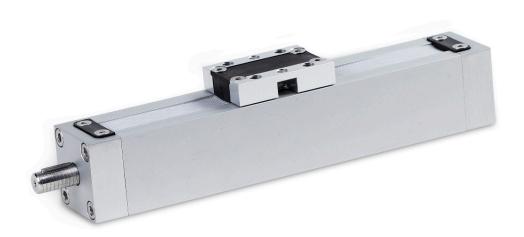


Highlights

Configurable Profile Linear Actuators



Standard Parts. Ganter.

Configure your profile linear actuator: Four steps to the right product

1

GN 8910 / GN 8920

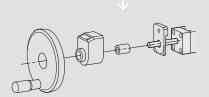
Select the linear actuator

In the first step, select the linear actuator you require (one or two carriages) with the required size, the material of the threaded spindle, the stroke, the carriage size, the lead direction and the spindle pitch. Finally, you can select the mounting option.

2

Choose accessories

The stud lengths on the linear actuator vary depending on the chosen accessories. The type overview on page 14 details the range of possible accessories.



3

Ordering the linear actuator

The linear actuator can now be ordered customized for the chosen accessories.

How to order chosen accessories. Standard section Additional Company of the linear actuator Company of the linear actuator

Ordering the accessories

The accessories **must be ordered separately** using the corresponding standard.

Contents

Introduction	
Technical Instructions	2
Application Examples	4
Online Configurator	5
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Position Indictors GN 9034 (Electronic Counter)	18
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With the publication of this catalogue, all previous issues become invalid. Technical details are subject to change without notice. The details given herein comply with state of the art engineering at the time of printing. We reserve the right to amend errors and to remove individual articles from the product assortment. The products listed in this catalogue have been developed as standard products with the aim of covering the widest possible spectrum of requirements. We cannot be held liable and responsible for special applications involving extraordinary or unusual uses or requirements concerning our products. Our design department will be pleased to answer questions on certain product properties such as missing tolerance, dimensional details or strength classes. All rights in the catalogue are held by Otto Ganter GmbH & Co. KG. Reprints, also in extracts, are not permitted.

Otto Ganter GmbH & Co. KG, March 2025

Configurable Profile Linear Actuators

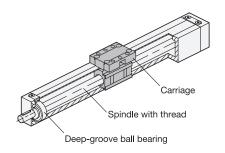
Technical Instructions



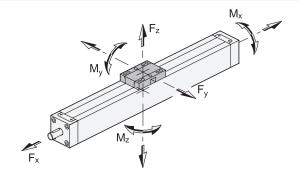
Technical Description

Configurable linear profile actuators move and position one or more carriages linearly via a spindle drive with ball bearings on both sides. Inside the guide profile, the carriage is guided by a 4-fold plain bearing. The end pieces serve to limit the travel path and close off the profile linear actuators at the front.

Profile linear actuators can be individually equipped with up to 4x2 fixing holes. Threaded holes can be selected for fixing from below and through-holes with a flat countersink for fixing from above.



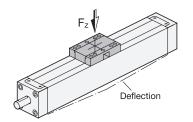
Load Data



☑ Linear	☑ Linear Fx Fy in N						Fz in N			Mx	Му	Mz		
actuator	in N	I=200	I=500	I=700	I=900	I=1000	I=200	I=500	I=700	I=900	I=1000	in Nm	in Nm	in Nm
30	150	550	400	140	60	50	550	400	140	60	50	5	45	19
50	300	1660	1660	990	460	340	1660	1660	1660	820	600	25	107	29

Deflection / Elastic Deformation

he maximum permissible forces and torques given in the table result in elastic deformation of the linear actuator. At the indicated values, this amounts to about 0.3 mm. The figure shows this deformation using force F_z as an example.



Positioning Precision

The positioning precision indicates the amount of deviation with which a specific position can be reached. The table indicates the maximum occurring deviation.

Maximum deviation

Lead screw drive

± 0,1 mm / 300 mm Stroke

Configurable Profile Linear Actuators

Technical Instructions



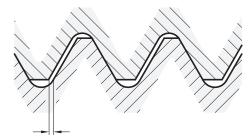
Repeatability

The repeatability indicates how precisely a position can be reached multiple times under identical conditions. In general, the repeatability is higher than the positioning precision because manufacturing tolerances have no influence on the repeatability. With the metric thread drives used, the repeatability is ±0.05 mm.

Backlash on Reversal

The play between the thread flanks of the spindle and the spindle nut results in backlash when the drive direction is changed. Before the actuator moves in the opposite direction, this play must first be overcome.

This backlash on reversal prevents the spindle nut and spindle from jamming up. For profile linear actuators, the backlash on reversal is 0.2 mm



Self-Locking

Since the lead angle of trapezoidal and fine thread spindles is smaller than the angle of friction, these spindles are self-locking. It is not possible to push the linear actuator. The spindle can also be additionally secured with an external spindle lock by means of clamping plates. Due to its lower rolling friction, the ball screw drive has no self-locking properties.

Lifespan

The lifespan of linear actuators in a given application depends on the expected environmental conditions.

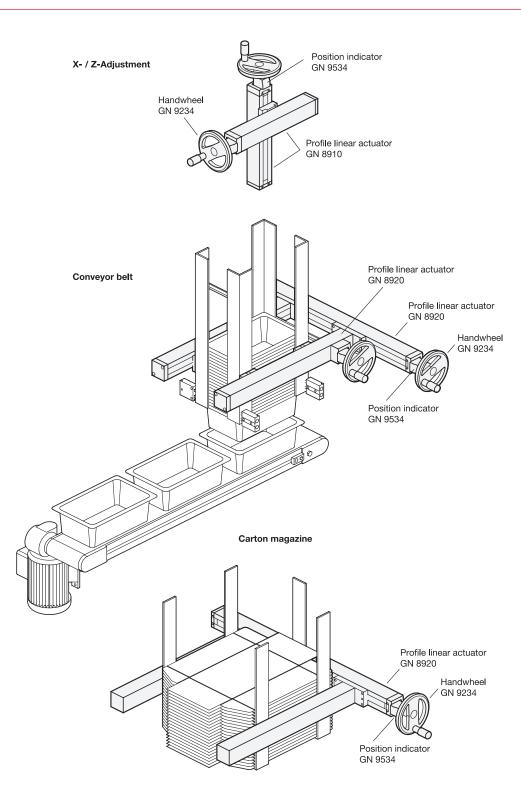
The following factors come into play:

- Installation situation
- Loads to be moved
- Movement speed
- Movement frequency
- Ambient temperature
- Compliance with maintenance intervals

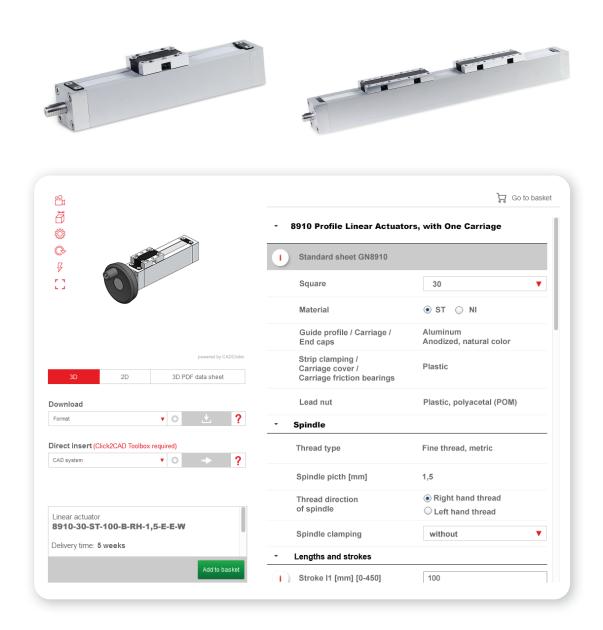
Environmental Conditions

The linear actuators are designed for ambient temperatures from -20 $^{\circ}$ C to +100 $^{\circ}$ C. Great temperature fluctuations and condensing humidity should generally be avoided.









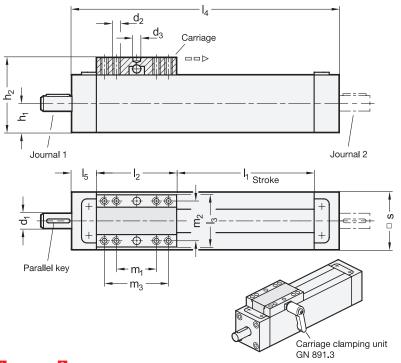
Simple online configuration and ordering at ganternorm.com

The new online configurator makes configuring your individual linear actuator incredibly easy while providing a complete overview of the various designs and possible accessories. When finished, you can even place an order directly from the configurator.

Profile Linear Actuators

Aluminum, Spindle Steel / Stainless Steel, with One Carriage







4	Туре
Α	Short carriage
В	Long carriage
	33.
5	Thread direction
~	of spindle
RH	Right hand thread
LH	Left hand thread

Ų	3															
S ☑ Linear	I ₁ Max.	d ₁	d ₂	d ₃ H7	h ₁	h ₂	l ₂		l ₃	I ₄ max.	I ₅	m ₁	m ₂	m ₃		Parallel key DIN 6885-1
actuator	stroke						Type A	Type B		max.				Type A	Туре В	
30	1000	8	M 5	4	15	39	40	84	29	1112	14	22	22	-	66	A2x2x12
50	1500	12	M 6	5	25	62	60	120	49	1662	21	36	36	48	108	A4x4x12

2 Specification Guide profile / Carriage / End caps Aluminum Anodized, natural color Spindle ST Steel Stainless steel AISI 303 ΝI · with ball-bearing Strip clamping / Carriage cover / Carriage friction bearings Plastic Lead nut Plastic, polyacetal (POM)

RoHS	
Technical Information	Page
Technical Instructions	2
Technical Information	Catalogue Page
Keyways DIN 6885-1	2078
Stainless Steel Characteristics	2166

Profile linear actuators GN 8910 consist of a square guide profile with an internal 4-fold friction bearing that guides the carriage. The carriage is moved linearly and positioned by a spindle drive with ball bearing. The GN 891.3 carriage clamping unit, available as an accessory, can be used to fix the carriage in place if required. A continous cover strip protects the interior from soiling. The two end caps support the spindle and close off the end faces of the profile linear actuators.

Profile linear actuators can be individually equipped with up to 4x2 fixing holes. Threaded holes can be selected for fixing from below and through-holes with a flat countersink for fixing from above. Depending on the design, either the component to be moved is attached to the carriage or the carriage itself is installed at the point of use, so that the entire linear actuator moves.

The overview shows a range of possible accessories that can be installed on the profile linear actuator in the various configurations. The design and length of the journal varies depending on the accessories, which must be taken into consideration when selecting the linear actuator. The accessories are not included with the linear actuators and must be ordered separately. For assistance, please refer to the type overview on page 14.

Page

Accessory

Carriage Clamping Units GN 891.3

Screws

Stainless steel



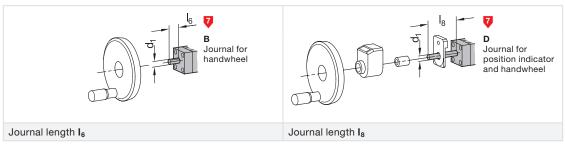


	Spindle pitch	Journal diameter	Journal length								
s	Metric	d ₁	I ₆	I ₇	I ₈	l ₉	I ₁₀	I ₁₁			
30	1,5	8	16	39	55	34	70	1670			
50	2	12	18	49	67	40	82	1882			

Overview accessories

Handwheels GN 9234	Clamping Plates GN 9734	Torque Supports GN 891.2	Position Indicators GN 9034 Electronic counter	Position Indicators GN 9534 Mechanical counter
→ Page 11	→ Page 12	→ Page 15	→ Page 14	→ Page 13

Version - Journal 1

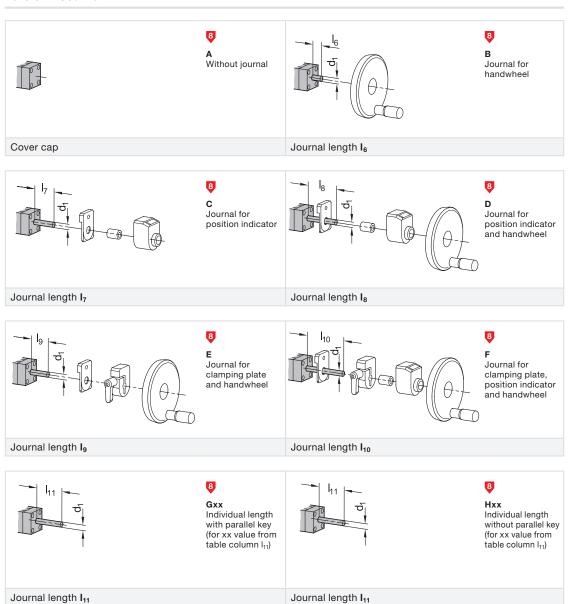






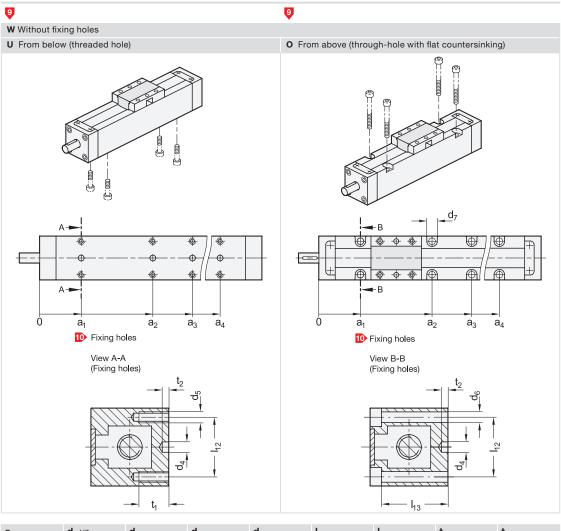


Version - Journal 2





Mounting Options



s	d ₄ H7	d_5	d ₆	d ₇	I ₁₂	I ₁₃	t ₁	t ₂
30	3	M 3	3,4	6,5	24	26,6	10	3
50	5	M 5	5,5	10	40	44,6	12	5

How to order (Without fixing holes)

Standard section

Supplemental section

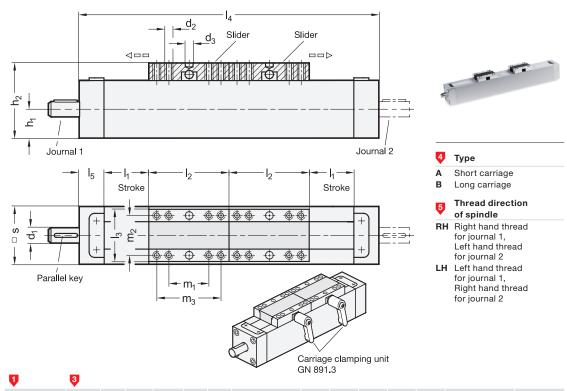
GN 8910 - 30 - NI - 1000 - B - RH - 1,5 - E - E - W

How to order (With fixing holes)										
Sta	andard section S	Supplen	nental section							
	1 2	3	4 5 6 7 8	9	10					
_	* *	*	* * * * * *	•	▼					
G	iN 8910 - 50 - ST - 1	1100	- B - RH -2 - H23 - A -	U -	100 - 400 - 700 - 1	000				
1 1	iN 8910 - 50 - ST - 1 Square s	1100	- B - RH -2 - H23 - A -	U -	100 - 400 - 700 - 1 Version journal 1		a ₁ , a ₂ ,			
1 2				7 8		10	a ₁ , a ₂ , (Fastening holes)			

Profile Linear Actuators

Aluminum, Spindle Steel / Stainless Steel, with Two Opposing Carriages





S ☑ Linear	l ₁ Max.	d ₁	d ₂	d ₃ H7	h ₁	h ₂	l ₂		l ₃	I ₄	I ₅	m ₁	m ₂	m ₃		Parallel key DIN 6885-1
actuator	stroke						Type A	Type B		max.				Type A	Туре В	
30	450	8	M 5	4	15	39	40	84	29	1096	14	22	22	-	66	A2x2x12
50	700	12	M 6	5	25	62	60	120	49	1682	21	36	36	48	108	A4x4x12

Specification Guide profile / Carriage / End caps Aluminum Anodized, natural color Spindle Steel Stainless steel AISI 303 with ball-bearing Strip clamping / Carriage cover / Carriage friction bearings Plastic Lead nut

Screws
Stainless steel

Plastic, polyacetal (POM)

Technical Information

RoHS

Technical Instructions	2
Technical Information	Catalogue Page
Keyways DIN 6885-1	2078
Stainless Steel Characteristics	2166

Accessory	Page
Carriage Clamping Units GN 891.3	16

Profile linear actuators GN 8920 consist of a square guide profile with an internal 4-fold friction bearing that guides the carriages. The carriages are moved linearly and positioned by a spindle drive with ball bearing, which consists of a left-hand and a right-hand spindle section. The GN 891.3 carriage clamping unit, available as an accessory, can be used to fix the carriages in place if required. A continous cover strip protects the interior from soiling. The two end caps support the spindle and close off the end faces of the profile linear actuators.

Profile linear actuators can be individually equipped with up to 4x2 fixing holes. Threaded holes can be selected for fixing from below and through-holes with a flat countersink for fixing from above. Depending on the design, either the component to be moved is attached to the carriage or the carriage itself is installed at the point of use, so that the entire linear actuator moves.

The overview shows a range of possible accessories that can be installed on the profile linear actuator in the various configurations. The design and length of the journal varies depending on the accessories, which must be taken into consideration when selecting the linear actuator. The accessories are not included with the linear actuators and must be ordered separately. For assistance, please refer to the type overview on page 10.

Page



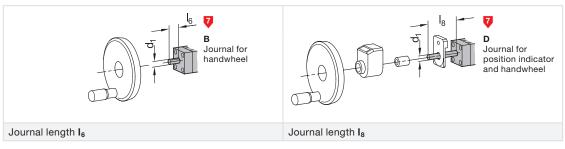


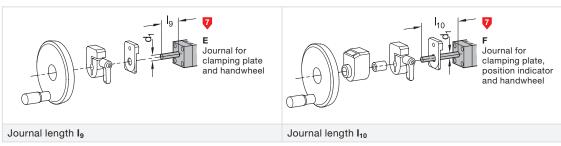
	Spindle pitch	Journal diameter Journal length									
s	Metric	d_1	I ₆	I ₇	I ₈	I ₉	I ₁₀	I ₁₁			
30	1,5	8	16	39	55	34	70	1670			
50	2	12	18	49	67	40	82	1882			

Overview accessories

Handwheels GN 9234	Clamping Plates GN 9734	Torque Supports GN 891.2	Position Indicators GN 9034 Electronic counter	Position Indicators GN 9534 Mechanical counter
→ Page 15	→ Page 16	→ Page 19	→ Page 18	→ Page 17

Version - Journal 1

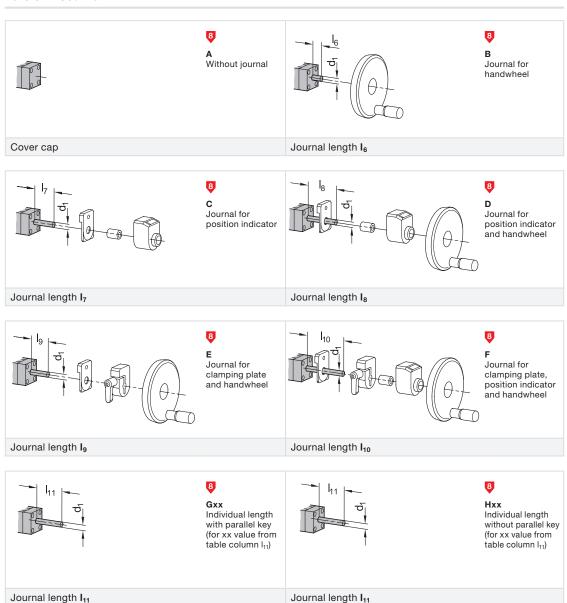






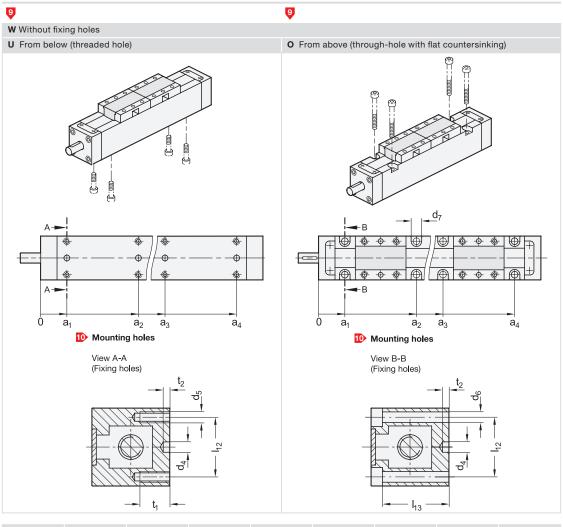


Version - Journal 2





Mounting Options



s	d ₄ H7	d_5	d ₆	d ₇	I ₁₂	I ₁₃	t ₁	t ₂
30	3	M 3	3,4	6,5	24	26,6	10	3
50	5	M 5	5,5	10	40	44,6	12	5

How to order (Without fixing holes)
Standard section

Supplemental section

GN 8920 - 50 - ST - 600 - B - LH - 2 - D - C - W

Нс	How to order (With fixing holes)									
Standard section Supplemental section										
	7 2 5 4 5 6 7 8 9 0									
_	110000 00 1	11 400	A DIL 4 C 040 E	Č	75 070 500 7	100				
G	N 8920 - 30 - N	II - 420 -	À-RH-1,5-G40-F	- Ó	- 75 - 370 - 520 - 7	780				
G	N 8920 - 30 - N Square s	N - 420 -	- Å - RH - 1,5 - G40 - F	- Ŏ	- 75 - 370 - 520 - 7 Version journal 1		a ₁ , a ₂ ,			
1 2			,	7 8		780	a ₁ , a ₂ , (Fastening holes)			

Accessories for Configurable Profile Linear Actuators

Overview of Types



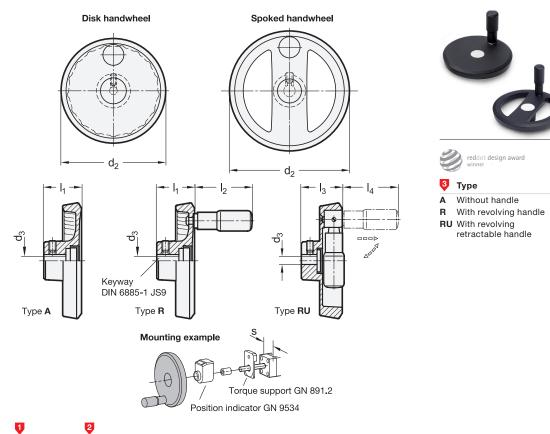
The accessories include parts that supplement the linear actuators or improve their usability. For example, handwheels can be used for operating the linear actuators, position indicators for monitoring the position and clamping plates for locking the spindle in place. The torque supports provide protection against twisting when installing a position indicator and clamping plate. The matching accessories can be selected on the various standard sheets based on the sqare (\mathbb{Z} s) of the chosen linear actuator. The carriage clamping units can be used as an alternative to the clamping plate as a fixation directly on the carriage.

carriage.	
Code no.	Characteristics
GN 9234 Page 15	Handwheels GN 9234 are used for manually operating linear actuators and are available with a variety of handle designs.
GN 9734 Page 16	Clamping plates GN 9734 are used to lock the threaded spindle to prevent unintended movement out of the current position.
GN 9534 Page 17	Position indicators GN 9534 indicate the current position of the linear actuator connector using a mechanical counter. The supplied adapter bushing serves as the connection between the stud of the linear actuator connector and the hollow shaft of the position indicator.
GN 9034 Page 18	Position indicators GN 9034 indicate the current position of the linear actuator connector using a display. The supplied adapter bushing serves as the connection between the stud of the linear actuator connector and the hollow shaft of the position indicator.
GN 891.2 Page 19	Torque supports GN 491.2 are needed for installing clamping plates and position indicators on linear actuators.
GN 891.3 Page 20	Carriage clamping units GN 891.3 secure carriages of configurable profile linear actuators after positioning has finished without the need for a tool. This prevents undesired movement, such as due to vibrations or accidental operation.

Handwheels

Aluminum, Powder Coated, for Profile Linear Actuators





S ☑ Linear actuator	d₂ Disk handwheel	Spoked handwheel	d ₃ H7 Bore	I ₁ ≈	l ₂ ≈	l ₃ ≈	I ₄ ≈	Ø Handle GN 599.5	Ø Handle GN 798.2	Ø Handle GN 798.3
30*	63	-	8	27	20	-	-	13	-	-
30	100	-	8	30	58	39	56,5	-	18	18
50	-	140	12	36,5	76,5	47	75,5	-	24	24

* only available in type A and R

Specification



- · Machined hub
- Turned rim

of the rim < 0.4

 Powder coated Black, RAL 9005, textured finish

sw Concentricity and axial run-out tolerance

3

Revolving handles / Retractable handles / Revolving cylinder handles GN 798.2 / GN 798.3 / GN 599.5

RoHS

Handwheels GN 9234 are intended for use with linear actuators and are designed as disk or spoked handwheels, depending on their size.

The applied torque is transmitted by means of a parallel key, and the handwheel is secured axially with the supplied grub screw. The handwheels can be ordered without handles, with revolving handles or with revolving retractable handles.

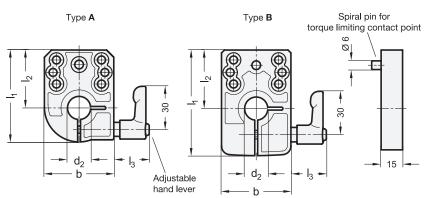
Technical information	Catalogue Page
Keyway JS9 DIN 6885 Page 1	2076
Cross Holes GN 110	2080
ISO Fundamental Tolerances	2151

How to order	1	s
	2	d ₂
1 2 3 4	3	Туре
GN 9234-30-100-R-SW	4	Color

Clamping Plates

Zinc Die Casting, for Profile Linear Actuators



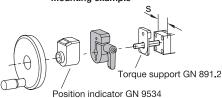






- A For mechanical position indicators or without position indicator
- **B** For electronic position indicators







d₁ ☑ Linear actuator	b	d₂ F9	l ₁ Type A	Type B	l₂ Type A	Туре В	l ₃	Compatible with p	osition indicator Type B
30	33	8	47	55	30,5	30,5	24,5	GN 9534	GN 9034
50	48	12	66,5	73	43	40,5	24,5	GN 9534	GN 9034

Specification

Zinc die casting

Powder coated

Black, textured finish

Spiral pin ISO 8750

Stainless steel

Adjustable hand lever GN 302.1

• Zinc die casting Powder coated

Black, RAL 9005, textured finish

• Threaded insert Stainless steel AISI 303

RoHS

Clamping plates GN 9734 are used to fix the spindles of configurable linear actuators in place after adjustment.

Using a hand lever, the bore diamter of the clamping plate is reduced until the spindle stem of the linear actuator is clamped, preventing unintentional adjustment of the approached position.

The enclosed spiral pin connects the clamping plate to the torque support, preventing it from twisting. If no position indicator is mounted to the linear actuator, as shown in the example, type A is recommended.

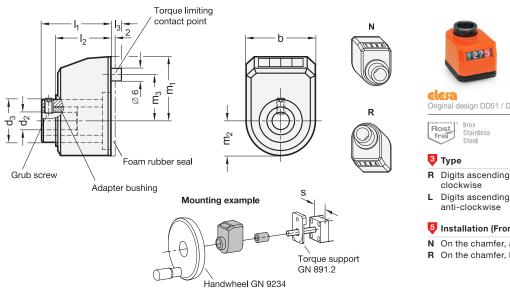
Technical Information	Catalogue Page
ISO Fundamental Tolerances	2151
Stainless Steel Characteristics	2166

How to order	1	s
GN 9734-50-A	2	Туре

Position Indicators

Plastic, Mechanical Counter, for Profile Linear Actuators







5 Installation (Front view)

On the chamfer, above

On the chamfer, below

U	2													
s	р	p			d ₂ H7	d_3	I ₁	I_2	l ₃	m ₁	m_2	m ₃	Grub screw	Max. rpm
☑ Linear actuator	Spindle pitch Linear actuator	Counter	Indication after one spindle revolution											
30	1,5	001.5	0015	33	8	20	33	26	5,5	30,5	16,5	22	M 4	1500
30	3	003.0	0030	33	8	20	33	26	5,5	30,5	16,5	22	M 4	1500
50	2	0002.0	0 0 0 2 0	48	12	29	37	30	6	43,5	23	30	M 5	625
50	4	0004.0	00040	48	12	29	37	30	6	43,5	23	30	M 5	625

Specification





0

Hollow shaft / Adapter bushing

- · Steel. blackened
- s Ν
- Stainless steel AISI 304 · Sealed with an O-ring

Housing

Plastic, polyamide PA

- · Orange, RAL 2004
- Gray, RAL 7035
- O G • Operating temperature 0 °C to +80 °C
- · Oil and solvent resistant

Sight glass

Plastic, polyamide (PA-T), transparent

Counter

- · Digits white
- · Pre-decimal positions highlighted black
- · Decimal positions highlighted red with additional scale

Grub screw DIN 916

- · Steel, blackened for S
- · Stainless steel for N

RoHS

Position indicators GN 9534 are designed for attachment to configurable profil linear actuators. They are mounted to the spindle stud of the linear actuator using an adapter bushing and a grub screw. The directly driven counter with digital position display must be matched to the pitch of the threaded spindle.

The housing is welded by ultrasound, making it particularly sturdy, tight and compact. The foam rubber seal prevents the transmission of vibration to the counter and acts as a seal.

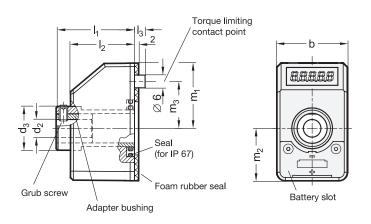
Technical Information	Catalogue Page
ISO Fundamental Tolerances	2151
Plastic Characteristics	2156
Stainless Steel Characteristics	2166

	How to order	1	s
			p
			Туре
	7 2 3 4 5 6	4	Material
		5	Installation (Front view)
ı	GN 9534-50-4-R-S-N-O		Color

Position Indicators

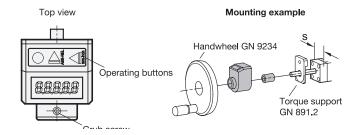
Plastic, Electronic, LCD-Display, for Profile Linear Actuators







- 1 Protection class IP 65
- 2 Protection class IP 67





d ₁ Ø Linear actuator	b	d₂ H7	d ₃	I ₁	l ₂	I ₃	m ₁	m ₂	m ₃	Grub screw	LCD display Number of positions	Max. rpm
30	33,5	8	19,5	34	28,5	5,5	30,5	25	22	M 4	5	1000
50	48	12	28,5	41	34	6	40	32,5	30	M 5	6	1000

Specification



OR

GR

Housing

Plastic, polyamide (PA)

- Orange, RAL 2004
- Gray, RAL 7035, shiny finish
- \bullet Operating temperature 0° to 50 °C
- · Oil and solvent resistant

LCD display

5 digits / 6 digits and special characters

Hollow shaft / Adapter bushing

Stainless steel AISI 304

O-ring for identification no. 2 Acrylonitrile butadiene rubber (NBR)

RoHS

Electronic position indicators GN 9034 are designed for attachment to configurable linear units. They are mounted to the spindle stem of the linear actuator using an adapter bushing and a grub screw. The position indicators must be adjusted for the thread pitch and direction of the linear actuators. Power is supplied by a long-life battery.

The housing is welded by ultrasound, making it particularly sturdy, tight and compact. The foam rubber seal prevents the transmission of vibrations and acts as a seal.

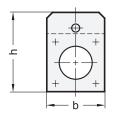
Technical Information	Page
ISO Fundamental Tolerances	2151
IP Protection Classes	2153
Plastic Characteristics	2158
Stainless Steel Characteristics	2166

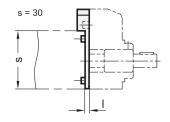
How to order	1	d ₁
7 2 3	2	Identification no.
GN 9034-50-2-GR	3	Color

Torque Supports

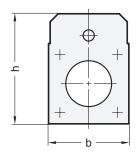
Plastic, for Profile Linear Actuators

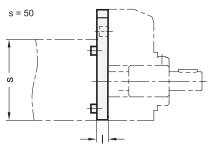








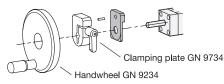














S ☑ Linear actuator	b	h	Length I
30	33	47	3
50	50	68,5	7

3 Specification Plastic, polyamide (PA 12) Black, RAL 9005, matte finish sw

Torque supports GN 891.2 are required for mounting a position indicator or a clamping plate to configurable profile linear actuators.

The torque supports are made of plastic and are mounted to the end caps of the profile linear actuators. They feature a bore on the face side, which prevents position indicators or clamping plates from rotating.

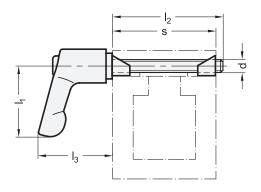
RoHS

How to order	1	s
1 5 3	2	Туре
GN 891.2-30-A-SW	3	Color

Carriage Clamping Units

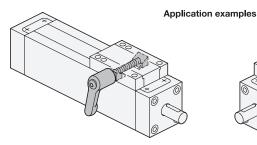
Zinc Die Casting, Clamping Wedge Brass, for Profile Linear Actuators

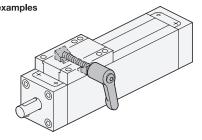












V	4			
S ☑ Linear actuators	I ₁	d		I ₃
30	22	M 4	32	23
50	30	M 5	50	31

Specification



Zinc die casting

Powder coated

Orange, RAL 2004, textured finish · Insert / Retaining screw

Stainless steel AISI 303

Clamping wedges

Brass

RoHS

Carriage clamping units GN 891.3 secure carriages of configurable profile linear actuators after positioning has finished without the need for a tool. This prevents undesired movement, such as due to vibrations or accidental

The thread of the adjustable hand lever tensions the wedge mechanism. This produces friction between the clamping wedges and the carriage guideway, efficiently securing the carriage position with zero backlash.

How to order	1	s
1 5 3	2	I ₁
GN 891.3-50-30-OS	3	Color

3

os

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