	1219,2	1219,2	
21335-30-1372	12,7	235	596,9	958,9	1270	1327,2	1346,2	127	190,5	368,3	520,7	825,51160,5	1220,8	1246,2	1265,2	1284,2	19,1	76,2	1371,6	1371,6	
21335-30-1524	12,7	235	596,9	958,9	1422,4	1479,6	1498,6	127	190,5	368,3	520,7	825,51312,9	1373,1	1398,5	1417,6	1436,6	19,1	76,2	1524	1524	

Telescopic slides, aluminium

for side mounting, full extension, load capacity up to 300 kg



Material:

Rail aluminium.
Ball cage stainless steel 1.4301.
Balls stainless steel 1.4021.

Version:

Slides bright.
Ball cages bright.
Balls bright.

Sample order:

nIm 21335-35-0350

Note for ordering:

Sold in pairs.

Note:

By telescopic slides with full extension, the travel is roughly equal to the installed length, which ensures greater comfort and accessibility. The dynamic load capacity of the telescopic slides indicates the maximum load rating of a vertically mounted slide pair when the entire extension length is used. The load capacity specified is calculated with a slide spacing of 600 mm and is based on the maximum value with 10,000 cycles.

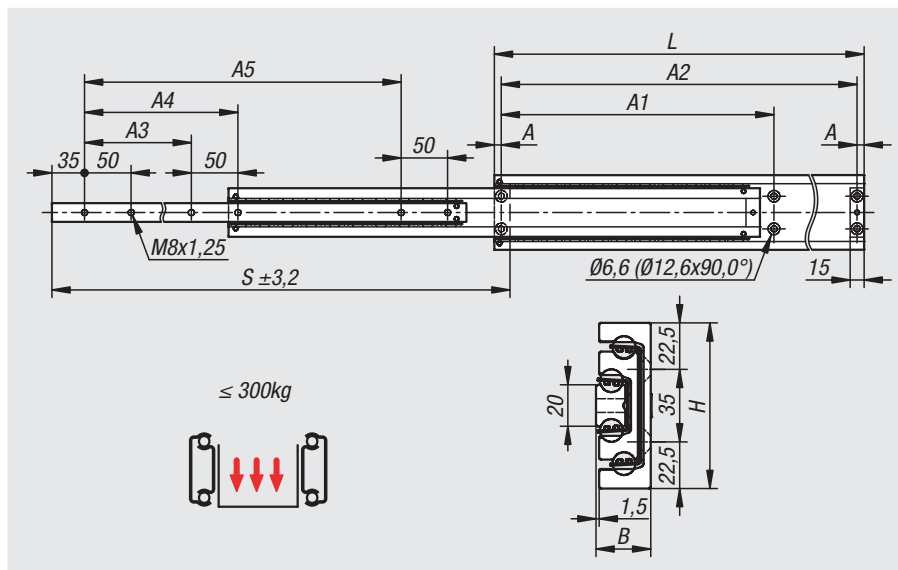
Not suitable for horizontal mounting.

Re-lubrication with high pressure grease is recommended after 2,000 cycles.

The end plate has been tested with the specified load rating over 10 cycles and a speed of 0.8 m/s. External end plates are also recommended.

Temperature range:

-20°C to +110°C.

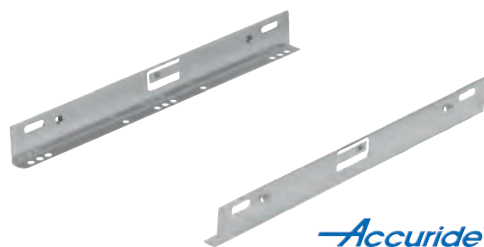


Order No.	Assembly	Product type	Loading per pair kg	Packaging type
21335-35-0300	side mounting	standard	240	1 piece = 1 pair
21335-35-0350	side mounting	standard	255	1 piece = 1 pair
21335-35-0400	side mounting	standard	270	1 piece = 1 pair
21335-35-0450	side mounting	standard	285	1 piece = 1 pair
21335-35-0500	side mounting	standard	300	1 piece = 1 pair
21335-35-0550	side mounting	standard	300	1 piece = 1 pair
21335-35-0600	side mounting	standard	300	1 piece = 1 pair
21335-35-0650	side mounting	standard	295	1 piece = 1 pair
21335-35-0700	side mounting	standard	290	1 piece = 1 pair
21335-35-0800	side mounting	standard	270	1 piece = 1 pair
21335-35-0900	side mounting	standard	250	1 piece = 1 pair
21335-35-1000	side mounting	standard	230	1 piece = 1 pair

Order No.	A	A1	A2	A3	A4	A5	B	H	Travel S	L
21335-35-0300	7,5	142,5	285	75	125	150	26,5	80	300	300
21335-35-0350	7,5	167,5	335	100	150	200	26,5	80	350	350
21335-35-0400	7,5	192,5	385	125	175	250	26,5	80	400	400
21335-35-0450	7,5	217,5	435	150	200	300	26,5	80	450	450
21335-35-0500	7,5	242,5	485	175	225	350	26,5	80	500	500
21335-35-0550	7,5	267,5	535	200	250	400	26,5	80	550	550
21335-35-0600	7,5	292,5	585	225	275	450	26,5	80	600	600
21335-35-0650	7,5	317,5	635	250	300	500	26,5	80	650	650
21335-35-0700	7,5	342,5	685	275	325	550	26,5	80	700	700
21335-35-0800	7,5	392,5	785	325	375	650	26,5	80	800	800
21335-35-0900	7,5	442,5	885	375	425	750	26,5	80	900	900
21335-35-1000	7,5	492,5	985	425	475	850	26,5	80	1000	1000

Mounting bracket, steel

for telescopic slides



Material:

Mounting bracket steel.

Version:

Mounting bracket electro zinc-plated.

Sample order:

n1m 21335-80-0397

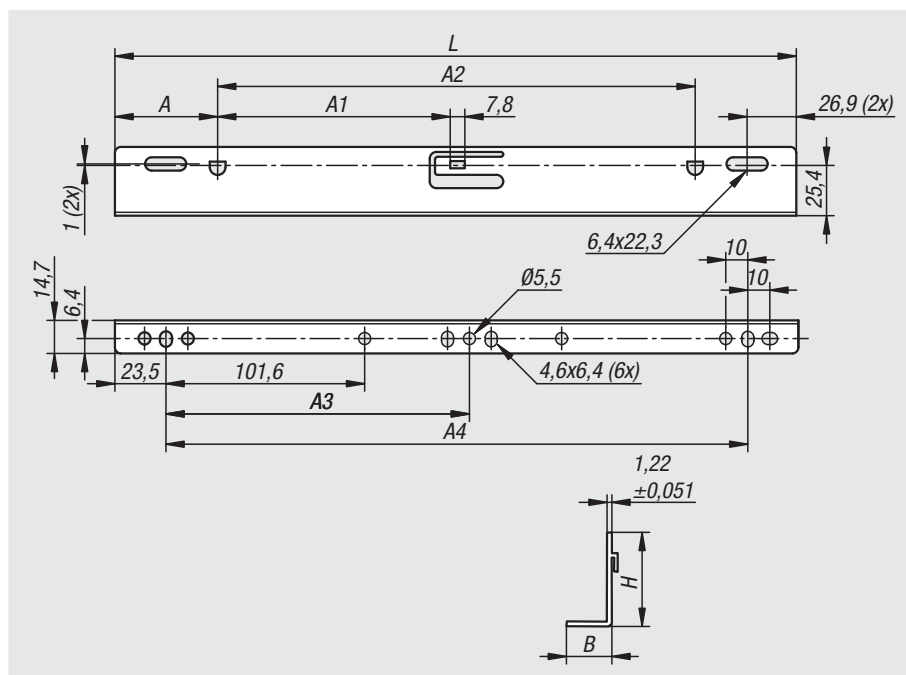
Note for ordering:

Sold in pairs.

Fastening material included.

Note:

As an option for floor, platform or side mounting.



Order No.	A	A1	A2	A3	A4	B	H	L	Packaging type
21335-80-0347	55,1	114,4	236,5	150	300	14,7	35,7	346,7	1 piece = 1 pair
21335-80-0397	55,1	139,4	286,5	175	350	14,7	35,7	396,7	1 piece = 1 pair
21335-80-0447	55,1	164,4	336,6	200	400	14,7	35,7	446,8	1 piece = 1 pair
21335-80-0497	55,1	189,4	386,6	225	450	14,7	35,7	496,8	1 piece = 1 pair

Telescopic slides

Double-T form



Material:

Rail and race ball-bearing steel.
Balls, ball-bearing steel.
Ball cage steel.

Version:

Rail, runner and ball cage electro zinc-plated.
Race inductively hardened.
Balls hardened.

Sample order:

nlm 21336-1280210

Note:

Full extension consisting of two guide rails which form the intermediate element when connected to each other to form a double T profile, plus two runners which form the link to the connection construction as fixed and moving elements. High load rating and low bending thanks to compact, square design with high base load. The maximum travel is greater than the closed length of the telescopic slide. Mounting should be carried out horizontally if possible. To allow access to all fastening holes, the locking screw in the rail must be removed before mounting and replaced afterwards. Travel in both directions is achieved by removing the locking screws.

The internal stops limit the cage. Provide external stops for a loaded system.

Form A:

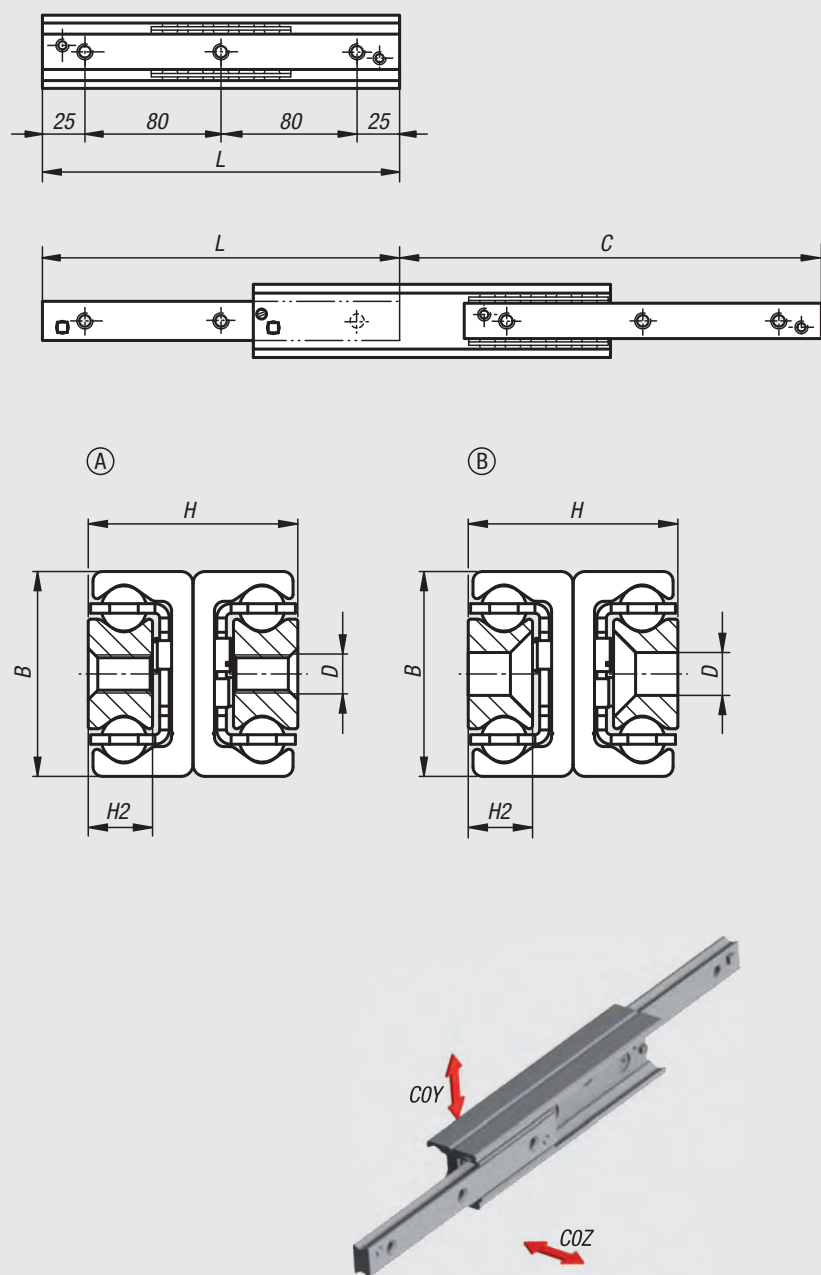
Use grade 10.9 DIN EN ISO 10642 countersunk head screws to install the slide.

Form B:

Use grade 10.9 screws to install the slide.

The maximum traversing speed is 0.8 m/s.

Application temperature -30 °C to +170 °C.



Telescopic slides

Double-T form

Order No.	Form	Version	Size	B	C (travel)	D	D for screw	H	H2	L	COY N	COZ N	No. of holes
21336-1280210	A	tapped hole	28	28	232	M5	-	26	7,5	210	432	302	3
21336-1280370	A	tapped hole	28	28	380	M5	-	26	7,5	370	968	471	5
21336-1280450	A	tapped hole	28	28	464	M5	-	26	7,5	450	1169	385	6
21336-1280530	A	tapped hole	28	28	548	M5	-	26	7,5	530	1107	325	7
21336-1350370	A	tapped hole	35	35	406	M6	-	34	10	370	1025	718	5
21336-1350450	A	tapped hole	35	35	494	M6	-	34	10	450	1250	793	6
21336-1350530	A	tapped hole	35	35	558	M6	-	34	10	530	1685	728	7
21336-1350610	A	tapped hole	35	35	646	M6	-	34	10	610	1908	626	8
21336-1430450	A	tapped hole	43	43	486	M8	-	44	13,5	450	1828	1279	6
21336-1430530	A	tapped hole	43	43	556	M8	-	44	13,5	530	2375	1434	7
21336-1430610	A	tapped hole	43	43	626	M8	-	44	13,5	610	2934	1300	8
21336-1430770	A	tapped hole	43	43	796	M8	-	44	13,5	770	3055	1016	10
21336-1430930	A	tapped hole	43	43	966	M8	-	44	13,5	930	2506	833	12
21336-2280210	B	countersink	28	28	232	-	M5	26	7,5	210	432	302	3
21336-2280370	B	countersink	28	28	380	-	M5	26	7,5	370	968	471	5
21336-2280450	B	countersink	28	28	464	-	M5	26	7,5	450	1169	385	6
21336-2280530	B	countersink	28	28	548	-	M5	26	7,5	530	1107	325	7
21336-2350370	B	countersink	35	35	406	-	M6	34	10	370	1025	718	5
21336-2350450	B	countersink	35	35	494	-	M6	34	10	450	1250	793	6
21336-2350530	B	countersink	35	35	558	-	M6	34	10	530	1685	728	7
21336-2350610	B	countersink	35	35	646	-	M6	34	10	610	1908	626	8
21336-2430450	B	countersink	43	43	486	-	M8	44	13,5	450	1828	1279	6
21336-2430530	B	countersink	43	43	556	-	M8	44	13,5	530	2375	1434	7
21336-2430610	B	countersink	43	43	626	-	M8	44	13,5	610	2934	1300	8
21336-2430770	B	countersink	43	43	796	-	M8	44	13,5	770	3055	1016	10
21336-2430930	B	countersink	43	43	966	-	M8	44	13,5	930	2506	833	12

Telescopic slides

double arrangement



Material:

Rail and race ball-bearing steel.
Balls, ball-bearing steel.
Ball cage steel.

Version:

Rail, runner and ball cage electro zinc-plated.
Race inductively hardened.
Balls hardened.

Sample order:

nIm 21338-280210

Note:

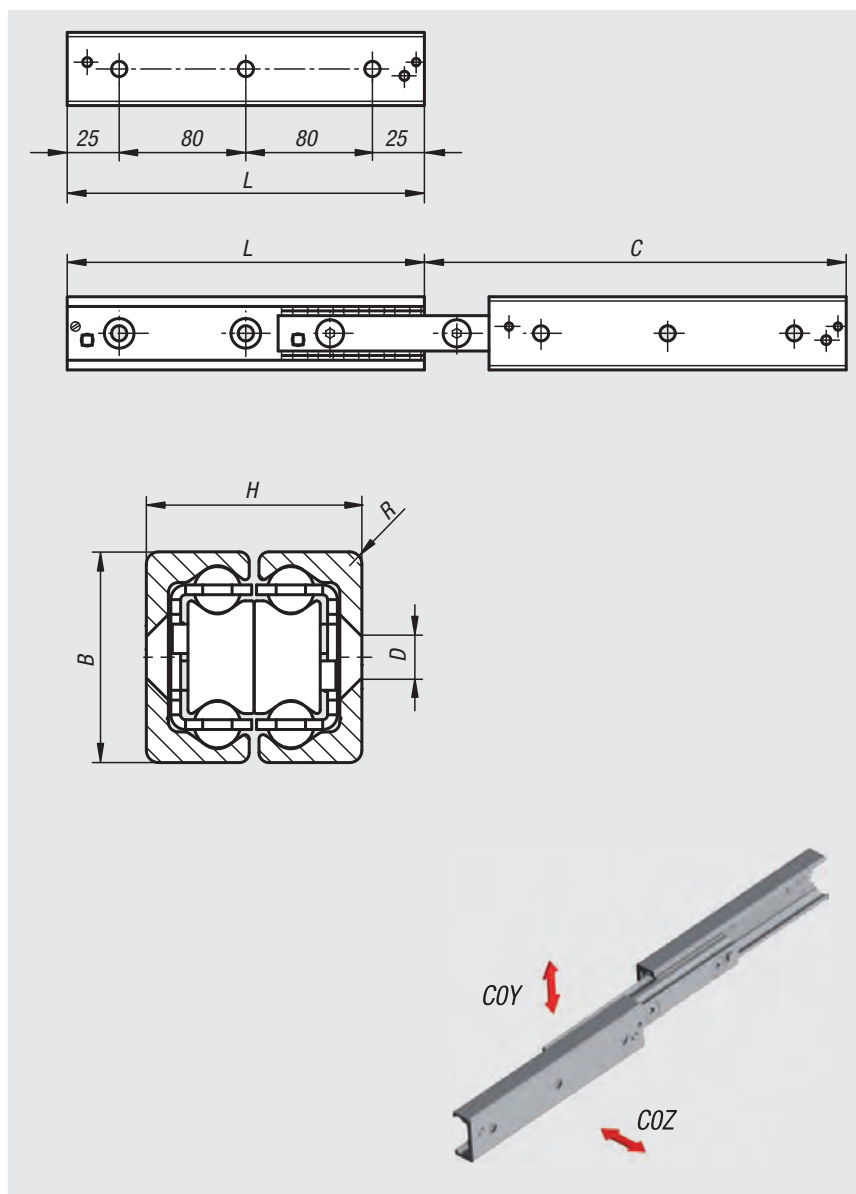
Full extension consisting of two guide rails which serve as fixed and moving elements and two runners which form the intermediate element when connected to each other. This arrangement offers good protection for the open ball cages from dirt. The maximum travel is greater than the closed length of the telescopic slide. Mounting should be carried out horizontally if possible. To allow access to all fastening holes, the locking screw in the rail must be removed before mounting and replaced afterwards. Travel in both directions is achieved by removing the locking screws.

The internal stops limit the cage. Provide external stops for a loaded system.

Use grade 10.9 DIN EN ISO 10642 countersunk head screws to install the slide.

The maximum traversing speed is 0.8 m/s.

Application temperature -30 °C to +170 °C.



Telescopic slides

double arrangement

Order No.	Size	B	C (travel)	D for screw	H	L	R	COY N	COZ N	No. of holes
21338-280210	28	28	232	M5	26	210	1	432	302	3
21338-280370	28	28	380	M5	26	370	1	482	482	5
21338-280450	28	28	434	M5	26	450	1	393	393	6
21338-280530	28	28	548	M5	26	530	1	332	332	7
21338-350370	35	35	406	M6	34	370	2	522	522	5
21338-350450	35	35	494	M6	34	450	2	429	429	6
21338-350530	35	35	558	M6	34	530	2	394	394	7
21338-350610	35	35	646	M6	34	610	2	338	338	8
21338-430450	43	43	486	M8	44	450	2,5	1331	1279	6
21338-430530	43	43	556	M8	44	530	2,5	1193	1193	7
21338-430610	43	43	626	M8	44	610	2,5	1082	1082	8
21338-430770	43	43	796	M8	44	770	2,5	845	845	10
21338-430930	43	43	966	M8	44	930	2,5	693	693	12

Telescopic slides


Material:

Balls, rails and runners roller bearing steel.

Version:

Rail and slide electro zinc-plated.

Tracks inductively hardened.

Balls hardened.

Sample order:

nIm 21340-280290

Note:

Partial extension consisting of a fixed guide rail and a movable runner. The slide can move somewhat more than half the length of the rail (C travel). By removing the locking screw, a partial extension with the travel length C is possible to both sides. The total travel is thus 2C.

This compact and simple construction allows very high load ratings.

The maximum traversing speed is 0.8 m/s.

Application temperature -30 °C to +170 °C.

On request:

Other lengths (pitch 80 mm).

Size 28 up to max. 1170 mm.

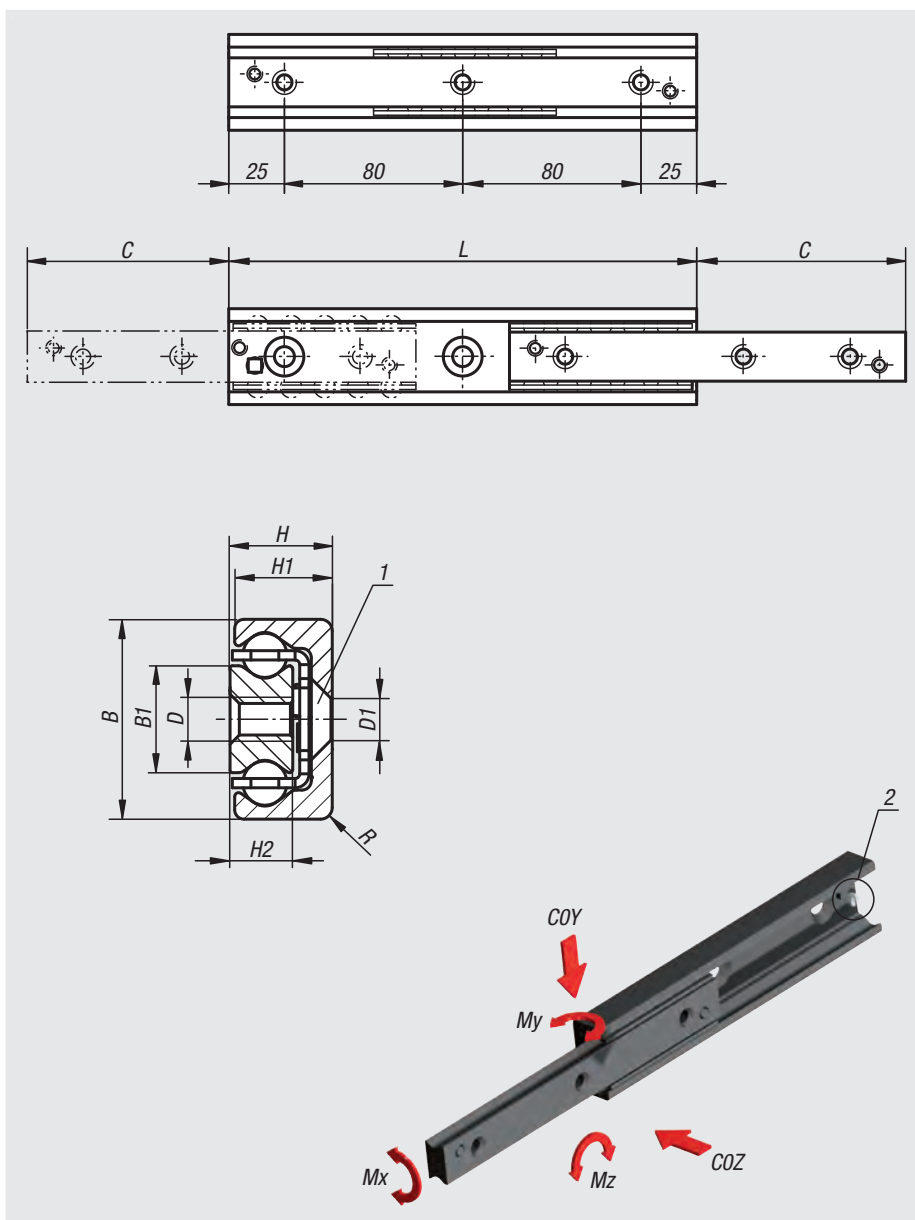
Size 35 up to max. 1490 mm.

Size 43 up to max. 1970 mm.

Drawing reference:

1) for countersunk screw DIN 7991

2) set screw



Order No.	Size	B	B1	C (travel)	D	D1	H	H1	H2	L	R	COY N	COZ N	Mx Nm	My Nm	Mz Nm	No. of holes
21340-280290	28	28	15	148	M5	M5	13	12,25	7,5	290	1	1934	1345	39,6	132	188	4
21340-280370	28	28	15	190	M5	M5	13	12,25	7,5	370	1	2445	1711	50,4	213	305	5
21340-280450	28	28	15	232	M5	M5	13	12,25	7,5	450	1	2955	2069	61,2	314	449	6
21340-280530	28	28	15	274	M5	M5	13	12,25	7,5	530	1	3466	2426	72	435	621	7
21340-280610	28	28	15	315	M5	M5	13	12,25	7,5	610	1	3986	2790	82,8	575	821	8
21340-350290	35	35	15,8	159	M6	M6	17	16	10	290	2	2060	1442	46,9	146	208	4
21340-350370	35	35	15,8	203	M6	M6	17	16	10	370	2	2638	1847	59,9	238	340	5
21340-350450	35	35	15,8	247	M6	M6	17	16	10	450	2	3217	2252	73	345	505	6
21340-350530	35	35	15,8	279	M6	M6	17	16	10	530	2	4282	2997	90,4	543	775	7
21340-350610	35	35	15,8	323	M6	M6	17	16	10	610	2	4858	3401	103,5	711	1015	8
21340-430290	43	43	23	158	M8	M8	22	21	13,5	290	2,5	2872	2010	93,8	201	288	4
21340-430370	43	43	23	208	M8	M8	22	21	13,5	370	2,5	3377	2364	115,9	308	440	5
21340-430450	43	43	23	243	M8	M8	22	21	13,5	450	2,5	4690	3283	149,2	509	728	6
21340-430530	43	43	23	278	M8	M8	22	21	13,5	530	2,5	6039	4227	182,4	762	1088	7
21340-430610	43	43	23	313	M8	M8	22	21	13,5	610	2,5	7411	5188	215,6	1064	1521	8

Telescopic slides

S-form



Material:

Balls, rails and runners roller bearing steel.

Version:

Rail and runner electro zinc-plated.
Tracks inductive hardened.
Balls hardened.

Sample order:

nln 21342-280290

Note:

Full extension consisting of two guide rails as fixed and moving elements and an S-shaped intermediate element. The latter has a high area moment of inertia and high rigidity with a slim construction. This results in a high load rating with a low amount of bending in the extended state. The maximum travel is greater than the closed length of the telescopic slide.

Use grade 10.9 DIN EN ISO 10642 countersunk head screws to install the slide.

The maximum traversing speed is 0.8 m/s.

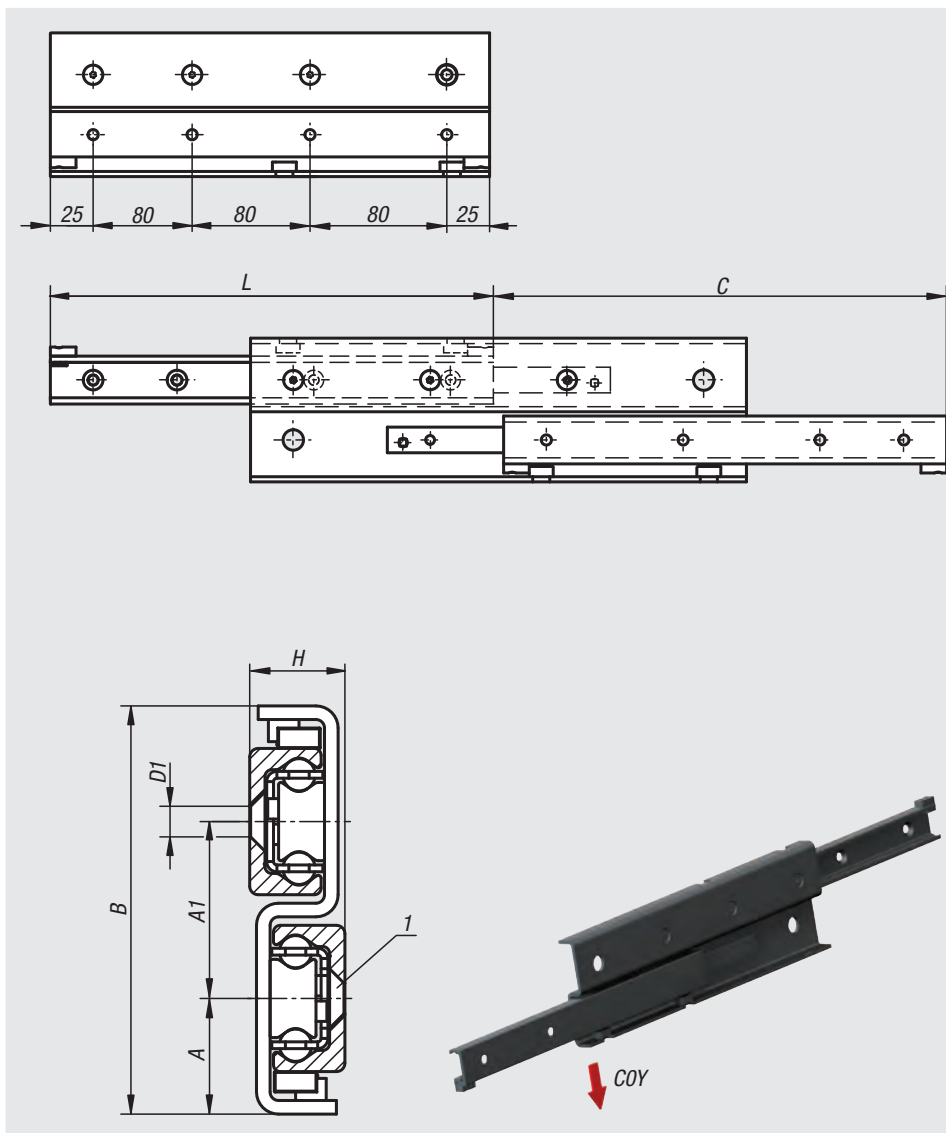
Application temperature -30 °C to +110 °C.

On request:

Other lengths (steps 80 mm).
Size 28 up to max. 1490 mm.
Size 43 up to max. 1970 mm.

Drawing reference:

1) for countersunk screw DIN 7991



Order No.	Size	A	A1	B	C (travel)	D1	H	L	COY N	No. of holes
21342-280290	28	24,5	36	85	296	M5	17	290	570	4 (3 accessible)
21342-280370	28	24,5	36	85	380	M5	17	370	769	5 (4 accessible)
21342-280450	28	24,5	36	85	464	M5	17	450	969	6 (4 accessible)
21342-280530	28	24,5	36	85	548	M5	17	530	1170	7 (6 accessible)
21342-280610	28	24,5	36	85	630	M5	17	610	1376	8 (6 accessible)
21342-350450	35	30,5	43	104	494	M6	22,5	450	1250	6 (5 accessible)
21342-350530	35	30,5	43	104	558	M6	22,5	530	1685	7 (6 accessible)
21342-350690	35	30,5	43	104	734	M6	22,5	690	2132	9 (7 accessible)
21342-350850	35	30,5	43	104	886	M6	22,5	850	2801	11 (9 accessible)
21342-430530	43	34	52	120	556	M8	28	530	2061	7 (6 accessible)
21342-430610	43	34	52	120	626	M8	28	610	2603	8 (6 accessible)
21342-430690	43	34	52	120	726	M8	28	690	2775	9 (7 accessible)
21342-430770	43	34	52	120	796	M8	28	770	3319	10 (7 accessible)
21342-430850	43	34	52	120	866	M8	28	850	3873	11 (9 accessible)
21342-431010	43	34	52	120	1036	M8	34	1010	4590	13 (10 accessible)
21342-431490	43	34	52	120	1516	M8	34	1490	3713	19 (15 accessible)

Technical Information for profile guide rails

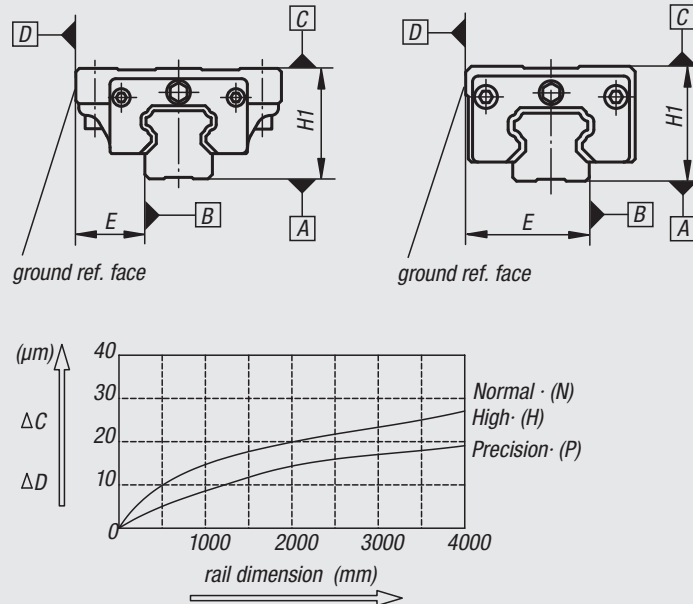
Profile guide rails enable linear motion with the aid of bearing balls. Using balls between rails and carriage permits a profile guide rail to attain extremely precise linear motion. The coefficient of friction is only one fiftieth compared to conventional guide rails.

The ball row arrangement based on two-point contact with four ball arrays always at a 45° contact angle lends the profile guide rail consistent load ratings in all primary directions with excellent running properties. The profile guide rail can be mounted in various positions for diverse applications.

Profile guide rails of the same size can be exchanged with each other allowing individual carriages or rails to be exchanged or added to at any time. Our profile guide rails correspond to the market standard and can replace linear guides of the same design by other manufacturers.

Accuracy Classes

Profile guide rails are available in three accuracy classes. The maximum relative tolerance of each accuracy class is specified.



		Accuracy Class		
		Normal (N)	High (H)	Precision (P)
maximum deviation for systems with one carriage	height tolerance H1	±0,1	±0,04	-0,04
	length tolerance E	±0,1	±0,04	-0,04
maximum deviation for systems with several carriages	~ H1	0,03	0,02	0,01
	~ E	0,03	0,02	0,01
run parallelism of face C in relation to face A		see diagram		
run parallelism of face D in relation to face B		see diagram		

Pretensioning Classes

With regard to the diverse requirements of the user, profile guide rails are available in four different pre-load classes. A higher pre-load improves the rigidity and reduces the elastic deformation during load changes.

Class	Preload	Preload force	Applications with	Examples
Z0	no preload	0	- constant load direction - imprecise mounting surface	- linear axis - push and pull equipment
Z1	light preloading	0,02 C (C = dynamic load rating)	- constant load direction - light impacts and vibrations - low loading	- engraving machines - packaging machines - industrial handling
Z2	medium preloading	0,05 C (C = dynamic load rating)	- high precision requirements - torque loading	- positioning units - fast feeding units - metrology
Z3	heavy preloading	0,07 C (C = dynamic load rating)	- high rigidity requirements - impacts and vibrations - heavy loading	- machining centres - grinders - large boring machines

Calculating the service life

The nominal service life L can be calculated from the following equation:

$$L = \left(\frac{C_{dyn}}{P} \right)^3 \cdot 50000 \text{ m}$$

L = nominal service life (m)
C_{dyn} = dynamic load rating (N)
P = dynamic equivalent load (N)

Carriages

**Material:**

Body carbon steel.
Balls roller bearing steel.
Diverters plastic.

Version:

Bright.

Sample order:

nln 21400-15106601

Note:

Standard guide carriage with recirculating ball guidance precision N not preloaded (Z0). With double-sided end seal. 4-row versions with round arch profile. The profile guide rail tracks are arranged at 45° and can accept loads from all directions.

High dynamic values: $v = 5 \text{ m/s}$.

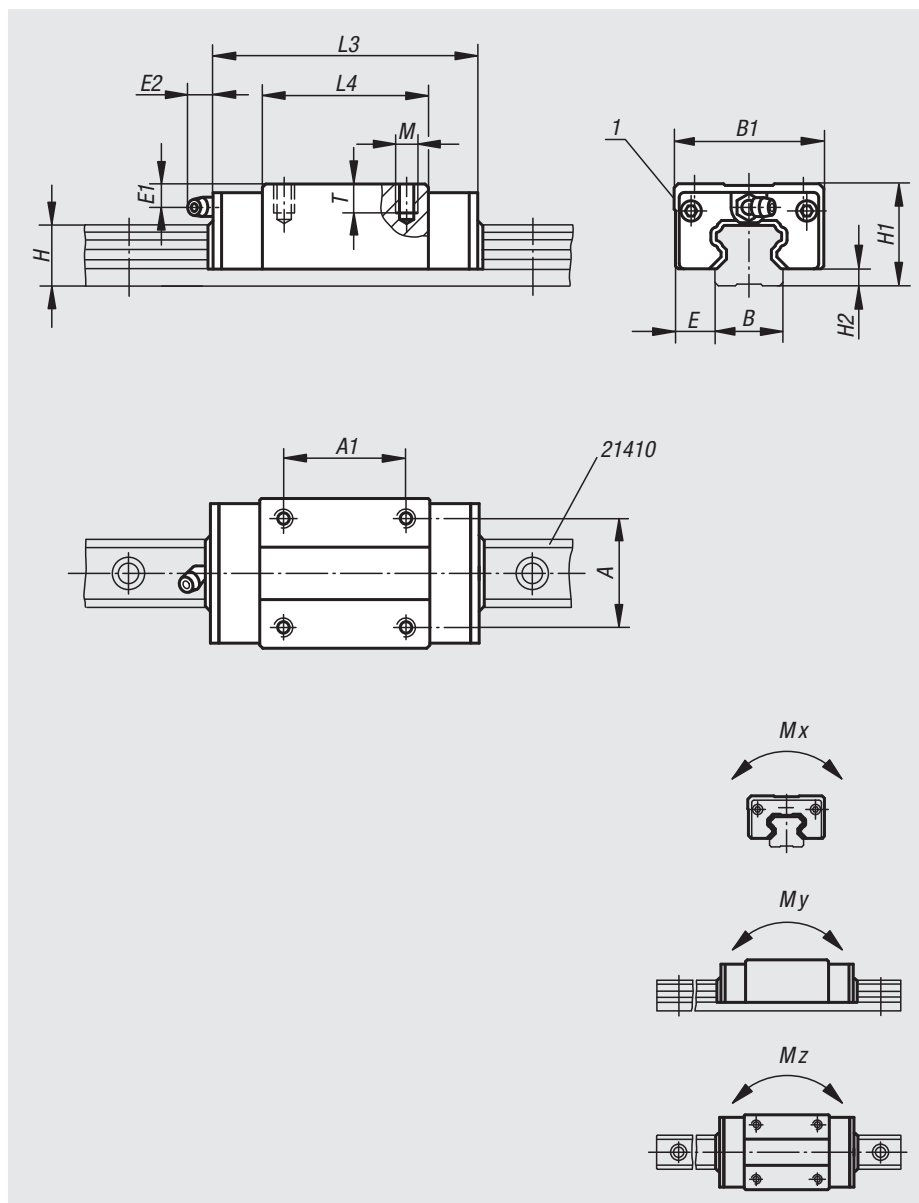
Applicable temperature in continuous use max. 80 °C.

On request:

Various precision and preload classes.

Drawing reference:

1) ground ref. edge



Order No.	Version	Size	Mx Nm	My Nm	Mz Nm	Dynamic load rating N	Static load rating N	Lubrication hole
21400-15106601	standard	15	70	50	50	6850	12700	Ø3
21400-20107801	standard	20	220	180	180	14500	25600	M6x1
21400-25108801	standard	25	360	320	310	21400	40000	M6x1
21400-30110901	standard	30	600	500	490	29800	54900	M6x1
21400-25211001	long	25	504	448	434	29960	56000	M6x1
21400-30213101	long	30	785	650	650	39000	71900	M6x1

Order No.	Version	Size	A	A1	B	B1	E	E1	E2	H	H1	H2	L3	L4	M	T
21400-15106601	standard	15	26	26	15	34	9,5	8,3	5	14	28	4,6	66	40	M4	6,4
21400-20107801	standard	20	32	36	20	44	12	7	13,5	18	30	5	77,8	48,8	M5	8
21400-25108801	standard	25	35	35	23	48	12,5	11	13,5	22	40	7	88	57	M6	9,6
21400-30110901	standard	30	40	40	28	60	16	10	13	26	45	9	109	72	M8	12,8
21400-25211001	long	25	35	50	23	48	12,5	11	13,5	22	40	7	110,1	79,1	M6	9,6
21400-30213101	long	30	40	60	28	60	16	10	13	26	45	9	131,3	94,3	M8	12,8

Carriages

with flange



Material:

Body carbon steel.
Balls roller bearing steel.
Diverters plastic.

Version:

Bright.

Sample order:

nln 21402-15106601

Note:

Guide carriage with flange with recirculating ball guidance precision N not preloaded (Z0). With double-sided end seal. 4-row versions with round arch profile. The profile guide rail tracks are arranged at 45° and can accept loads from all directions.

High dynamic values: $v = 5 \text{ m/s}$.

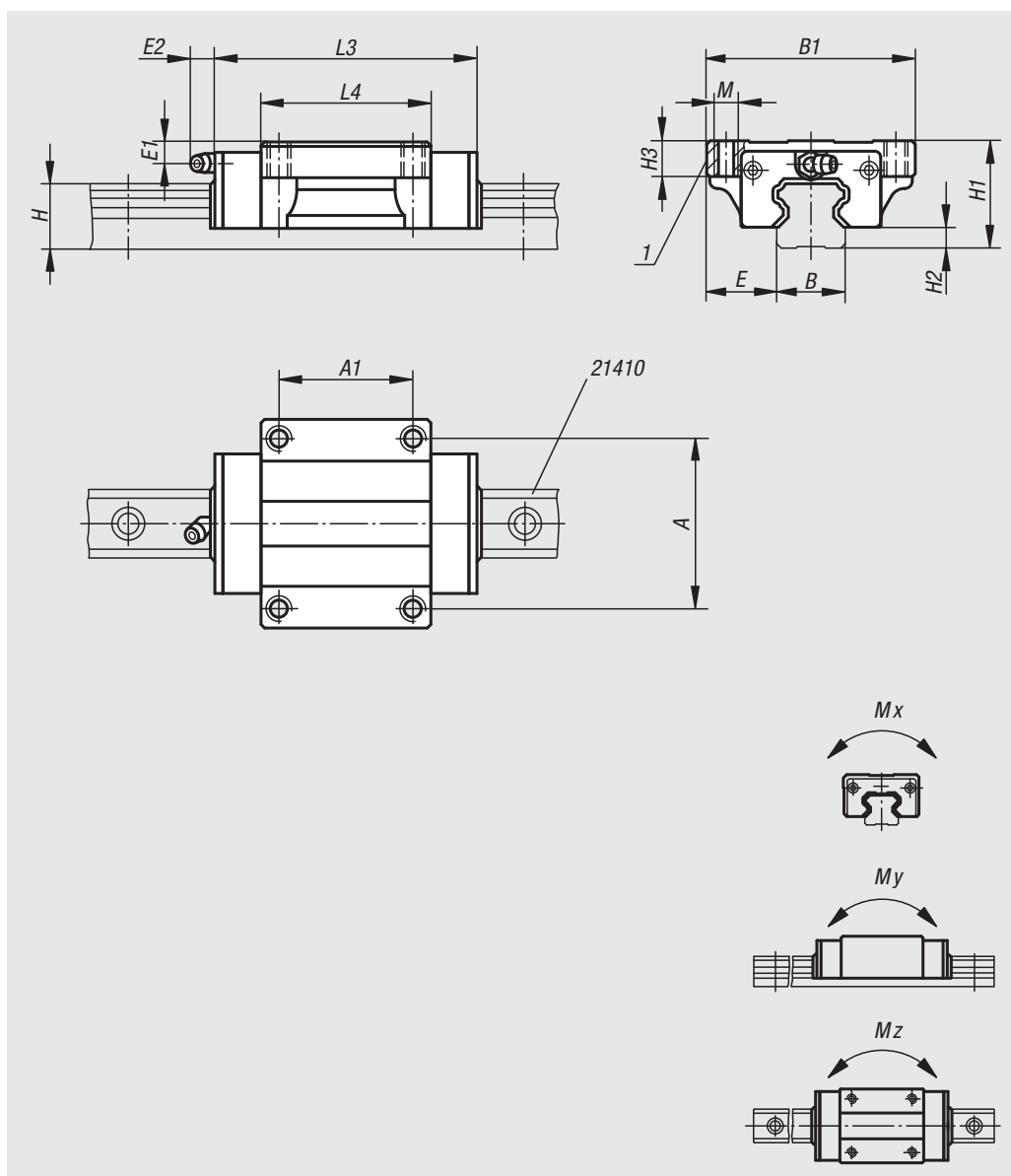
Applicable temperature in continuous use max. 80 °C.

On request:

Various precision and preload classes.

Drawing reference:

1) ground ref. edge

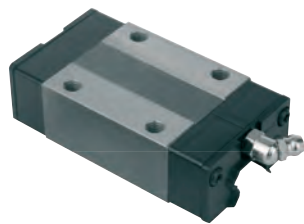


Order No.	Version	Size	Mx Nm	My Nm	Mz Nm	Dynamic load rating N	Static load rating N	Lubrication hole
21402-15106601	standard	15	70	50	50	6850	12700	Ø3
21402-20107801	standard	20	220	180	180	14500	25600	M6x1
21402-25108801	standard	25	360	320	310	21400	40000	M6x1
21402-30110901	standard	30	600	500	490	29800	54900	M6x1
21402-25211001	long	25	504	448	434	29960	56000	M6x1
21402-30213101	long	30	785	650	650	39000	71900	M6x1

Order No.	Version	Size	A	A1	B	B1	E	E1	E2	H	H1	H2	H3	L3	L4	M
21402-15106601	standard	15	38	30	15	47	16	4,3	5	14	24	4,6	8	66	40	M5
21402-20107801	standard	20	53	40	20	63	21,5	5	13,5	18	30	5	9	77,8	48,8	M6
21402-25108801	standard	25	57	45	23	70	23,5	5	13,5	22	36	7	12	88	57	M8
21402-30110901	standard	30	72	52	28	90	31	7	13	26	42	9	12	109	72	M10
21402-25211001	long	25	57	45	23	70	23,5	5	13,5	22	36	7	12	110,1	79,1	M8
21402-30213101	long	30	72	52	28	90	31	7	13	26	42	9	12	131,3	94,3	M10

Carriages

compact


Material:

Body carbon steel.
Balls roller bearing steel.
Diverters plastic.

Version:

Bright.

Sample order:

nlm 21404-15106601

Note:

Compact guide carriage with recirculating ball guidance precision N not preloaded (Z0). With double-sided end seal. 4-row versions with round arch profile. The profile guide rail tracks are arranged at 45° and can accept loads from all directions.

High dynamic values: $v = 5 \text{ m/s}$.

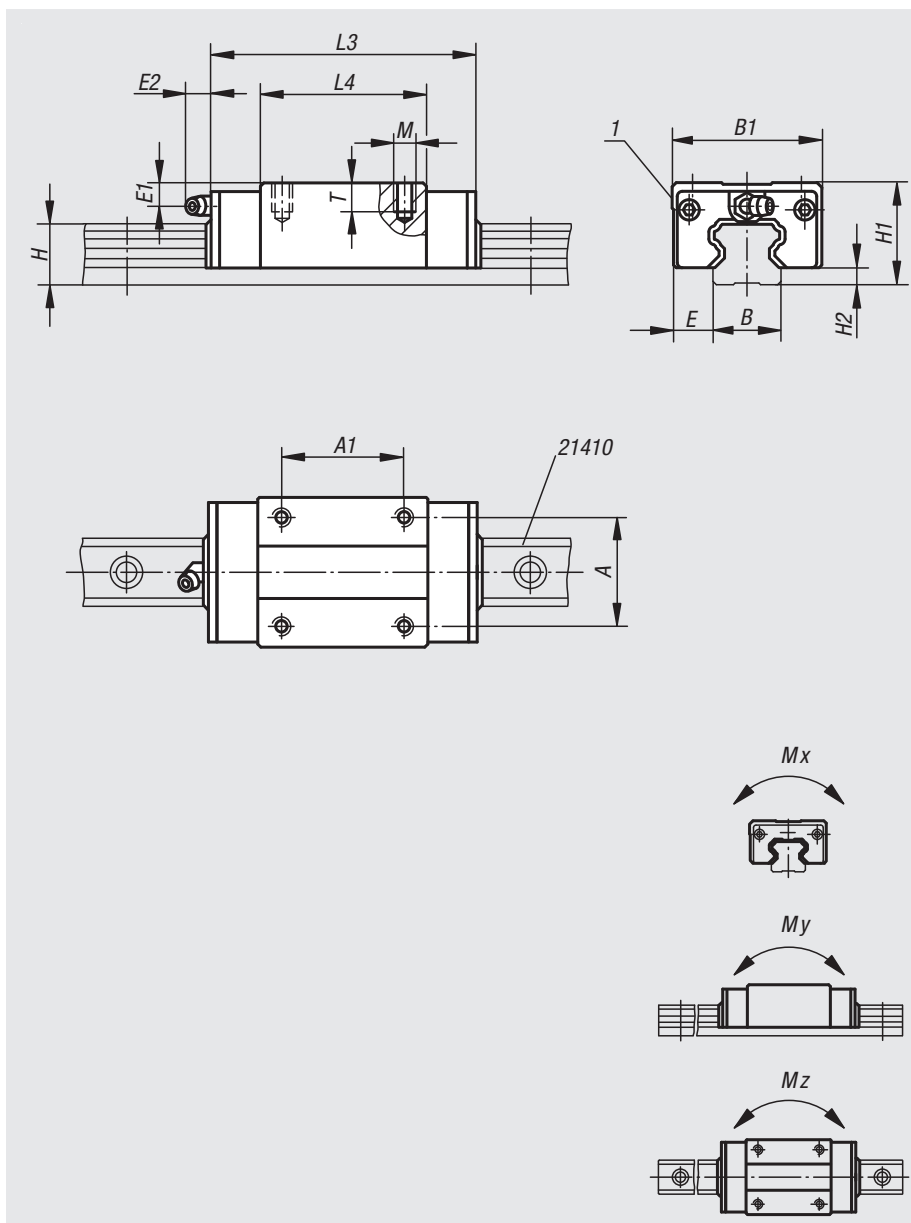
Applicable temperature in continuous use max. 80 °C.

On request:

Various precision and preload classes.

Drawing reference:

1) ground ref. edge



Order No.	Size	Mx Nm	My Nm	Mz Nm	Dynamic load rating N	Static load rating N	Lubrication hole
21404-15106601	15	70	50	50	6850	12700	Ø3
21404-20107801	20	220	180	180	14500	25600	M6x1
21404-25108801	25	360	320	310	21400	40000	M6x1
21404-30110901	30	600	500	490	29800	54900	M6x1

Order No.	Size	A	A1	B	B1	E	E1	E2	H	H1	H2	L3	L4	M	T
21404-15106601	15	26	26	15	34	9,5	4,3	5	14	24	4,6	66	40	M4	5,6
21404-20107801	20	32	32	20	42	11	5	13,5	18	28	5	77,8	48,8	M5	7
21404-25108801	25	35	35	23	48	12,5	4,8	13,5	22	33	7	88	57	M6	8,4
21404-30110901	30	40	40	28	60	16	7	13	26	42	9	109	72	M8	11,2

Carriages

compact, short


Material:

Body carbon steel.
Balls roller bearing steel.
Diverters plastic.

Version:

Bright.

Sample order:

nlm 21406-15004801

Note:

Compact guide carriage with recirculating ball guide precision N not preloaded (Z0). With double-sided end seal. 4-row versions with round arch profile. The profile guide rail tracks are arranged at 45° and can accept loads from all directions.

High dynamic values: $v = 5 \text{ m/s}$.

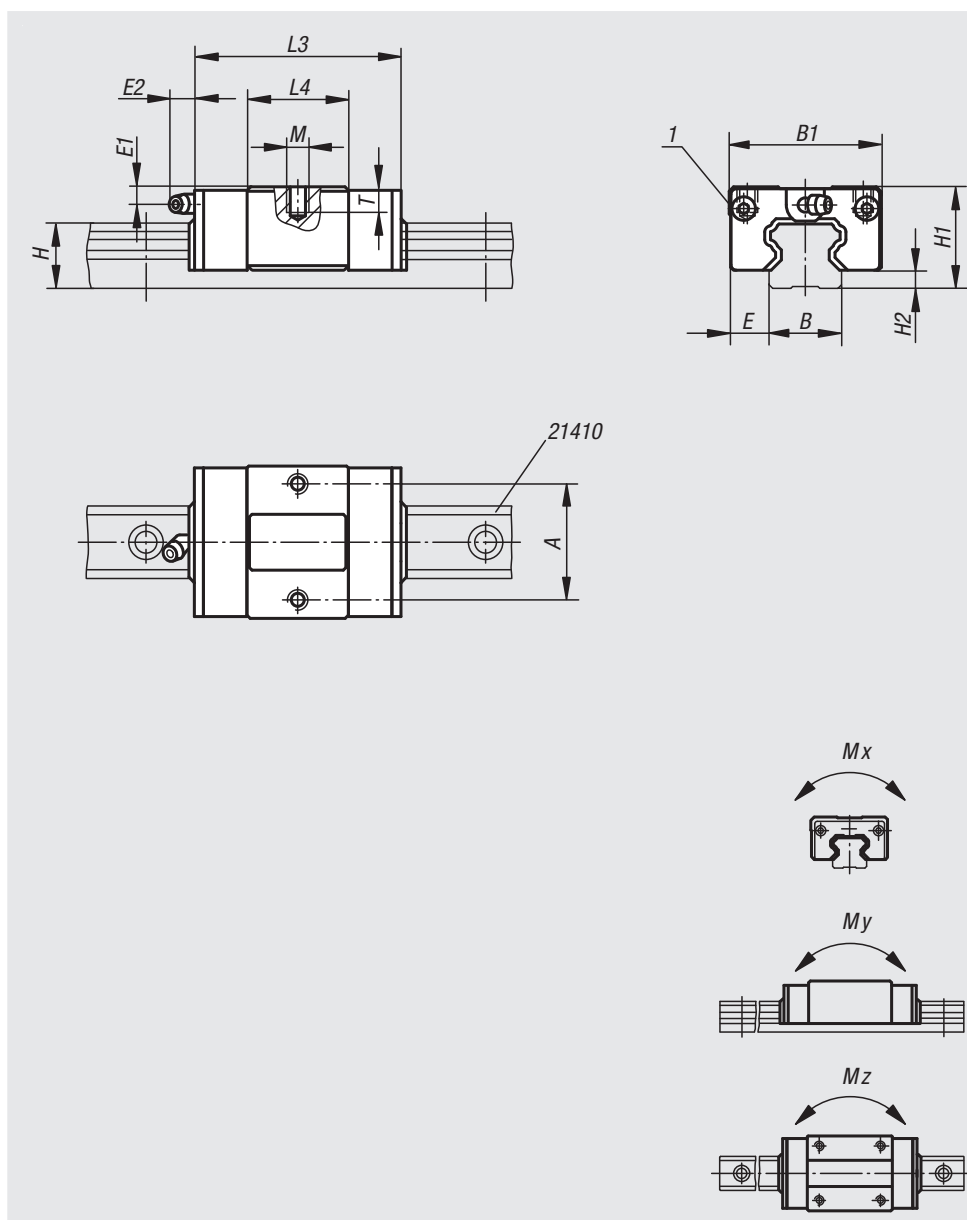
Applicable temperature in continuous use
max. 80 °C.

On request:

Various precision and preload classes.

Drawing reference:

1) ground ref. edge



Order No.	Size	Mx Nm	My Nm	Mz Nm	Dynamic load rating N	Static load rating N	Lubrication hole
21406-15004801	15	40	28	28	3900	7250	Ø3
21406-20005801	20	126	103	103	8300	14700	M6x1
21406-25006301	25	200	175	172	11900	22300	M6x1
21406-30007601	30	320	270	270	15950	29400	M6x1

Order No.	Size	A	B	B1	E	E1	E2	H	H1	H2	L3	L4	M	T
21406-15004801	15	26	15	34	9,5	4,3	5	14	24	4,6	47,6	21,6	M4	5,6
21406-20005801	20	32	20	42	11	5	13,5	18	28	5	58	28	M5	7
21406-25006301	25	35	23	48	12,5	4,8	13,5	22	33	7	62,5	31,5	M6	8,4
21406-30007601	30	40	28	60	16	7	13	26	42	9	75,6	38,6	M8	11,2

Profile guide rails


Material:

Steel.

Version:

Tracks inductively hardened and ground.

Sample order:

nIm 21410-1520X0520

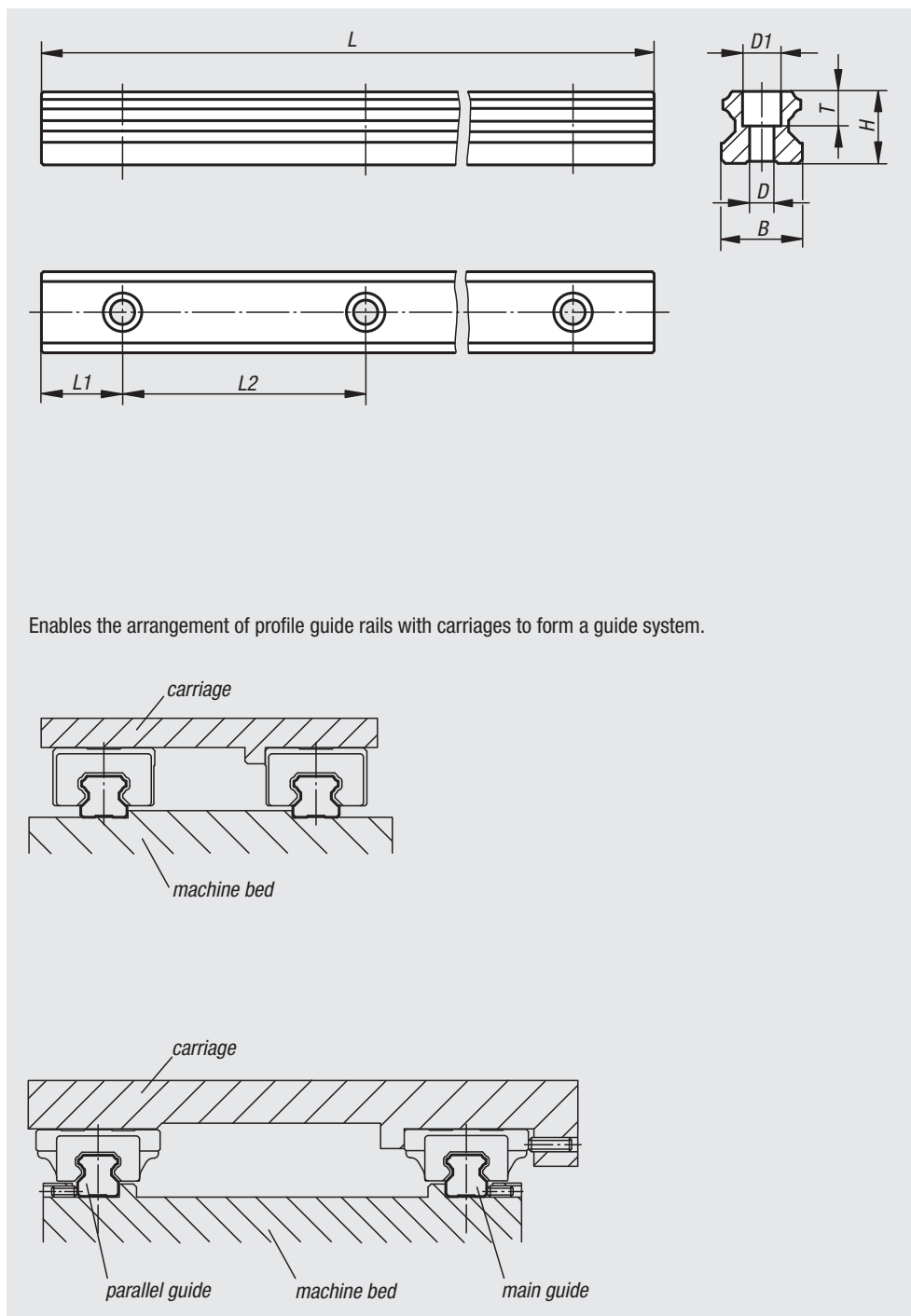
Note:

Profile guide rails can be screwed on from above. The profile guide rails are available in four sizes and one or more carriages can be assembled on them. 4-row versions with round arch profile. The tracks of the profile guide rails are set below an angle of 45° and thus can carry loads from all directions.

The profile guide rails correspond to the market standard and can replace linear guides of the same design by other manufacturers.

On request:

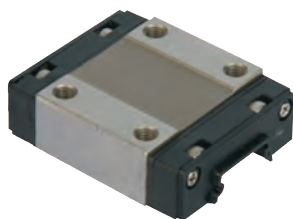
Lengths up to a max. 3960 mm.



Order No.	Size	B	D	D1	H	L	L1	L2	T
21410-1520X0520	15	15	4,5	7,5	14	520	20	60	5,3
21410-2020X0520	20	20	6	9,5	18	520	20	60	8,5
21410-2520X0520	25	23	7	11	22	520	20	60	9
21410-3020X0520	30	28	9	14	26	520	20	80	12

Miniature carriages

stainless steel



Material:

Body and balls 1.4034 stainless steel.
Diverter plastic.

Version:

Bright.

Sample order:

nIm 21420-07102301

Note:

Standard miniature guide carriage with recirculating ball guide precision N not preloaded (Z0). With double-sided end seal. 4-point ball recirculating ball system with equal load angles and 2 recirculating ball guides per carriage allowing loads to be accepted uniformly from all sides.

Max. acceleration: 80 m/s².

Maximum traverse speed 3 m/s.

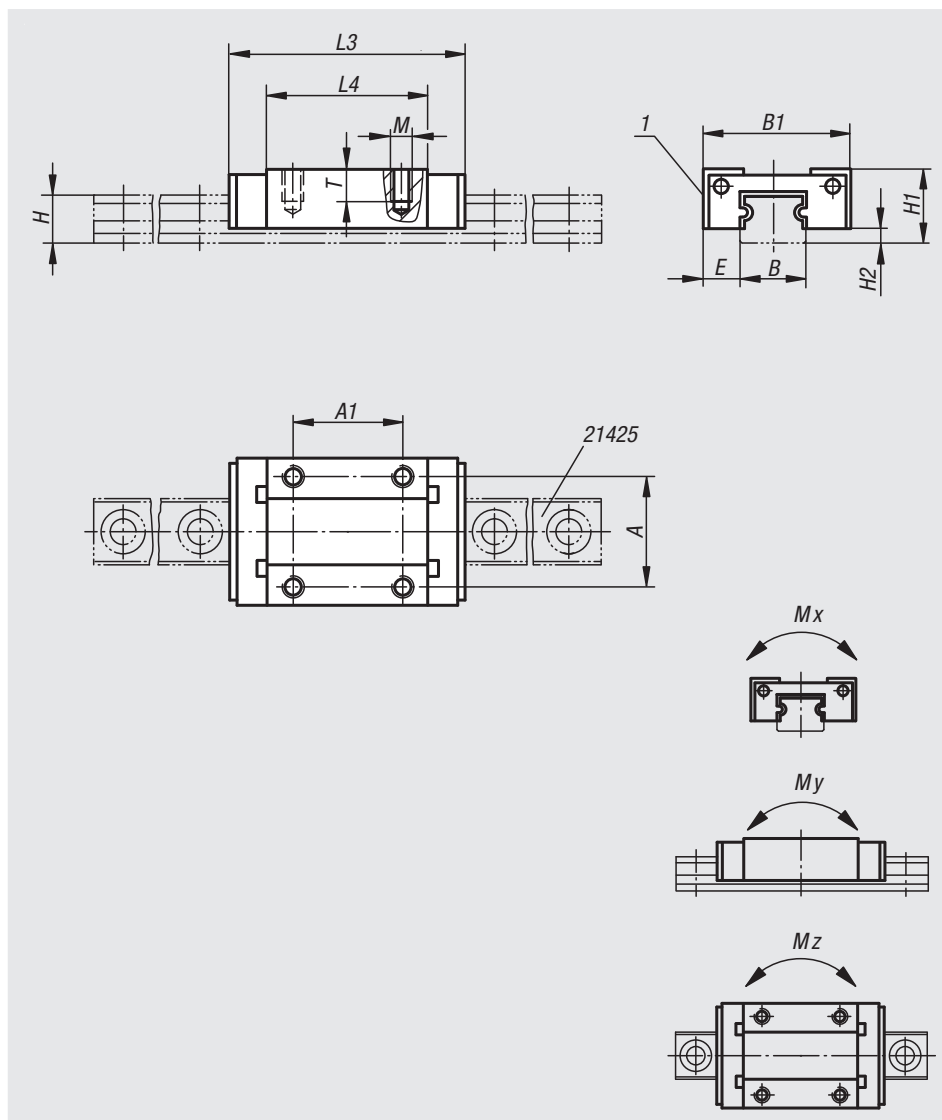
Application temperature -20 °C to +80 °C.

Attention:

Always use the mounting rail supplied, otherwise the ball retainment in the carriage is not guaranteed.

Drawing reference:

1) ground ref. edge



Order No.	Version	Size	Mx Nm	My Nm	Mz Nm	Dynamic load rating N	Static load rating N
21420-07102301	standard	7	5,1	2,55	2,55	880	1370
21420-09103101	standard	9	10,4	5,1	5,1	1470	2250
21420-12103501	standard	12	14,7	8,04	8,72	2665	4020
21420-15104301	standard	15	30,2	16,5	17,9	4410	6570

Order No.	Version	Size	A	A1	B	B1	E	H	H1	H2	L3	L4	M	T
21420-07102301	standard	7	12	8	7	17	5	4,7	8	1,5	23,5	13,5	M2	2,5
21420-09103101	standard	9	15	10	9	20	5,5	5,5	10	2,2	31	20	M3	3
21420-12103501	standard	12	20	15	12	27	7,5	7,5	13	3	35	20,8	M3	3,5
21420-15104301	standard	15	25	20	15	32	8,5	9,5	16	4	43	25,7	M3	4

Miniature profile guide rails

stainless steel



Material:

Stainless steel 1.4034.

Version:

Bright.

Hardened 52 HRC.

Sample order:

nIm 21425-0705X0240

Note:

Profile guide rails can be screwed on from above.

The profile rails, on which one or more carriages can be mounted, are available in four miniature sizes.

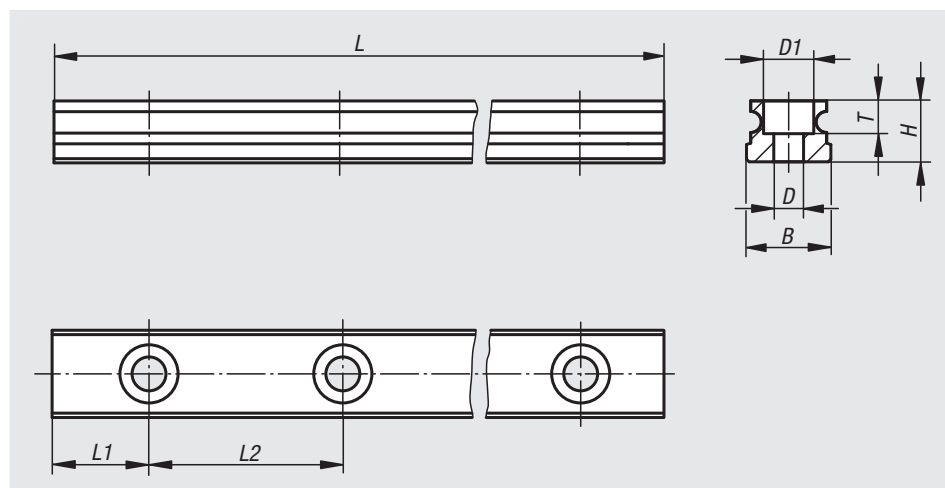
4-point ball bearing system with identical load angles and 2 ball bearings per carriage. Thus loads can be uniformly absorbed from all sides.

Max. acceleration: 80 m/s².

Maximum traversing speed 3 m/s.

Application temperature -20 °C to +80 °C.

Combination of the rails is possible.



Order No.	Size	D	D1	H	L max.	L1	L2	B	T
21425-0705X0240	7	2,4	4,2	4,7	240	7,5	15	7	2,3
21425-0907X0495	9	3,5	6	5,5	495	7,5	20	9	3,3
21425-1210X0570	12	3,5	6	7,5	570	10	25	12	4,5
21425-1515X0790	15	3,5	6	9,5	790	15	40	15	4,5

Clamping elements

for profile guide rails



Material:

Housing steel. Clamping lever plastic.
Threaded spindle grade 12.9.

Version:

Housing nickel-plated.
Clamping lever, spindle black oxidised.

Sample order:

nlm 21427-15

Note:

Manually operated clamping elements for static clamping tasks.
Manual clamping process using the freely adjustable clamping lever. The floating clamp ensure symmetrical application of force onto the rail. Up to 50,000 static clamping cycles (B10d value).

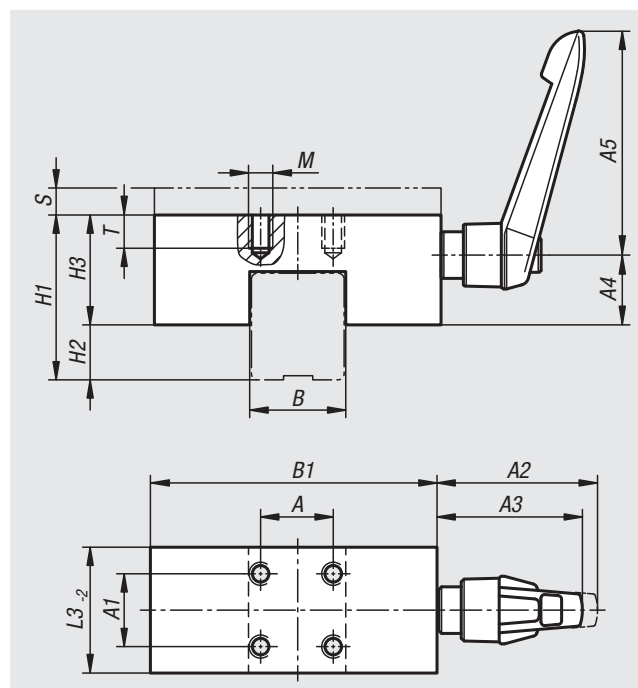
In general, a friction connection is created between the clamping element and the linear guide on the open faces of the profile guide rail so that the ball guide tracks are not damaged.

The retaining force is tested on an oil smeared profile guide rail.

An adapter plate, dependent on the type of carriage used, is required for height adjustment.

Temperature range:

-10°C to +70°C.



Order No.	Size	A	A1	A2	A3	A4	A5	B	B1	H1	H2	H3	L3	M	S	T	Retaining force F1 N	Tightening torque Nm	Order number adapter plate
21427-15	15	17	17	33,5	30	12,5	40	15	47	24	6,5	17,5	24	M4	4	5	1200	5	21430-915
21427-20	20	15	15	45,5	41,5	13	65	20	60	28	8	20	24	M5	2	6	1200	7	21430-920
21427-25	25	20	20	45,5	41,5	16,2	65	25	70	36	12	23	30	M6	4	8	1200	7	21430-925
21427-30	30	22	22	58	53,5	21,5	80	28	90	42	12	30	39	M6	3	8	2000	15	21430-930
21427-35	35	24	24	58	53,5	27	80	34	100	48	16	37	39	M8	7	10	2000	15	21430-935
21427-45	45	26	26	58	53,5	26,5	80	45	120	60	18	44	44	M10	10	14	2000	15	21430-945
21427-55	55	30	30	66	61	37,5	95	53	140	70	21	51	49	M14	10	14	2000	22	21430-955

Adapter plates for clamping elements

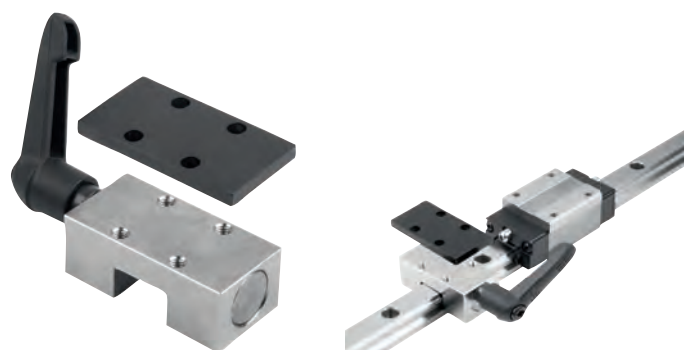
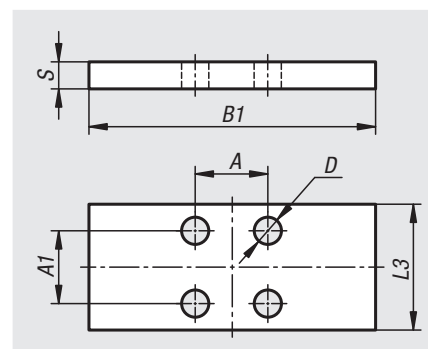


Material:
Steel.

Version:
nickel-plated.

Sample order:
nlm 21427-915

Note:
An adapter plate, dependent on the type of carriage used, is required for height adjustment.



Order No.	Size	A	A1	B1	L3	D for screw	S
21427-915	15	17	17	47	24	M4	4
21427-920	20	15	15	60	24	M5	2
21427-925	25	20	20	70	30	M6	4
21427-930	30	22	22	90	39	M6	3
21427-935	35	24	24	100	39	M8	7
21427-945	45	26	26	120	44	M10	10
21427-955	55	30	30	140	49	M14	10

Clamping elements

for miniature profile guide rails


Material:

Housing and knurled screw stainless steel.

Version:

Housing and knurled screw bright.

Sample order:

nIm 21427-01-07

Note:

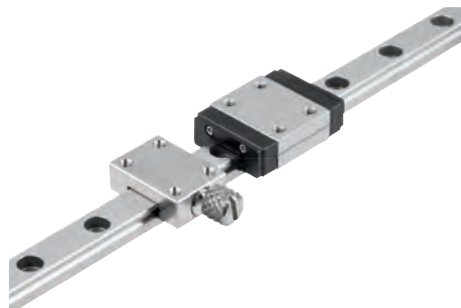
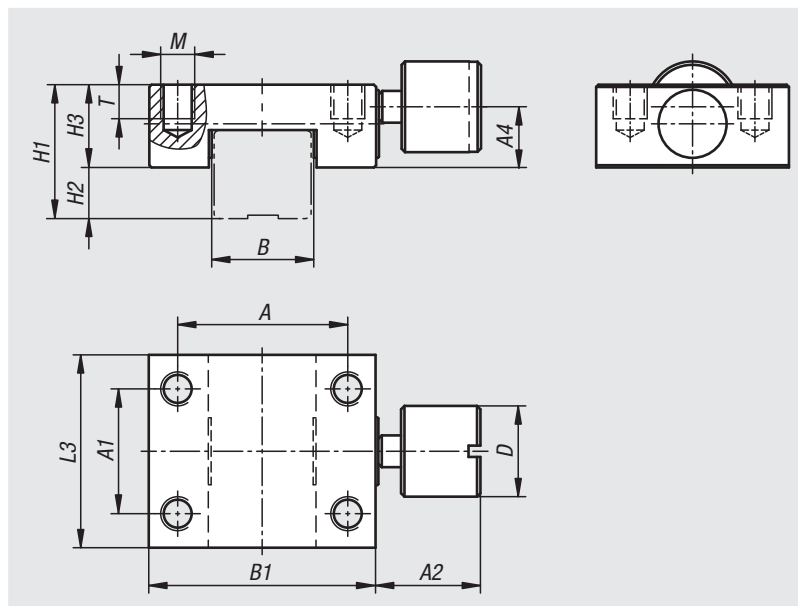
Manually operated clamping elements for static clamping tasks. Manual clamping with the knurled screw. The floating jaws ensure symmetrical application of force onto the rail. Up to 50,000 static clamping cycles (B10d value).

In general, a friction connection is created between the clamping element and the linear guide on the open faces of the profile guide rail so that the ball guide tracks are not damaged.

The retaining force is tested on an oil smeared profile guide rail.

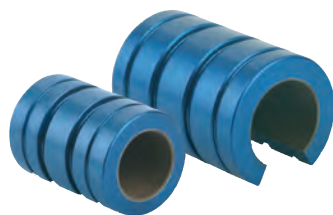
Temperature range:

-10°C to +70°C.



Order No.	Size	A	A1	A2	A4	B	B1	D	H1	H2	H3	L3	M	T	Retaining force F1 N	Tightening torque Nm
21427-01-07	7	12	8	7	4,3	7	17	6	8	2	6	12	M2	2,5	65	0,11
21427-01-09	9	15	11	9	5,35	9	20	8	10	2,7	7,3	17	M3	3	100	0,17
21427-01-12	12	20	13	10	7,15	12	27	10	13	3,5	9,5	19	M3	3,6	150	0,35
21427-01-15	15	25	14	14	8,05	15	32	12	16	5	11	20	M3	4	180	0,75

Linear plain bearings


Material:

Housing anodised aluminium.

Bearing surface Frelon (Teflon plus proprietary fillers).

Version:

Linear plain bearing with Frelon coating.

Sample order:

nIm 21495-01-120

Note:

Virtually chemically inert.

Self-lubricating (no additional lubrication required).

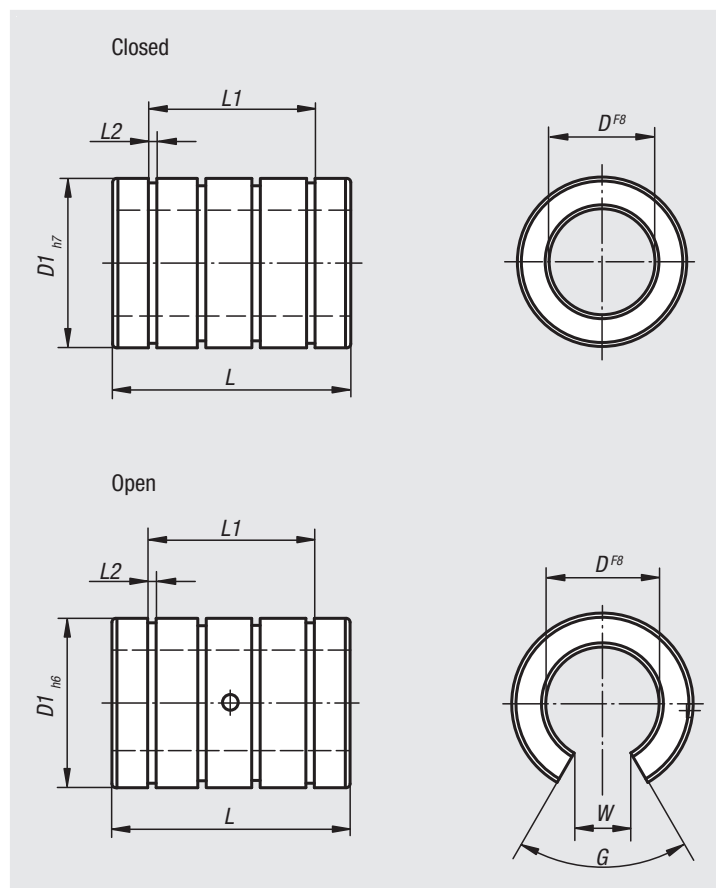
High temperature range (-240 °C to +260 °C).

Dampens vibrations.

High static load capacity - projected surface area x P
(P = 1034 N/cm²)

Suitable for food, pharmaceutical, medical and chemical applications.

Insensitive to dirt.



Order No. closed	Order No. open	D	D1	G	L	L1	L2	W
21495-01-050	-	5	12	-	22	14,28	1,14	-
21495-01-080	21495-01-081	8	16	-/60°	25	16,28	1,14	-/5,1
21495-01-100	21495-01-101	10	19	-/60°	29	22,04	1,32	-/6,4
21495-01-120	21495-01-121	12	22	-/78°	32	22,64	1,32	-/7,6
21495-01-160	21495-01-161	16	26	-/78°	36	24,64	1,32	-/10,4
21495-01-200	21495-01-201	20	32	-/60°	45	31,26	1,63	-/10,8
21495-01-250	21495-01-251	25	40	-/60°	58	43,8	1,9	-/13,2
21495-01-300	21495-01-301	30	47	-/72°	68	51,8	1,9	-/14,2

Linear ball bearings

with plastic cage



Material:

Outer jacket ball bearing steel.
Cage plastic.
Balls steel.

Sample order:

n1m 21500-1202

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-sided seal. The linear ball bearings have a plastic cage which results in quiet and outstanding running properties. We recommend using linear ball bearing with steel cages for application temperatures over +80 °C. The bearings are secured by DIN 471/472 circlips.

Recommended tolerances:

Shaft: h6

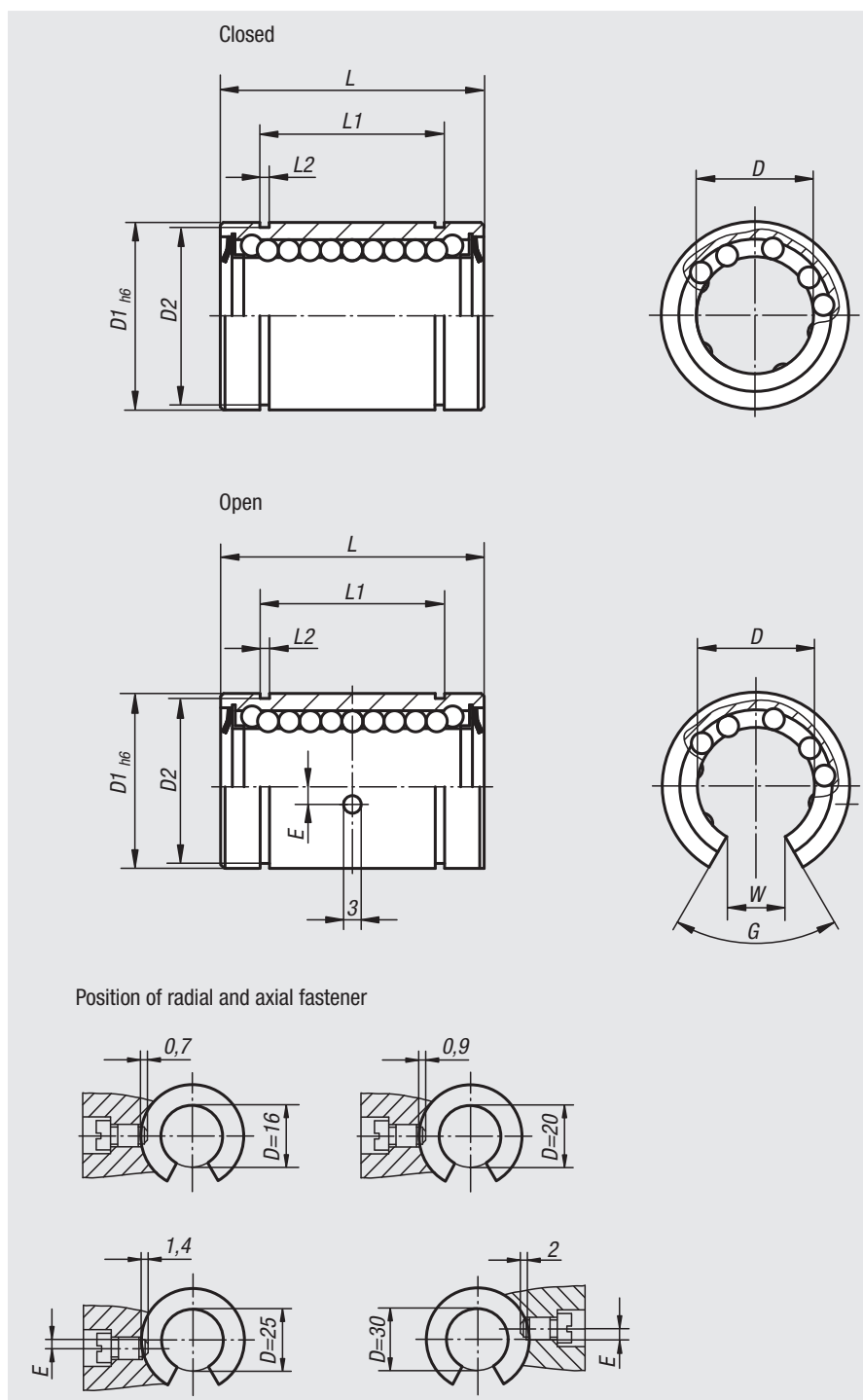
Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

Temperature range:

-20 °C to +80 °C.



Order No. closed	Order No. open	D	D1	D2	E	G	L	L1	L2	W	Dynamic load rating N	Static load rating N
21500-1202	-	12	22	21	-	-	32 -0,2	22,9 -0,2	1,3	-	520	800
21500-1602	21500-1612	16	26	24,9	-/0	-/78°	36 -0,2	24,9 -0,2	1,3	-/10	590	910
21500-2002	21500-2012	20	32	30,3	-/0	-/60°	45 -0,2	31,5 -0,2	1,6	-/10	880	1400
21500-2502	21500-2512	25	40	37,5	-/1,5	-/60°	58 -0,3	44,1 -0,3	1,85	-/12,5	1000	1600
21500-3002	21500-3012	30	47	44,5	-/2	-/50°	68 -0,3	52,1 -0,3	1,85	-/12,5	1600	2800

Linear ball bearings

with steel cage



Material:

Outer jacket ball bearing steel.

Cage steel.

Balls steel.

Sample order:

nlm 21505-1202

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-sided seals and a steel cage. The bearing is secured with DIN 471/472 circlips.

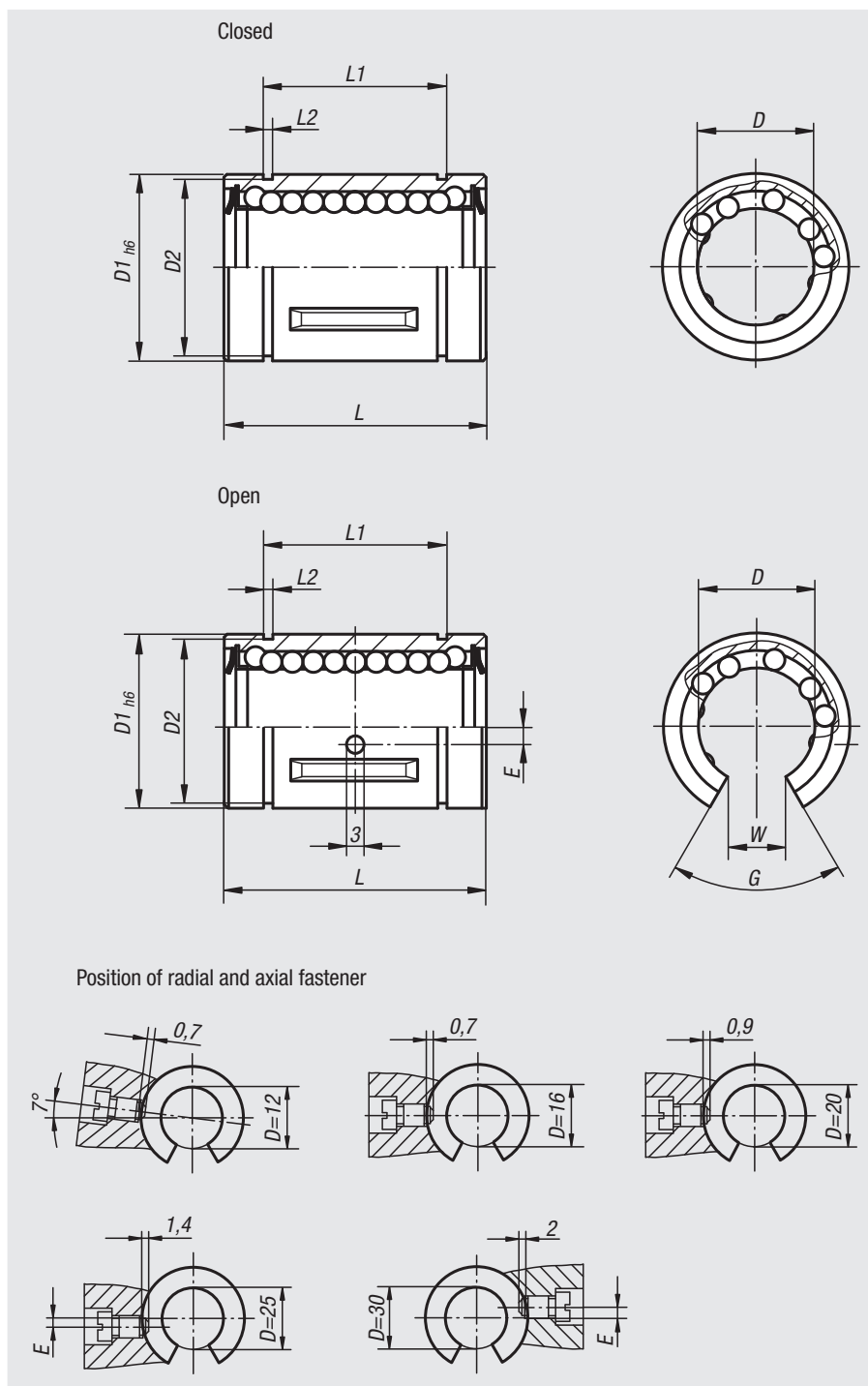
Recommended tolerances:

Shaft: h6

Housing: H7

Linear ball bearings with double-sided seals should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.



Order No. closed	Order No. open	D	D1	D2	E	G	L	L1	L2	W	Dynamic load rating N	Static load rating N
21505-1202	21505-1212	12	22	21	-/1,35	-/78°	32 -0,2	22,9 -0,2	1,3	-/7,5	420	714
21505-1602	21505-1612	16	26	24,9	-/0	-/78°	36 -0,2	24,9 -0,2	1,3	-/10	686	1092
21505-2002	21505-2012	20	32	30,3	-/0	-/60°	45 -0,2	31,5 -0,2	1,6	-/10	924	1610
21505-2502	21505-2512	25	40	37,5	-/1,5	-/60°	58 -0,3	44,1 -0,3	1,85	-/12,5	1470	2590
21505-3002	21505-3012	30	47	44,5	-/2	-/50°	68 -0,3	52,1 -0,3	1,85	-/12,5	2100	3920

Linear ball bearings stainless steel


Material:

Outer jacket stainless steel.

Cage stainless steel.

Balls stainless steel.

Sample order:

nIm 21505-01-1202

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-sided seals and a stainless steel cage. The bearing is secured with DIN 471/472 circlips.

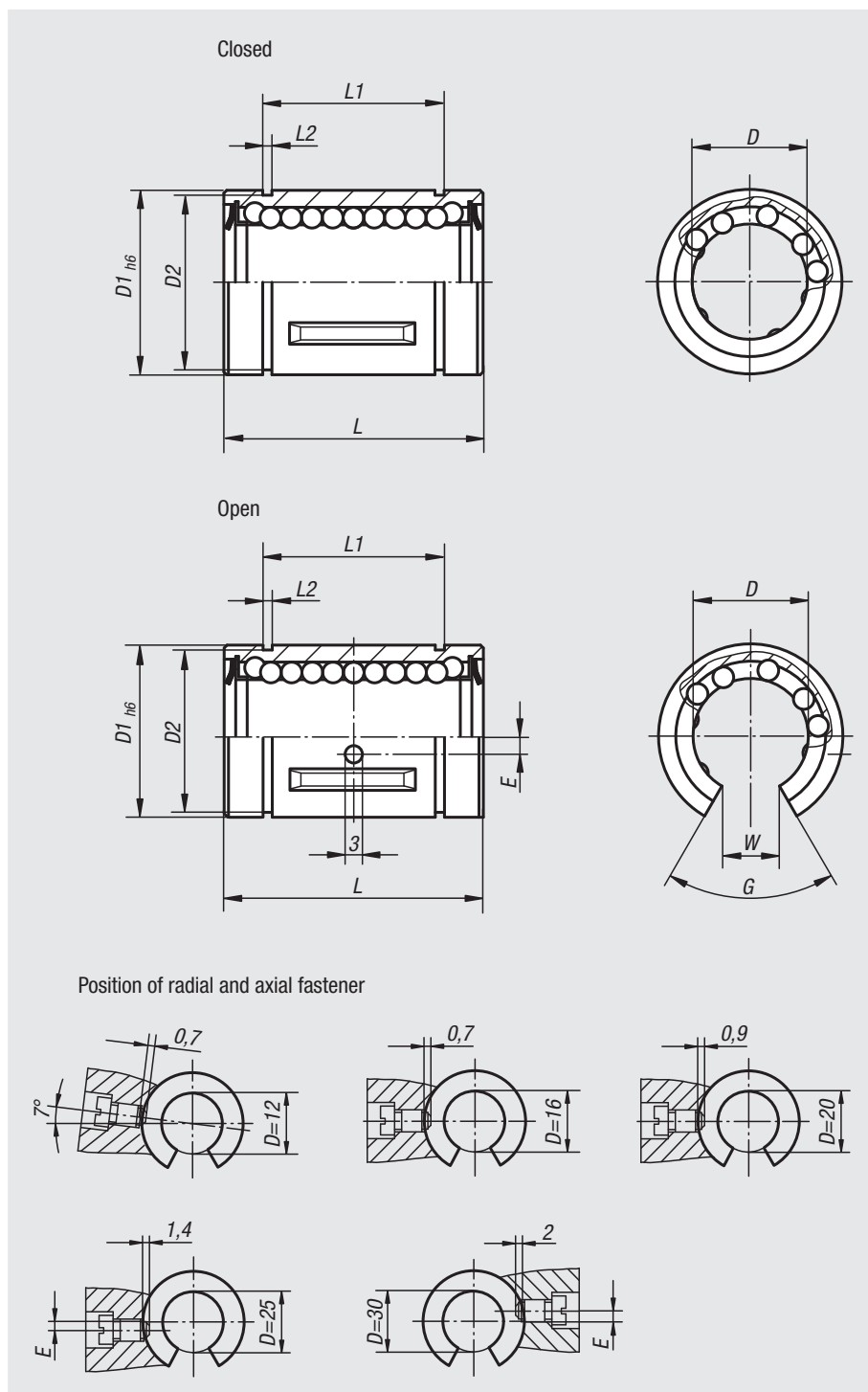
Recommended tolerances:

Shaft: h6

Housing: H7

Linear ball bearings with double-sided seals should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.



Order No. closed	Order No. open	D	D1	D2	G	E	L	L1	L2	W	Dynamic load rating N	Static load rating N
21505-01-1202	21505-01-1212	12	22	21	-78°	-1,35	32 -0,2	22,9 -0,2	1,3	-7,5	420	714
21505-01-1602	21505-01-1612	16	26	24,9	-78°	-0	36 -0,2	24,9 -0,2	1,3	-10	686	1092
21505-01-2002	21505-01-2012	20	32	30,3	-60°	-0	45 -0,2	31,5 -0,2	1,6	-10	924	1610
21505-01-2502	21505-01-2512	25	40	37,5	-60°	-1,5	58 -0,3	44,1 -0,3	1,85	-12,5	1470	2590
21505-01-3002	21505-01-3012	30	47	44,5	-50°	-2	68 -0,3	52,1 -0,3	1,85	-12,5	2100	3920

Linear ball bearings

self-aligning



Material:

Housing plastic
Raceways ball bearing steel.
Balls steel.

Sample order:

nlm 21510-1202

Note:

The linear ball bearings correspond to the self-aligning series 3 of ISO 10285. With double-sided seal. These bearings consist of high precision injection moulded plastic housings in which ball bearing steel raceway segments are clipped in. The plastic housing serves simultaneously for recycling and as seal retainer. The seal consists of a special polyamide material with a low coefficient of friction. The bearing is secured with DIN 471/472 circlips.

Recommended tolerances:

Shaft: h6

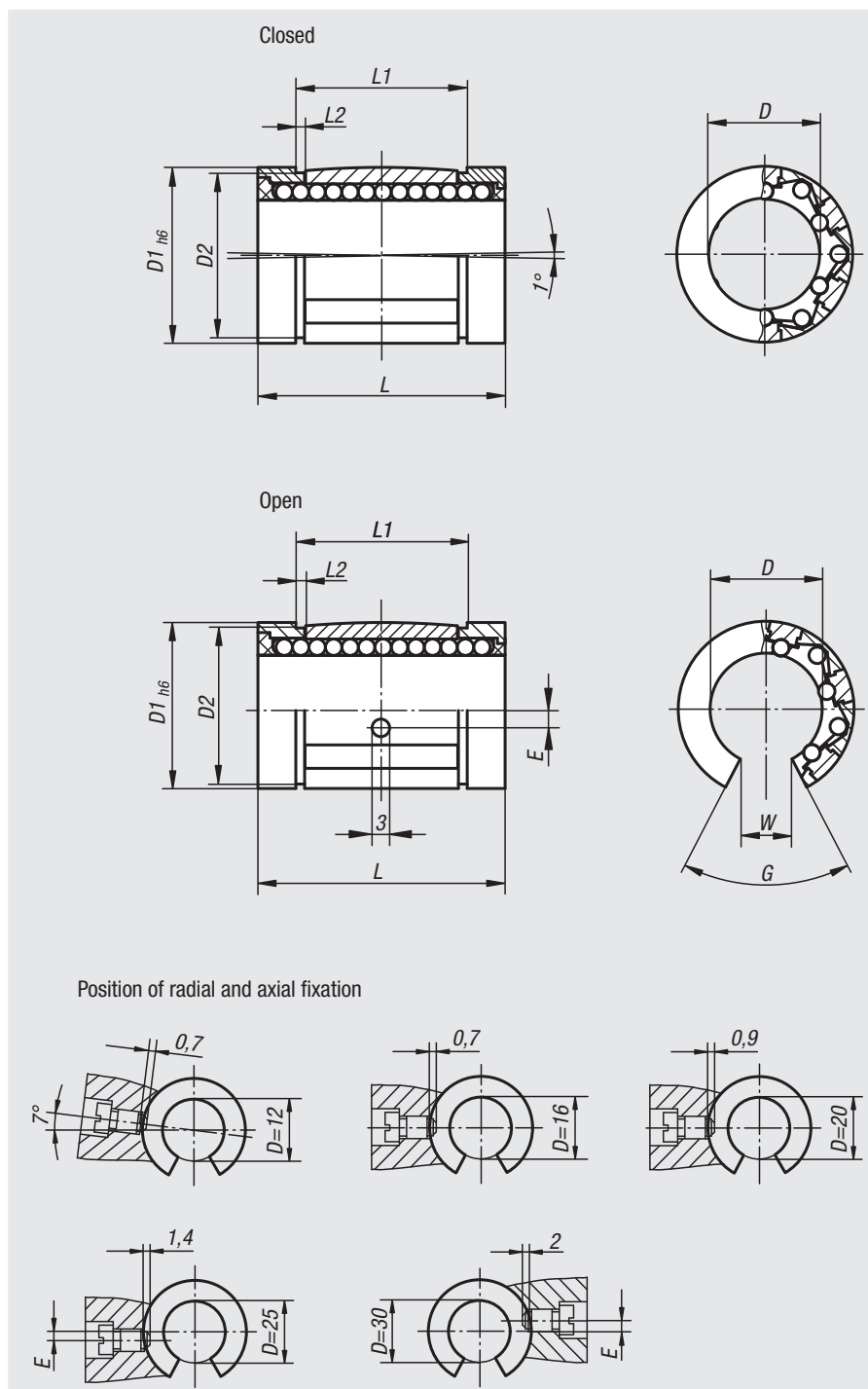
Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

Temperature range:

-20 °C to +80 °C.



Order No. closed	Order No. open	D	D1	D2	E	G	L	L1	L2	W	Dynamic load rating N	Static load rating N
21510-1602	21510-1612	16	26	24,9	-/0	-/68°	36	24,6	1,3	-/9,8	1020	1120
21510-2002	21510-2012	20	32	30,3	-/0	-/55°	45	31,2	1,6	-/10,5	2020	2220
21510-1202	21510-1212	12	22	21	-/1,35	-/66°	32	22,6	1,3	-/7	830	910
21510-2502	21510-2512	25	40	37,5	-/1,5	-/57°	58	43,7	1,85	-/13	3950	4350
21510-3002	21510-3012	30	47	44,5	-/2	-/57°	68	51,7	1,85	-/15,3	4800	5280
21510-4002	21510-4012	40	62	59	-/0	-/58°	80	60,3	2,15	-/21,4	8240	9060
21510-5002	21510-5012	50	75	72	-/0	-/55°	100	77,3	2,65	-/24	12060	13270

Miniature linear ball bearing


Material:

Housing, plastic.

Raceway, stainless steel 1.4034.

Balls, stainless steel 1.4125.

Sample order:

nIm 21511-040802

Note:

Precision linear ball bearings with low friction.

From size 21511-122202, the bearings are fitted with wipers on both sides.

Recommended tolerances:

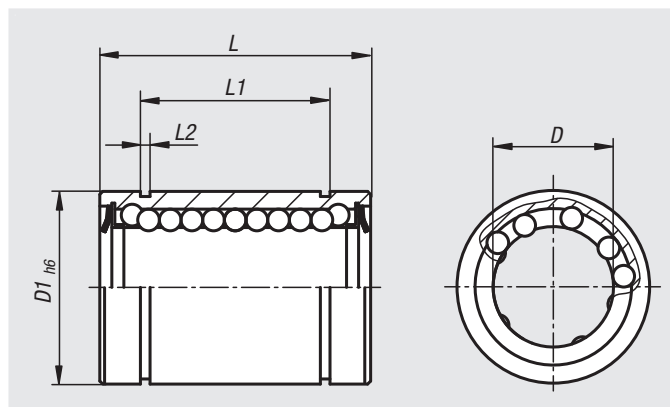
Shaft: h6

Housing: H6

The specified load ratings apply for hardened and ground shafts.

Temperature range:

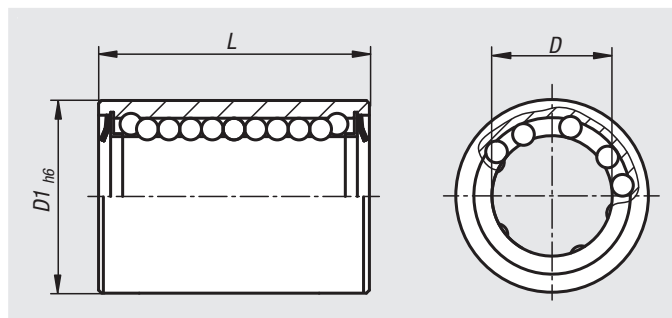
-40 °C to +60 °C.



Order No.	D	D1	L	L1	L2	Dynamic load rating N	Static load rating N
21511-030702	3	7	10	-	-	26	27
21511-040802	4	8	12	-	-	44	50
21511-051002	5	10	15	-	-	72	84
21511-061202	6	12	19	-	-	114	132
21511-081502	8	15	24	23	1,1	167	204
21511-101702	10	17	26	25	1,1	186	234
21511-121902	12	19	28	26,4	1,3	202	257
21511-122202	12	22	32	22,6	1,3	310	352
21511-162602	16	26	36	24,6	1,3	372	440
21511-203202	20	32	45	31,2	1,6	591	689
21511-254002	25	40	58	43,7	1,85	1162	1332

Linear ball bearing, plastic, compact,

self-aligning



Material:

Housing plastic

Raceways ball bearing steel.

Balls steel.

Sample order:

nIm 21511-01-1602

Note:

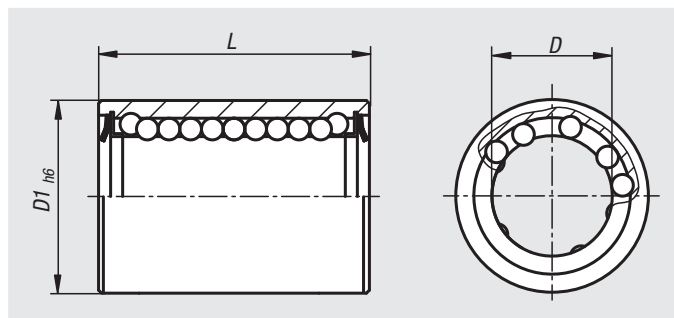
Self-aligning and sealed both ends. These bearings comprise a highly precise die-cast plastic carrier in which the bearing steel, clipped-on raceways are mounted. The plastic carrier also acts as a return and seal retainer. The seal is made from a special polyamide material with a low coefficient of friction. The linear ball bearing is secured using DIN 471/472 circlips.

Application:

Suitable for applications where installation space is limited.

Order No.	D	D1	L	Dynamic load rating N	Static load rating N
21511-01-1202	12	19	28	695	510
21511-01-1602	16	24	30	930	630
21511-01-2002	20	28	30	1160	800
21511-01-2502	25	35	40	2120	1560
21511-01-3002	30	40	50	3150	2700
21511-01-4002	40	52	60	5500	4500
21511-01-5002	50	62	70	6950	6300

Linear ball bearing, steel, compact


Material:

Shell, ball-bearing steel.

Cage, plastic.

Balls, steel.

Sample order:

nIm 21511-02-1602

Note:

With seals both ends.

The linear ball bearing is secured using DIN 471 / 472 circlips.

Application:

Suitable for applications where installation space is limited.

Order No.	D	D1	L	Dynamic load rating N	Static load rating N
21511-02-1202	12	19	28	620	510
21511-02-1602	16	24	30	800	620
21511-02-2002	20	28	30	950	790
21511-02-2502	25	35	40	1990	1670
21511-02-3002	30	40	50	2800	2700
21511-02-4002	40	52	60	4400	4450
21511-02-5002	50	62	70	5500	6300

Linear ball bearings

self-aligning, high load rating



Material:

Housing plastic
Raceways ball bearing steel.
Balls steel.

Sample order:

nIm 21515-1602

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-lip seal both ends. In comparison to standard linear ball bearings, these bearing have twice the load rating or eight times longer working life. The self-aligning function means that housing bore misalignments or bent shafts can be compensated for, the load distribution optimised and uniform load on all balls over the entire bearing length assured. The bearing is secured with DIN 471/472 circlips.

Recommended tolerances:

Shaft: h6

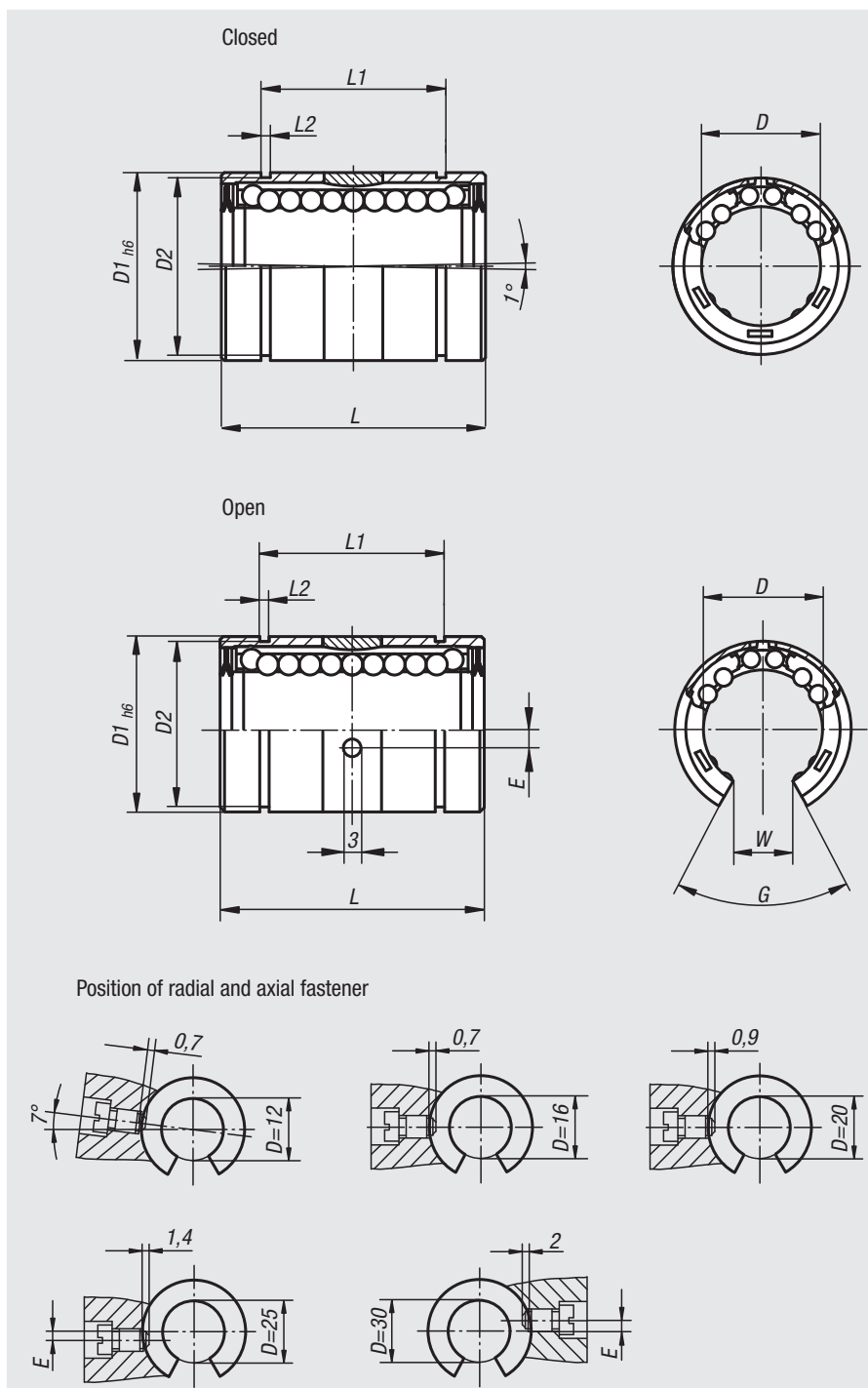
Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

Temperature range:

-20 °C to +80 °C.



Order No. closed	Order No. open	D	D1	D2	E	G	L	L1	L2	W	Dynamic load rating N	Static load rating N
21515-1602	21515-1612	16	26	24,9	-/0	-/70°	36	24,6	1,3	-/9,4	2200	2400
21515-2002	21515-2012	20	32	30,3	-/0	-/60°	45	31,2	1,6	-/10,2	4000	4400
21515-2502	21515-2512	25	40	37,5	-/1,5	-/60°	58	43,7	1,85	-/14,4	6700	7300
21515-3002	21515-3012	30	47	44,5	-/2	-/55°	68	51,7	1,85	-/13,9	8300	9100
21515-4002	21515-4012	40	62	59	-/1,5	-/60°	80	60,3	2,15	-/18,2	13700	15000

Linear ball bearings

with round flange



Material:

Housing steel.
Cage plastic.
Balls steel.

Sample order:

nIm 21518-1202

Note:

The linear ball bearings correspond to series 3 of ISO 10285.
With double-sided seal. The linear ball bearings have a plastic cage which results in quiet and outstanding running properties. With flange for direct mounting on the housing.

Recommended tolerances:

Shaft: h6

Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

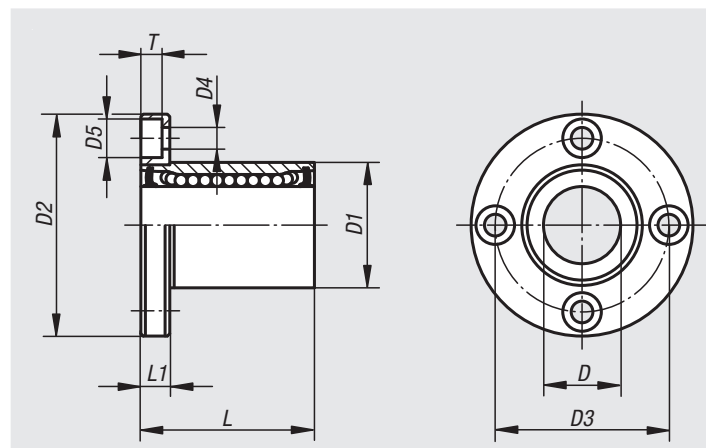
Temperature range:

-20 °C to +80 °C.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160.



Order No.	D	D1	D2	D3	D4	D5	L	L1	T	Dynamic load rating N	Static load rating N
21518-0802	8	16	32	24	3,4	6	25	5	3,1	265	402
21518-1202	12	22	42	32	4,5	7,5	32	6	4,1	520	790
21518-1602	16	26	46	36	4,5	7,5	36	6	4,1	590	910
21518-2002	20	32	54	43	5,5	9	45	8	5,1	880	1400
21518-2502	25	40	62	51	5,5	9	58	8	5,1	1000	1600
21518-3002	30	47	76	62	6,6	11	68	10	6,1	1600	2800
21518-4002	40	62	98	80	9	14	80	13	8,1	2160	4020
21518-5002	50	75	112	94	9	14	100	13	8,1	3820	7940

Linear ball bearing

with square flange



Material:

Housing steel.
Cage plastic.
Balls steel.

Sample order:

nIm 21518-01-1602

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-sided seal. The linear ball bearings have a plastic cage which results in quiet and outstanding running properties. With flange for direct mounting on the housing.

Recommended tolerances:

Shaft: h6

Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

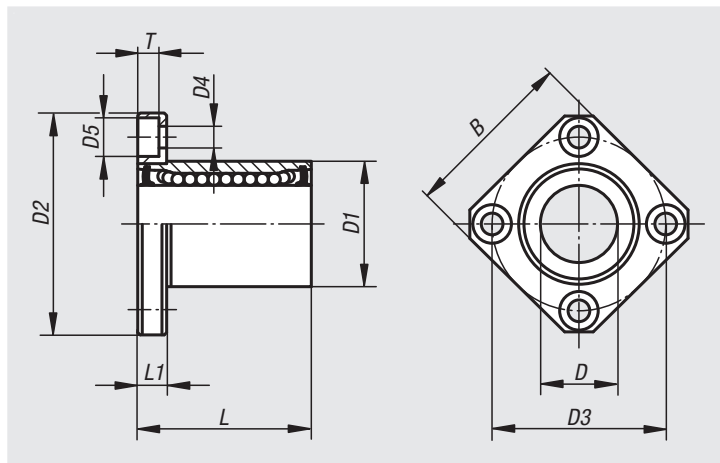
Temperature range:

-20 °C to +80 °C.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160.



Order No.	B	D	D1	D2	D3	D4	D5	L	L1	T	Dynamic load rating N	Static load rating N
21518-01-1202	32	12	22	42	32	4,5	7,5	32	6	4,1	510	784
21518-01-1602	35	16	26	46	36	4,5	7,5	36	6	4,1	578	892
21518-01-2002	42	20	32	54	43	5,5	9	45	8	5,1	862	1370
21518-01-2502	50	25	40	62	51	5,5	9	58	8	5,1	980	1570
21518-01-3002	60	30	47	76	62	6,6	11	68	10	6,1	1570	2740
21518-01-4002	75	40	62	98	80	9	14	80	13	8,1	2160	4020
21518-01-5002	88	50	75	112	94	9	14	100	13	8,1	3820	7940

Linear ball bearings

with round flange, double bearing



Material:

Housing steel.
Cage plastic.
Balls steel.

Sample order:

nlm 21520-1202

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-sided seal. The linear ball bearings have a plastic cage which results in quiet and outstanding running properties. With flange for direct mounting on the housing. Double bearing version for use under torque loads.

Recommended tolerances:

Shaft: h6

Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

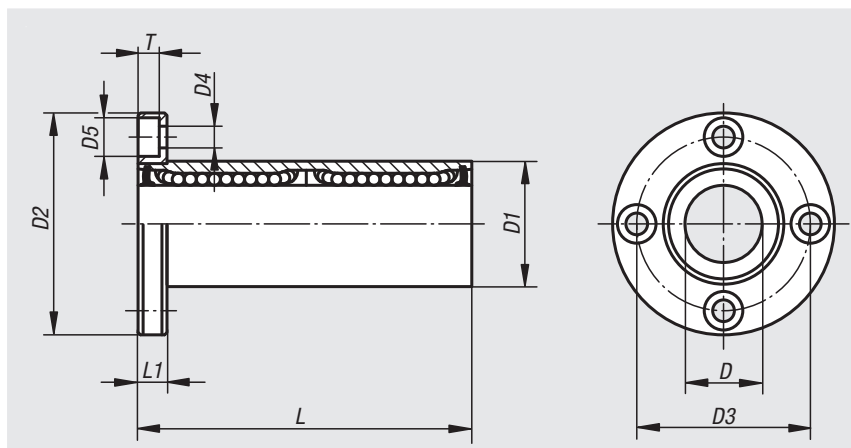
Temperature range:

-20 °C to +80 °C.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160.



Order No.	D	D1	D2	D3	D4	D5	L	L1	T	Dynamic load rating N	Static load rating N
21520-2502	25	40	62	51	5,5	9	112	8	5,1	1560	3140
21520-1202	12	22	42	32	4,5	7,5	61	6	4,1	657	1200
21520-1602	16	26	46	36	4,5	7,5	68	6	4,1	1230	2350
21520-2002	20	32	54	43	5,5	9	80	8	5,1	1400	2750
21520-3002	30	47	76	62	6,6	11	123	10	6,1	2490	5490
21520-0802	8	16	32	24	3,4	6	46	5	3,1	421	804
21520-4002	40	62	98	80	9	14	151	13	8,1	3430	8040
21520-5002	50	75	112	94	9	14	192	13	8,1	6080	15900

Linear ball bearing

with square flange, double bearing



Material:

Housing steel.

Cage plastic.

Balls steel.

Sample order:

nlm 21520-01-1602

Note:

The linear ball bearings correspond to series 3 of ISO 10285. With double-sided seal. The linear ball bearings have a plastic cage which results in quiet and outstanding running properties. With flange for direct mounting on the housing. Double bearing version for use under torque loads.

Recommended tolerances:

Shaft: h6

Housing: H7

Linear ball bearings with double-sided seal should be greased before installation.

The specified load ratings apply with the use of hardened and ground shafts.

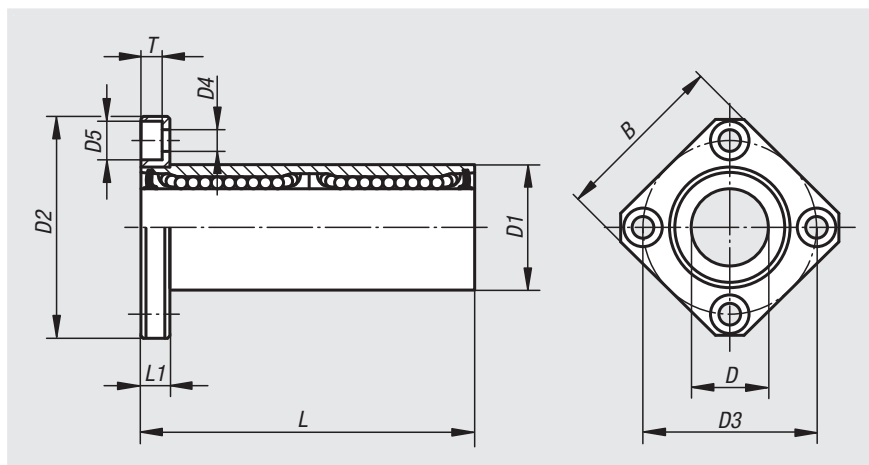
Temperature range:

-20 °C to +80 °C.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160.



Order No.	B	D	D1	D2	D3	D4	D5	L	L1	T	Dynamic load rating N	Static load rating N
21520-01-1202	32	12	22	42	32	4,5	7,5	61	6	4,1	813	1570
21520-01-1602	35	16	26	46	36	4,5	7,5	68	6	4,1	921	1780
21520-01-2002	42	20	32	54	43	5,5	9	80	8	5,1	1370	2740
21520-01-2502	50	25	40	62	51	5,5	9	112	8	5,1	1570	3140
21520-01-3002	60	30	47	76	62	6,6	11	123	10	6,1	2500	5490
21520-01-4002	75	40	62	98	80	9	14	151	13	8,1	3430	8040
21520-01-5002	88	50	75	112	94	9	14	192	13	8,1	6080	15900

Linear housing units

with flange


Material:

Housing aluminium or grey cast iron.

Version:

Housing bright.

Sample order:

nlm 21522-121002

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with a self-aligning linear ball bearing 21510 and seals both sides. The bearings are secured in the housing with DIN 472 circlips.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearings specifications.

On request:

Linear housing units can be equipped with any of our linear ball bearings.

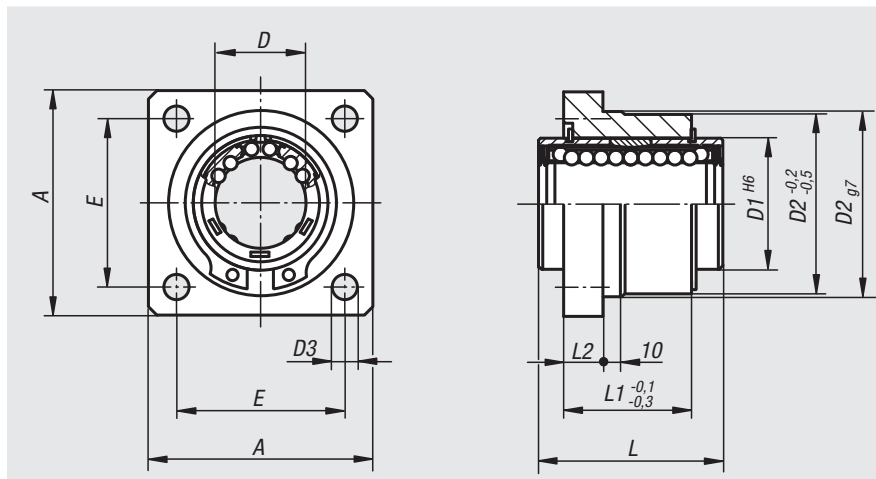
Attention:

Attention: The diameter D2 by article 21522-501002 is not machined, no g7 centring diameter.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160 or 07161.



Order No.	Main material	A	D	D1	D2	D3	E	L	L1	L2
21522-121002	aluminium	40	12	22	32	5,5	30	32	22	6
21522-161002	aluminium	50	16	26	38	5,5	35	36	24	8
21522-201002	aluminium	60	20	32	46	6,6	42	45	30	10
21522-251002	aluminium	70	25	40	58	6,6	54	58	42	12
21522-301002	aluminium	80	30	47	66	9	60	68	50	14
21522-401002	aluminium	100	40	62	90	11	78	80	59	16
21522-501002	grey cast iron	130	50	75	100	11	98	100	75	18

Linear housing units

with flange, tandem



Material:

Housing aluminium

Version:

Housing bright.

Sample order:

nIm 21524-121002

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with two self-aligning linear ball bearings 21510 and seals both sides. The bearings are secured in the housing with DIN 472 circlips.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications (x2).

On request:

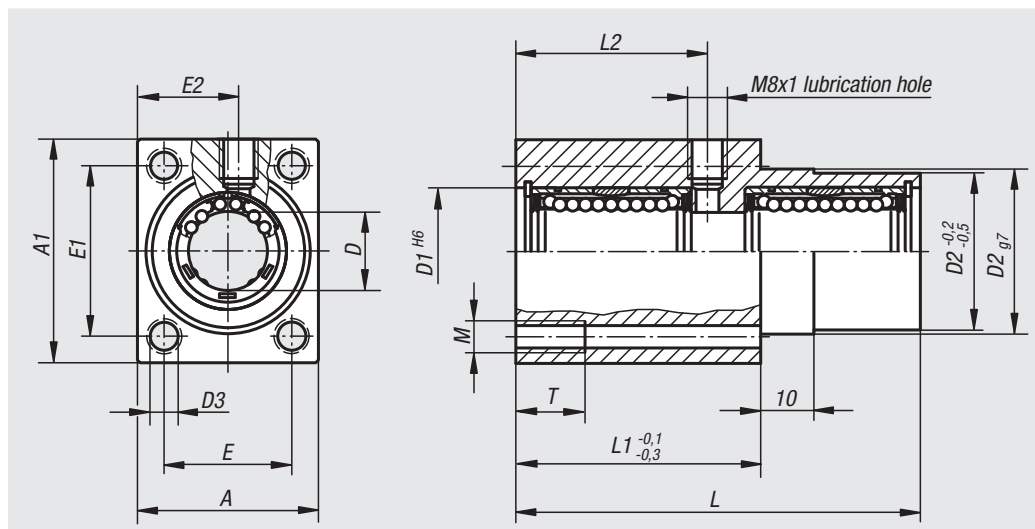
Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

End seals 21560.

Precision guide shafts 21595.

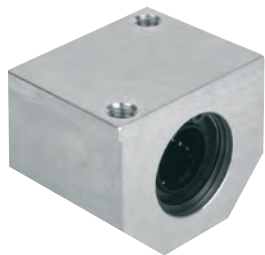
Fastening screws 07160 or 07161.



Order No.	A	A1	D	D1	D2	D3	E	E1	E2	L	L1	L2	M	T
21524-121002	34	42	12	22	30	5,3	24	32	19	76	46	36	M6	13
21524-161002	40	50	16	26	35	6,6	28	38	22	84	50	40	M8	18
21524-201002	50	60	20	32	42	8,4	35	45	27	104	60	50	M10	22
21524-251002	60	74	25	40	52	10,5	42	56	32	130	73	63	M12	26
21524-301002	70	84	30	47	61	13,5	50	64	37	152	82	74	M16	34

Linear housing units

single, closed


Material:

Housing aluminium

Version:

Housing bright.

Sample order:

nlm 21530-121002

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with a self-aligning linear ball bearing 21510 and seals both sides. The bearings are secured in the housing with DIN 472 circlips.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications.

On request:

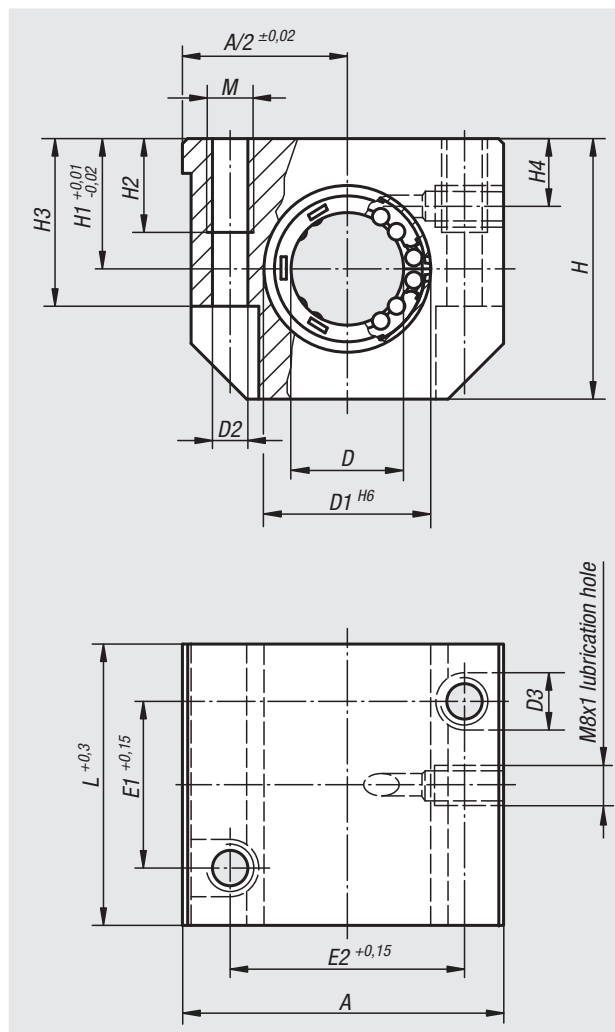
Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

End seals 21560.

Precision guide shafts 21595.

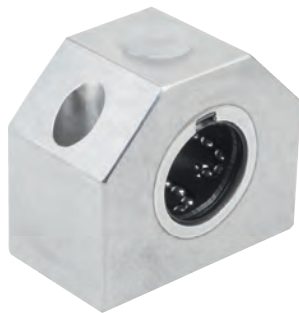
Fastening screws 07160 or 07161.



Order No.	A	D	D1	D2	D3	E1	E2	H	H1	H2	H3	H4	L	M
21530-121002	43	12	22	4,2	8	23	32	35	18	13	25	10	39	M5
21530-161002	53	16	26	5,2	10	26	40	42	22	13	30	12	43	M6
21530-201002	60	20	32	6,8	11	32	45	50	25	18	34	13	54	M8
21530-251002	78	25	40	8,6	15	40	60	60	30	22	40	15	67	M10
21530-301002	87	30	47	8,6	15	45	68	70	35	22	48	16	79	M10
21530-401002	108	40	62	10,3	18	58	86	90	45	26	60	20	91	M12
21530-501002	132	50	75	14,25	20	50	108	105	50	34	49	20	113	M16

Linear housing units, aluminium, compact,

single, closed

**Material:**

Housing aluminium

Version:

Bright.

Sample order:

nlm 21530-10-161102

Note:

The ready-to-install compact linear housing consists of extruded aluminium housing, installed linear ball bearing 21511-02 and double-sided seal.

Recommended shaft tolerance: h6.

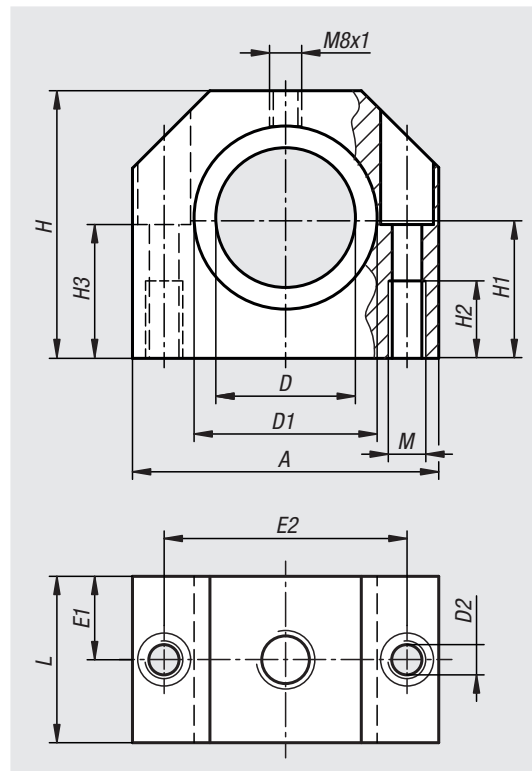
Load rating according to specification of the linear ball bearing.

With lubrication hole M8x1.

Accessories:

Precision guide shafts 21595.

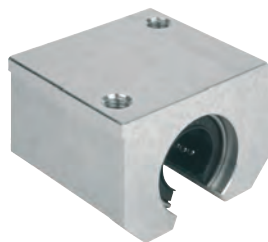
Fastening screws 07160.



Order No.	A	D	D1	D2	E1	E2	H	H1	H2	H3	L	M
21530-10-121102	40	12	19	4,3	14	29	33	17	11	16	28	M5
21530-10-161102	45	16	24	4,3	15	34	38	19	11	18	30	M5
21530-10-201102	53	20	28	5,3	15	40	45	23	13	22	30	M6
21530-10-251102	62	25	35	6,6	20	48	54	27	18	26	40	M8
21530-10-301102	67	30	40	6,6	25	53	60	30	18	29	50	M8
21530-10-401102	87	40	52	8,4	30	69	76	39	22	38	60	M10
21530-10-501102	103	50	62	10,5	35	82	92	47	26	46	70	M12

Linear housing units

single, open


Material:

Housing aluminium

Version:

Housing bright.

Sample order:

n1m 21535-121012

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with a self-aligning linear ball bearing 21510 and seals both sides. The bearings are secured in the housing with DIN 472 circlips.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications.

On request:

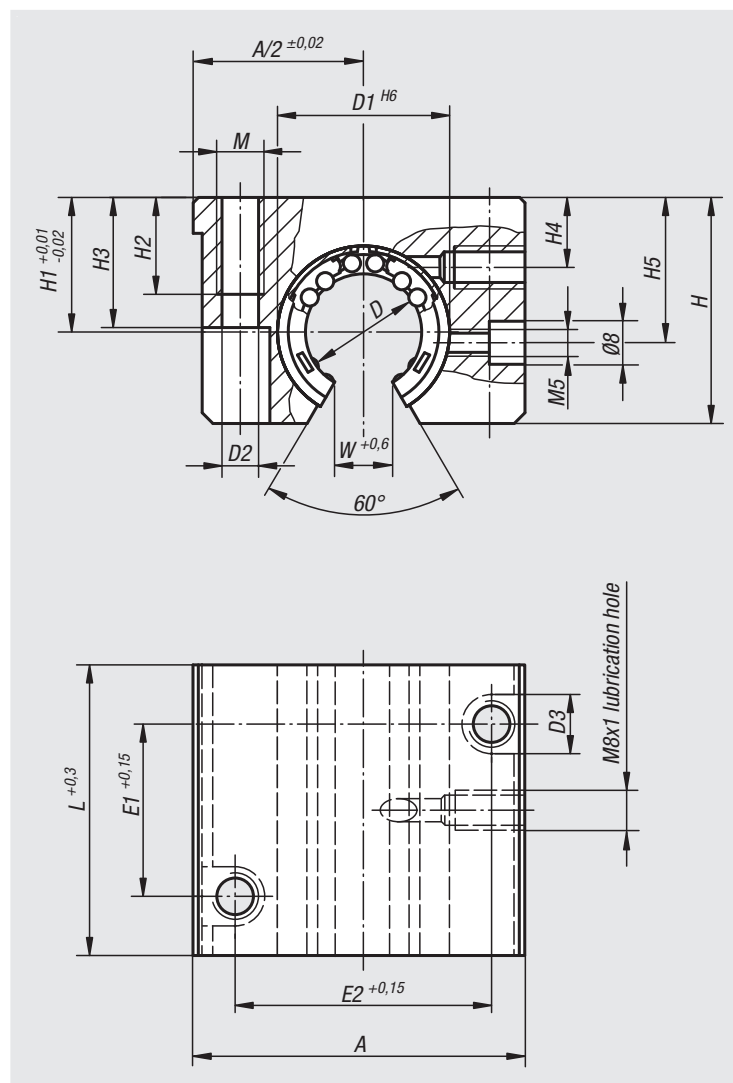
Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

End seals 21560.

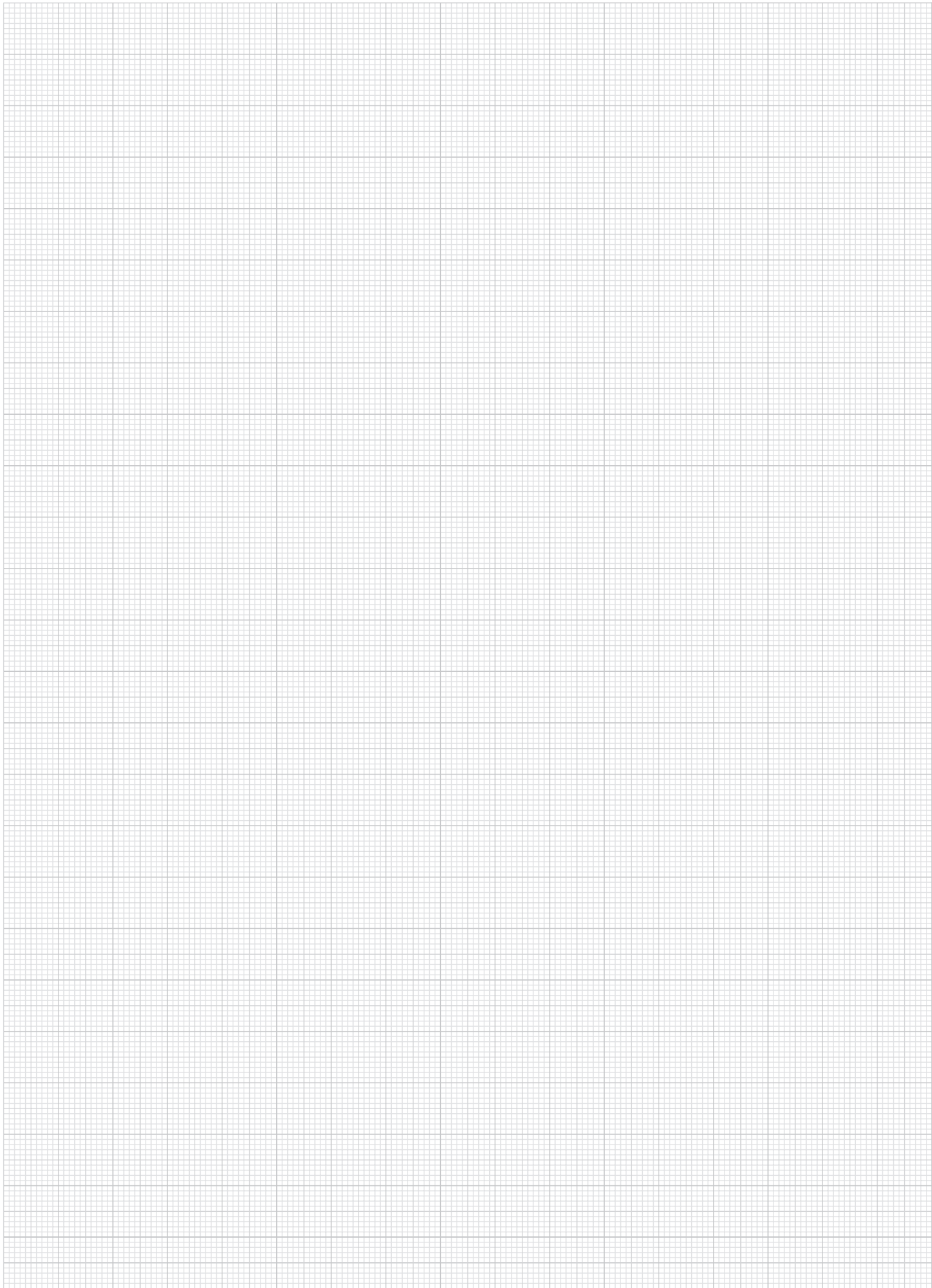
Precision guide shafts 21590 or 21595.

Fastening screws 07160 or 07161.



Order No.	A	D	D1	D2	D3	E1	E2	H	H1	H2	H3	H4	H5	L	M	W
21535-121012	43	12	22	4,2	8	23	32	28	18	11	23,5	8	16,65	39	M5	7
21535-161012	53	16	26	5,2	10	26	40	35	22	13	30	12	22	43	M6	9,4
21535-201012	60	20	32	6,8	11	32	45	42	25	18	34	13	25	54	M8	10,2
21535-251012	78	25	40	8,6	15	40	60	51	30	22	40	15	31,5	67	M10	12,5
21535-301012	87	30	47	8,6	15	45	68	60	35	22	48	16	33	79	M10	13,9
21535-401012	108	40	62	10,3	18	58	86	77	45	26	60	20	43,5	91	M12	18
21535-501012	132	50	75	14,25	20	50	108	88	50	34	49	20	47,5	113	M16	33

Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Linear housing units

tandem, closed


Material:

Housing aluminium

Version:

Housing bright.

Sample order:

n1m 21540-121002

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with two self-aligning linear ball bearings 21510 and seals both sides. The bearings are secured in the housing with DIN 472 circlips.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications (x2).

On request:

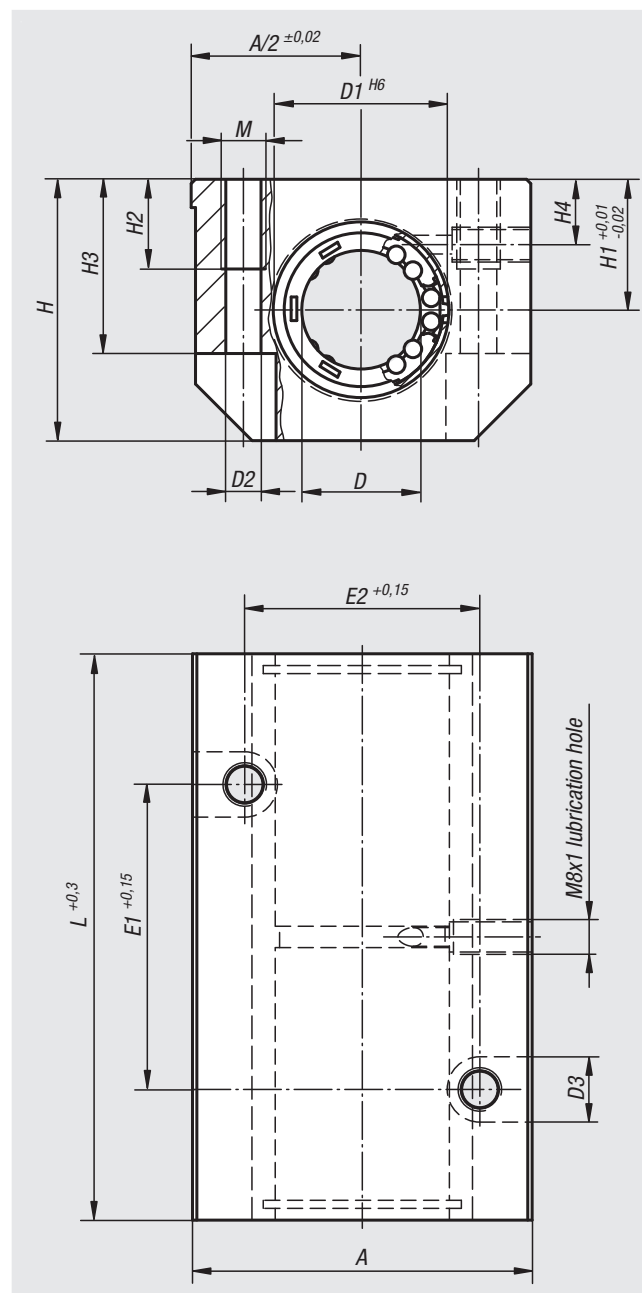
Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

End seals 21560.

Precision guide shafts 21595.

Fastening screws 07160 or 07161.



Order No.	A	D	D1	D2	D3	E1	E2	H	H1	H2	H3	H4	L	M
21540-121002	43	12	22	5,2	10	40	30	35	18	13	25	10	76	M6
21540-161002	53	16	26	5,2	10	45	36	42	22	13	30	12	84	M6
21540-201002	60	20	32	6,8	11	55	45	50	25	18	34	13	104	M8
21540-251002	78	25	40	8,6	15	70	54	60	30	22	40	15	130	M10
21540-301002	87	30	47	10,3	18	85	62	70	35	26	48	16	152	M12
21540-401002	108	40	62	14,25	20	100	80	90	45	34	60	20	176	M16
21540-501002	132	50	75	14,25	20	125	100	105	50	34	49	20	224	M16

Linear housing units, aluminium, tandem, compact,

closed

**Material:**

Housing aluminium

Version:

Bright.

Sample order:

nlm 21540-10-161102

Note:

The ready-to-install compact linear housing units consist of extruded aluminium housing, two installed linear ball bearings 21511-01 and double-sided seal.

Recommended shaft tolerance: h6.

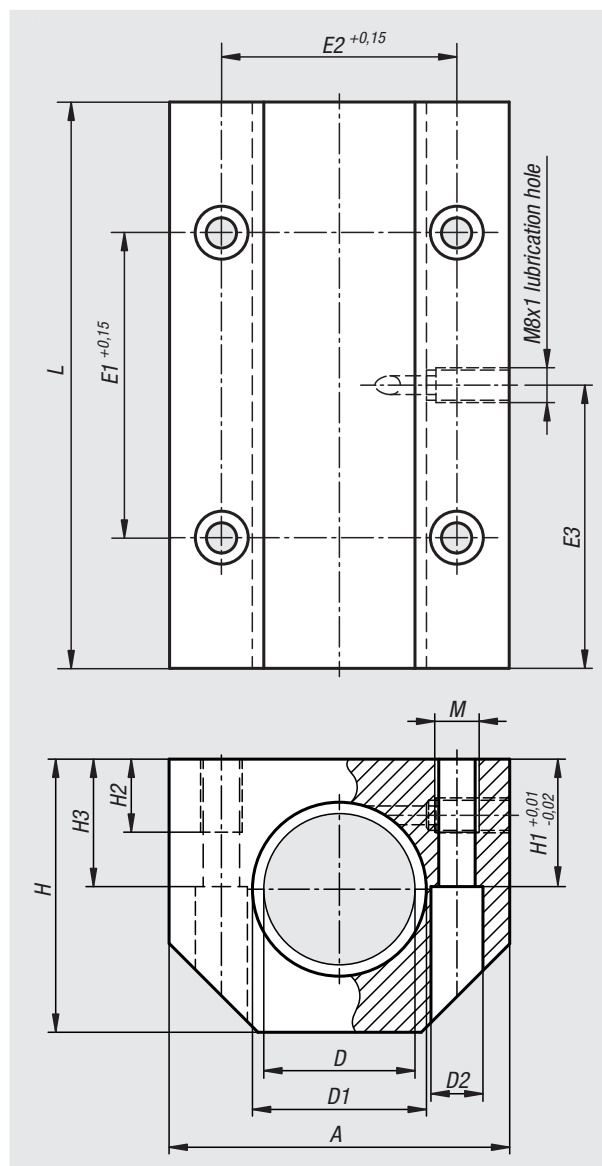
Basic load ratings according to specification of the linear ball bearings (x2).

With lubrication hole M8x1.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160.



Order No.	A	D	D1	D2	E1	E2	E3	H	H1	H2	H3	L	M
21540-10-121102	40	12	19	4,3	35	29	30	33	17	11	16	60	M5
21540-10-161102	45	16	24	4,3	40	34	32,5	38	19	11	18	65	M5
21540-10-201102	53	20	28	5,3	45	40	32,5	45	23	13	22	65	M6
21540-10-251102	62	25	35	6,6	55	48	42,5	54	27	18	26	85	M8
21540-10-301102	67	30	40	6,6	70	53	52,5	60	30	18	29	105	M8
21540-10-401102	87	40	52	8,4	85	69	62,5	76	39	22	38	125	M10
21540-10-501102	103	50	62	10,5	100	82	72,5	92	47	26	46	145	M12

Linear housing units

tandem, open


Material:

Housing aluminium

Version:

Housing bright.

Sample order:

nlm 21545-121012

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with two self-aligning linear ball bearings 21510 and seals both sides. The bearings are secured in the housing with cap screws.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications (x2).

On request:

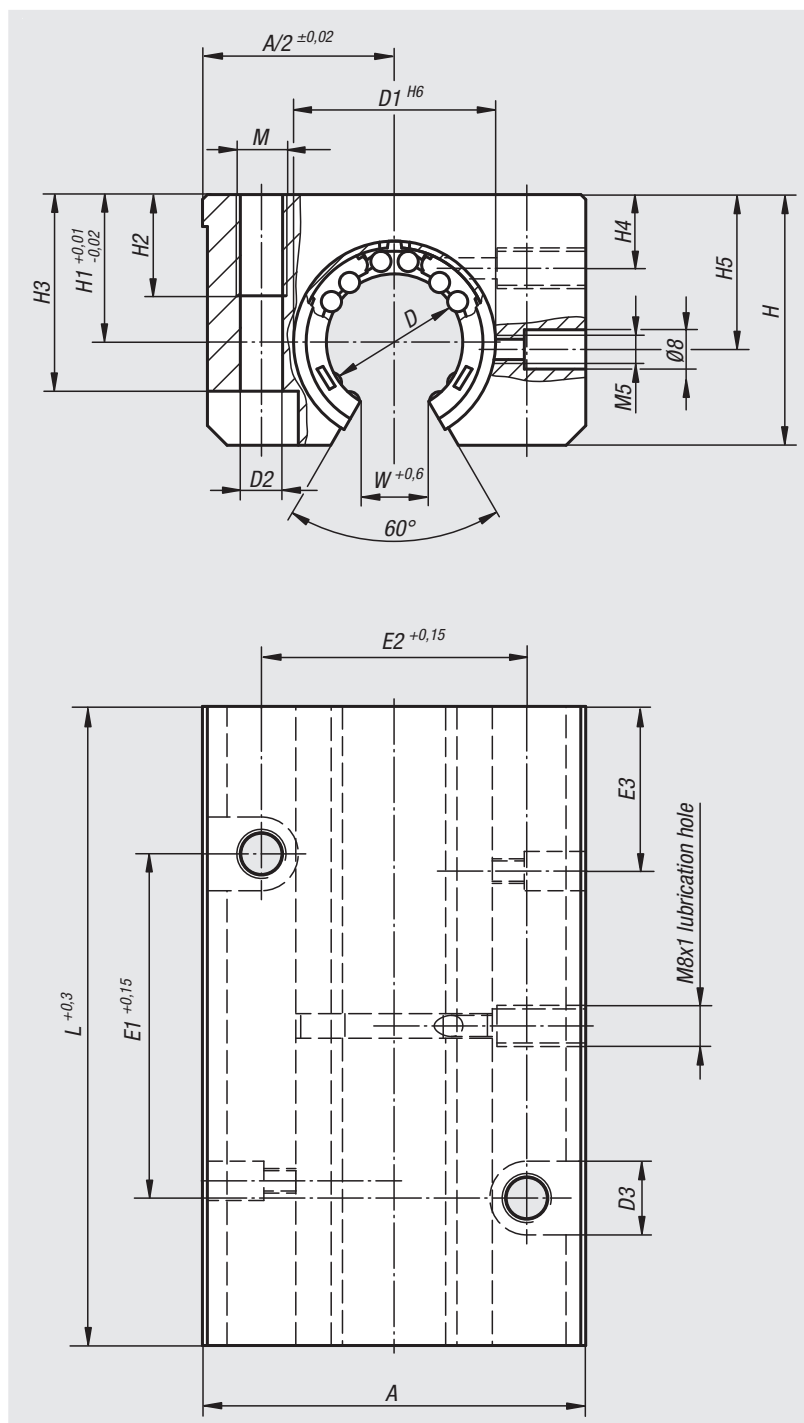
Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

End seals 21560.

Precision guide shafts 21590 or 21595.

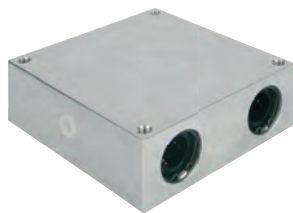
Fastening screws 07160 or 07161.



Order No.	A	D	D1	D2	D3	E1	E2	E3	H	H1	H2	H3	H4	H5	L	M	W
21545-121012	43	12	22	5,2	10	40	30	19,5	30	18	13	25	8	16,65	76	M6	7
21545-161012	53	16	26	5,2	10	45	36	21,5	35	22	13	30	12	22	84	M6	9,4
21545-201012	60	20	32	6,8	11	55	45	27	42	25	18	34	13	25	104	M8	10,2
21545-251012	78	25	40	8,6	15	70	54	33,5	51	30	22	40	15	31,5	130	M10	12,9
21545-301012	87	30	47	10,3	18	85	62	39,5	60	35	26	48	16	33	152	M12	14,4
21545-401012	108	40	62	14,25	20	100	80	45	77	45	34	60	20	43,5	176	M16	18,2
21545-501012	132	50	75	14,25	20	125	100	56,5	88	50	34	49	20	47,5	224	M16	33

Linear housing units

quadro, closed



Material:

Housing aluminium

Version:

Housing bright.

Sample order:

n1m 21550-121002

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with four self-aligning linear ball bearings 21510 and seals both sides. The bearings are secured in the housing with DIN 472 circlips.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications (x4).

On request:

Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

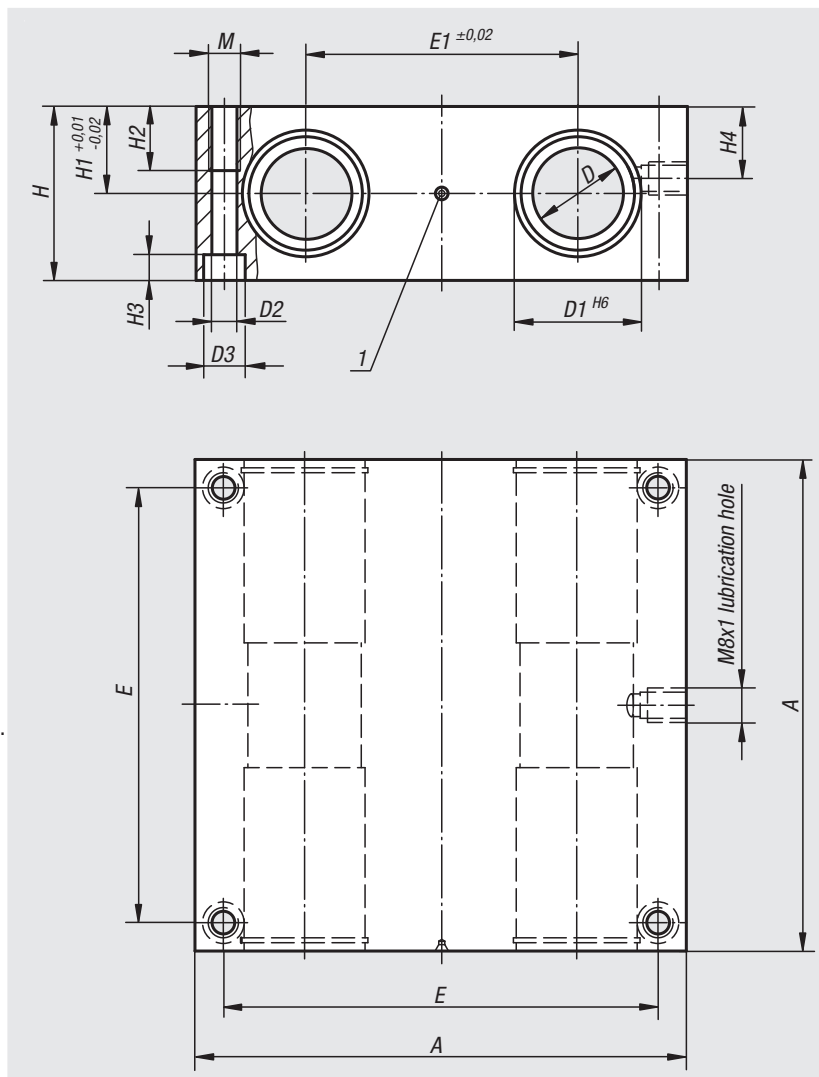
End seals 21560.

Precision guide shafts 21595.

Fastening screws 07160 or 07161.

Drawing reference:

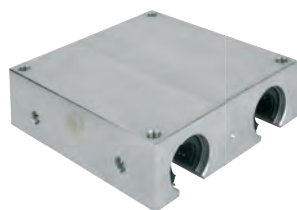
1) centring hole



Order No.	A	D	D1	D2	D3	E	E1	H	H1	H2	H3	H4	M
21550-121002	85	12	22	5,3	10	73	42	32	16	13	5,4	13	M6
21550-161002	100	16	26	5,3	10	88	54	36	18	13	5,4	15	M6
21550-201002	130	20	32	6,8	11	115	72	46	23	18	6,4	19	M8
21550-251002	160	25	40	9	15	140	88	56	28	22	8,6	24	M10
21550-301002	180	30	47	10,5	18	158	96	64	32	26	10,6	27	M12
21550-401002	230	40	62	13,5	20	202	122	80	40	34	12,6	35	M16
21550-501002	280	50	75	13,5	20	250	152	96	48	34	12,6	40	M16

Linear housing units

quadro, open


Material:

Housing aluminium

Version:

Housing bright.

Sample order:

n1m 21555-121012

Note:

Ready to install linear housing units consisting of an extruded aluminium housing with four self-aligning linear ball bearings 21510 and seals both sides. The bearings are secured in the housing with cap screws.

Recommended shaft tolerance: h6.

Load ratings according to the linear ball bearing specifications (x4).

On request:

Linear housing units can be equipped with any of our linear ball bearings.

Accessories:

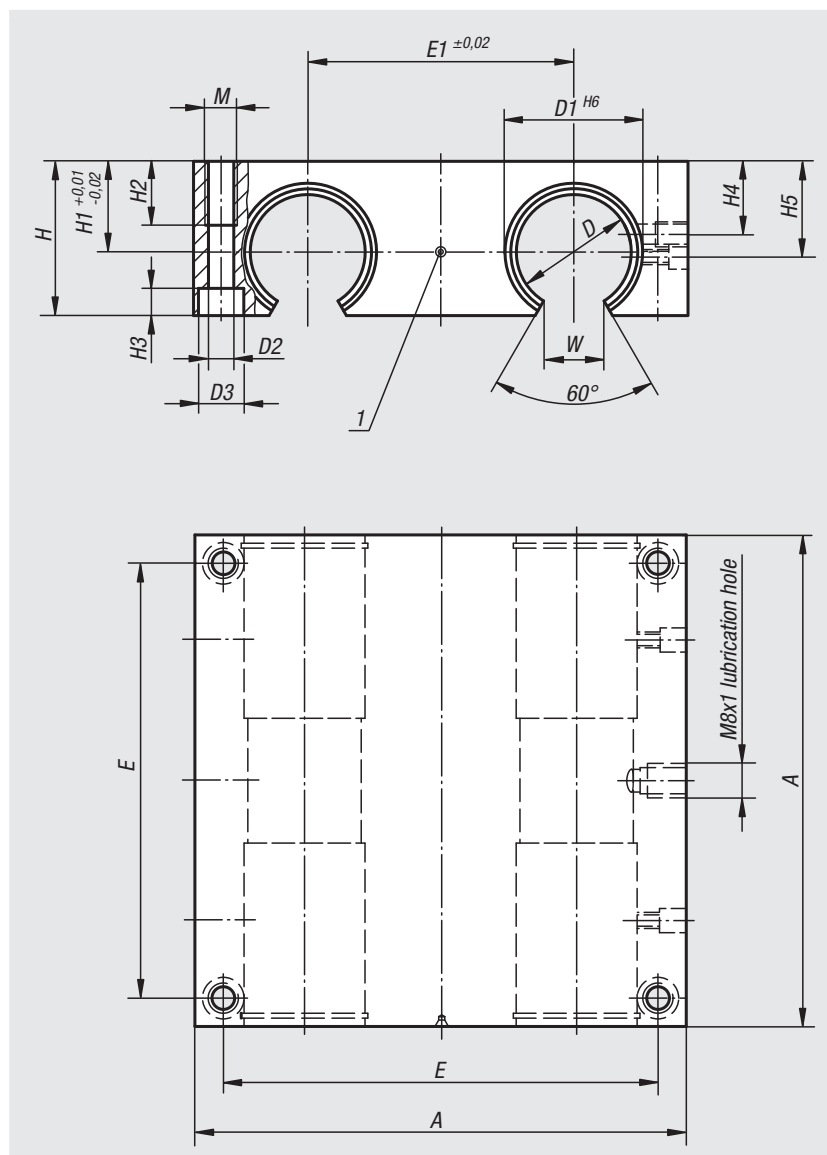
End seals 21560.

Precision guide shafts 21590 or 21595.

Fastening screws 07160 or 07161.

Drawing reference:

1) centring hole



Order No.	A	D	D1	D2	D3	E	E1	H	H1	H2	H3	H4	H5	M	W
21555-121012	85	12	22	5,3	10	73	42	30	18	13	5,4	10	16,65	M6	7
21555-161012	100	16	26	5,3	10	88	54	35	22	13	5,4	12	22	M6	9,4
21555-201012	130	20	32	6,8	11	115	72	42	25	18	6,4	13	25	M8	10,2
21555-251012	160	25	40	9	15	140	88	51	30	22	8,6	15	31,5	M10	12,9
21555-301012	180	30	47	10,5	18	158	96	60	35	26	10,6	16	33	M12	13,9
21555-401012	230	40	62	13,5	20	202	122	77	45	34	12,6	20	43,5	M16	18,2
21555-501012	280	50	75	13,5	20	250	152	93	55	34	12,6	40	52,5	M16	22

End seals

double-lip sealing rings



Material:

Ring steel.

Rubber NBR.

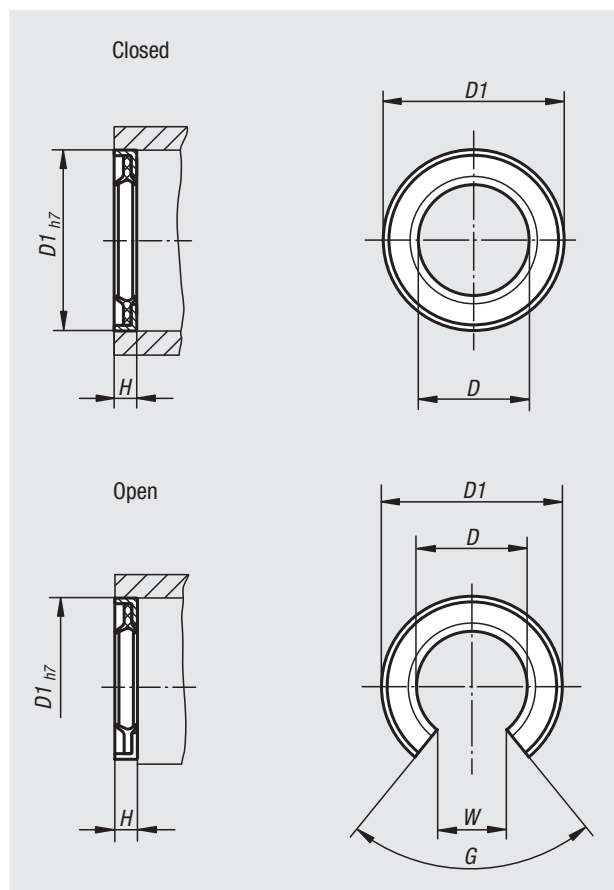
Sample order:

nIm 21560-120

Note:

In addition to the standard seals for linear ball bearings, these end seals are also available. The end seals give much better protection from dirt and dust.

The seals are inserted into the housing bores (tolerance H7) in front of the bearings and secured with glue.



Order No. closed	Order No. open	D	D1	H	G	W
21560-120	21560-121	12	22	3	-/78°	-/7,5
21560-160	21560-161	16	26	3	-/78°	-/10
21560-200	21560-201	20	32	4	-/60°	-/10
21560-250	21560-251	25	40	4	-/60°	-/12,5
21560-300	21560-301	30	47	5	-/50°	-/12,5
21560-400	21560-401	40	62	5	-/56°	-/18,7

Shaft supports



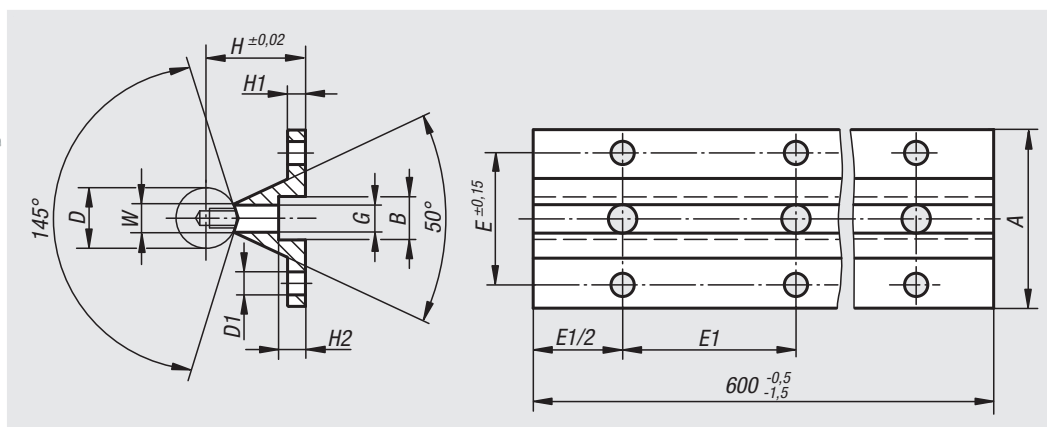
Material:
Aluminium.

Version:
Bright.

Sample order:
nlm 21565-12375X0600

Note:
Shaft supports are required to support shafts in conjunction with open linear ball bearings.
Shafts supported along the entire length result in particularly rigid assemblies, in many cases however, sectional supports suffice.
The standard length of our shaft supports is 600 mm. These can be shortened or set in series to produce longer supports.

Accessories:
Precision guide shafts with fastening holes 21590.
Fastening screws 07160.



Order No.	Size	A	B	D	D1	E	E1	G hole for DIN 912 cap screw	H	H1	H2	W
21565-12375X0600	12	40	8	12	4,5	29	75	M4x16	22	5	5	5,8
21565-16500X0600	16	45	9,5	16	5,5	33	100	M5x20	26	5	6	7
21565-20500X0600	20	52	11	20	6,6	37	100	M6x25	32	6	6,5	8,3
21565-25600X0600	25	57	14	25	6,6	42	120	M8x25	36	6	8,5	10,8
21565-30750X0600	30	69	17	30	9	51	150	M10x30	42	7	10,5	11
21565-40100X0600	40	73	17	40	9	55	200	M10x30	50	8	10,5	15
21565-50100X0600	50	84	19	50	11	63	200	M12x30	60	9	12,5	19

Traverses fixed



Material:
Aluminium.

Version:
Bright.

Sample order:
nlm 21575-12

Note:

Traverse with two bores for easy and secure clamping and fastening of guide shafts. For the assembly of prefabricated table units with our Quadro linear housing units 21550 or 21555.

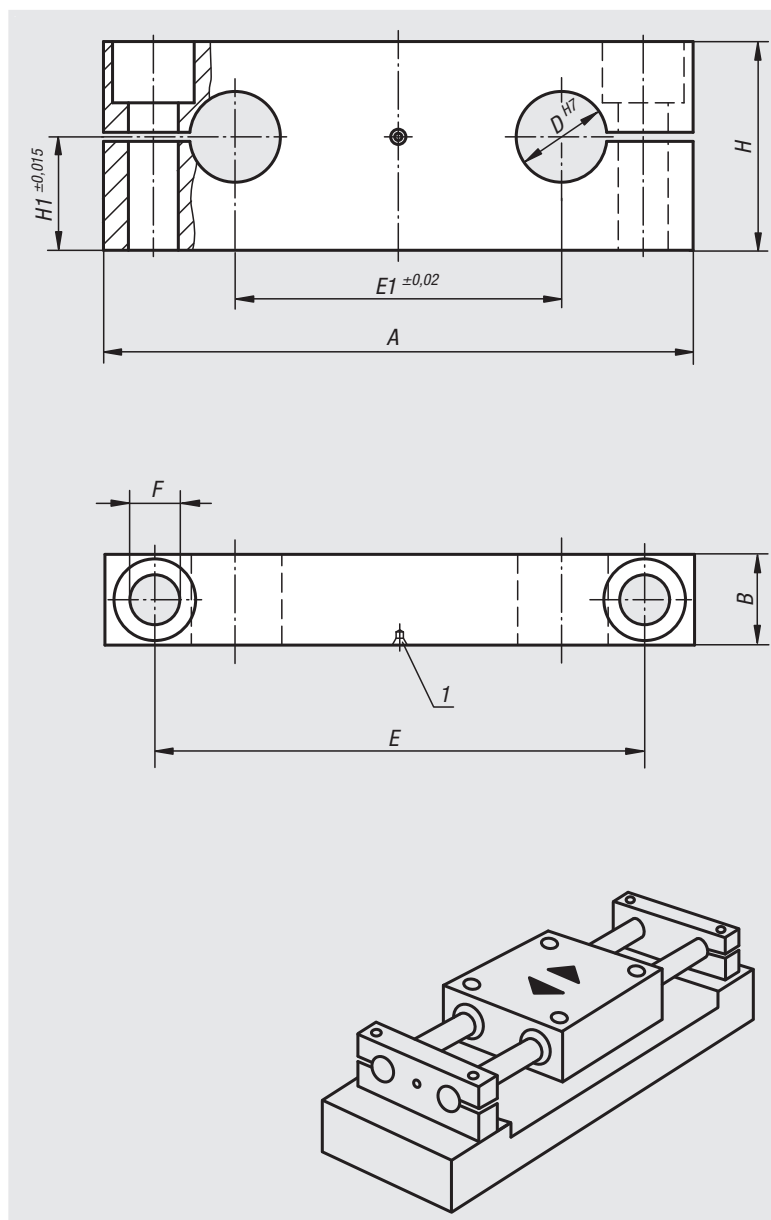
This version permits the axial motion of the linear bearing unit i.e. the shafts are mounted fixed with the traverses on the machine bed.

Accessories:

Precision guide shafts 21595.
Fastening screws 07160 or 07161.

Drawing reference:

1) centring hole



Order No.	A	B	D	E	E1	F hole for ISO 4762 cap screw	H	H1
21575-20	130	20	20	108	72	11	46	25
21575-12	85	14	12	70	42	6,6	32	18
21575-16	100	18	16	82	54	9	36	20
21575-25	160	25	25	132	88	13,5	56	30
21575-30	180	25	30	150	96	13,5	64	35
21575-40	230	30	40	190	122	17,5	80	44
21575-50	280	30	50	240	152	17,5	96	52

Traverses moveable



Material:
Aluminium.

Version:
Bright.

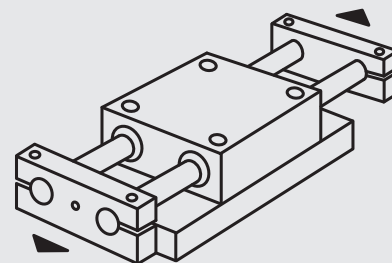
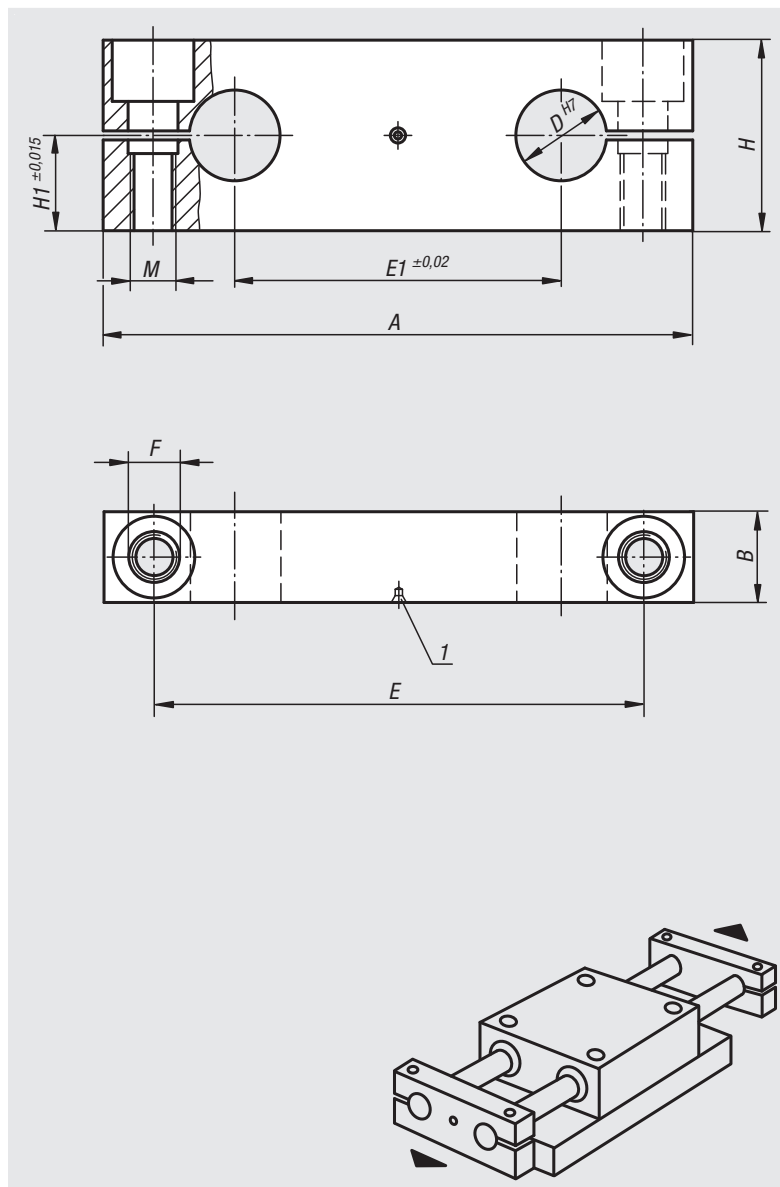
Sample order:
nlm 21577-12

Note:
Traverse with two bores for easy and secure clamping and fastening of guide shafts. For the assembly of prefabricated table units with our Quadro linear housing units 21550 or 21555.

By fixed mounted linear bearing units these traverses permit the shaft to travel with the travers.

Accessories:
Precision guide shafts 21595.
Fastening screws 07160 or 07161.

Drawing reference:
1) centring hole



Order No.	A	B	D	E	E1	F hole for ISO 4762 cap screw	H	H1	M
21577-12	85	14	12	70	42	6,6	28	14	M6
21577-16	100	18	16	82	54	9	32	16	M8
21577-20	130	20	20	108	72	11	42	21	M10
21577-25	160	25	25	132	88	13,5	52	26	M12
21577-30	180	25	30	150	96	13,5	58	29	M12
21577-40	230	30	40	190	122	17,5	72	36	M16
21577-50	280	30	50	240	152	17,5	88	44	M16

Shaft supports



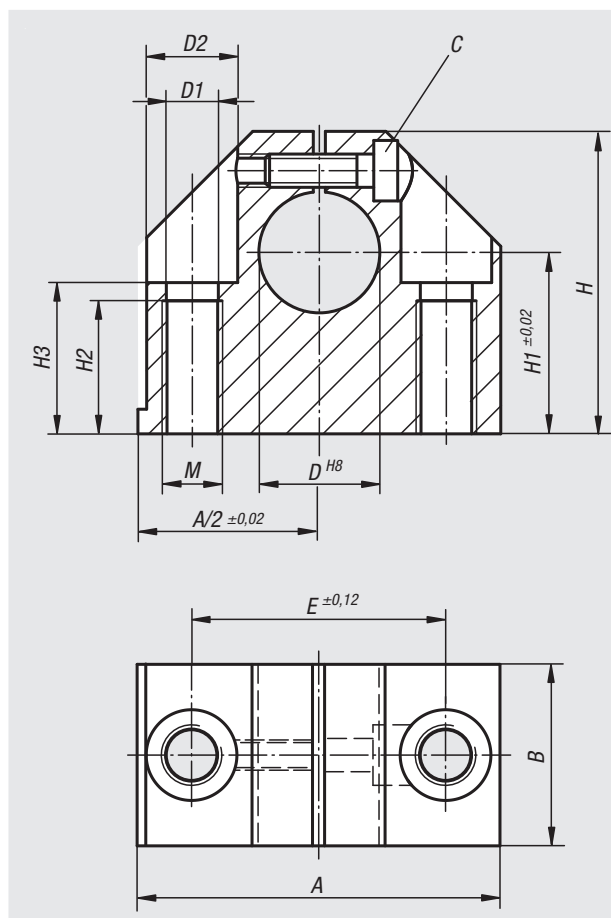
Material:
Aluminium.

Version:
Bright.

Sample order:
nlm 21580-12

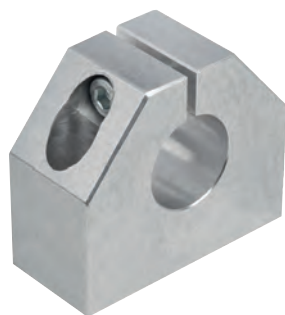
Note:
Shaft support with bore for easy and secure clamping and fastening the guide shafts.

Accessories:
Precision guide shafts 21595.
Fastening screws 07160 or 07161.



Order No.	A	B	D	D1	D2	E	H	H1	H2	H3	M	C (DIN 912)
21580-12	43	20	12	5,2	10	30	35	20	13	16,5	M6	M4
21580-16	53	24	16	6,8	11	38	42	25	18	21	M8	M5
21580-20	60	30	20	8,6	15	42	50	30	22	25	M10	M6
21580-25	78	38	25	10,3	18	56	60	35	26	30	M12	M8
21580-30	87	40	30	10,3	18	64	70	40	26	34	M12	M8
21580-40	108	48	40	14,25	20	82	90	50	34	44	M16	M10
21580-50	132	58	50	17,5	26	100	105	60	43	49	M20	M12

Shaft supports, aluminium, compact



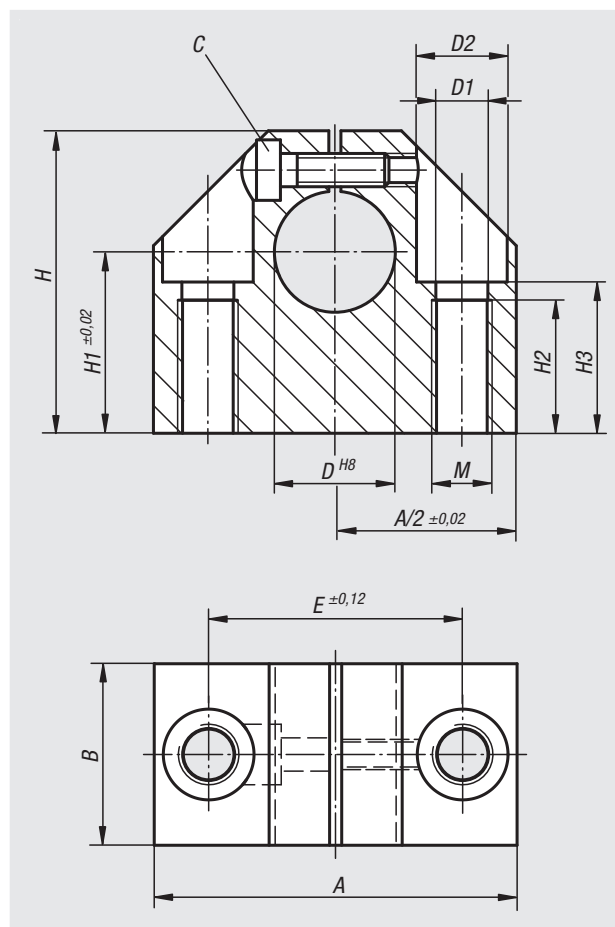
Material:
Aluminium.

Version:
Bright.

Sample order:
nlm 21580-10-16

Note:
Compact shaft supports with location hole for easy and secure clamping and installation of guide shafts.

Accessories:
Precision guide shafts 21595.
Fastening screws 07160.



Order No.	A	B	D	D1	D2	E	H	H1	H2	H3	M	C (DIN 912)
21580-10-12	40	18	12	5,2	10	27	33	19	13	16,5	M6	M4
21580-10-16	45	20	16	5,2	10	32	38	22	13	18	M6	M4
21580-10-20	53	24	20	6,8	11	39	45	25	18	21	M8	M5
21580-10-25	62	28	25	8,6	15	44	54	31	22	25	M10	M6
21580-10-30	67	30	30	8,6	15	49	60	34	22	29	M10	M6
21580-10-40	87	40	40	10,3	18	66	76	42	26	37	M12	M8
21580-10-50	103	50	50	14,25	20	80	92	50	34	44	M16	M10

Shaft supports

standard



Material:

Aluminium.

Version:

Bright.

Sample order:

nlm 21582-12

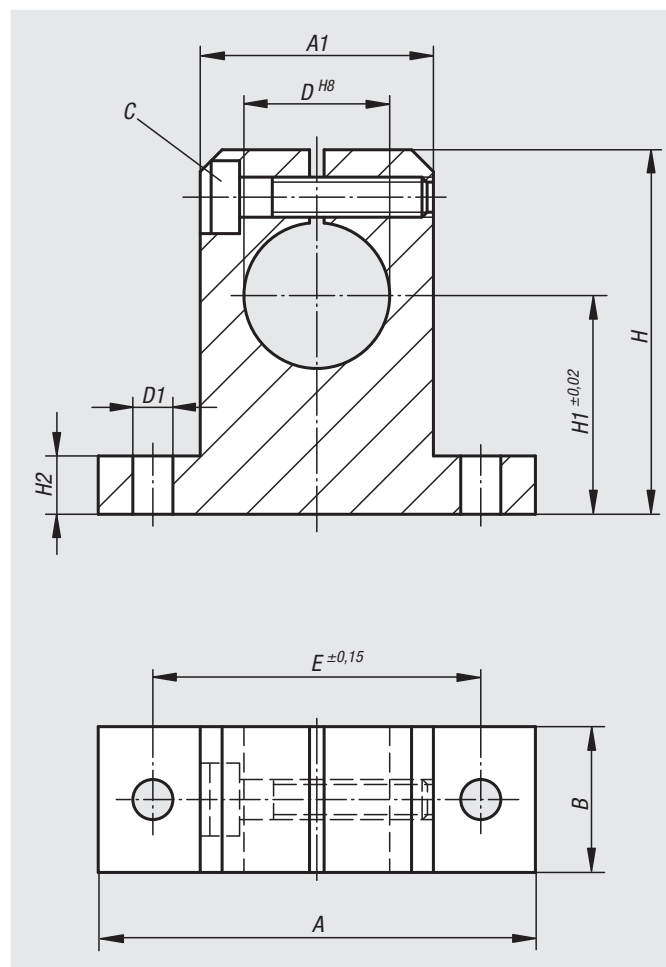
Note:

Shaft support with bore for easy and secure clamping and fastening the guide shafts.

Accessories:

Precision guide shafts 21595.

Fastening screws 07160 or 07161.



Order No.	A	A1	B	D	D1	E	H	H1	H2	C (DIN 912)
21582-12	42	20	12	12	5,5	32	35	20	5,5	M4
21582-16	50	26	16	16	5,5	40	42	25	6,5	M4
21582-20	60	32	20	20	5,5	45	50	30	8	M4
21582-25	74	38	25	25	6,6	60	58	35	9	M5
21582-30	84	45	28	30	9	68	68	40	10	M6
21582-40	108	56	32	40	11	86	86	50	12	M8
21582-50	130	80	40	50	11	108	100	60	14	M8

Shaft supports

flanged


Material:

Aluminium.

Version:

Bright.

Sample order:

nlm 21585-12

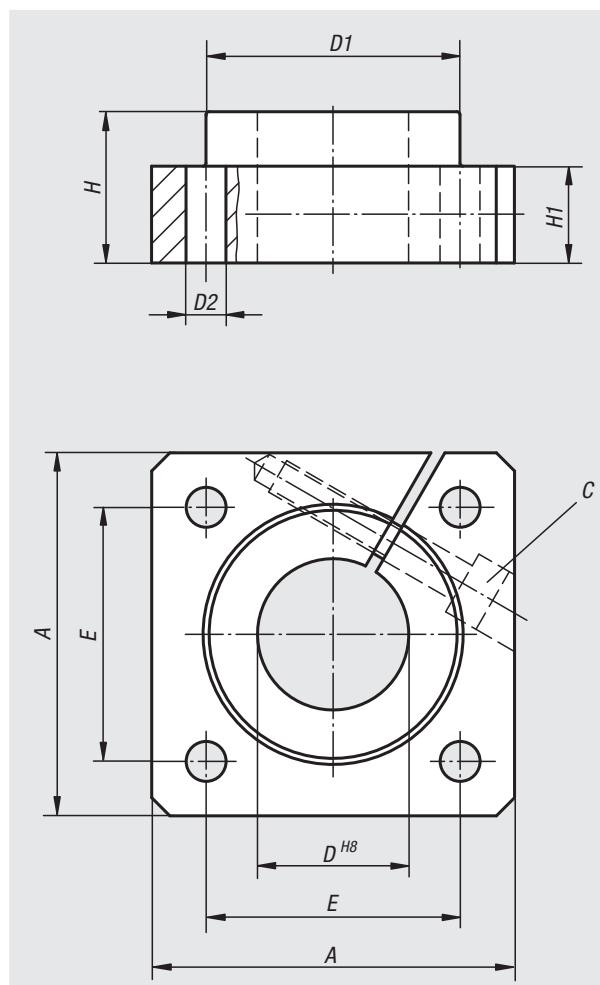
Note:

Flanged shaft support with standard bores for easy and secure clamping and fastening the guide shafts.

Accessories:

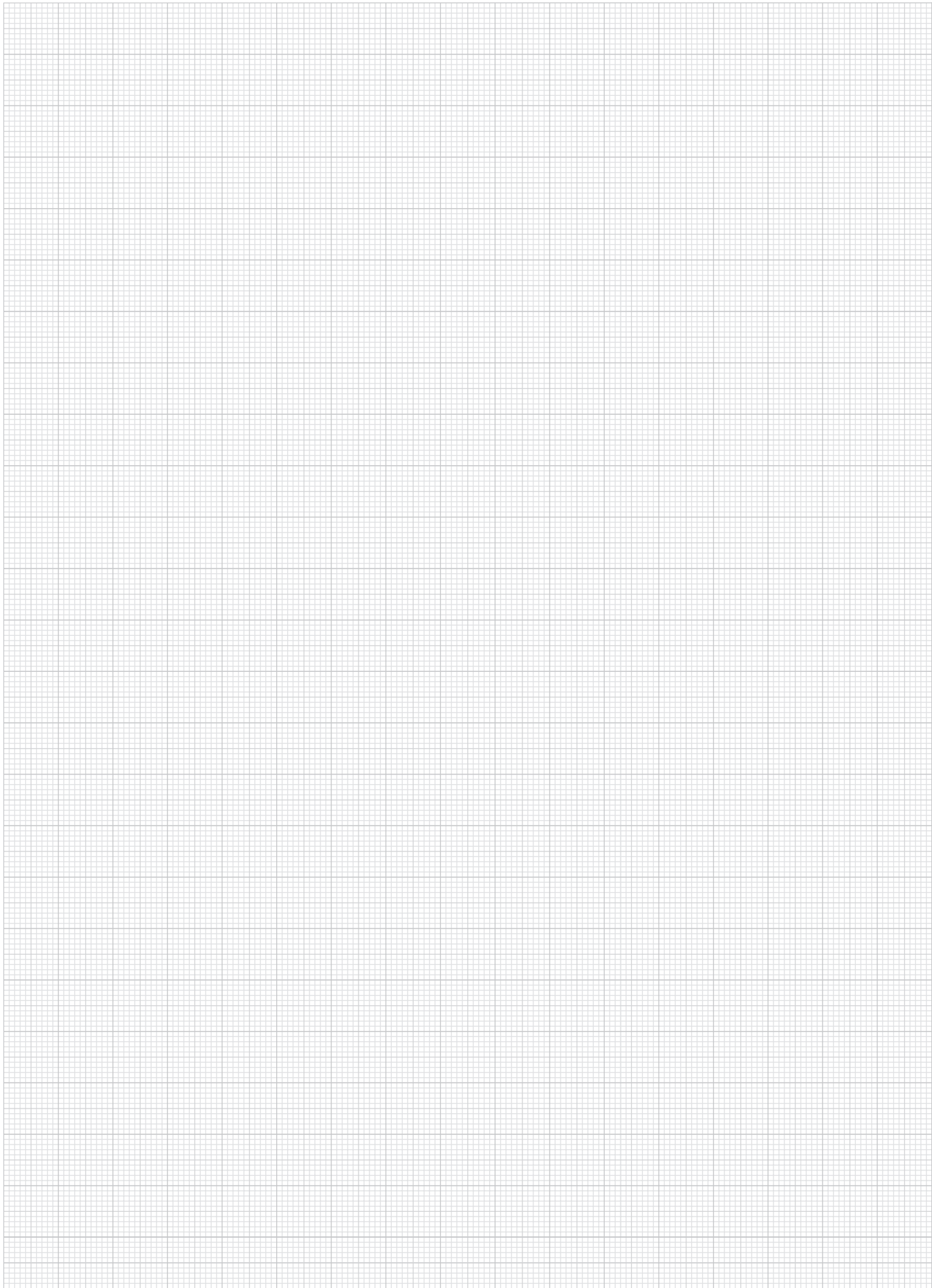
Precision guide shafts 21595.

Fastening screws 07160 or 07161.



Order No.	A	D	D1	D2	E	H	H1	C (DIN 912)
21585-12	40	12	23,5	5,5	30 ±0,12	20	12	M4
21585-20	50	20	33,5	6,6	38 ±0,15	23	14	M5
21585-25	60	25	42	6,6	42 ±0,15	25	16	M6
21585-16	50	16	27,5	5,5	35 ±0,12	20	12	M4
21585-30	70	30	49,5	9	54 ±0,25	30	19	M8
21585-40	100	40	65	11	68±0,25	40	26	M10
21585-50	100	50	75	11	75±0,25	50	36	M10

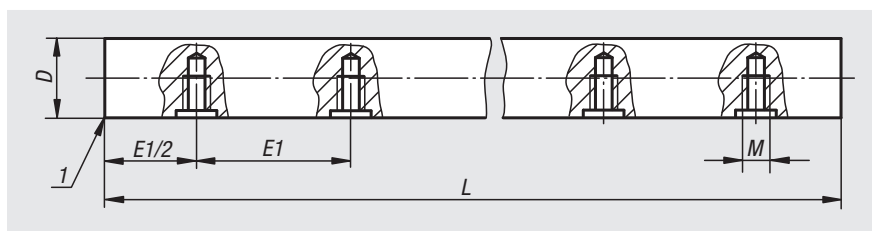
Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Precision guide shafts

with fastening holes

**Material:**

Steel 1.1213.

Stainless steel 1.4034.

Stainless steel 1.4112.

Version:

Steel, ground.

Steel, ground and hard-chromed, chrome coating

5 - 10 μm .

Stainless steel, ground.

The precision steel shafts are generally inductively surface hardened.

Sample order:

nIm 21590-012375X0600

Note:

The surface value obtained during the inductive hardening process guarantees high surface wear resistance.

Suitable for shaft supports 21565.

On request:

Lengths up to a max. 4000 mm.

Accessories:

Shaft supports 21565.

Drawing reference:

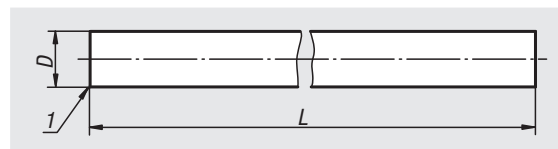
1) chamfered

Precision guide shafts

with fastening holes

Order No.	Material	Surface finish body	Steel code	D	E1	L	M	Hardening depth max.	Surface hardness HRC
21590-012375X0600	steel	ground	1.1213	12h6	75	600	M4	1,3	62 ±2
21590-016500X0600	steel	ground	1.1213	16h6	100	600	M5	1,6	62 ±2
21590-020500X0600	steel	ground	1.1213	20h6	100	600	M6	1,6	62 ±2
21590-025600X0600	steel	ground	1.1213	25h6	120	600	M8	1,8	62 ±2
21590-030750X0600	steel	ground	1.1213	30h6	150	600	M10	2	62 ±2
21590-040100X0600	steel	ground	1.1213	40h6	200	600	M10	2	62 ±2
21590-050100X0600	steel	ground	1.1213	50h6	200	600	M12	2,6	62 ±2
21590-112375X0600	steel	ground and hard-chromed	1.1213	12h7	75	600	M4	1,3	65 - 70
21590-116500X0600	steel	ground and hard-chromed	1.1213	16h7	100	600	M5	1,6	65 - 70
21590-120500X0600	steel	ground and hard-chromed	1.1213	20h7	100	600	M6	1,6	65 - 70
21590-125600X0600	steel	ground and hard-chromed	1.1213	25h7	120	600	M8	1,8	65 - 70
21590-130750X0600	steel	ground and hard-chromed	1.1213	30h7	150	600	M10	2	65 - 70
21590-140100X0600	steel	ground and hard-chromed	1.1213	40h7	200	600	M10	2	65 - 70
21590-150100X0600	steel	ground and hard-chromed	1.1213	50h7	200	600	M12	2,6	65 - 70
21590-212375X0600	stainless steel	ground	1.4034	12h6	75	600	M4	1,3	51 - 55
21590-216500X0600	stainless steel	ground	1.4034	16h6	100	600	M5	1,6	51 - 55
21590-220500X0600	stainless steel	ground	1.4034	20h6	100	600	M6	1,8	51 - 55
21590-225600X0600	stainless steel	ground	1.4034	25h6	120	600	M8	2	51 - 55
21590-230750X0600	stainless steel	ground	1.4034	30h6	150	600	M10	2,4	51 - 55
21590-240100X0600	stainless steel	ground	1.4034	40h6	200	600	M10	2	51 - 55
21590-250100X0600	stainless steel	ground	1.4034	50h6	200	600	M12	2,6	51 - 55
21590-312375X0600	stainless steel	ground	1.4112	12h6	75	600	M4	1	52-56
21590-316500X0600	stainless steel	ground	1.4112	16h6	100	600	M5	1,5	52-56
21590-320500X0600	stainless steel	ground	1.4112	20h6	100	600	M6	1,5	52-56
21590-325600X0600	stainless steel	ground	1.4112	25h6	120	600	M8	1,7	52-56
21590-330750X0600	stainless steel	ground	1.4112	30h6	150	600	M10	1,7	52-56
21590-340100X0600	stainless steel	ground	1.4112	40h6	200	600	M10	2	52-56
21590-350100X0600	stainless steel	ground	1.4112	50h6	200	600	M12	2,6	52-56

Precision guide shafts



Material:

Steel 1.1213.
Stainless steel 1.4034.
Stainless steel 1.4112.

Version:

Steel, ground.
Steel, ground and hard-chromed, chrome coating 5 - 10 µm.
Stainless steel, ground.

The precision steel shafts are generally inductively surface hardened.

Sample order:

nIm 21595-012X1000

Note:

The surface value obtained during the inductive hardening process guarantees high surface wear resistance.

On request:

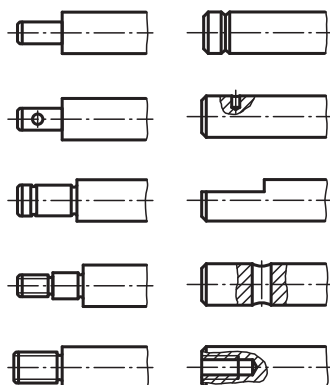
Machining of the ends and cylindrical surfaces according to customer specifications.

Maximum length 4000 mm.

Where $D < 6$ mm lengths up to 2000 mm are available on request.

Drawing reference:

1) chamfered



Order No.	Material	Surface finish body	Steel code	D	L	Hardening depth max.	Surface hardness HRC
21595-003X0330	steel	ground	1.1213	3h6	330	hardened	62 ±2
21595-004X1000	steel	ground	1.1213	4h6	1000	hardened	62 ±2
21595-005X1000	steel	ground	1.1213	5h6	1000	0,8	62 ±2
21595-006X1000	steel	ground	1.1213	6h6	1000	0,8	62 ±2
21595-008X1000	steel	ground	1.1213	8h6	1000	1	62 ±2
21595-010X1000	steel	ground	1.1213	10h6	1000	1	62 ±2
21595-012X1000	steel	ground	1.1213	12h6	1000	1,3	62 ±2
21595-016X1000	steel	ground	1.1213	16h6	1000	1,6	62 ±2
21595-020X1000	steel	ground	1.1213	20h6	1000	1,6	62 ±2
21595-025X1000	steel	ground	1.1213	25h6	1000	1,8	62 ±2
21595-030X1000	steel	ground	1.1213	30h6	1000	2	62 ±2
21595-040X1000	steel	ground	1.1213	40h6	1000	2	62 ±2
21595-050X1000	steel	ground	1.1213	50h6	1000	2,6	62 ±2
21595-105X1000	steel	ground and hard-chromed	1.1213	5h7	1000	0,8	65 - 70
21595-106X1000	steel	ground and hard-chromed	1.1213	6h7	1000	0,8	65 - 70
21595-108X1000	steel	ground and hard-chromed	1.1213	8h7	1000	1	65 - 70
21595-110X1000	steel	ground and hard-chromed	1.1213	10h7	1000	1	65 - 70
21595-112X1000	steel	ground and hard-chromed	1.1213	12h7	1000	1,3	65 - 70
21595-116X1000	steel	ground and hard-chromed	1.1213	16h7	1000	1,6	65 - 70
21595-120X1000	steel	ground and hard-chromed	1.1213	20h7	1000	1,6	65 - 70
21595-125X1000	steel	ground and hard-chromed	1.1213	25h7	1000	1,8	65 - 70
21595-130X1000	steel	ground and hard-chromed	1.1213	30h7	1000	2	65 - 70
21595-140X1000	steel	ground and hard-chromed	1.1213	40h7	1000	2	65 - 70
21595-150X1000	steel	ground and hard-chromed	1.1213	50h7	1000	2,6	65 - 70
21595-206X1000	stainless steel	ground	1.4034	6h6	1000	0,8	51 - 55
21595-208X1000	stainless steel	ground	1.4034	8h6	1000	1	51 - 55
21595-210X1000	stainless steel	ground	1.4034	10h6	1000	1	51 - 55
21595-212X1000	stainless steel	ground	1.4034	12h6	1000	1,3	51 - 55
21595-216X1000	stainless steel	ground	1.4034	16h6	1000	1,6	51 - 55
21595-220X1000	stainless steel	ground	1.4034	20h6	1000	1,8	51 - 55
21595-225X1000	stainless steel	ground	1.4034	25h6	1000	2	51 - 55
21595-230X1000	stainless steel	ground	1.4034	30h6	1000	2,4	51 - 55
21595-240X1000	stainless steel	ground	1.4034	40h6	1000	2	51 - 55
21595-250X1000	stainless steel	ground	1.4034	50h6	1000	2,6	51 - 55
21595-303X0300	stainless steel	ground	1.4112	3h6	300	hardened	52-56
21595-304X1000	stainless steel	ground	1.4112	4h6	1000	hardened	52-56
21595-305X1000	stainless steel	ground	1.4112	5h6	1000	0,8	52-56
21595-306X1000	stainless steel	ground	1.4112	6h6	1000	0,8	52-56
21595-308X1000	stainless steel	ground	1.4112	8h6	1000	1	52-56
21595-310X1000	stainless steel	ground	1.4112	10h6	1000	1	52-56
21595-312X1000	stainless steel	ground	1.4112	12h6	1000	1	52-56
21595-316X1000	stainless steel	ground	1.4112	16h6	1000	1,5	52-56
21595-320X1000	stainless steel	ground	1.4112	20h6	1000	1,5	52-56
21595-325X1000	stainless steel	ground	1.4112	25h6	1000	1,7	52-56
21595-330X1000	stainless steel	ground	1.4112	30h6	1000	1,7	52-56
21595-340X1000	stainless steel	ground	1.4112	40h6	1000	2	52-56
21595-350X1000	stainless steel	ground	1.4112	50h6	1000	2,6	52-56

Clamping elements

for round guides



Material:

Housing steel. Clamping lever plastic.
Threaded spindle grade 12.9.

Version:

Housing nickel-plated.
Clamping lever, spindle black oxidised.

Sample order:

nIm 21596-12

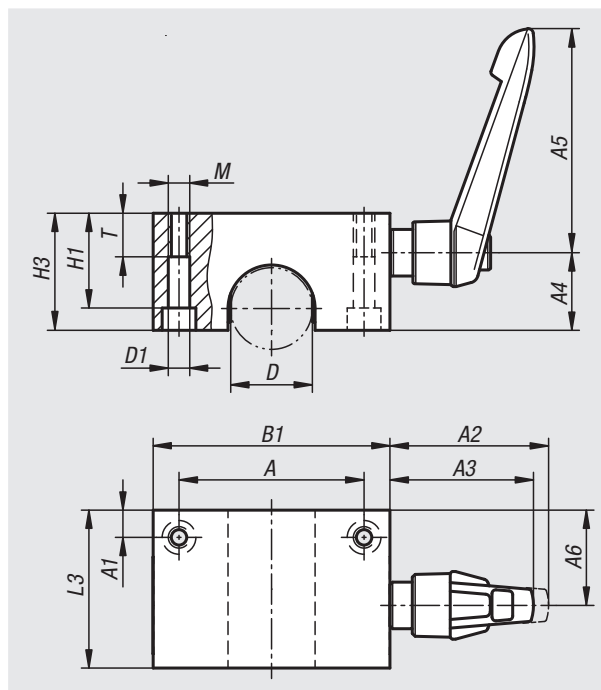
Note:

Manually operated clamping elements for static clamping tasks.
Manual clamping process using the freely adjustable clamping lever. The floating jaws ensure symmetrical application of force onto the shaft. Up to 50,000 static clamping cycles (B10d value).

The shaft should have a tolerance of ± 0.01 mm and a minimum hardness of 54 HRC.

Temperature range:

-10°C to +70°C.



Order No.	Size	A	A1	A2	A3	A4	A5	A6	B1	D	D1	H1	H3	L3	M	T	Retaining force F1 N	Retaining torque Nm	Tightening torque Nm
21596-12	12	32	4,5	33,5	30	16	40	18,5	43	12	4,2	18	24	32	M5	10	1200	7	5
21596-16	16	40	5,5	33,5	30	19	40	22	53	16	5	22	29	38	M6	12	1200	9,5	5
21596-20	20	45	6,5	41,5	45,5	21,5	65	26	60	20	6,8	25	32	44	M8	14	1200	12	7
21596-25	25	60	9	41,5	45,5	25	65	31	78	25	8,6	30	38	52	M10	16	1200	15	7
21596-30	30	68	10	58	53,5	28,5	80	35	87	30	8,6	35	43	58	M10	16	2000	30	12
21596-40	40	86	11	66	61	34,5	95	40,5	108	40	10,5	45	53	68	M12	20	2000	40	17
21596-50	50	108	12	77	72	39,5	110	46	132	50	14,5	50	58	76	M16	22	2000	50	17

Position indicator

quasi-absolute, mains-independent, indicator accuracy 10 µm, small design



Material:

Housing plastic.
Screen LCD display.

Version:

Position indicator with integrated battery compartment.
Plug-in sensor.
Low-power LCD.

Sample order:

nIm 21700-01

Note:

Digital, mains-independent measurement display for play-free position detection.

The system is often used in industry and trade for measuring tasks on length and angle stops (on panel saws, sheet punches, press breaks...).

The recommended dimensions for switchboard installation are 67+3 x 33+0.3.

The angle display is programmable.

The display is ~11 mm high and scaleable from -999999 to 999999.

The max. display accuracy is 10 µm.

The position indicator features a battery-backed memory and a battery monitoring system with a low-batt symbol at ~2.4 V.

The battery is easy to change via the battery compartment. Energy is supplied via 2 micro AAA batteries (not supplied).

Temperature range:

- Ambient temperature 0...60°C
- Storage temperature -10...70°C

Assembly:

Installation must be carried out according to the enclosed user information.

Function:

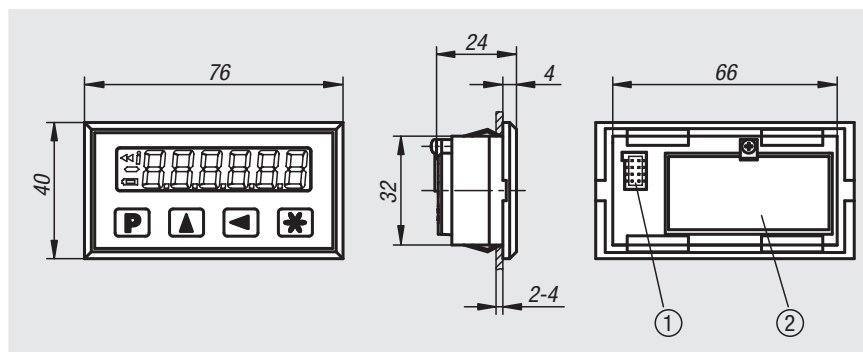
- Chain dimension and reset function
- Direct entry of reference/offset value

Accessories:

- Magnetic sensors 21720
- Magnetic tapes 21725
- Hollow shaft sensors 21730

Attention:

The relative humidity must not exceed 95%. Dewing is not permissible.

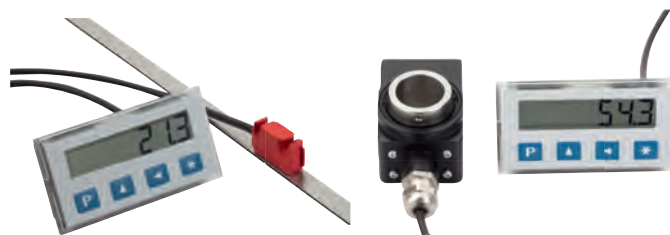


Technical data:

- Resolution 0.01; 0.05; 0.1; 1 mm/ 0.001; 0.01 inch
- System accuracy $\pm(0.1 + 0.01 \times L)$ mm, L in m
- Operating voltage 3 V DC, protected against polarity reversal
- Current consumption ~150 µA at 3 V DC
- Repeat accuracy ± 0.01 mm
- Travel speed max. 5 m/s
- EMC EN 61000-6-2; EN 61000-6-4
- Rating IP 40, general device
- Rating IP 54, front side

Drawing reference:

- 1) Sensor connection
- 2) Battery compartment



Order No.

Item

21700-01

Position Indicator

Position indicator

quasi-absolute, mains-independent, indicator accuracy 10 µm



Material:

Housing plastic.
Screen LCD display.

Version:

Position indicators with integrated battery compartment.
Plug-in sensor.
Low-power LCD with decimal and fraction inch function.

Sample order:

nIm 21702-01

Note:

Digital, mains-independent measurement display for play-free position detection.

The system is often used in industry and trade for measuring tasks on length and angle stops (on panel saws, sheet punches, press breaks...).

The recommended dimensions for switchboard installation are 92+0.8 x 45+0.6.

The angle display is programmable.

The display is ~13 mm high and scaleable from -1999999 to 1999999.

The max. display accuracy is 10 µm decimal to 1/64 inch.

The position indicator features a battery-backed memory and a battery monitoring system with a Low-Batt symbol at <1.1 V.

The battery is easy to change via the battery compartment.

Energy is supplied via 2 mignon AA batteries (not supplied).

Temperature range:

- Ambient temperature 0–60°C
- Storage temperature -10–70°C

Assembly:

Installation must be carried out according to the enclosed user information.

Function:

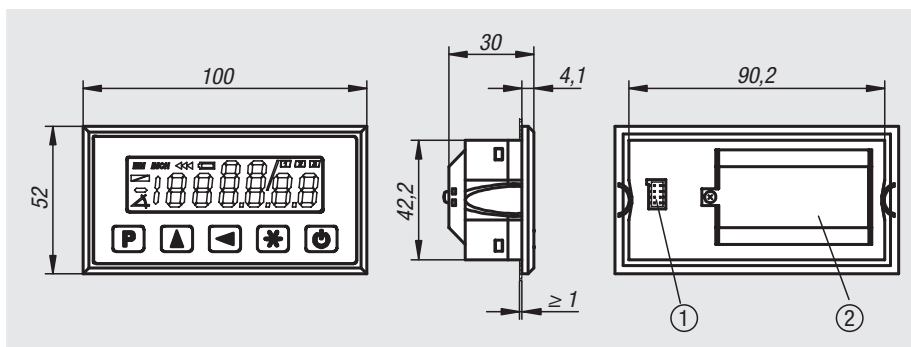
- Chain dimension and reset function
- Direct entry of reference/offset value

Accessories:

- Magnetic sensors 21720
- Magnetic tapes 21725
- Hollow shaft sensors 21730

Attention:

The relative humidity must not exceed 95%. Dewing is not permissible.



Technical data:

- Resolution 0.01; 0.05; 0.1; 1 mm/ 0.001; 0.01; 1/16; 1/32; 1/64
- System accuracy $\pm(0.1 + 0.01 \times L)$ mm, L in m
- Operating voltage 3 V DC, protected against polarity reversal
- Current consumption ~220 µA at 3 V DC
- Repeat accuracy ± 0.01 mm
- Travel speed max. 5 m/s
- EMC EN 61000-6-2; EN 61000-6-4
- Rating IP 40, general device
- Rating IP 54, front side

Drawing reference:

- 1) Sensor connection
- 2) Battery compartment



Order No.

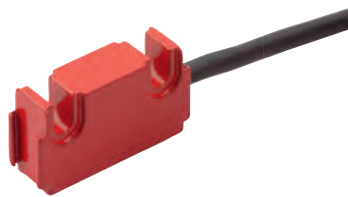
Item

21702-01

Position Indicator

Magnetic sensors

passive sensors, miniature design



Material:

Housing aluminium.
Cable sheath PVC.

Version:

Compact sensor and plug design.
Flat connector, 8-pole, 1x pin.
Connection cable, 6-wire, $\varnothing$ 3.55–0.3 mm.
Cable bend radius, > 17 mm (static).

Sample order:

nIm 21720-00200

Note:

Works with magnetic tapes 21725.
The reading distance between the sensor and tape must be 0.1 to 2 mm.
The sensor is supplied with operating voltage and draws current via the electronics.
System accuracy, repeat accuracy and travel speed is dependent on the electronics.
Plug-in connection to position indicators 21700 and 21702.

Temperature range:

- Ambient temperature 0...60°C
- Storage temperature -10...70°C

Assembly:

Installation must be carried out using the enclosed user information.

A, reading distance sensor/tape ≤ 2 mm

B, lateral offset ± 2 mm

C, misalignment $\pm 3^\circ$

D, pitch gradient $\pm 1^\circ$

E, lateral gradient $\pm 3^\circ$

Accessories:

Position indicators 21700 and 21702.

Magnetic tapes 21725.

Attention:

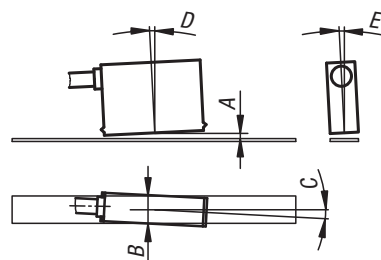
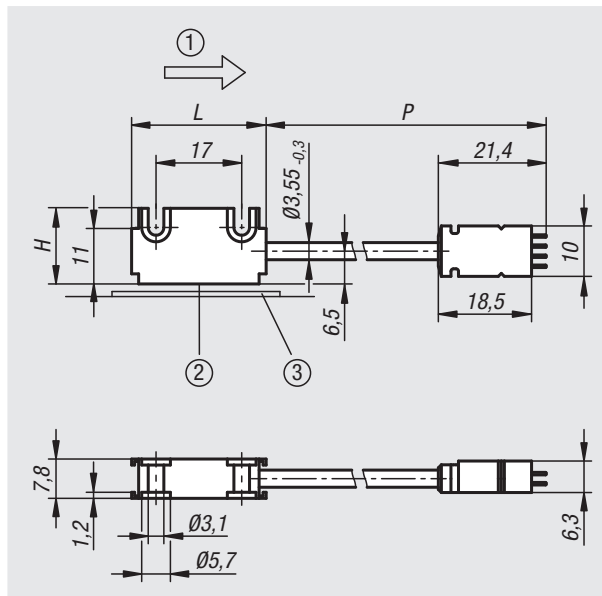
Relative humidity 100%. Dewing is permissible (sensor head).

Technical data:

- Rating IP 67; EN 60529 (sensor head)
- Shock resistance 2000 m/s², 11 ms; EN 60068-2-27
- Vibration resistance 200 m/s², 50 Hz–2 kHz; EN 60068-2-6

Drawing reference:

- 1) Sine before cosine
- 2) Active measuring surface
- 3) Magnetic tape



Order No.	P	L	H
21720-00200	200	26,7	15
21720-00500	500	26,7	15
21720-01000	1000	26,7	15
21720-02000	2000	26,7	15
21720-05000	5000	26,7	15
21720-10000	10000	26,7	15

Magnetic tape

scale with incremental coding, 5 mm pole length



Material:

Magnetic tape, magnetised plastic sheet.
Carrier band steel.
Cover band stainless steel.

Version:

Scale with incremented coding.
Pole length 5 mm.

Sample order:

nlm 21725-010X1000

Note:

Simple adhesive mounting; self-assembly possible.
Required tape length calculated from:
measuring path + sensor length „L“ + (2 x run or return „B“).
L = see drawing of sensor used.
B = 10 mm (run and return).

Temperature range:

- Ambient temperature -20–70°C
- Storage temperature -40–70°C

Assembly:

Installation using the pre-affixed double-sided adhesive tape must be carried out according to the enclosed user information.

On request:

Other lengths from 0.1–100 m, in increments of 0.1 m.

Attention:

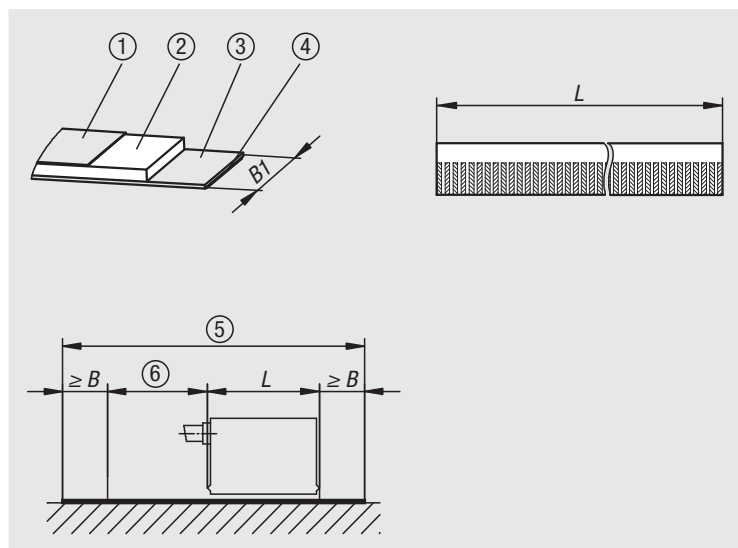
Relative humidity 100%. Dewing is permissible.

Technical data:

- Coefficient of expansion $(11 \pm 1) \times 10^{-6}/K$ (spring steel)

Drawing reference:

- 1) Cover band A = 0.176 mm
- 2) Magnetic tape M = 1.0 mm
- 3) Carrier band T = 0.3 mm
- 4) Adhesive tape K = 0.1 mm
- 5) Required tape length = measuring path + L + 2 x B
- 6) Measuring path



Order No.	B1	L	Precision mm
21725-010X1000	10	1000	0,1
21725-010X2000	10	2000	0,1
21725-010X3000	10	3000	0,1
21725-010X4000	10	4000	0,1
21725-010X5000	10	5000	0,1
21725-010X6000	10	6000	0,1
21725-010X7000	10	7000	0,1
21725-010X8000	10	8000	0,1
21725-010X9000	10	9000	0,1
21725-010X10000	10	10000	0,1

Hollow shaft sensors

with magnetic scanning



Material:

Shaft stainless-steel.
Housing plastic.
Cable sheath PVC.

Version:

Housing black.
Flat connector, 8-pole, 1x pin.
Cable bend radius, > 17 mm (fixed).

Sample order:

nIm 21730-0500

Note:

For speeds ≤ 600 rpm.
Simple assembly for hollow shafts up to max. 20 mm.
Plug-in connection to position indicators 21700 and 21702.
The sensor is supplied with operating voltage and draws current via the electronics.
The resolution and measuring range are dependent on the electronics.

Temperature range:

- Ambient temperature 0–60°C
- Storage temperature -10–70°C

Assembly:

Installation must be carried out according to the enclosed user information.

Accessories:

Position indicators 21700 and 21702.
Reducer sleeves 21740.

Attention:

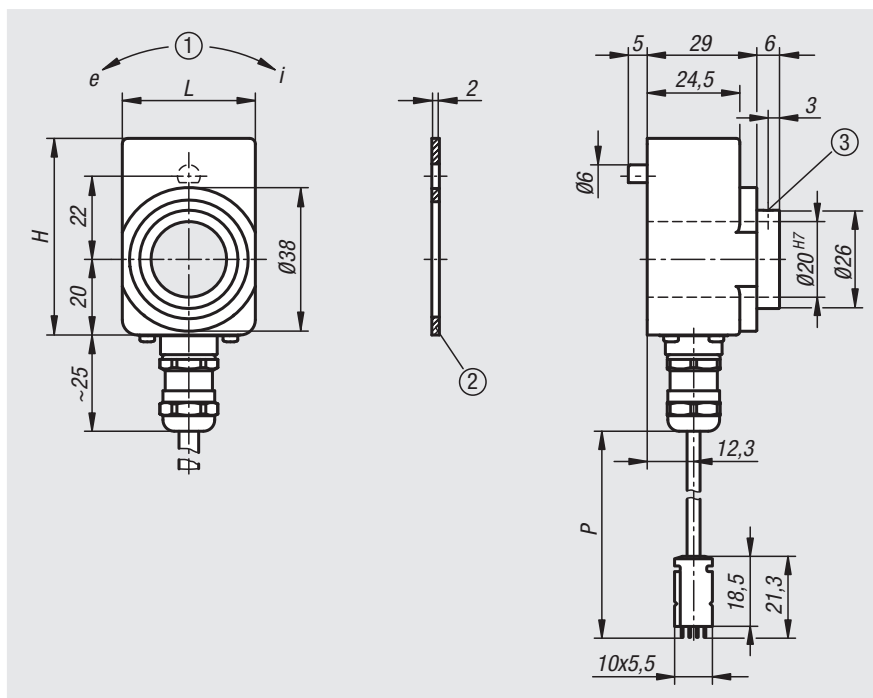
Dewing is not permissible.

Technical data:

- Rotative sensor
- Magnetic scanning via a magnet wheel with 18 poles each 5 mm
- Rating IP 65; EN60529

Drawing reference:

1) Direction of rotation
2) Sealing plate
3) Grub screw, M3 (2x120)



Order No.	H	L	P
21730-0500	52	35,2	500
21730-1000	52	35,2	1000
21730-2000	52	35,2	2000

Reducer sleeves

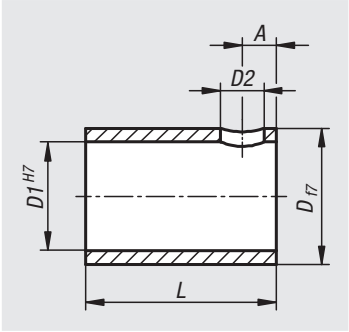


Material:
Stainless steel

Version:
Bright.

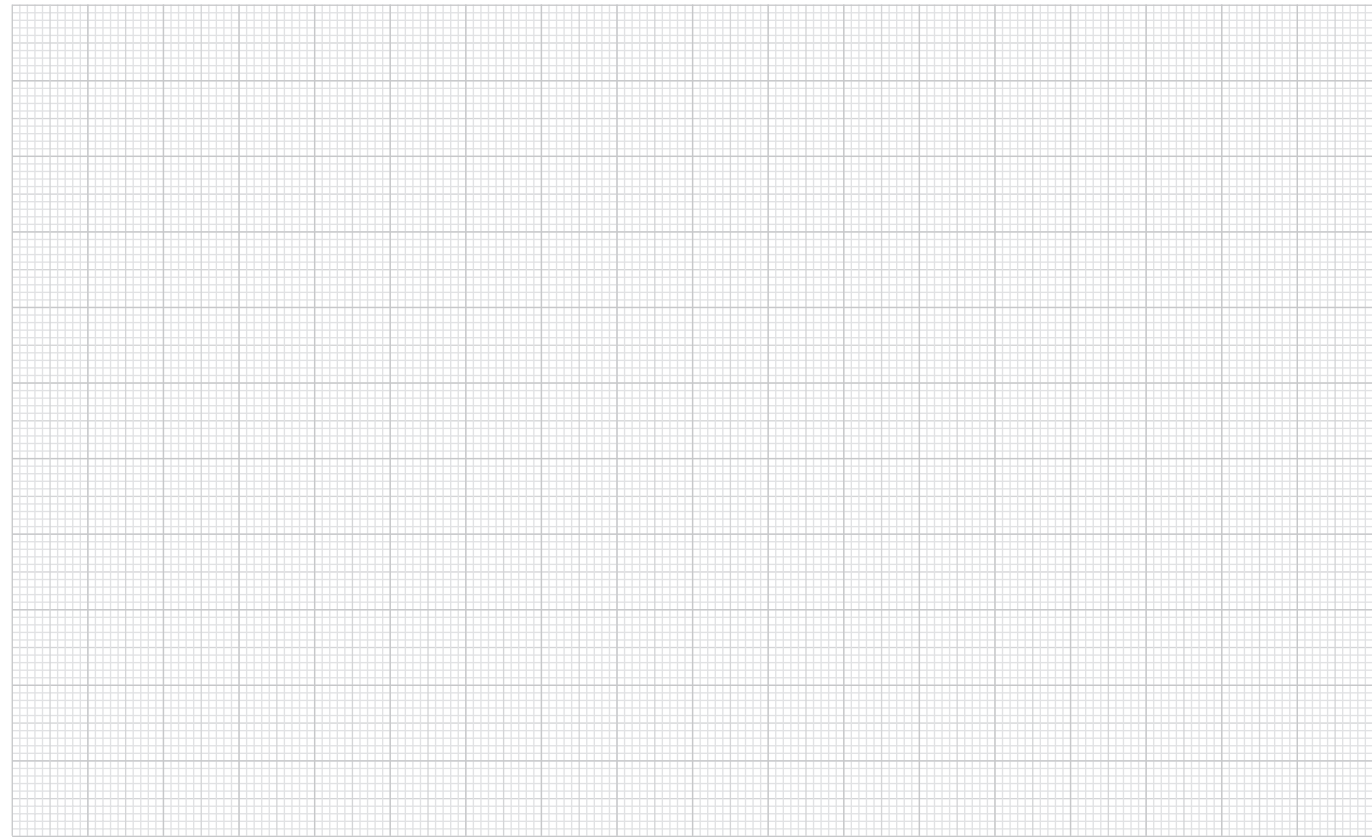
Sample order:
nlm 21740-112012

Note:
Reducer sleeves are used to change the diameter between the hollow shaft sensor and adjustment spindle.



Order No.	A	D	D1	D2	L	Suitable for
21740-112012	3	20	12	3,6	20	21730
21740-112014	3	20	14	3,6	20	21730
21740-112016	3	20	16	3,6	20	21730
21740-112018	3	20	18	3,6	20	21730

Notes



Bullseye levels

in frame, to screw on



Material:

Frame brass.

Bullseye level body polyamide.

Version:

Nickel-plated and high-gloss polished.

Sample order:

nIm 21800-1141030

Note:

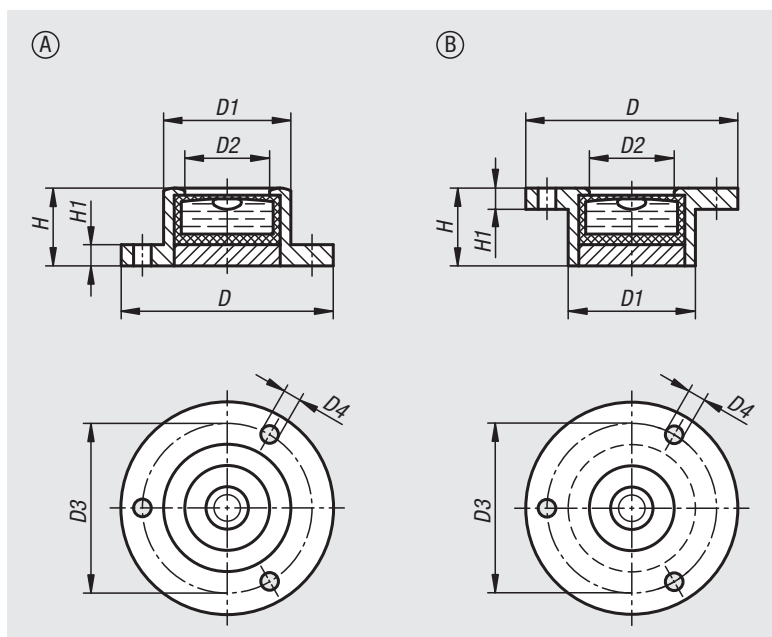
Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

These bullseye levels can either be screwed down using the three holes (Form A) or recessed (Form B).

- Form A: calibrated to the ground bottom face
- Form B: calibrated to the underside of the flange
- Sensitivity in angular minutes for 2 mm bubble travel
- Clear filling
- Black contrast ring
- White level base

Temperature range:

-35 °C up to +55 °C.



Order No.	Form	Version 1	D	D1	D2	D3	D4	H	H1	Sensitivity
21800-1141030	A	with mounting flange	20	14	10	17	1,6	10	1,8	30'
21800-1171030	A	with mounting flange	25	17	12	21	2	10	2	30'
21800-1181130	A	with mounting flange	30	18	12	24	2,5	11	3	30'
21800-1281430	A	with mounting flange	40	28	20	34,5	2,5	14	4	30'
21800-1341530	A	with mounting flange	50	34	25	43	3	15	5	30'
21800-2141030	B	inlet flange	20	14	10	17	1,6	10	1,8	30'
21800-2171030	B	inlet flange	25	17	12	21	2	10	2	30'
21800-2181130	B	inlet flange	30	18	12	24	2,5	11	3	30'
21800-2281430	B	inlet flange	40	28	20	34,5	2,5	14	4	30'
21800-2341530	B	inlet flange	50	34	25	43	3	15	5	30'

Bullseye levels

in plastic frame


Material:

Frame PMMA.

Bullseye level body acrylic glass.

Version:

black.

Sample order:

nIm 21802-171053

Note:

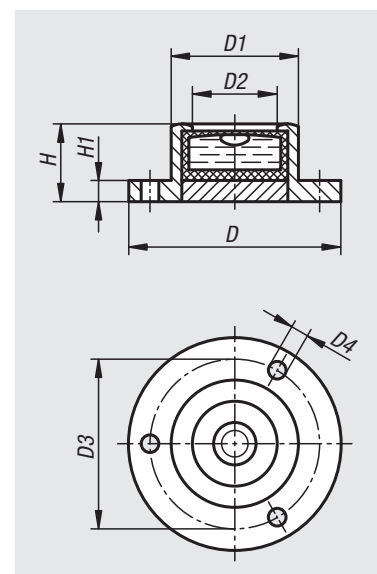
Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

These bullseye levels can be mounted using the three fastening holes.

- Calibrated to the ground bottom face
- Sensitivity in angular minutes for 2 mm bubble travel
- Clear filling
- Black contrast ring
- White level base

Temperature range:

-35 °C up to +55 °C.



Order No.	D	D1	D2	D3	D4	H	H1	Sensitivity
21802-171053	26	17	11	21,5	2,3	10	3	53'
21802-201140	30	20	14	25	2,3	11	3	40'
21802-241153	36	24	18,5	29	3,2	11	3	53'

21804

Bullseye levels

with bead-edged frame


Material:

Frame brass.

Bullseye level body polyamide.

Version:

Nickel-plated and high-gloss polished.

Sample order:

nIm 21804-181030

Note:

Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

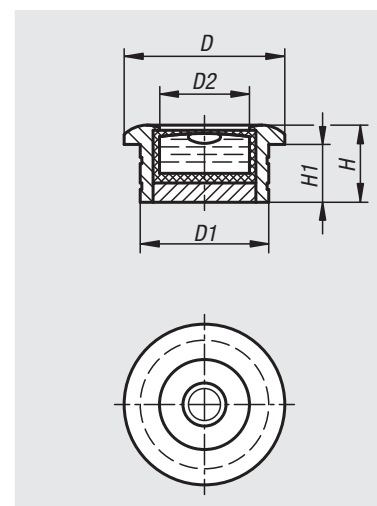
- Sensitivity in angular minutes for 2 mm bubble travel
- The bullseye level is calibrated to underside of the flange
- Bead edge with serrations for recessing
- Clear filling
- Black contrast ring
- White level base

Temperature range:

-35 °C up to +55 °C.

Assembly:

- Measure the level body
- Assemble by pressing in a hole that is 0.02 mm – 0.03 mm smaller than the Ø of the level body
- A chamfer on the hole will ease pressing in



Order No.	D	D1	D2	H	H1	Sensitivity
21804-181030	20	18	12	10	8	30'
21804-201230	25	20	14	12	9	30'
21804-281330	30	28	20	13	10	30'

Bullseye levels

in round frame


Material:

Frame brass.

Bullseye level body polyamide.

Version:

Nickel-plated and high-gloss polished.

Sample order:

nIm 21806-1140930

Note:

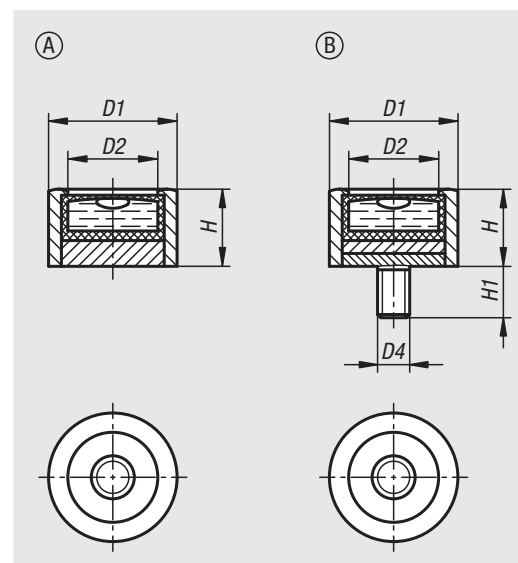
Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

Form B can be fastened using a grub screw.

- Sensitivity in angular minutes for 2 mm bubble travel
- The bullseye level is calibrated to the seating face of frame
- Various threads are available
- Clear filling
- Black contrast ring
- White level base

Temperature range:

-35 °C up to +55 °C.



Order No.	Form	D1	D2	D4	H	H1	Sensitivity
21806-1140930	A	14	10	-	9,5	-	30'
21806-1181130	A	18	12	-	11	-	30'
21806-1201230	A	20	14	-	12	-	30'
21806-1301530	A	30	21	-	15	-	30'
21806-2140730	B	14	10	M4	7,5	5	30'
21806-2181230	B	18	12	M6	12	5	30'
21806-2201230	B	20	14	M5	12	8	30'
21806-2301530	B	30	21	M8	15	10	30'

Bullseye level body


Material:

Bullseye level body stainless steel up to Ø14 mm, then aluminium.
Sight window glass.

Version:

Aluminium black anodised.

Sample order:

nIm 21808-120725

Note:

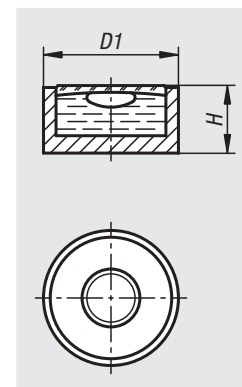
Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

Excellent bubble contour, with internal bubble ring to eliminate planar parallaxes.

- Sensitivity in angular minutes for 2 mm bubble travel
- Clear filling

Temperature range:

-35 °C up to +55 °C.



Order No.	Main material	D1	H	Sensitivity
21808-120710	stainless steel	12	6	10'
21808-120725	stainless steel	12	6	25'
21808-140710	aluminium	14	6,5	10'
21808-140720	aluminium	14	6,5	20'
21808-150710	aluminium	15	6,5	10'
21808-150720	aluminium	15	6,8	20'
21808-200810	aluminium	20	8,5	10'
21808-200820	aluminium	20	8,5	20'
21808-250910	aluminium	25	8,5	10'
21808-250920	aluminium	25	8,5	20'

Bullseye level body

plastic


Material:

Polyamide.

Version:

Ivory coloured.

Sample order:

nIm 21810-120720

Note:

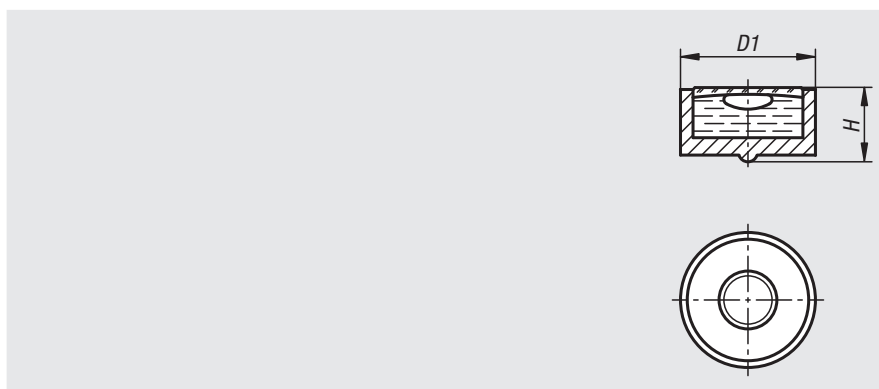
Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

With internal black contrast ring for better bubble contour.

- Protruding fill point underneath.
- Sensitivity in angular minutes for 2 mm bubble travel
- Clear filling

Temperature range:

-35 °C up to +55 °C.



Order No.	D1	H	Sensitivity
21810-120720	12	7	20'
21810-140730	14	7,7	30'
21810-150720	15	7,7	20'
21810-180930	18	9,2	30'
21810-201040	20	10,6	40'
21810-251230	25	11,5	30'

Tubular bubble levels

with frame to screw on


Material:

Frame brass.

Tubular bubble vial glass.

Version:

Nickel-plated and high-gloss polished.

Form B: black anodised.

Sample order:

nIm 21812-1571350

Note:

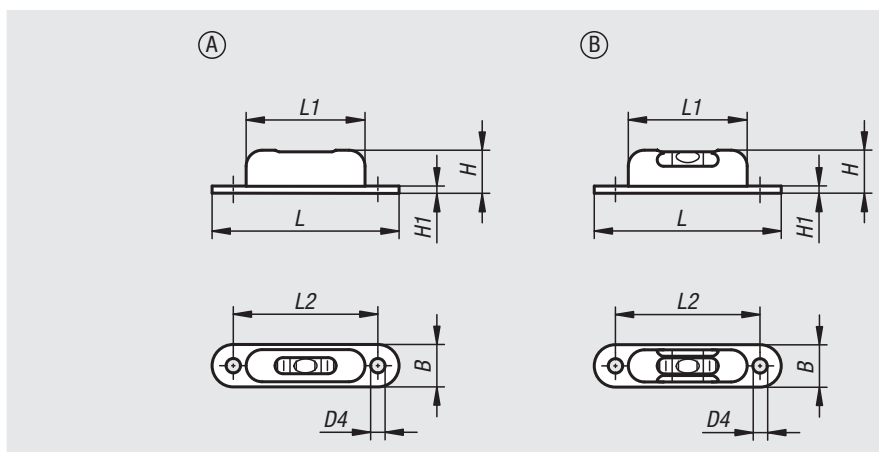
Bubble levels are used as a type of zero indicator instrument for checking horizontal inclination in e.g. spirit levels, inclinometers, metrology instruments and machine constructions.

The tubular levels can be fastened using the two holes.

- Form A: one sight window
- Form B: three sight windows
- Sensitivity in angular minutes for 2 mm bubble travel
- Green filling

Temperature range:

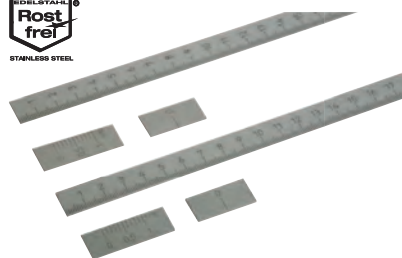
-35 °C up to +55 °C.



Order No.	Form	B	D4	H	H1	L	L1	L2	Sensitivity
21812-1571350	A	12,3	4,5	13	1	57	37	45	50'
21812-2571305	B	12,3	4,5	13	1	57	37	45	5'

Linear scales

self-adhesive, stainless steel



Material:

Stainless steel 1.4310.

Version:

Bright.

Sample order:

nln 21880-000010X0300 (include length L)

Note:

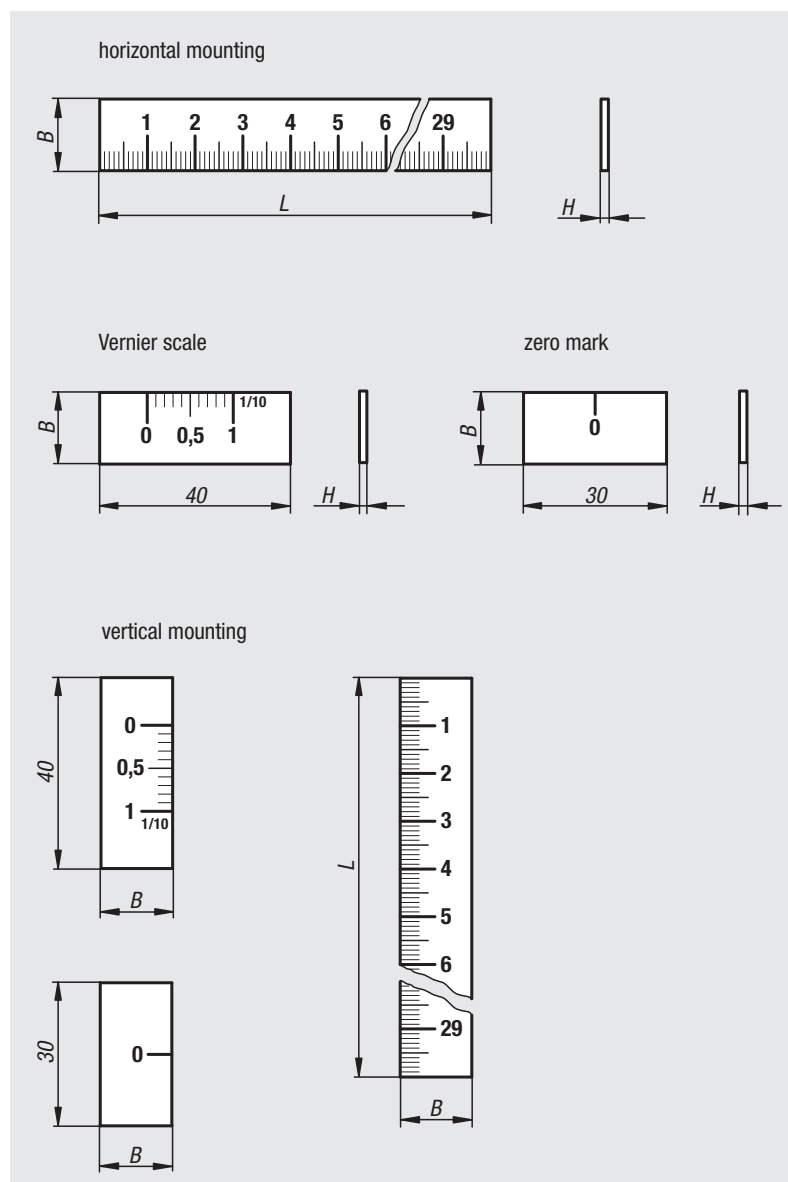
Rigid design stainless steel linear scales with self-adhesive back.

Cross section 15 x 1 mm.

Matt surface and black high contrast graduations. The graduations are deep lasered.

On request:

- Zero mark lower right or centre
- Graduations upper right or both sides
- Other lengths



Linear scales self-adhesive, stainless steel

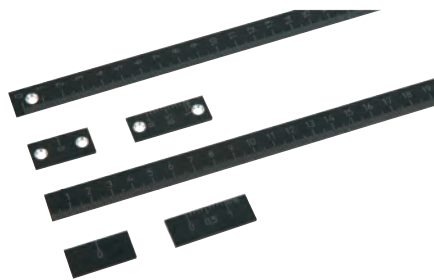
Order No. self adhesive	Product type	Version 1	Zero point	Division	Graduations	B	H	L
21880-000010X	scale	horizontal	left	1 mm	bottom	15	1	300/500/700/1000
21880-010010X	scale	vertical	top	1 mm	left	15	1	300/500/700/1000

Vernier scale and zero reference, self-adhesive, stainless steel

Order No.	Product type	Version 1	Zero point	Graduations	B	H
21880-0001	vernier scale	horizontal	left	top	15	1
21880-0101	vernier scale	vertical	top	right	15	1
21880-00	zero reference mark	horizontal	-	-	15	1
21880-01	zero reference mark	vertical	-	-	15	1

Linear scales

self adhesive or with screw holes, aluminium


Material:

Aluminium.

Version:

Black anodised

Sample order:

n1m 21882-000010X0250 (include length L)

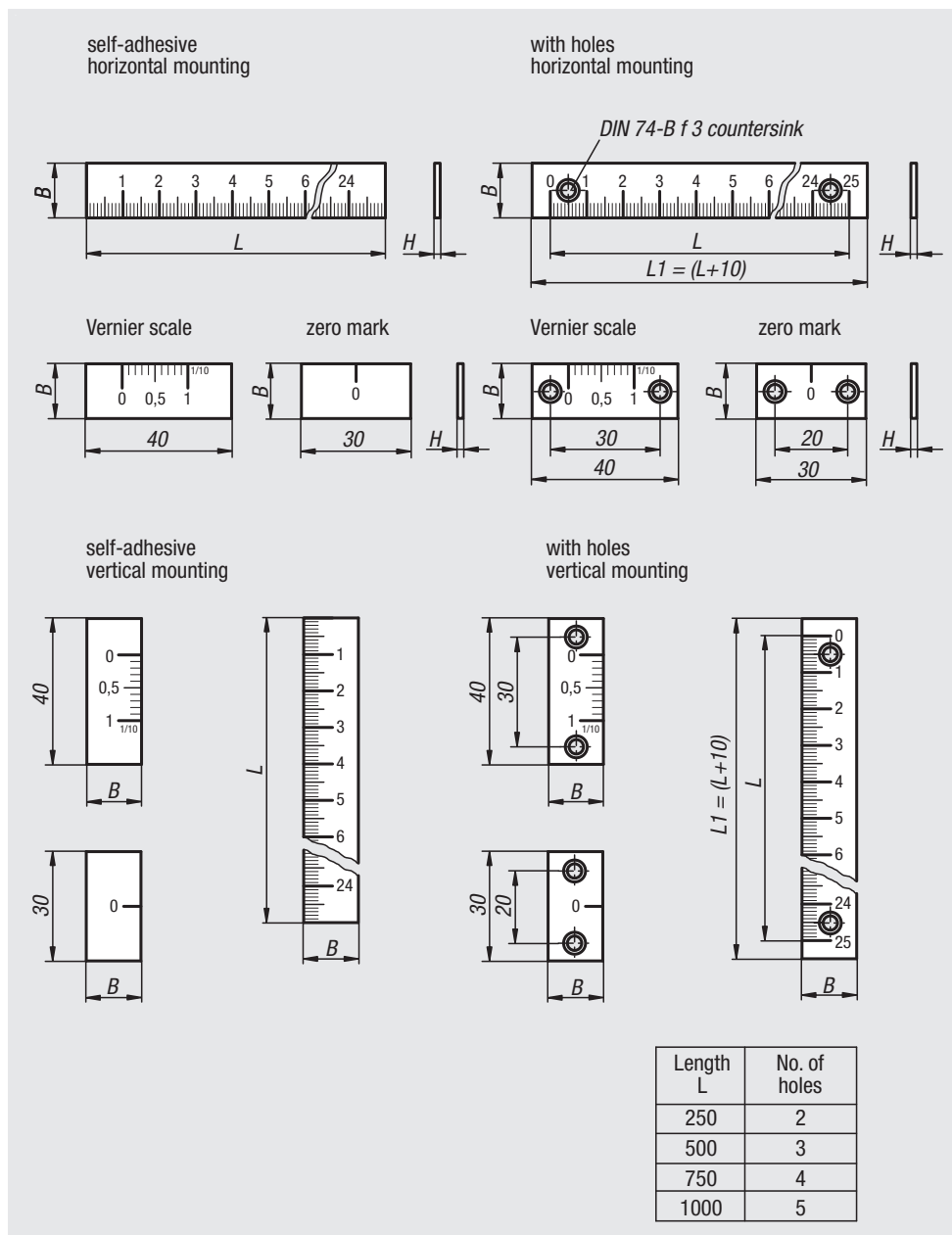
Note:

Rigid design aluminium linear scales with self-adhesive back or with screw holes.
Cross section 15 x 2 mm.

Black anodised surface and high contrast graduations for legibility without shading. The graduations are deep lasered.

On request:

- Zero mark lower right or centre
- Graduations upper right or both sides
- Other lengths



Linear scales, self adhesive or with screw holes, aluminium

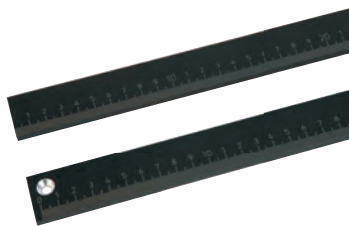
Order No. self adhesive	Order No. fastening holes	Product type	Version 1	Zero point	Division	Graduations	B	H	L	L1
21882-000010X	21882-100010X	scale	horizontal	left	1 mm	bottom	15	2	250/500/750/1000	-
21882-010010X	21882-110010X	scale	vertical	top	1 mm	left	15	2	250/500/750/1000	-

Vernier scale and zero reference, self adhesive or with holes, aluminium

Order No. self adhesive	Order No. fastening holes	Product type	Version 1	Zero point	Graduations	B	H
21882-0001	21882-1001	vernier scale	horizontal	left	top	15	2
21882-0101	21882-1101	vernier scale	vertical	top	right	15	2
21882-00	21882-10	zero reference mark	horizontal	-	-	15	2
21882-01	21882-11	zero reference mark	vertical	-	-	15	2

Linear scales

self-adhesive or with screw holes, aluminium


Material:

Aluminium.

Version:

Scale surface ground and black anodised

Sample order:

nln 21884-000010X0500 (include length L)

Note:

Rigid, heavy-duty design aluminium linear scales.
Cross section 30 x 6 mm.

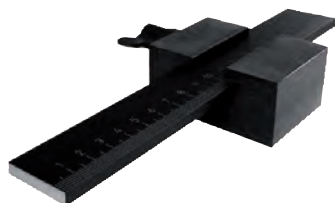
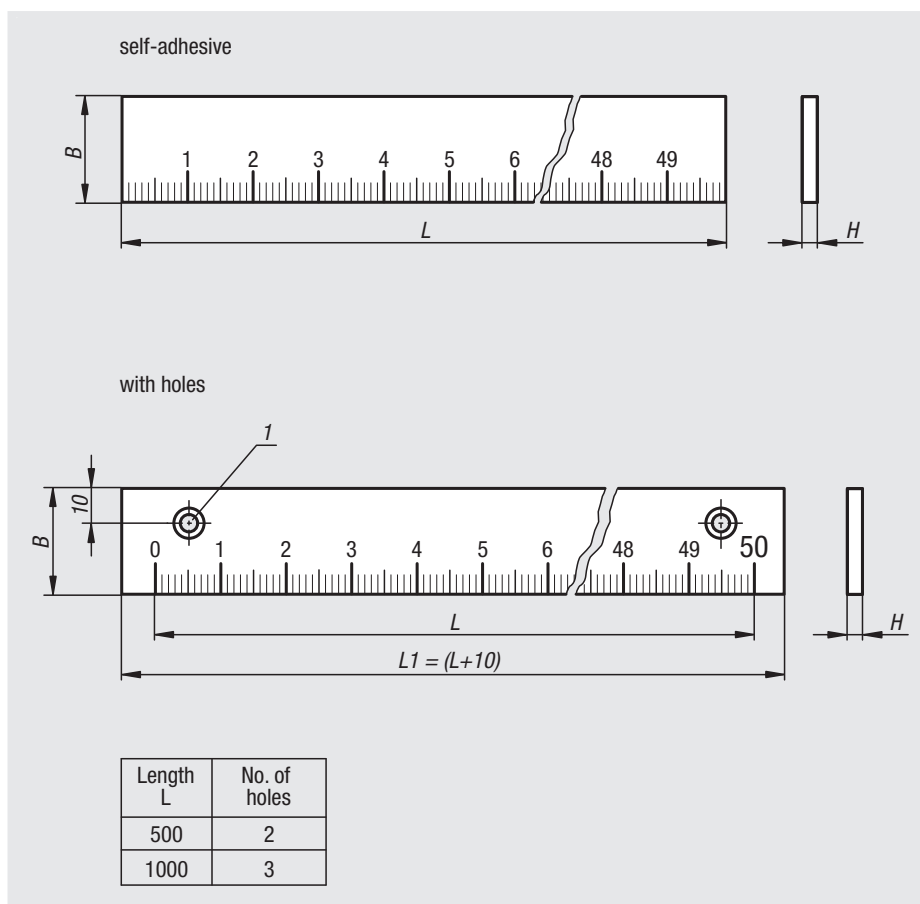
Black anodised surface and high contrast graduations for legibility without shading.
The graduations are deep lasered.

On request:

- Zero mark right or centre
- Graduations top or both sides
- Other lengths

Drawing reference:

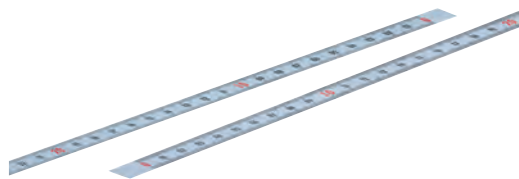
1) counterbore to DIN 74-B f 5



Order No. self adhesive	Order No. fastening holes	Version 1	Zero point	Division	Graduations	B	H	L	L1
21884-000010X	-	horizontal	left	1 mm	bottom	30	6	500/1000	500
-	21884-100010X	horizontal	left	1 mm	bottom	30	6	500/1000	510

Scale tape, steel

self-adhesive



Material:

Steel.

Version:

Painted white.

Sample order:

n1m 21886-00021010X0300 (include length L)

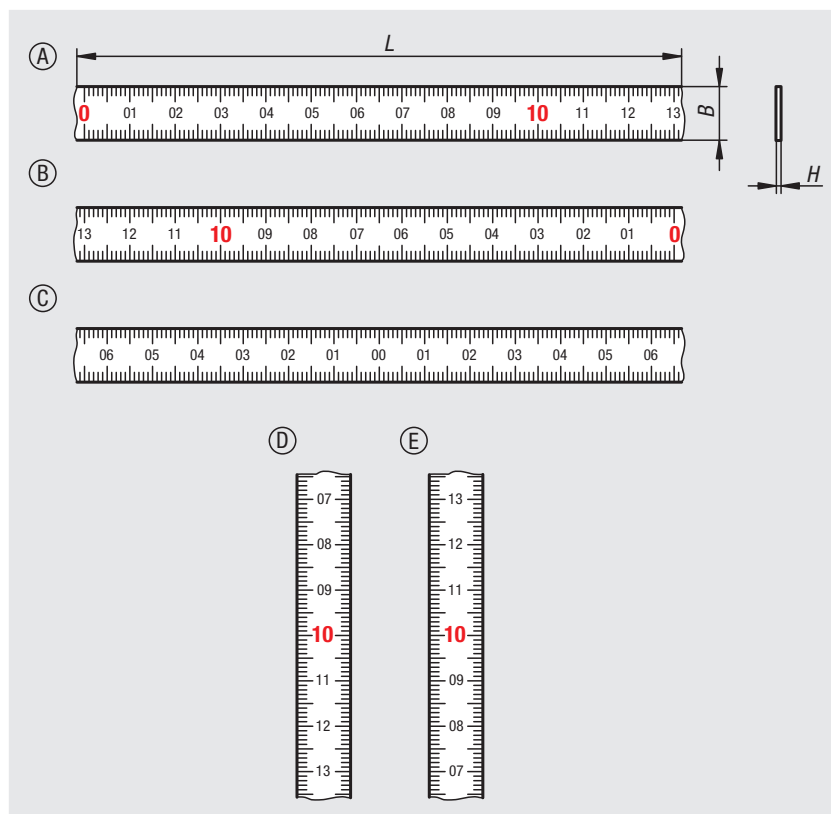
Note:

Scale tapes with mm graduations on top and bottom edge in black and consecutive centimetre numbering. Decimal numbers in red (under 1 m lengths and with centre zero black only).

The scale tapes are self-adhesive with a peel-away foil film on the back. The film must be removed before use.

Application:

The scale tapes can be used where a precise measurement is required. They are used on machines, work tables and workbenches.



Order No.	Kind of fastening	Product type	Version 1	Form	Zero point	Division	Graduations	B	H	L
21886-00021010X	self adhesive	scale tape	horizontal	A	left	1 mm	both sides	10	0,5	300/500/1000/2000/3000/5000/6000
21886-00021013X	self adhesive	scale tape	horizontal	A	left	1 mm	both sides	13	0,5	300/500/1000/2000/3000/5000/6000
21886-00221010X	self adhesive	scale tape	horizontal	B	right	1 mm	both sides	10	0,5	300/500/1000/2000/3000/5000/6000
21886-00221013X	self adhesive	scale tape	horizontal	B	right	1 mm	both sides	13	0,5	300/500/1000/2000/3000/5000/6000
21886-00121013X	self adhesive	scale tape	horizontal	C	centre	1 mm	both sides	13	0,5	800/2000/2500/8000
21886-01021013X	self adhesive	scale tape	vertical	D	top	1 mm	both sides	13	0,5	1000/2000/3000/5000
21886-01221013X	self adhesive	scale tape	vertical	E	bottom	1 mm	both sides	13	0,5	1000/2000/3000/5000

Position indicators



Material:

Housing polyamide 6.
Hollow shaft steel.
Screen plastic.
Grub screw steel.

Version:

Impact-resistant housing.
Hollow shaft black oxidised.
Grub screw black.
Dial black, digits white.

Sample order:

nIm 21901-01001111
(Position indicator with 1 mm pitch, decimal point
in first position from the right, assembly position 1,
direction of count ascending clockwise, colour
orange)

Note:

Position indicators allow direct reading of input measurement values at a glance. In addition, the value indicated per spindle rotation (corresponding spindle pitch) can be selected and the various indicator values are realised by a transmission gear. The position indicators are distinguished by their small construction with very clear display. They are especially suitable for small spindle distances and small shaft diameters and have a torque support that is positioned in a hole on the side.

**** At the 1st asterisk give assembly position and at the 2nd asterisk give the count direction (see sample order “assembly position, count direction”).**

On request:

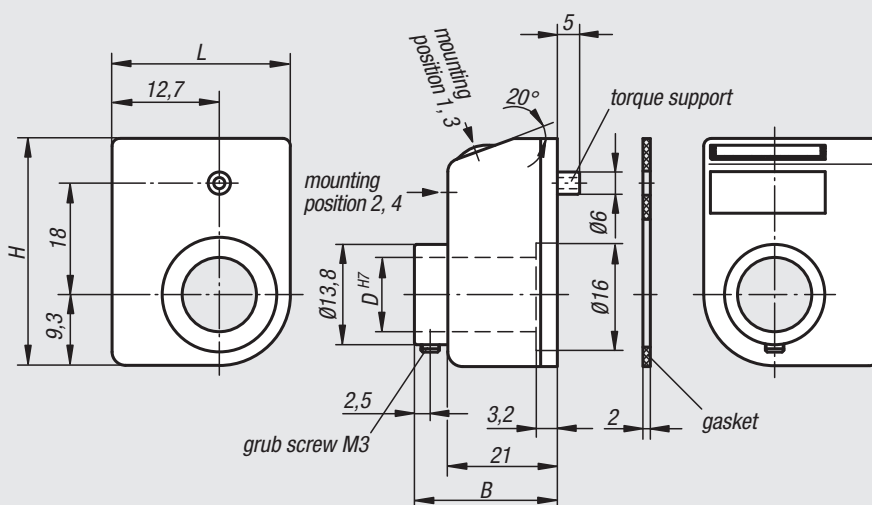
- Stainless steel driveshaft
- Indicator for inch

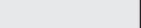
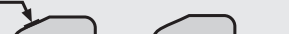
Accessories:

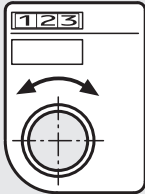
- Reducing bushes 21940

Technical data:

- Counter consisting of 3 10-position dials
- Height of figures about 4 mm
- Hollow shaft Ø 10 H7 mm
- Temperature resistant to 80 °C
- Oil and solvent resistant



Display after one rotation, with decimal point:	Mounting position (1 - 4):
 e. g. 21901-01001111 0100 = 1mm increments 1 = decimal places	 e. g. 21901-01001111 = mounting position 1

Count direction (1 - 2):	Colour (1 - 2):
 e. g. 21901-01001111 1 = clockwise (ascending values) 2 = anticlockwise (ascending values)	1  2  e. g. 21901-01001111 1 = orange 2 = black

Order No. orange RAL 2004	Order No. black	B	D	H	L	Pitch	Indicator after one rotation	Decimal point in position	Max. rpm
21901-01001**1	21901-01001**2	26	10	33	22	1	01,0	1	500
21901-02001**1	21901-02001**2	26	10	33	22	2	02,0	1	500
21901-02501**1	21901-02501**2	26	10	33	22	2,5	02,5	1	500
21901-03001**1	21901-03001**2	26	10	33	22	3	03,0	1	500
21901-04001**1	21901-04001**2	26	10	33	22	4	04,0	1	375
21901-05001**1	21901-05001**2	26	10	33	22	5	05,0	1	300
21901-06001**1	21901-06001**2	26	10	33	22	6	06,0	1	250
21901-08001**1	21901-08001**2	26	10	33	22	8	08,0	1	180
21901-10001**1	21901-10001**2	26	10	33	22	10	10,0	1	150

Position indicators



Material:

Housing polyamide 6.
Hollow shaft steel.
Screen plastic.
Grub screw steel.

Version:

Impact-resistant housing.
Hollow shaft black oxidised.
Grub screw black.
Dial black, digits white.

Sample order:

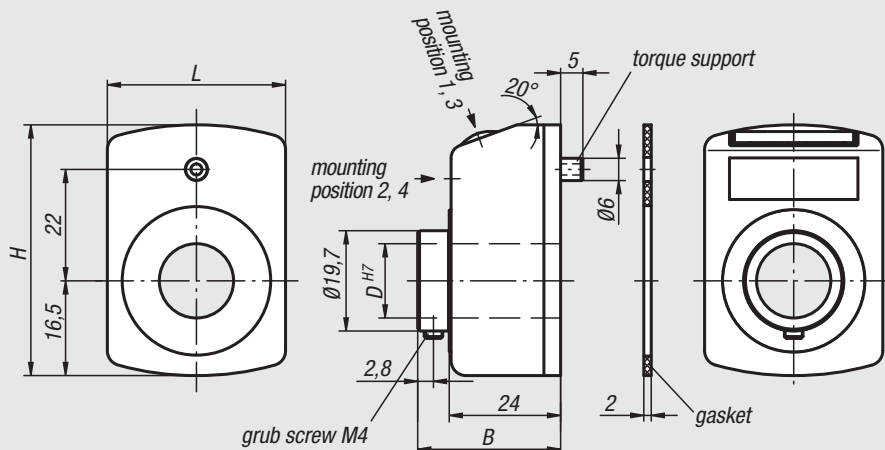
nIm 21902-01002111

(Position indicator with 1 mm pitch, decimal point in second position from the right, assembly position 1, direction of count ascending clockwise, colour orange)

Note:

Position indicators allow direct reading of input measurement values at a glance.
In addition, the value indicated per spindle rotation (corresponding spindle pitch) can be selected and the various indicator values are realised by a transmission gear. The position indicators are distinguished by their small construction with very clear display and fine scale.
They are especially suitable for small spindle distances and small shaft diameters and have a torque support that is positioned in a hole on the side.

** At the 1st asterisk give assembly position and at the 2nd asterisk give the count direction (see sample order "assembly position, count direction").



Display after one rotation, with decimal point:	Mounting position (1 - 4):
e. g. 21902-01002111 0100 = 1 mm increments 2 = decimal places	e. g. 21902-01002111 = mounting position 1

Count direction (1 - 2):	Colour (1 - 2):
e. g. 21902-01002111 1 = clockwise (ascending values) 2 = anticlockwise (ascending values)	e. g. 21902-01002111 1 = orange 2 = black

On request:

- Counter cover made of mineral glass
- Stainless steel driveshaft
- Axial sealing (dust-proof)
- Vibration protection

Accessories:

- Reducing bushes 21940
- Insert plate 21942
- Mounting plates 21944

Technical data:

- Counter consisting of 4 10-position dials + fine scale
- Height of figures about 6 mm
- Hollow shaft Ø 14 H7 mm
- Temperature resistant to 80 °C
- Oil and solvent resistant

Order No. orange RAL 2004	Order No. black	B	D	H	L	Pitch	Assembly position	Indicator after one rotation	Decimal point in position	Max. rpm
21902-01002**1	21902-01002**2	31	14	47	33	1	1	00,10	2	500
21902-01001**1	21902-01001**2	31	14	47	33	1	1	001,0	1	500
21902-01251**1	21902-01251**2	31	14	47	33	1,25	1	001,2/5	1	500
21902-01501**1	21902-01501**2	31	14	47	33	1,5	1	001,5	1	500
21902-02001**1	21902-02001**2	31	14	47	33	2	1	002,0	1	500
21902-02501**1	21902-02501**2	31	14	47	33	2,5	1	002,5	1	500
21902-03001**1	21902-03001**2	31	14	47	33	3	1	003,0	1	500
21902-04001**1	21902-04001**2	31	14	47	33	4	1	004,0	1	375
21902-05001**1	21902-05001**2	31	14	47	33	5	1	005,0	1	300
21902-06001**1	21902-06001**2	31	14	47	33	6	1	006,0	1	250
21902-08001**1	21902-08001**2	31	14	47	33	8	1	008,0	1	180
21902-10001**1	21902-10001**2	31	14	47	33	10	1	010,0	1	150

Position indicators



Material:

Housing polyamide 6.
Hollow shaft steel.
Screen plastic.
Grub screw steel.

Version:

Impact-resistant housing.
Hollow shaft black oxidised.
Grub screw black.
Dial black, digits white.

Sample order:

nlm 21904-01002111

(Position indicator with 1 mm pitch, decimal point in second position from the right, assembly position 1, direction of count ascending clockwise, colour orange)

Note:

Position indicators allow direct reading of input measurement values at a glance.
In addition the value indicated per spindle rotation (corresponding spindle pitch) can be selected and the various indicator values are realised by a transmission gear.
The position indicators are distinguished by their very clear display and fine scale. They have a torque support that is positioned in a hole on the side.

** At the 1st asterisk give assembly position and at the 2nd asterisk give the count direction (see sample order "assembly position, count direction").

On request:

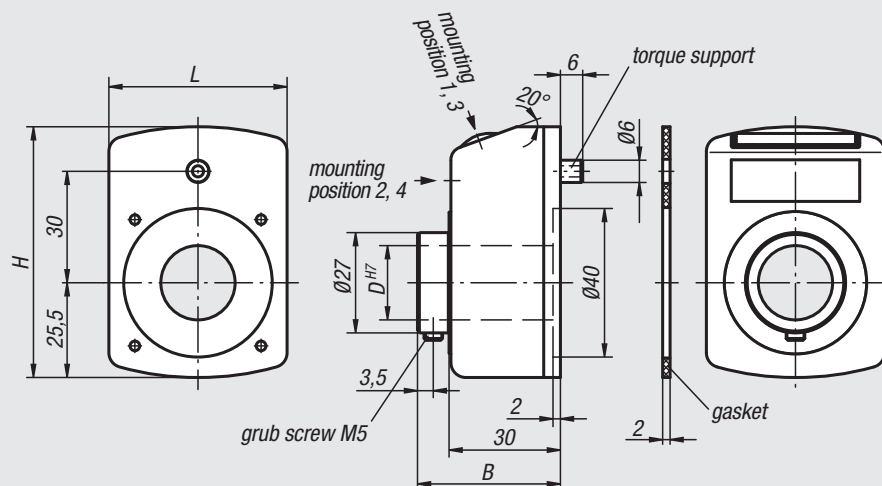
- Counter cover made of mineral glass
- Stainless steel driveshaft
- Axial sealing (dust-proof)
- Waterproof
- Vibration protection

Accessories:

- Reducing bushes 21940
- Insert plate 21942
- Mounting plates 21944

Technical data:

- Counter consisting of 5 10-position dials + fine scale
- Height of figures about 7 mm
- Hollow shaft Ø 20 H7 mm
- Temperature resistant to 80 °C
- Oil and solvent resistant
- Dust-proof



Display after one rotation, with decimal point:	Mounting position (1 - 4):
e. g. 21904-01002111 0100 = 1 mm increments 2 = decimal places	e. g. 21904-01002111 = mounting position 1

Count direction (1 - 2):	Colour (1 - 2):
e. g. 21904-01002111 1 = clockwise (ascending values) 2 = anticlockwise (ascending values)	e. g. 21904-01002111 1 = orange 2 = black

Order No. orange RAL 2004	Order No. black	B	D	H	L	Pitch	Indicator after one rotation	Decimal point in position	Max. rpm
21904-01002**1	21904-01002**2	38,5	20	67,5	48	1	000,10	2	500
21904-01001**1	21904-01001**2	38,5	20	67,5	48	1	0001,0	1	500
21904-01501**1	21904-01501**2	38,5	20	67,5	48	1,5	0001,5	1	500
21904-02001**1	21904-02001**2	38,5	20	67,5	48	2	0002,0	1	500
21904-02501**1	21904-02501**2	38,5	20	67,5	48	2,5	0002,5	1	500
21904-03001**1	21904-03001**2	38,5	20	67,5	48	3	0003,0	1	500
21904-04001**1	21904-04001**2	38,5	20	67,5	48	4	0004,0	1	450
21904-05001**1	21904-05001**2	38,5	20	67,5	48	5	0005,0	1	300
21904-06001**1	21904-06001**2	38,5	20	67,5	48	6	0006,0	1	250
21904-10001**1	21904-10001**2	38,5	20	67,5	48	10	0010,0	1	150

Position indicators

freely programmable



Material:

Housing plastic.
Hollow shaft steel.
Screen LCD display.
Grub screw steel.

Version:

Hollow shaft black oxidised.
Grub screw black.

Sample order not programmed:

nlm 21922-12
(Position indicator with assembly position 1, colour black)

Sample order programmed:

nlm 21922-0200021120
(see ordering example on the next page)

Note:

The electronic position indicators offer diverse opportunities compared to mechanical position indicators because they display angles as well as uncommon spindle pitches and record each fraction of spindle movement.

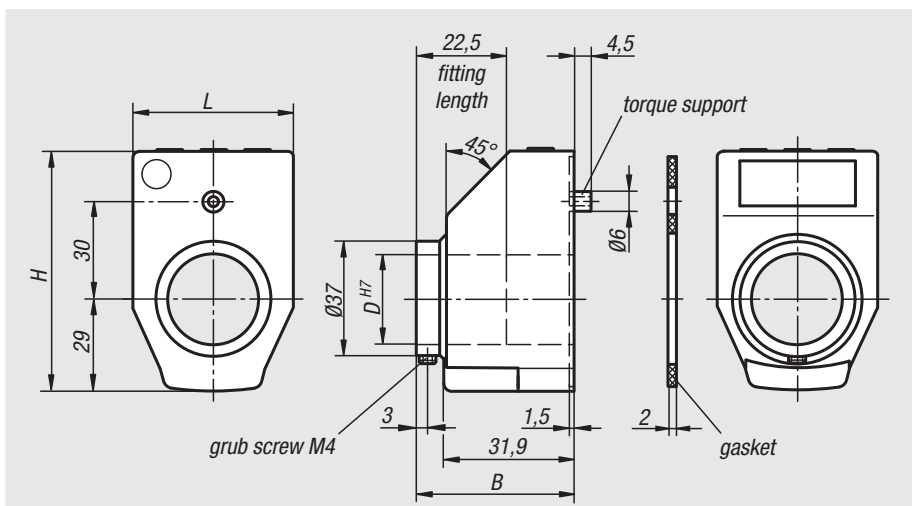
* Freely programmable parameters using the programming software 21922-09.

Features:

- indicated value and decimal point freely programmable
- linear or angle mode
- function key for zero-point position
- function key for switching between the absolute dimension and chain dimension
- programming of an offset value directly at the device
- easy battery change

Accessories:

- reducing bushes 21940
- programming software 21922-09



Technical data:

- LCD Display with 5 digits
- Digit size approx. 11.5 mm
- Display range from -19999 ... 99999
- Tunular shaft Ø 30 H7 mm
- Operating temperature -10 °C to +60 °C
- Storage temperature -30 °C to +80 °C
- Revolution max. 600 rpm
- Lithium battery Button cell 3V, type CR 2032. service life approx. 2 years
- Vibration-resistance according to DIN IEC 68-2-6 10 g / (5 ... 150 Hz), 20 g / (100 ... 2000 Hz)
- Shock-resistance according to DIN IEC 68-2-27 30 g / 15 ms
- EMC DIN EN 61000-4-2; DIN EN 61000-4-4
- Type of protection IP 51

Position indicators programmed

Order No.	Version 1	Version 2	B	D	H	L
21922-	See sample order for position Indicators programmed	freely programmable	38,8	30	71	48

Position indicators not programmed*

Order No.	Assembly position	Main colour	Version 2	Order No. software
21922-11	1	orange	freely programmable	21922-09
21922-12	1	black	freely programmable	21922-09
21922-31	3	orange	freely programmable	21922-09
21922-32	3	black	freely programmable	21922-09

Position indicators

freely programmable



Material:

Housing plastic.
Hollow shaft steel.
Screen LCD display.
Grub screw steel.

Version:

Hollow shaft black oxidised.
Grub screw black.

Sample order not programmed:

nlm 21923-12
(Position indicator with mounted position 1, colour black)

Sample order programmed:

nlm 21923-0200021120
(see ordering example on the next page)

Note:

The electronic position indicators offer diverse opportunities compared to mechanical position indicators because they display angles as well as uncommon spindle pitches and record each fraction of spindle movement.

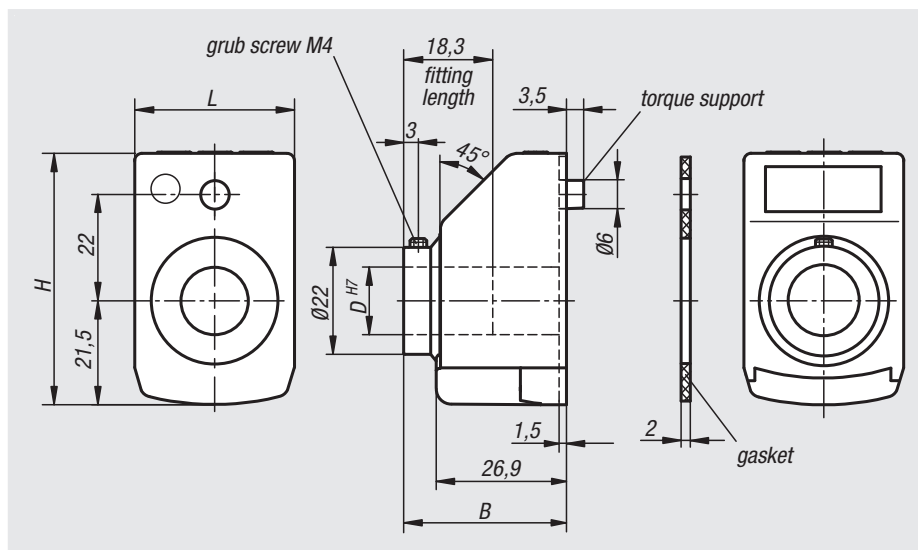
* Freely programmable parameters using the programming software 21922-09.

Features:

- indicated value and decimal point freely programmable
- linear or angle mode
- function key for zero-point position
- function key for switching between the absolute dimension and chain dimension
- programming of an offset value directly at the device
- easy battery change

Accessories:

- reducing bushes 21940
- programming software 21922-09



Technical data:

- LCD Display with 5 digits
- Digit size approx. 8 mm
- Display range from -19999 ... 99999
- Hollow shaft Ø 14 H7 mm
- Operating temperature -10 °C to +60 °C
- Storage temperature -30 °C to +80 °C
- Revolution max. 600 rpm
- Lithium battery button cell 3V, type CR 2032. service life ca. 2 years
- Vibration-resistance acc. to DIN IEC 68-2-6 10 g / (5 ... 150 Hz), 20 g / (100 ... 2000 Hz)
- Shock-resistance acc. to DIN IEC 68-2-27 30 g / 15 ms
- EMC DIN EN 61000-4-2; DIN EN 61000-4-4
- Protection IP 51

Position indicators programmed

Order No.	Version 1	Version 2	B	D	H	L
21923-	See sample order for position Indicators programmed	freely programmable	33,6	14	52	33

Position indicators not programmed*

Order No.	Assembly position	Main colour	Version 2	Order No. software
21923-11	1	orange	freely programmable	21922-09
21923-12	1	black	freely programmable	21922-09
21923-31	3	orange	freely programmable	21922-09
21923-32	3	black	freely programmable	21922-09

Position indicator, plastic, electronic

IO link interface


Material:

Housing plastic.
Shaft stainless steel.
Connector thread brass.
Earthing terminal metal.

Version:

Nickel-plated brass.
1x M8 connector (A coded), 4-pole, 1x pin.

Sample order:

nlm 21924-1530

Note:

The IO link-enabled position indicators are used to check format adjustments, in order to effectively reduce set-up times and increase machine efficiency.

The two-line LCD display can display both the setpoint value and the actual value.

Two LEDs give the user visual signals indicating whether the setpoint and actual values match (LEDs lit green) or do not match (LEDs lit red). The LEDs also indicate to the user which direction of adjustment to apply in order to reach the desired position.

Position indicators 21924-1530 and 21924-1650 are linked to the application by a shaft. The position of the application is determined by a robust sensor system which uses magnetic scanning.

Position indicators 21924-1531 and 21924-1651 are mounted directly in the application. The position is determined by a magnetic sensor (21924-01) and a magnetic tape (21725). Suitable only for linear length measurement.

On request:

Certificate of conformity.

Supplied with:

Position indicators
Assembly instructions

Accessories:

Position indicators 21924-1530 and 21924-1650:
Reducing bush 21940-20**.

Position indicators 21924-1531 and 21924-1651:

Magnetic sensor 21924-01.

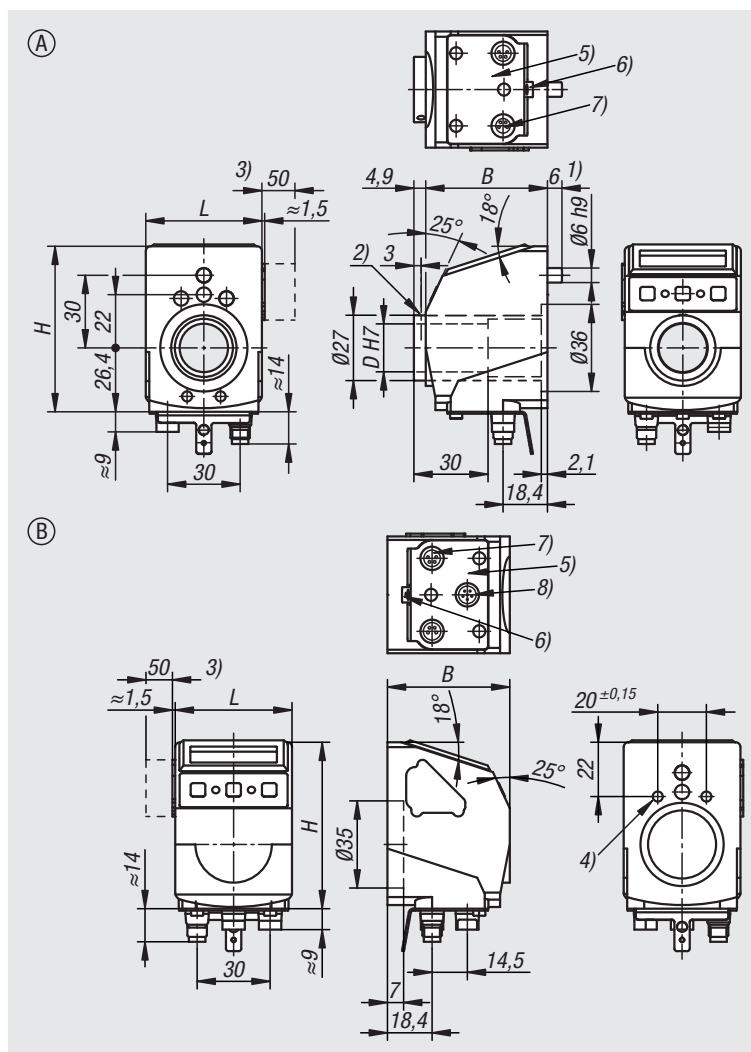
Magnetic tape 21725.

Attention:

These position indicators can be integrated only with a IO link communication system.

Technical data:

Position indicators 21924-1530 and 21924-1650:

Rotation speed: ≤ 500 rpmOperating voltage: 24 V DC ± 20 %Current consumption: ~ 30 mABattery life: ~ 5 years

Resolution: 880 Increments/rotation

Measurement range: ≤ 11914 rotations

Ambient temperature: 0 °C to +60 °C

Storage temperature: -20 °C to +80 °C

Position indicators 21924-1531 and 21924-1651:

Operating voltage: 24 V DC ± 20 %Current consumption: ~ 30 mABattery life: ~ 5 years

Resolution: 0.01 mm (with magnetic sensor 21924-01)

System accuracy: ± 35 μ m (with magnetic sensor 21924-01)Measurement range: ± 655 m (with magnetic sensor 21924-01)

Ambient temperature: 0 °C to +60 °C

Storage temperature: -20 °C to +80 °C

Drawing reference:

- 1) Torque support
- 2) Grub screw M3 (2x 120°)
- 3) Min. space required to change battery without disassembling.
- 4) 2x M5/7 deep
- 5) Contact area
- 6) Earthing terminal for flat connector 6.3 or cable lug
- 7) IO link M8 connector (pin contact) metal connection thread
- 8) Sensor

Position indicator, plastic, electronic

IO link interface

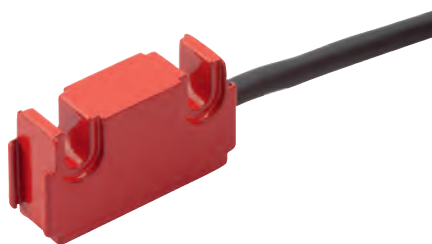


Position indicator, plastic, electronic IO link interface

Order No.	Form	Component material	B	D	H	L	Safety rating
21924-1530	A	stainless steel	50,3	20	68,4	48	IP53
21924-1650	A	stainless steel	50,3	20	68,4	48	IP65

Magnetic sensors, passive sensors, miniature design

IO link interface


Material:

Housing aluminium.
Cable sheath PUR.

Version:

Compact sensor and connector design.
M8 connector, 6-pole, 1x pin (E15).
Connection cable, mm 6-wire $\varnothing$ 5.2 mm.
Bend radius $\geq$ 52 mm (dynamic).

Sample order:

nlm 21924-01-010001

Note:

Uses magnetic tapes 21725. The reading distance between sensor and tape must be 0.1 to 2 mm. The operating voltage and current for the sensor are supplied from the downstream electronics. System accuracy, repeat accuracy, and travel speed depend on the downstream electronics.
Plug-in connection at position indicators 21924.

Temperature range:

- Ambient temperature 0...60°C
- Storage temperature -10...70°C

Assembly:

Installation must be carried out using the enclosed user information.

A, reading distance sensor/tape $\leq$ 2 mm
B, lateral offset $\pm$ 2 mm
C, misalignment $\pm$ 3°
D, pitch gradient $\pm$ 1°
E, lateral gradient $\pm$ 3°

Accessories:

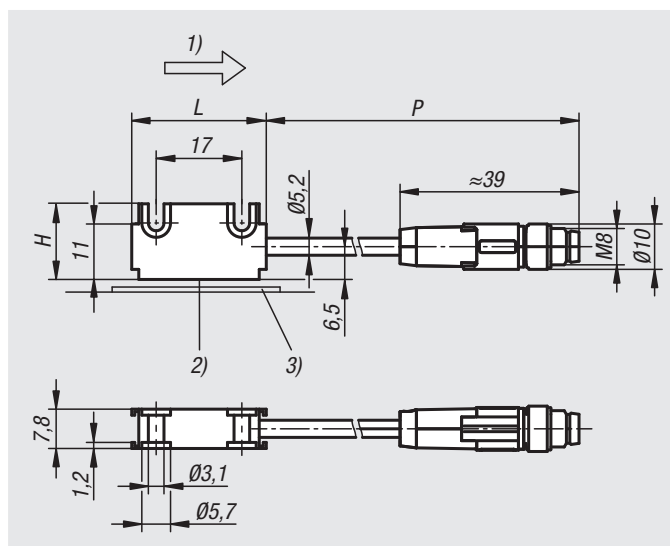
Position indicators 21924.
Magnetic tapes 21725.

Attention:

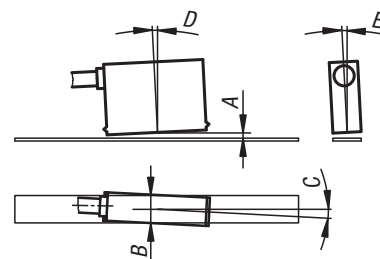
Relative humidity 100%. Dewing is permissible (sensor head).

Technical data:

- Rating IP 67; EN 60529 (sensor head)
- Shock resistance 2000 m/s², 11 ms; EN 60068-2-27
- Vibration resistance 200 m/s², 50 Hz–2 kHz; EN 60068-2-6

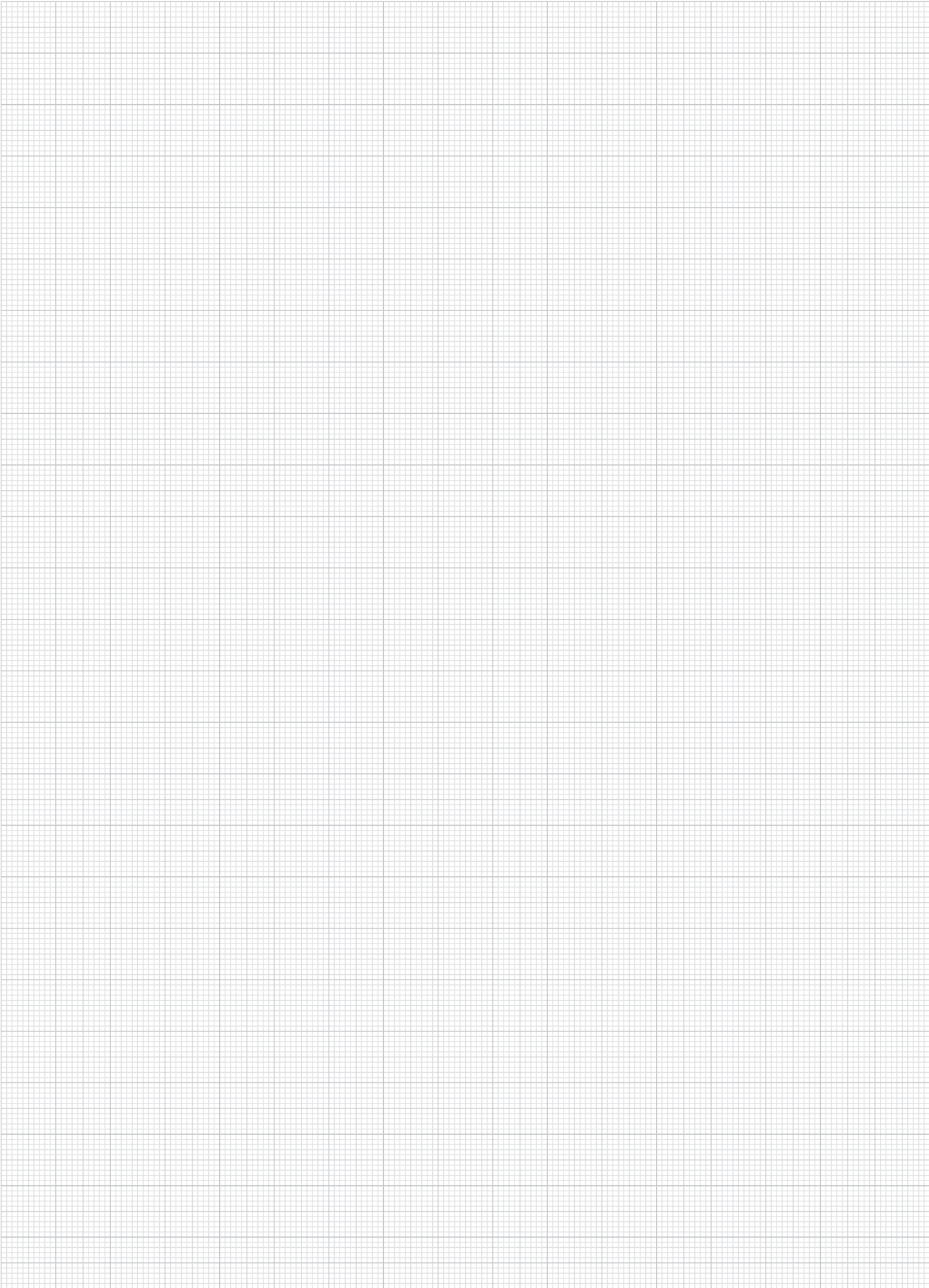

Drawing reference:

1) Sine before cosine
2) Active measuring surface
3) Magnetic tape


Magnetic sensors, passive sensors, miniature design IO link interface

Order No.	H	L	P	for Art. No.
21924-01-010001	15	26,7	1000	21924-1531 / 21924-1651
21924-01-020001	15	26,7	2000	21924-1531 / 21924-1651

Notes



20000
21000
22000
23000
24000
26000
27000
28000
29000
31000
32000
33000

Sample order for Position Indicators programmed 21922 and 21923

Order code:

21922-

Indicator after
one rotation:

e.g.
21922-0200021120
Please indicate here which
value is to be displayed
after one rotation (this is
usually the spindle pitch).

Important:

Please note the decimal
point position!



Angle mode:

(resolution 0.1°)
If you want the display to
be in angle mode, enter
03600.

The display in angle mode
is 03600 after one rotation
and returns to 00000 for
the next rotation.

Decimal point position:

e.g.
21922-0200021120
Please indicate here how
many decimal places you
require.

0 = 00000
1 = 0000.0
2 = 000.00
3 = 00.000



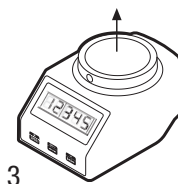
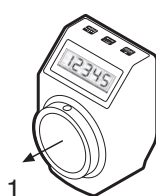
Angle mode:

If you want the display to
be in angle mode, the
decimal point is best put in
position 1.

This means the display
shows the value 0360.0
after one rotation.

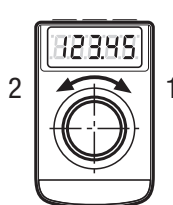
Assembly position:

e.g.
21922-0200021120
1 = Mounting position for
horizontal spindle
3 = Mounting position for
vertical spindle



Count direction:

e.g.
21922-0200021120
1 = clockwise
(ascending values)
2 = anticlockwise
(ascending values)



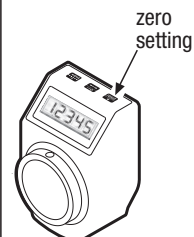
Colour:

e.g.
21922-0200021120
1 = orange
2 = black



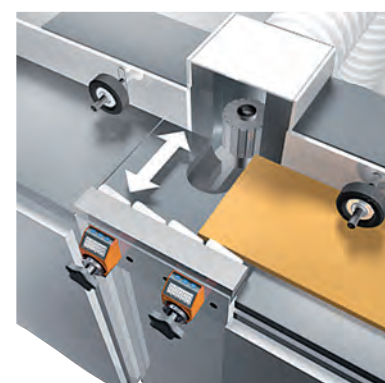
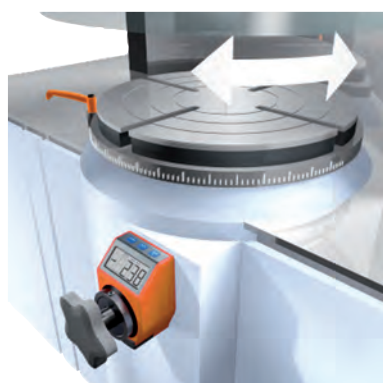
Zero-point position:

e.g.
21922-0200021120
0 = directly
5 = delayed by 5 sec.



The Zero-point position
can be delayed by 5 sec.
by means of a parameter,
in order to avoid accidental
zero setting.

Application using position indicators



Reducing bushings

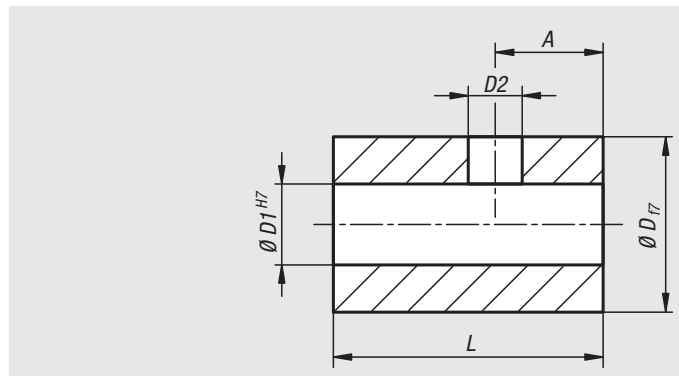
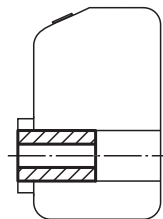


Material:
Steel.

Version:
Black oxidised.

Sample order:
nlm 21940-1408 (include Ø D1=8)

Note:
Reducing bushes are used for adapting the diameter between position indicator and positioning spindle.



Order No.	A	D	D1	D2	L	Suitable for position indicator
21940-10**	2,5	10	6/8	3,2	14	21901
21940-14**	3,5	14	6/8/10/12	4,2	17	21902, 21952
21940-20**	4,5	20	12/14/16/18	5,5	20	21904
21940-30**	4	30	12/14/16/18/20/25	5,5	30	21922

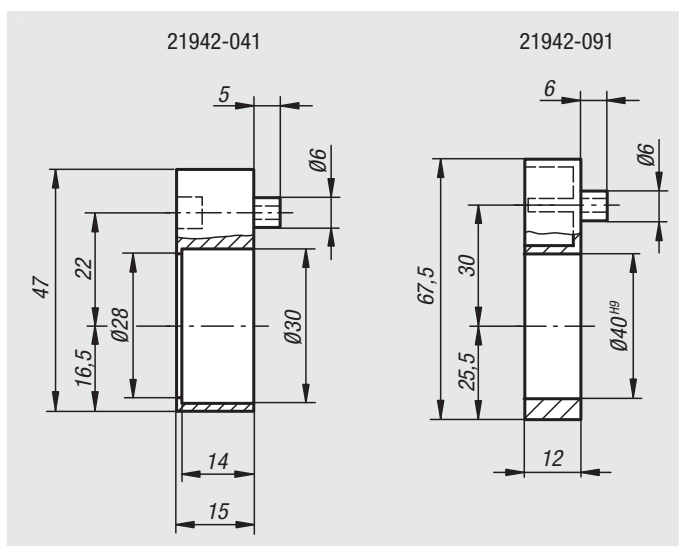
Intermediate plates



Material:
Plastic

Sample order:
nlm 21942-041

Note:
Intermediate plates are used for mounting shaft collars and radial shaft seals.



Order No.	Suitable for position indicator
21942-041	21902, 21923
21942-091	21904, 21922

Mounting brackets



Mounting brackets form a compact unit with position indicators. They guarantee reliable spindle clamping without additional construction work.

Material:

Mounting position 1, housing die-cast zinc
Mounting position 3, housing aluminium.
Clamping lever plastic.

Version:

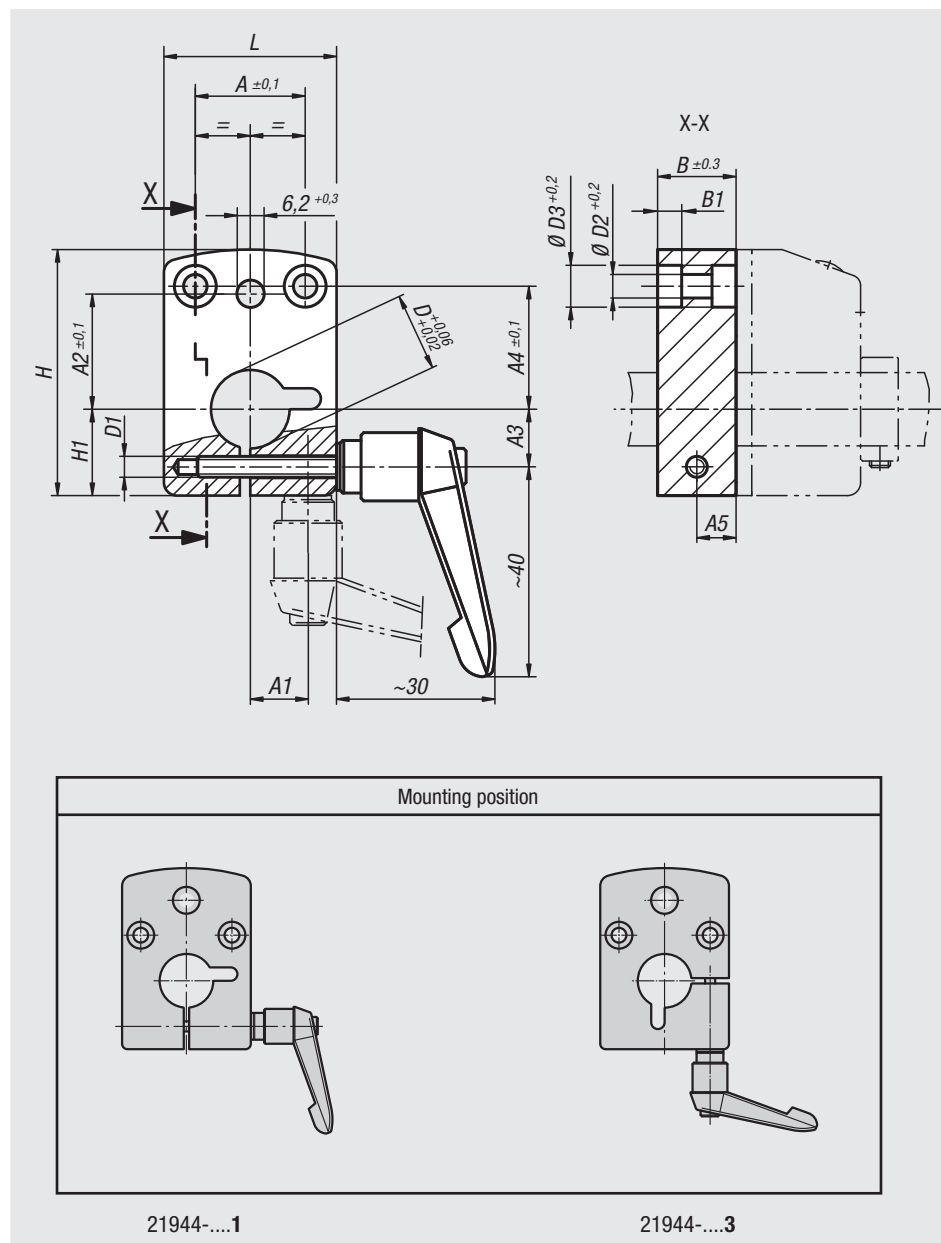
Installed position 1, housing, painted.
Installed position 3, housing anodised.
Clamping lever dark grey.

Sample order:

n1m 21944-09121

Note:

Due to the simple assembly, the mounting bracket is also suitable for retrofitting to existing systems.



Order No. Assembly position 1	Order No. Assembly position 3	A	A1	A2	A3	A4	A5	B	B1	D	D1	D2	D3	H	H1	L	Suitable for position indicator
21944-04081	21944-04083	21	-/11	22	11/-	23,5	7,5	15	4,6	8	M4	4,5	8	47	16,5	33	21902
21944-04101	21944-04103	21	-/11	22	11/-	23,5	7,5	15	4,6	10	M4	4,5	8	47	16,5	33	21902
21944-04121	21944-04123	21	-/11	22	11/-	23,5	7,5	15	4,6	12	M4	4,5	8	47	16,5	33	21902
21944-04141	21944-04143	21	-/11	22	11/-	23,5	7,5	15	4,6	14	M4	4,5	8	47	16,5	33	21902
21944-09121	21944-09123	34	-/17	30	17/-	17	10	20	5,5	12	M5	5,5	10	67,5	25,5	48	21904
21944-09141	21944-09143	34	-/17	30	17/-	17	10	20	5,5	14	M5	5,5	10	67,5	25,5	48	21904
21944-09161	21944-09163	34	-/17	30	17/-	17	10	20	5,5	16	M5	5,5	10	67,5	25,5	48	21904
21944-09201	21944-09203	34	-/17	30	17/-	17	10	20	5,5	20	M5	5,5	10	67,5	25,5	48	21904

Adjusting knobs with position indicator

digital display



Material:

Housing plastic.
Hollow shaft steel.
Screen plastic.

Version:

Housing fibreglass reinforced.
Hollow shaft black oxidised.

Sample order:

nIm 21952-01501112

(Adjusting knob with 1.5 mm pitch, decimal point in first position from the right, torque support at 270°, direction of count ascending clockwise, colour black)

Note:

Adjusting knobs with integrated position indicators allow direct readout of set measurement values such as lengths, flow rates, speeds, etc., at a glance. In addition, the display value can be selected per spindle rotation (corresponding spindle pitch), with the different display values being realized by a variable ratio transmission. The torque support allows the use of the adjusting knobs in any assembly position, even in case of high vibrations.

** At the 1st asterisk give torque support and at the 2nd asterisk give the count direction (see sample order „torque support, count direction“).

On request:

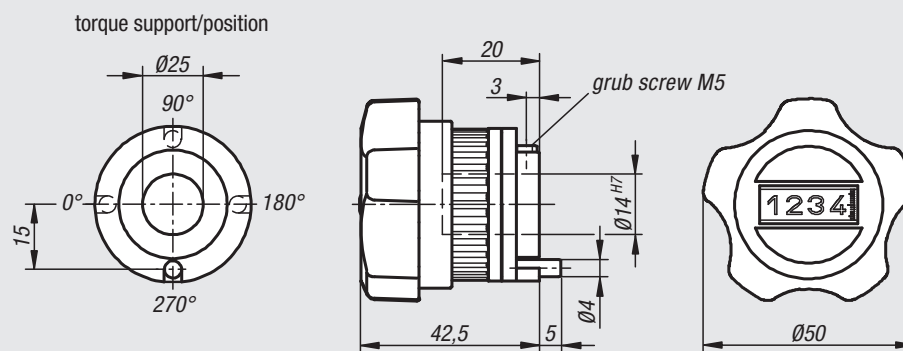
Other pitches

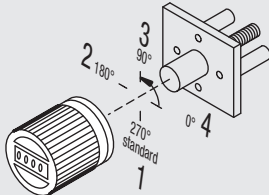
Accessories:

– Reducing bushes 21940

Technical data:

- Counter consisting of 4 10-position dials + fine scale
- Height of figures about 6 mm
- Hollow shaft Ø 14 H7 mm
- Temperature resistant to 80 °C
- Oil and solvent resistant



Indicator after one rotation, decimal point position:	Torque support (1 - 4):																		
																			
<table><tr><th>order number</th><th>for pitch</th><th>display</th></tr><tr><td>0150</td><td>1.5</td><td>001,5</td></tr><tr><td>0200</td><td>2</td><td>002,0</td></tr><tr><td>0400</td><td>4</td><td>004,0</td></tr><tr><td>0500</td><td>5</td><td>005,0</td></tr><tr><td>1000</td><td>10</td><td>010,0</td></tr></table>	order number	for pitch	display	0150	1.5	001,5	0200	2	002,0	0400	4	004,0	0500	5	005,0	1000	10	010,0	
order number	for pitch	display																	
0150	1.5	001,5																	
0200	2	002,0																	
0400	4	004,0																	
0500	5	005,0																	
1000	10	010,0																	
e. g. 21952-01501112 0150 = 1.5 mm pitch 1 = decimal point at the 1st position from the right	e. g. 21952-01501112 1 = 270° (standard)																		

Count direction (1 - 2):	Colour (1 - 2):
e. g. 21952-01501112 1 = clockwise (ascending values) 2 = anticlockwise (ascending values)	e. g. 21952-01501112 1 = red 2 = black

Order No. red	Order No. black	Pitch	Indicator after one rotation	Decimal point in position
21952-01501**1	21952-01501**2	1,5	001,5	1
21952-02001**1	21952-02001**2	2	002,0	1
21952-04001**1	21952-04001**2	4	004,0	1
21952-05001**1	21952-05001**2	5	005,0	1
21952-10001**1	21952-10001**2	10	010,0	1

Position indicators for handwheels

analogue-digital display


Material:

Housing, screen plastic.

Version:

Housing black, fibreglass reinforced.
Screen dustproof.

Sample order:

n1m 21962-800201

Note:

Position indicators are provided for installation in handwheels. They allow direct readout of set measurement values such as lengths, flow rates, speeds, etc., at a glance.

The measurement values are acquired according to the gravity principle. Conceived for use on horizontal spindles.

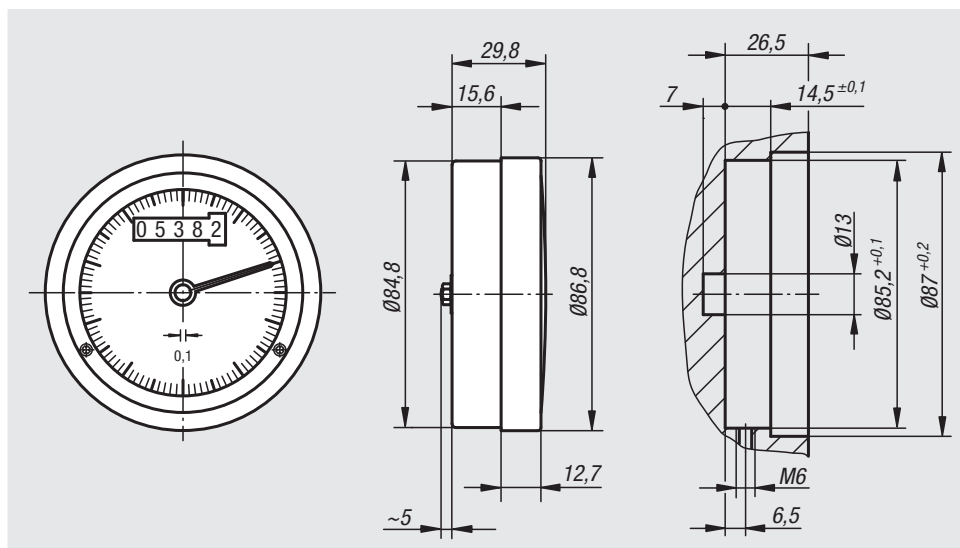
One revolution of the black pointer corresponds to one spindle rotation. In combination with the 5-place digital display, a very precise and easy read out of the position is thus obtained

On request:

Other pitches

Accessories:

– Handwheels 21972



Order No.	Size	Pitch	Indicator after one rotation	Suitable for
21962-800201	80	2	00002	handwheel size 80
21962-800301	80	3	00003	handwheel size 80
21962-800401	80	4	00004	handwheel size 80
21962-800501	80	5	00005	handwheel size 80
21962-801001	80	10	00010	handwheel size 80

Handwheels for position indicators

**Material:**

Cast aluminium.

Version:

Bright.

Sample order:

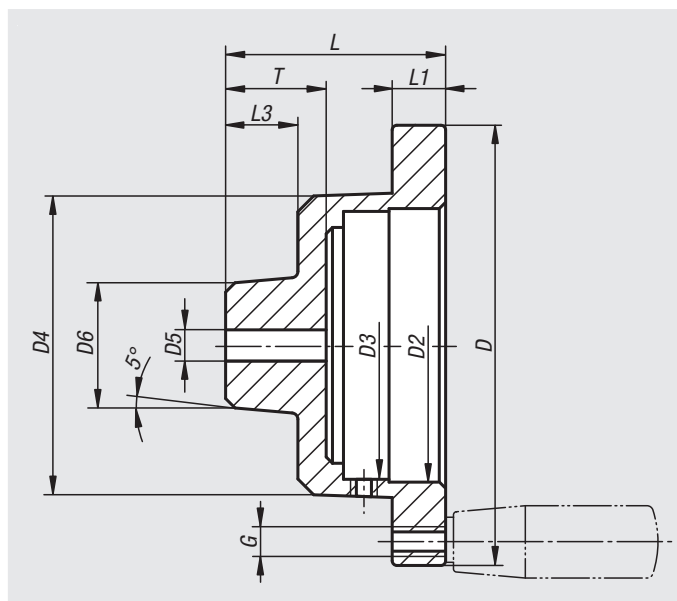
nlm 21972-801201

Note:

The handwheels have a recess for receiving position indicators.

Accessories:

- Position Indicators 21962
- Handles 06290 – 06320



Order No.	Size	D	D2	D3	D4	D5 predrilled	D6	G	L	L1	L3	T	Suitable for
21972-801201	80	120	87	85,2	95	6,8	40	M6	64	15	23	30	position indicator size 80
21972-801401	80	140	87	85,2	95	6,8	40	M8	70	17	23	30	position indicator size 80

Notes

