JW WINCO®
A Ganter Company

Highlights

Telescopic Slides

Standard Parts. Winco.

Contents

General information

Telescopic slides offer smooth-running, wear-free, and quiet linear motion. They are used in a wide variety of applications. It ranges from the simplest extensions and drawers to high-quality versions, which are used in the industrial environment on machines, production systems, and fixtures. They have a multitude of positive features and are also particularly interesting from an economic standpoint.

Typical application examples are: sliding doors, protective covers, keyboards and PC pull-outs, vehicle equipment, storage trays, battery boxes, etc.

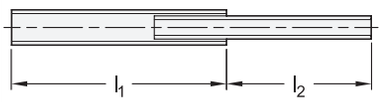
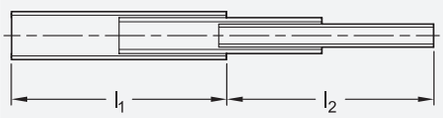
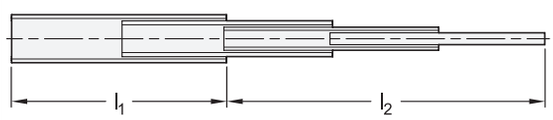
Telescopic slides can come with a number of equipment options. They are are available for one of the two end positions but also in combination. The options are defined by the type in the part number.

Design

Telescopic slides consist of an outer and an inner slide as well as, depending on the type or the required extension length, one or two additional middle slides. The slides are made of sheet metal, are interconnected through appropriately shaped geometry and move by means of bearing balls. A ball cage keeps the balls spaced and in position.

The slides are usually mounted with countersunk holes or through holes. Other options, such as threaded bolts or support brackets, are available on request.

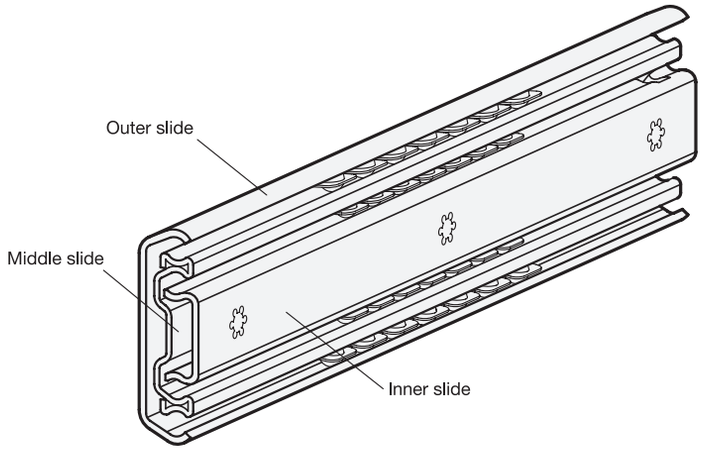
With regard to the extension length, telescopic slides can be divided into three categories: partial extension, full extension, and over extension. The categories are defined by the achievable stroke l_2, which is listed in relation to the nominal length l_1.

Type of extension	Extension diagram
Partial extension: l_1 = 100 % → l_2 = min. 75 %	
Full extension: l_1 = 100 % → l_2 = min. 100 %	
Over extension: l_1 = 100 % → l_2 = min. 150 %	

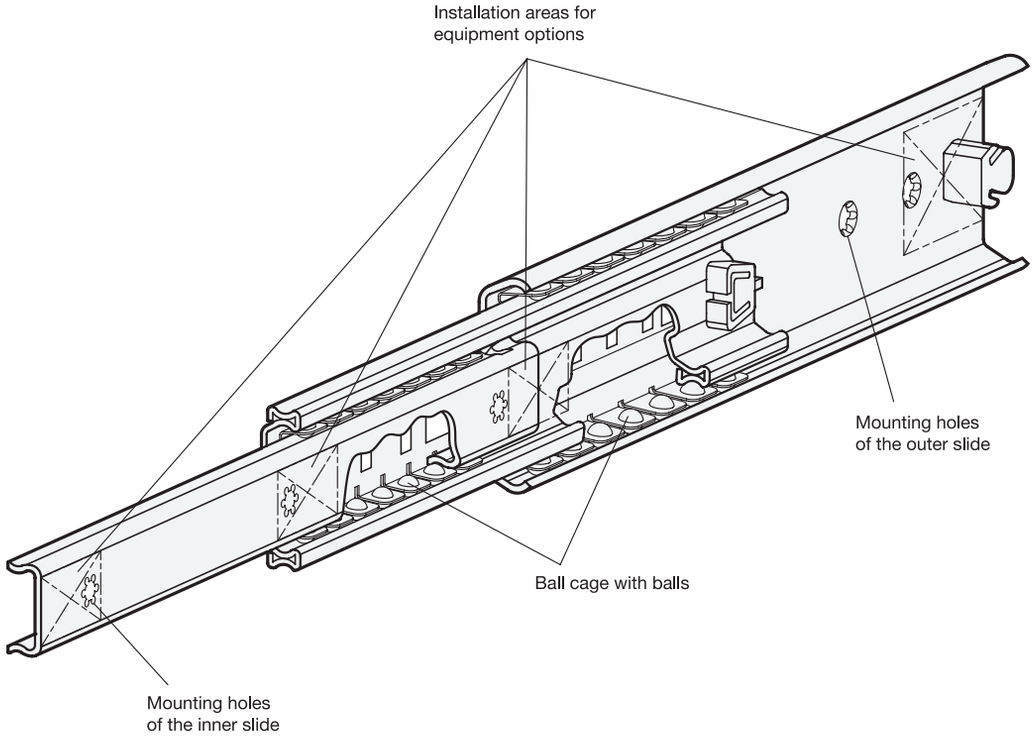
All slides have internally installed stops in the extended and retracted end position to prevent unintentional pulling apart. Depending on the available installation space and required stability, the stops are designed accordingly in a metallic form or with additional plastic or elastomer parts as a rubber stop to prevent the slides from hitting the end positions with too much force.

Furthermore, telescopic slides can come with a variety of accessory functions. Examples include locking devices, latches, detach functions, and self-retracting mechanisms, some of which are dampened. Depending on the slide version, these additional functions are available for the extended or retracted end position or in combination. In addition, customer-specific modifications regarding the mounting of the slides are possible.

Telescopic slides with full extension, retracted end position

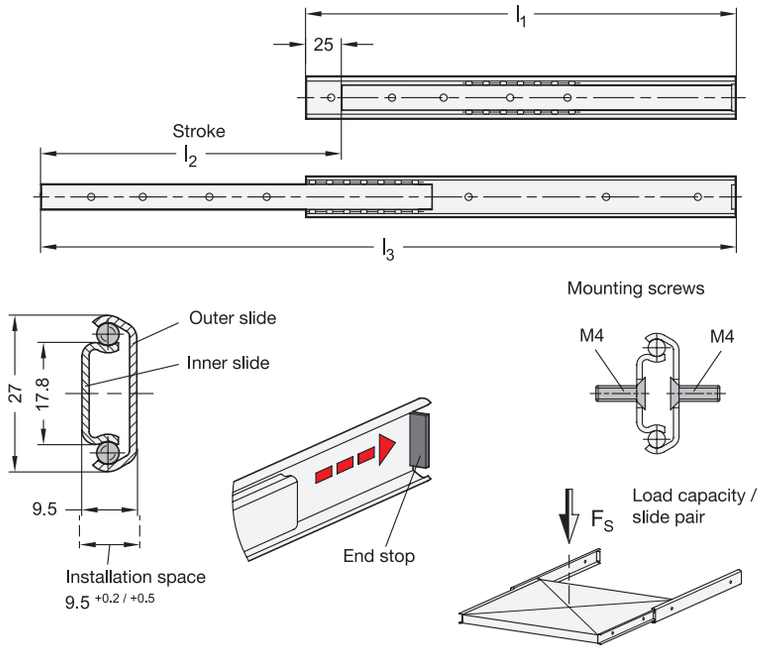


Telescopic slides with full extension, extended end position



Series	Type of extension Partial extension **T** Full extension **V**	Load capacity per pair at 10,000 cycles	Basic length Retracted position	Material Steel **ST** Stainless steel **NI**	Mounting Through holes (Identification no. **1**)	Countersunk holes (Identification no. **2**)	Outer slide - through holes / Inner slide - countersunk holes (Identification no. **3**)
GN 1400 Page 6	T	280 N *62 lbf*	300 - 500 mm *11.81 - 19.69 in*	ST	×		
GN 1404 Page 8	T	780 N *175 lbf*	300 - 700 mm *11.81 - 27.56 in*	ST			×
GN 1408 Page 10	V	250 N *56 lbf*	250 - 700 mm *9.84 - 27.56 in*	ST	×		
GN 1410 Page 13	V	510 N *115 lbf*	250 - 800 mm *9.84 - 31.50 in*	ST	×		
GN 1412 Page 16	V	430 N *96 lbf*	300 - 700 mm *11.81 - 27.56 in*	ST	×		
GN 1414 Page 19	V	360 N *80 lbf*	300 - 650 mm *11.81 - 25.59 in*	ST	×		
GN 1418 Page 22	V	430 N *96 lbf*	350 - 650 mm *13.78 - 25.59 in*	ST	×		
GN 1420 Page 25	V	1290 N *290 lbf*	300 - 1200 mm *11.81 - 47.24 in*	ST		×	
GN 1422 Page 27	V	1290 N *290 lbf*	300 - 800 mm *11.81 - 31.50 in*	ST		×	
GN 1424 Page 30	V	750 N *169 lbf*	350 - 700 mm *13.78 - 27.56 in*	ST		×	
GN 1426 Page 33	V	1380 N *310 lbf*	500 - 800 mm *19.69 - 31.50 in*	ST		×	
GN 1430 Page 35	V	2120 N *477 lbf*	400 - 1200 mm *15.75 - 47.24 in*	ST		×	
GN 1432 Page 37	V	2300 N *517 lbf*	400 - 800 mm *15.75 - 31.50 in*	ST		×	
GN 1440 Type B Page 40	V	3250 N *731 lbf*	300 - 1500 mm *11.81 - 59.05 in*	ST	×		
GN 1440 Type M Page 40	V	3250 N *731 lbf*	300 - 1500 mm *11.81 - 59.05 in*	ST	×		
GN 1440 Type K Page 40	V	3250 N *731 lbf*	300 - 1500 mm *11.81 - 59.05 in*	ST	×		
GN 1440 Type Q Page 40	V	3250 N *731 lbf*	300 - 1500 mm *11.81 - 59.05 in*	ST	×		
GN 1450 Page 43	V	480 N *108 lbf*	300 - 600 mm *11.81 - 23.62 in*	NI	×		

Series	Equipment features									
	Without rubber stop	With rubber stop in retracted + extended position	Locking device in retracted position Type **E**	Locking device in retracted position, detach function Type **F**	Latch in retracted position Type **M**	Latch in extended position Type **K**	Latch in retracted + extended Type **Q**	Self-retracting mechanism, dampened / not dampened	Push to open mechanism	Extension on both sides
GN 1400 Page 6	×									
GN 1404 Page 8		×	×							
GN 1408 Page 10		×		×						
GN 1410 Page 13		×		×						
GN 1412 Page 16		×		×				×		
GN 1414 Page 19				×				×		
GN 1418 Page 22		×		×					×	
GN 1420 Page 25		×	×							
GN 1422 Page 27		×						×		
GN 1424 Page 30		×						×		
GN 1426 Page 33		×								×
GN 1430 Page 35		×	×							
GN 1432 Page 37		×						×		
GN 1440 Type B Page 40		×								
GN 1440 Type M Page 40		×			×					
GN 1440 Type K Page 40		×				×				
GN 1440 Type Q Page 40		×					×			
GN 1450 Page 43		×		×						



Metric

2 Type

A Without rubber stop

3 Identification no.

1 Mounting with through holes

Metric table

Dimensions in: millimeters - *inches*

l_1	l_2 $^{+2}_{-2}$ Stroke	l_3	F_s per pair at 10,000 cycles	at 100,000 cycles
300 *11.81*	210 *8.27*	485 *19.09*	220 N *49.46 lbf*	170 N *38.22 lbf*
350 *13.78*	240 *9.45*	565 *22.24*	260 N *58.45 lbf*	200 N *44.96 lbf*
400 *15.75*	290 *11.42*	665 *26.18*	260 N *58.45 lbf*	200 N *44.96 lbf*
500 *19.69*	370 *14.57*	845 *33.27*	280 N *62.95 lbf*	220 N *49.46 lbf*

Specification

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With rubber stop
- With locking device
  (in retracted and / or extended position)
- Other finishes
- With support bracket
- With retraction damping, external

Information

GN 1400 telescopic slides are installed in pairs. The stroke reaches ≈ 75 % of the nominal length l_1 (partial extension). The steel end stops prevent the slide from being unintentionally pulled out or detached. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach without additional auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

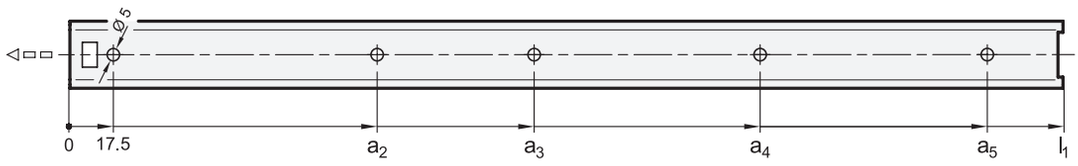
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides (with Full Extension) → starting from page 10*
- *Stainless Steel Telescopic Slides (with Full Extension) → starting from page 43*

How to order

1 2 3 4
GN 1400-400-A-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

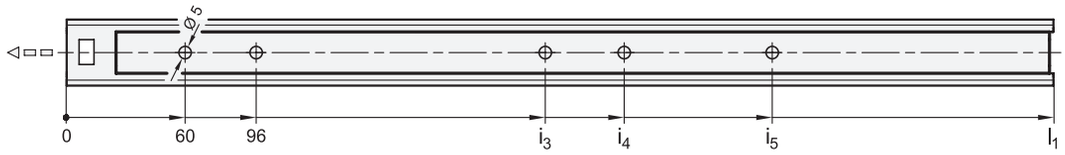


Metric table

Dimensions in: millimeters - *inches*

l_1	a_2	a_3	a_4	a_5
300 *11.81*	113.5 *4.47*	209.5 *8.25*	273.5 *10.77*	-
350 *13.78*	113.5 *4.47*	209.5 *8.25*	337.5 *13.29*	-
400 *15.75*	113.5 *4.47*	209.5 *8.25*	369.5 *14.55*	-
500 *19.69*	145.5 *5.73*	209.5 *8.25*	337.5 *13.29*	465.5 *18.33*

Mounting holes - Inner slide



Metric table

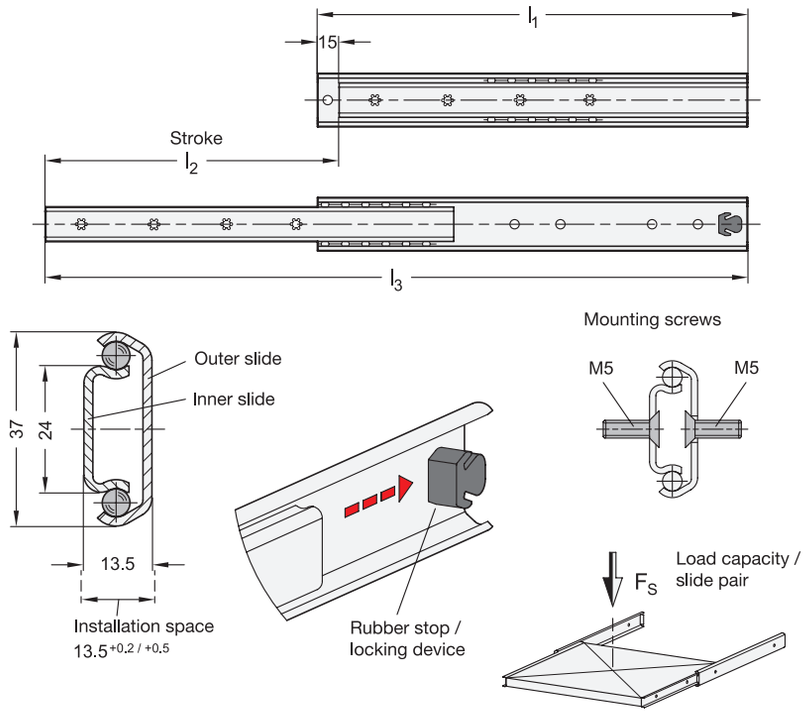
Dimensions in: millimeters - *inches*

l_1	i_3	i_4	i_5
300 *11.81*	142.5 *5.61*	182.5 *7.19*	-
350 *13.78*	167.5 *6.59*	207.5 *8.17*	-
400 *15.75*	192.5 *7.58*	232.5 *9.15*	282.5 *11.12*
500 *19.69*	242.5 *9.55*	282.5 *11.12*	357.5 *14.07*

Mounting screws

For the listed loading forces F_S to be absorbed reliably into the surrounding structure, all available through holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Phillips countersunk flat head screw	DIN 965	M 4	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 3.5 / 4	Size 3.5



Metric

2 Type

E With rubber stop,
locking device in retracted position

3 Identification no.

3 Mounting with through holes
on outer slide and countersunk holes
on inner slide

Metric table

Dimensions in: millimeters - *inches*

1				
l_1	l_2 $^{+2}_{-2}$ Stroke	l_3	F_s per pair	
			at 10,000 cycles	at 100,000 cycles
300 *11.81*	205 *8.07*	490 *19.29*	780 N *175 lbf*	600 N *135 lbf*
350 *13.78*	239 *9.41*	574 *22.60*	630 N *142 lbf*	490 N *110 lbf*
400 *15.75*	289 *11.38*	674 *26.54*	540 N *121 lbf*	420 N *94.42 lbf*
450 *17.72*	339 *13.35*	774 *30.47*	460 N *103 lbf*	360 N *80.93 lbf*

1				
l_1	l_2 $^{+2}_{-2}$ Stroke	l_3	F_s per pair	
			at 10,000 cycles	at 100,000 cycles
500 *19.69*	373 *14.69*	858 *33.78*	540 N *121 lbf*	420 N *94.42 lbf*
600 *23.62*	457 *17.99*	1042 *41.02*	560 N *126 lbf*	430 N *96.67 lbf*
700 *27.56*	541 *21.30*	1226 *48.27*	560 N *126 lbf*	430 N *96.67 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With rubber stop (without locking device)
- Other finishes
- With support bracket
- With retraction damping, external

Information

GN 1404 telescopic slides are installed in pairs. The stroke reaches ≈ 75 % of the nominal length l_1 (partial extension). The rubber stops dampen the impact of the slide in the two end positions and take on the locking function in the retracted position. This feature is noticeable through a slight resistance on opening and closing. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach without additional auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

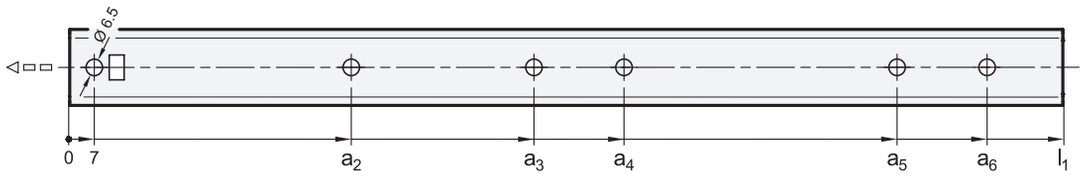
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides (with Full Extension) → starting from page 10*

How to order

1 2 3 4
GN 1404-600-E-3-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

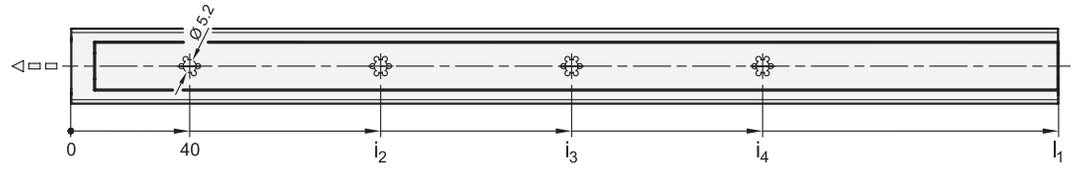


Metric table

Dimensions in: millimeters - *inches*

l_1	a_2	a_3	a_4	a_5	a_6
300 *11.81*	135 *5.31*	199 *7.83*	231 *9.09*	-	-
350 *13.78*	135 *5.31*	231 *9.09*	263 *10.35*	-	-
400 *15.75*	135 *5.31*	295 *11.61*	327 *12.87*	-	-
450 *17.72*	135 *5.31*	327 *12.87*	359 *14.13*	-	-
500 *19.69*	167 *6.57*	295 *11.61*	327 *12.87*	391 *15.39*	423 *16.65*
600 *23.62*	167 *6.57*	359 *14.13*	391 *15.39*	487 *19.17*	519 *20.43*
700 *27.56*	199 *7.83*	391 *15.39*	423 *16.65*	583 *22.95*	615 *24.21*

Mounting holes - Inner slide



Metric table

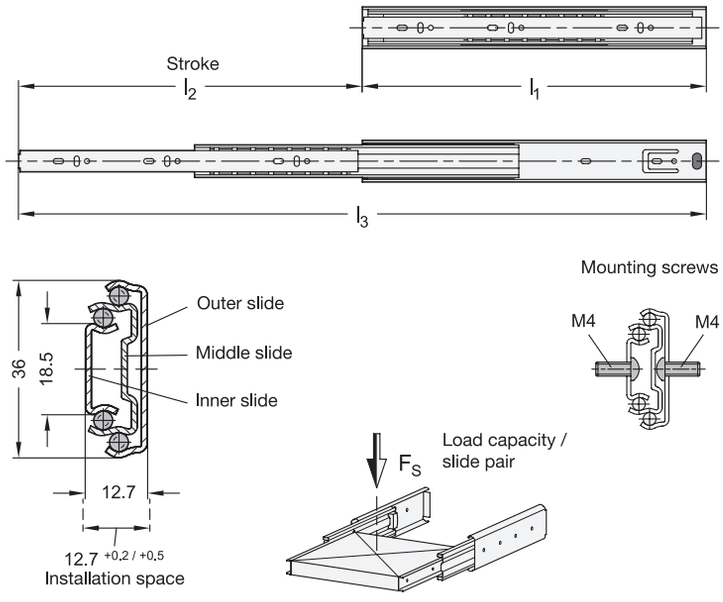
Dimensions in: millimeters - *inches*

l_1	i_2	i_3	i_4
300 *11.81*	72 *2.83*	136 *5.35*	168 *6.61*
350 *13.78*	104 *4.09*	168 *6.61*	200 *7.87*
400 *15.75*	104 *4.09*	200 *7.87*	264 *10.39*
450 *17.72*	104 *4.09*	200 *7.87*	296 *11.65*
500 *19.69*	136 *5.35*	232 *9.13*	328 *12.91*
600 *23.62*	168 *6.61*	296 *11.65*	424 *16.69*
700 *27.56*	168 *6.61*	328 *12.91*	520 *20.47*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes / countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Phillips countersunk flat head screw	DIN 965	M 5	M 5
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4.5



Metric

2 Type

F With rubber stop, locking device in retracted position, detach function

3 Identification no.

1 Mounting with through holes

Metric table

Dimensions in: millimeters - *inches*

1 l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
250 *9.84*	250 *9.84*	500 *19.69*	200 N *44.96 lbf*	150 N *33.72 lbf*
300 *11.81*	300 *11.81*	600 *23.62*	200 N *44.96 lbf*	150 N *33.72 lbf*
350 *13.78*	350 *13.78*	700 *27.56*	220 N *49.46 lbf*	180 N *40.47 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	250 N *56.20 lbf*	200 N *44.96 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	250 N *56.20 lbf*	200 N *44.96 lbf*

1 l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
500 *19.69*	500 *19.69*	1000 *39.37*	220 N *49.46 lbf*	180 N *40.47 lbf*
550 *21.65*	550 *21.65*	1100 *43.31*	220 N *49.46 lbf*	180 N *40.47 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	200 N *44.96 lbf*	150 N *33.72 lbf*
650 *25.59*	650 *25.59*	1300 *51.18*	200 N *44.96 lbf*	150 N *33.72 lbf*
700 *27.56*	700 *27.56*	1400 *55.12*	200 N *44.96 lbf*	150 N *33.72 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage, outer slide
  Plastic
- Ball cage, inner slide
  Steel, zinc plated
- Rubber stop and detach function
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes

Information

GN 1408 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension).

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

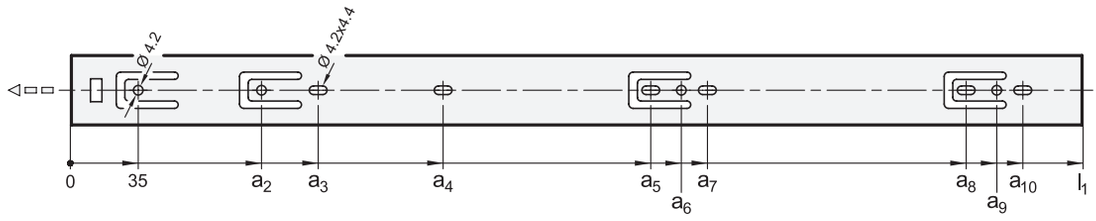
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1410 (with Full Extension) → page 13*
- *Telescopic Slides GN 1450 (with Full Extension) → page 43*
- *Telescopic Slides GN 1400 (with Partial Extension) → page 6*

How to order

1 2 3 4
GN 1408-600-F-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

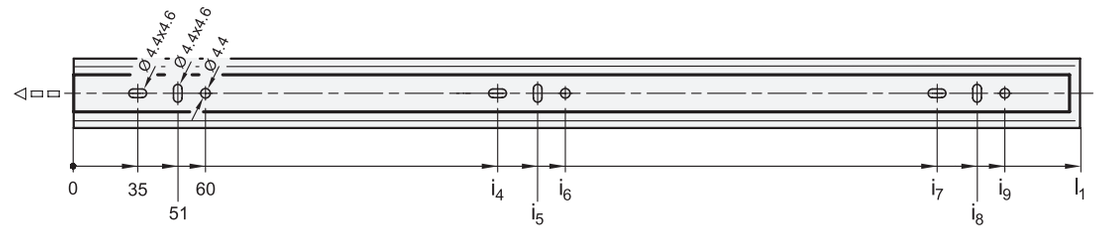


Metric table

Dimensions in: millimeters - *inches*

l_1	a_2	a_3	a_4	a_5	a_6	a_7	a_8	a_9	a_{10}
250 *9.84*	-	65 *2.56*	-	195 *7.68*	210 *8.27*	225 *8.86*	-	-	-
300 *11.81*	99 *3.90*	129 *5.08*	195 *7.68*	257 *10.12*	272 *10.71*	-	-	-	-
350 *13.78*	99 *3.90*	129 *5.08*	185 *7.28*	259 *10.20*	274 *10.79*	289 *11.38*	-	-	-
400 *15.75*	99 *3.90*	129 *5.08*	-	259 *10.20*	274 *10.79*	-	323 *12.72*	338 *13.31*	353 *13.90*
450 *17.72*	99 *3.90*	129 *5.08*	185 *7.28*	259 *10.20*	274 *10.79*	289 *11.38*	387 *15.24*	402 *15.83*	417 *16.42*
500 *19.69*	99 *3.90*	129 *5.08*	185 *7.28*	291 *11.46*	306 *12.05*	321 *12.64*	451 *17.76*	466 *18.35*	481 *18.94*
550 *21.65*	99 *3.90*	129 *5.08*	185 *7.28*	323 *12.72*	338 *13.31*	353 *13.90*	483 *19.02*	498 *19.61*	513 *20.20*
600 *23.62*	99 *3.90*	129 *5.08*	185 *7.28*	323 *12.72*	338 *13.31*	353 *13.90*	515 *20.28*	530 *20.87*	545 *21.46*
650 *25.59*	99 *3.90*	129 *5.08*	185 *7.28*	355 *13.98*	370 *14.57*	385 *15.16*	579 *22.80*	594 *23.39*	609 *23.98*
700 *27.56*	99 *3.90*	129 *5.08*	185 *7.28*	387 *15.24*	402 *15.83*	417 *16.42*	643 *25.32*	658 *25.91*	673 *26.50*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

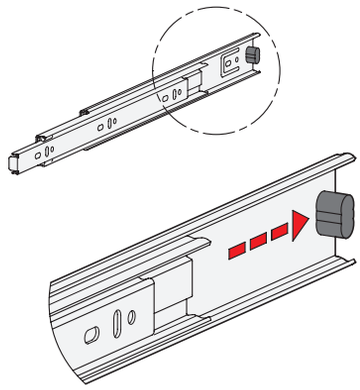
l_1	i_4	i_5	i_6	i_7	i_8	i_9
250 *9.84*	195 *7.68*	211 *8.31*	220 *8.66*	-	-	-
300 *11.81*	114 *4.49*	130 *5.12*	139 *5.47*	227 *8.94*	243 *9.57*	252 *9.92*
350 *13.78*	163 *6.42*	179 *7.05*	188 *7.40*	291 *11.46*	307 *12.09*	316 *12.44*
400 *15.75*	163 *6.42*	179 *7.05*	188 *7.40*	355 *13.98*	371 *14.61*	380 *14.96*
450 *17.72*	195 *7.68*	211 *8.31*	220 *8.66*	387 *15.24*	403 *15.87*	412 *16.22*
500 *19.69*	227 *8.94*	243 *9.57*	252 *9.92*	451 *17.76*	467 *18.39*	476 *18.74*
550 *21.65*	259 *10.20*	275 *10.83*	284 *11.18*	483 *19.02*	499 *19.65*	508 *20.00*
600 *23.62*	259 *10.20*	275 *10.83*	284 *11.18*	515 *20.28*	531 *20.91*	540 *21.26*
650 *25.59*	291 *11.46*	307 *12.09*	316 *12.44*	579 *22.80*	595 *23.43*	604 *23.78*
700 *27.56*	323 *12.72*	339 *13.35*	348 *13.70*	643 *25.32*	659 *25.95*	668 *26.30*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer slide having a Ø of 4.2 mm and of the inner slide having a Ø of 4.4 mm must be used. The slotted holes, Ø 4.2 x 4.4 mm of the outer slide and Ø 4.4 x 4.6 mm of the inner slide, are also used for mounting and facilitate adjustment. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 4	M 4
Phillips pan head screw	ISO 7045	M 4	M 4
Phillips pan head self-tapping screw	ISO 7049	ST 3.9 / 4.2	ST 3.9 / 4.2

Rubber stop, locking device in retraced position

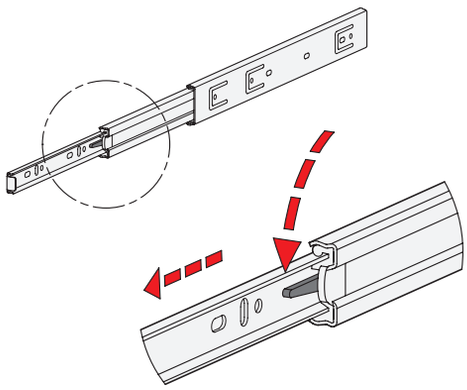


The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

In the retracted end position, the rubber stop additionally takes on a locking function, which is noticeable through a slight resistance on opening and closing.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

Detach function

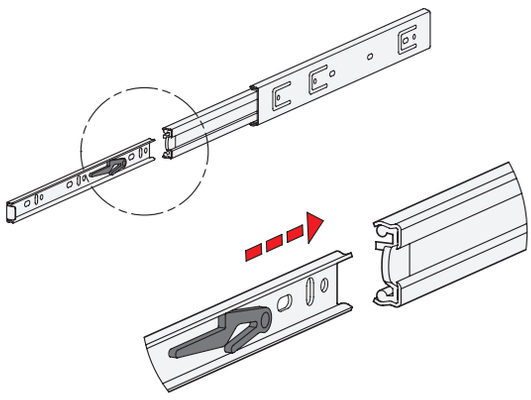


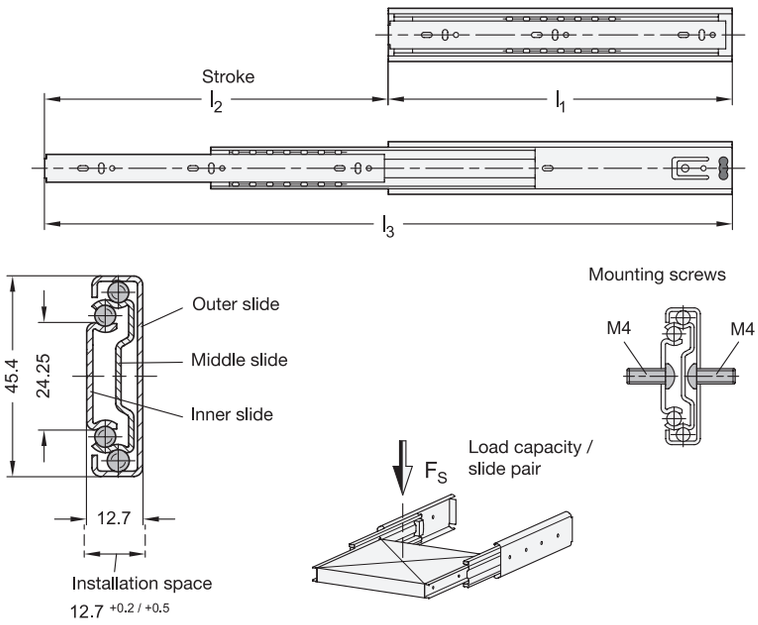
The detach function allows the extension to be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

The telescopic slide can be quickly and easily detached in the extended position through activation of the release lever, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanism prevents accidental detachment of the slide.





Metric

2 Type

F With rubber stop, locking device in retracted position, detach function

3 Identification no.

1 Mounting with through holes

Metric table

Dimensions in: millimeters - *inches*

1 l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_S per pair at 10,000 cycles	F_S per pair at 100,000 cycles
250 *9.84*	250 *9.84*	500 *19.69*	450 N *101 lbf*	320 N *71.94 lbf*
300 *11.81*	300 *11.81*	600 *23.62*	460 N *103 lbf*	340 N *76.44 lbf*
350 *13.78*	350 *13.78*	700 *27.56*	480 N *108 lbf*	360 N *80.93 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	510 N *115 lbf*	390 N *87.68 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	510 N *115 lbf*	390 N *87.68 lbf*
500 *19.69*	500 *19.69*	1000 *39.37*	480 N *108 lbf*	360 N *80.93 lbf*

1 l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_S per pair at 10,000 cycles	F_S per pair at 100,000 cycles
550 *21.65*	550 *21.65*	1100 *43.31*	460 N *103 lbf*	340 N *76.44 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	440 N *98.92 lbf*	340 N *76.44 lbf*
650 *25.59*	650 *25.59*	1300 *51.18*	420 N *94.42 lbf*	320 N *71.94 lbf*
700 *27.56*	700 *27.56*	1400 *55.12*	420 N *94.42 lbf*	320 N *71.94 lbf*
750 *29.53*	750 *29.53*	1500 *59.06*	400 N *89.92 lbf*	300 N *67.44 lbf*
800 *31.50*	800 *31.50*	1600 *62.99*	400 N *89.92 lbf*	300 N *67.44 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage, outer slide
  Plastic
- Ball cage, inner slide
  Steel, zinc plated
- Rubber stop and detach function
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes

Information

GN 1410 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension).

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

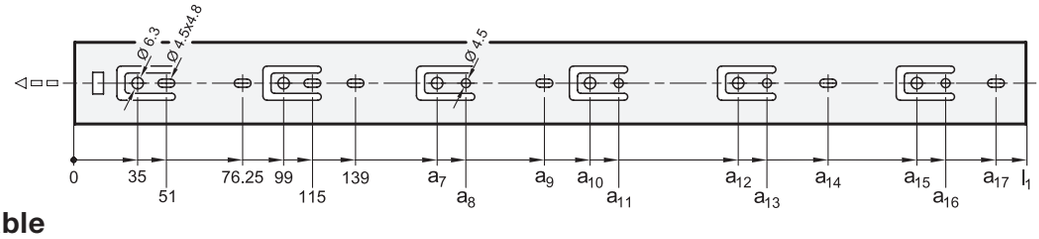
see also...
- *List of Telescopic Slide Types* → *page 4*
- *Technical Information on Telescopic Slides* → *page 48*
- *Telescopic Slides GN 1450 (with Full Extension)* → *page 43*
- *Telescopic Slides GN 1412 (with Self-Retracting Mechanism)* → *page 16*

How to order

1 2 3 4
GN 1410-250-F-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

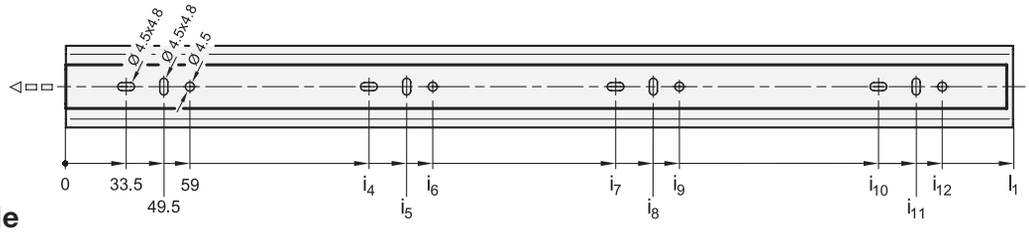


Metric table

Dimensions in: millimeters - *inches*

l_1	a_7	a_8	a_9	a_{10}	a_{11}	a_{12}	a_{13}	a_{14}	a_{15}	a_{16}	a_{17}
250 *9.84*	183 *7.20*	199 *7.83*	-	-	-	-	-	-	-	-	-
300 *11.81*	259 *10.20*	275 *10.83*	-	-	-	-	-	-	-	-	-
350 *13.78*	259 *10.20*	275 *10.83*	309 *12.17*	-	-	-	-	-	-	-	-
400 *15.75*	259 *10.20*	275 *10.83*	-	323 *12.72*	339 *13.35*	-	-	373 *14.69*	-	-	-
450 *17.72*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	-	-	-	-	-	-
500 *19.69*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	451 *17.76*	467 *18.39*	-	-	-	-
550 *21.65*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	451 *17.76*	467 *18.39*	501 *19.72*	-	-	-
600 *23.62*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	515 *20.28*	531 *20.91*	565 *22.24*	-	-	-
650 *25.59*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	579 *22.80*	595 *23.43*	629 *24.76*	-	-	-
700 *27.56*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	579 *22.80*	595 *23.43*	629 *24.76*	-	-	-
750 *29.53*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	547 *21.54*	563 *22.17*	597 *23.50*	643 *25.31*	659 *25.94*	693 *27.28*
800 *31.50*	259 *10.20*	275 *10.83*	361.5 *14.23*	387 *15.24*	403 *15.87*	579 *22.80*	595 *23.43*	629 *24.76*	707 *27.83*	723 *28.46*	757 *29.80*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

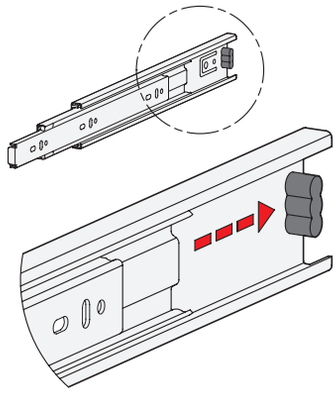
l_1	i_4	i_5	i_6	i_7	i_8	i_9	i_{10}	i_{11}	i_{12}
250 *9.84*	209.5 *8.25*	225.5 *8.88*	235 *9.25*	-	-	-	-	-	-
300 *11.81*	129.5 *5.10*	145.5 *5.73*	155 *6.10*	257.5 *10.14*	273.5 *10.77*	283 *11.14*	-	-	-
350 *13.78*	161.5 *6.36*	177.5 *6.99*	187 *7.36*	289.5 *11.40*	305.5 *12.03*	315 *12.40*	-	-	-
400 *15.75*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	353.5 *13.92*	369.5 *14.55*	379 *14.92*	-	-	-
450 *17.72*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	385.5 *15.18*	401.5 *15.81*	411 *16.18*	-	-	-
500 *19.69*	225.5 *8.88*	241.5 *9.51*	251 *9.88*	449.5 *17.70*	465.5 *18.33*	475 *18.70*	-	-	-
550 *21.65*	257.5 *10.14*	273.5 *10.77*	283 *11.14*	481.5 *18.96*	497.5 *19.59*	507 *19.96*	-	-	-
600 *23.62*	289.5 *11.40*	305.5 *12.03*	315 *12.40*	545.5 *21.48*	561.5 *22.11*	571 *22.48*	-	-	-
650 *25.59*	321.5 *12.66*	337.5 *13.29*	347 *13.66*	609.5 *24.00*	625.5 *24.63*	635 *25.00*	-	-	-
700 *27.56*	321.5 *12.66*	337.5 *13.29*	347 *13.66*	609.5 *24.00*	625.5 *24.63*	635 *25.00*	-	-	-
750 *29.53*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	321.5 *12.66*	337.5 *13.29*	347 *13.66*	673.5 *26.52*	689.5 *27.15*	699 *27.52*
800 *31.50*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	353.5 *13.92*	369.5 *14.55*	379 *14.92*	705.5 *27.78*	721.5 *28.41*	731 *28.78*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer and inner slide having a Ø of 4.5 mm must be used. Alternatively, the outer slide has holes with a Ø of 6.3 mm for metric screws. The slotted holes, Ø 4.5 x 4.8 mm, are also used for mounting and facilitate adjustment. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 4	M 4
Phillips pan head screw	ISO 7045	M 4	M 4
Phillips pan head self-tapping screw	ISO 7049	ST 3.9 / 4.2	ST 3.9 / 4.2

Rubber stop, locking device in retracted position

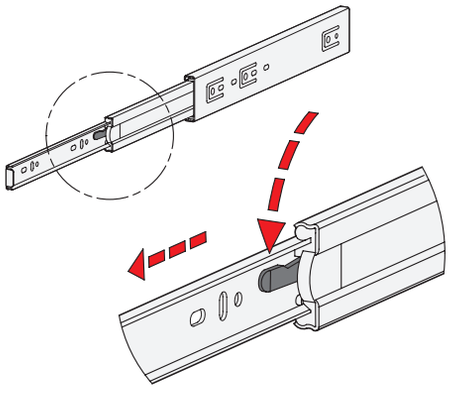


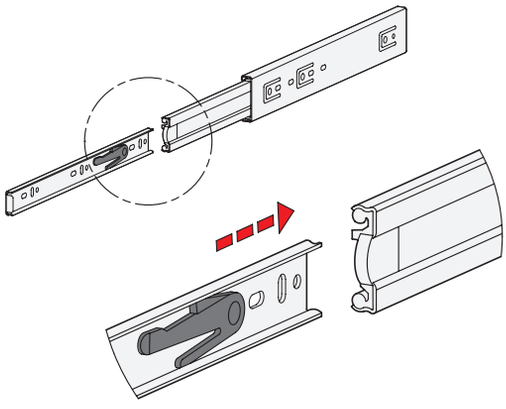
The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

In the retracted end position, the rubber stop additionally takes on a locking function, which is noticeable through a slight resistance on opening and closing.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

Detach function



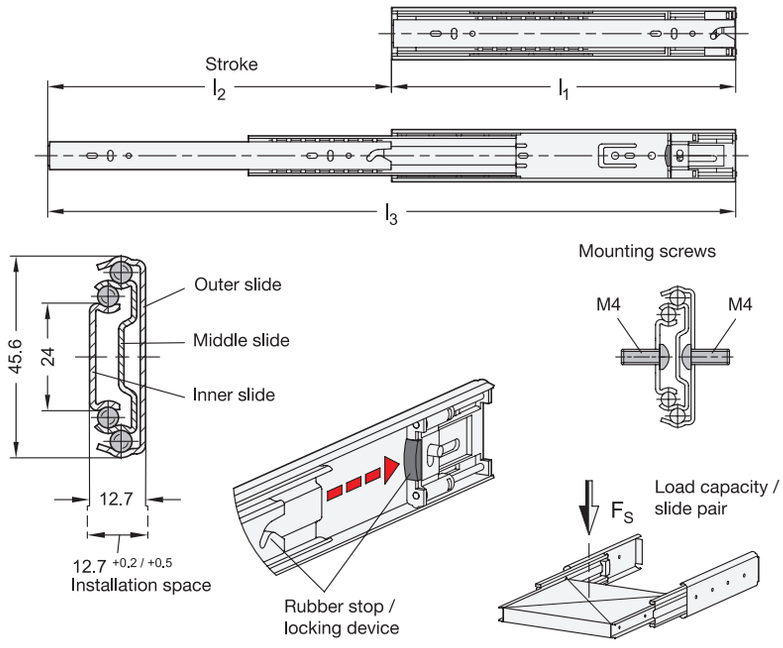


The detach function allows the extension to be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

The telescopic slide can be quickly and easily detached in the extended position through activation of the release lever, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanism prevents accidental detachment of the slide.



Metric

2 Type

F With rubber stop, locking device in retracted position, detach function

3 Identification no.

1 Mounting with through holes

Metric table

Dimensions in: millimeters - *inches*

1 l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
300 *11.81*	300 *11.81*	600 *23.62*	330 N *74.19 lbf*	240 N *53.95 lbf*
350 *13.78*	350 *13.78*	700 *27.56*	380 N *85.43 lbf*	290 N *65.19 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	430 N *96.67 lbf*	340 N *76.44 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	430 N *96.67 lbf*	340 N *76.44 lbf*
500 *19.69*	500 *19.69*	1000 *39.37*	380 N *85.43 lbf*	290 N *65.19 lbf*

1 l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
550 *21.65*	550 *21.65*	1100 *43.31*	330 N *74.19 lbf*	240 N *53.95 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	320 N *71.94 lbf*	240 N *53.95 lbf*
650 *25.59*	650 *25.59*	1300 *51.18*	300 N *67.44 lbf*	220 N *49.46 lbf*
700 *27.56*	700 *27.56*	1400 *55.12*	300 N *67.44 lbf*	220 N *49.46 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage, outer slide
  Plastic
- Ball cage, inner slide
  Steel, zinc plated
- Rubber stop and detach function
  Plastic / Elastomer
- Self-retracting mechanism
  Steel, zinc plated / plastic
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes

Information

GN 1412 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension). The rubber stops dampen the impact of the slide in the end position. This feature minimizes noise development and increases the service life. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

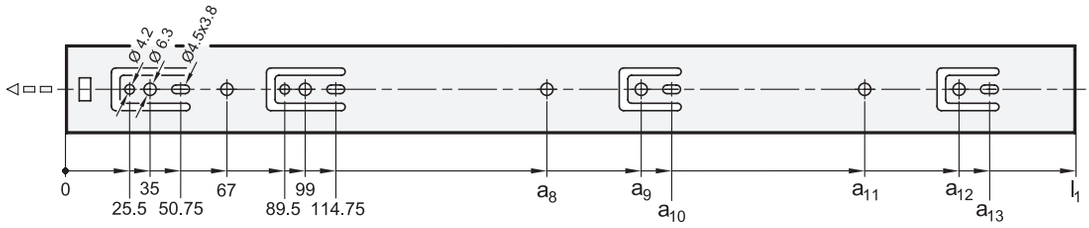
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1410 (with Full Extension) → page 13*

How to order

1 2 3 4
GN 1412-500-F-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

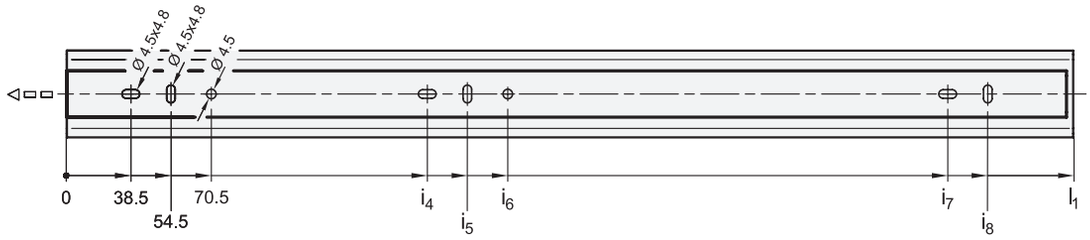


Metric table

Dimensions in: millimeters - *inches*

l_1	a_8	a_9	a_{10}	a_{11}	a_{12}	a_{13}
300 *11.81*	-	195 *7.68*	207.75 *8.18*	227 *8.94*	-	-
350 *13.78*	-	227 *8.94*	239.75 *9.44*	259 *10.20*	-	-
400 *15.75*	259 *10.20*	291 *11.46*	303.75 *11.96*	323 *12.72*	-	-
450 *17.72*	259 *10.20*	323 *12.72*	335.75 *13.22*	-	-	-
500 *19.69*	259 *10.20*	323 *12.72*	335.75 *13.22*	-	387 *15.24*	399.75 *15.74*
550 *21.65*	259 *10.20*	323 *12.72*	335.75 *13.22*	387 *15.24*	451 *17.76*	463.75 *18.26*
600 *23.62*	259 *10.20*	355 *13.98*	367.75 *14.48*	387 *15.24*	483 *19.02*	495.75 *19.52*
650 *25.59*	259 *10.20*	355 *13.98*	367.75 *14.48*	451 *17.76*	515 *20.28*	527.75 *20.78*
700 *27.56*	259 *10.20*	355 *13.98*	367.75 *14.48*	515 *20.28*	579 *22.80*	591.75 *23.30*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

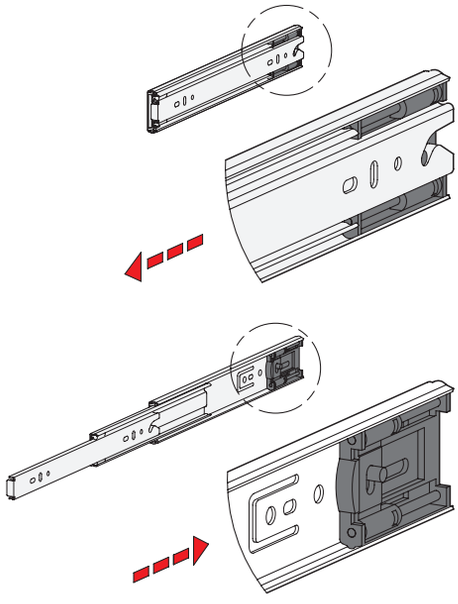
l_1	i_4	i_5	i_6	i_7	i_8
300 *11.81*	230.5 *9.07*	246.5 *9.70*	262.5 *10.33*	-	-
350 *13.78*	150.5 *5.93*	166.5 *6.56*	182.5 *7.19*	292.5 *11.52*	308.5 *12.15*
400 *15.75*	170.5 *6.71*	186.5 *7.34*	202.5 *7.97*	341.5 *13.44*	357.5 *14.07*
450 *17.72*	195.5 *7.70*	211.5 *8.33*	227.5 *8.96*	391.5 *15.41*	407.5 *16.04*
500 *19.69*	220.5 *8.68*	236.5 *9.31*	252.5 *9.94*	441.5 *17.38*	457.5 *18.01*
550 *21.65*	250.5 *9.86*	266.5 *10.49*	282.5 *11.12*	492.5 *19.39*	508.5 *20.02*
600 *23.62*	260.5 *10.26*	276.5 *10.89*	292.5 *11.52*	541.5 *21.32*	557.5 *21.95*
650 *25.59*	260.5 *10.26*	276.5 *10.89*	292.5 *11.52*	602.5 *23.72*	618.5 *24.35*
700 *27.56*	260.5 *10.26*	276.5 *10.89*	292.5 *11.52*	652.5 *25.69*	668.5 *26.32*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer slide having a Ø of 4.2 mm and of the inner slide having a Ø of 4.5 mm must be used. Alternatively, the outer slide has holes with a Ø of 6.3 mm for metric screws. The slotted holes, Ø 4.5 x 3.8 mm of the outer slide and Ø 4.5 x 4.8 mm of the inner slide, are also used for mounting and facilitate adjustment. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 4	M 4
Phillips pan head screw	ISO 7045	M 4	M 4
Phillips pan head self-tapping screw	ISO 7049	ST 3.9 / 4.2	ST 3.9 / 4.2

Self-retracting mechanism

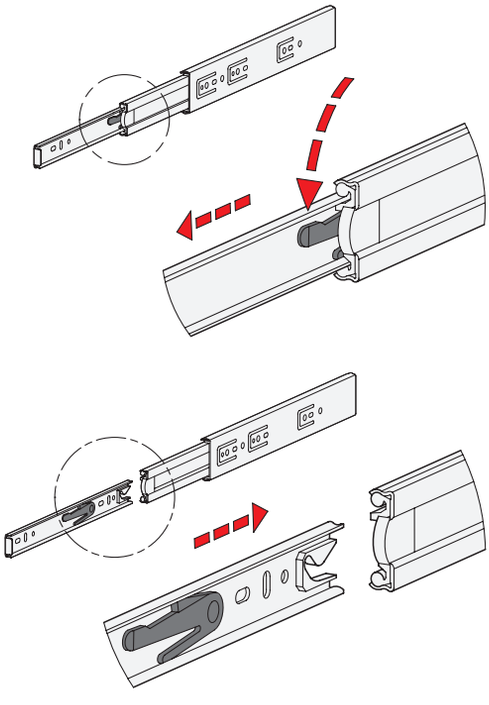


GN 1412 telescopic slides have an integrated self-retracting mechanism, which significantly improves the ease of use when closing the extensions.

By means of the retraction mechanism, the slides are automatically retracted on the last 30 mm of stroke with a force of approximately 25 newtons per slide pair and held in the retracted end position.

With this slide version, the available retraction force can be regarded as a locking device, which is noticeable through a slight restriction on opening the extension.

Detach function

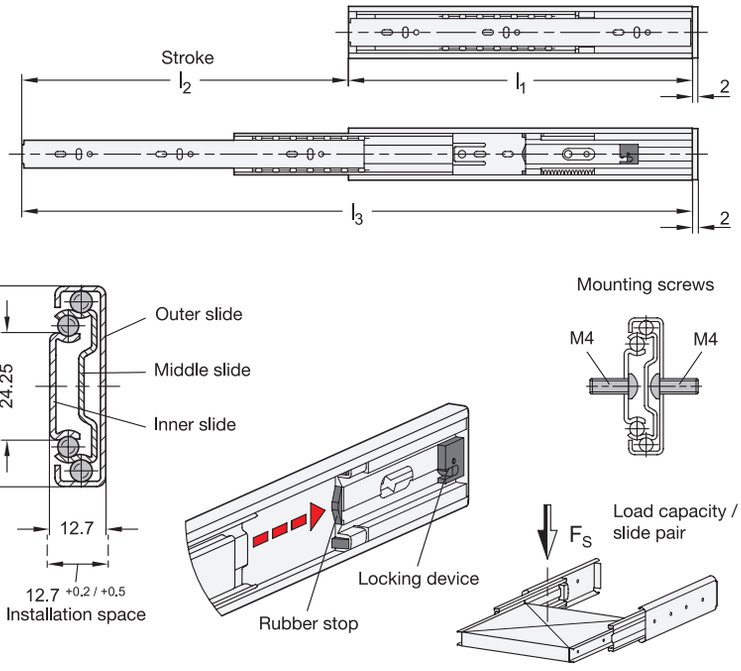


The detach function allows the extension to be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

The telescopic slide can be quickly and easily detached in the extended position through activation of the release lever, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanism prevents accidental detachment of the slide.



Metric

2 Type

F With rubber stop, locking device in retracted position, detach function

3 Identification no.

1 Mounting with through holes

Metric table

Dimensions in: millimeters - *inches*

1				
l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
300 *11.81*	250 *9.84*	550 *21.65*	260 N *58.45 lbf*	140 N *31.47 lbf*
350 *13.78*	320 *12.60*	670 *26.38*	260 N *58.45 lbf*	140 N *31.47 lbf*
400 *15.75*	375 *14.76*	775 *30.51*	310 N *69.69 lbf*	190 N *42.71 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	360 N *80.93 lbf*	240 N *53.95 lbf*

1				
l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
500 *19.69*	500 *19.69*	1000 *39.37*	360 N *80.93 lbf*	240 N *53.95 lbf*
550 *21.65*	550 *21.65*	1100 *43.31*	310 N *69.69 lbf*	190 N *42.71 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	310 N *69.69 lbf*	190 N *42.71 lbf*
650 *25.59*	650 *25.59*	1300 *51.18*	260 N *58.45 lbf*	140 N *31.47 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage, outer slide
  Plastic
- Ball cage, inner slide
  Steel, zinc plated
- Rubber stop and detach function
  Plastic / Elastomer
- Self-retracting mechanism, dampened
  Steel / plastic
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes

Information

GN 1414 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension). The rubber stops dampen the impact of the slide in the end position. This feature minimizes noise development and increases the service life. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

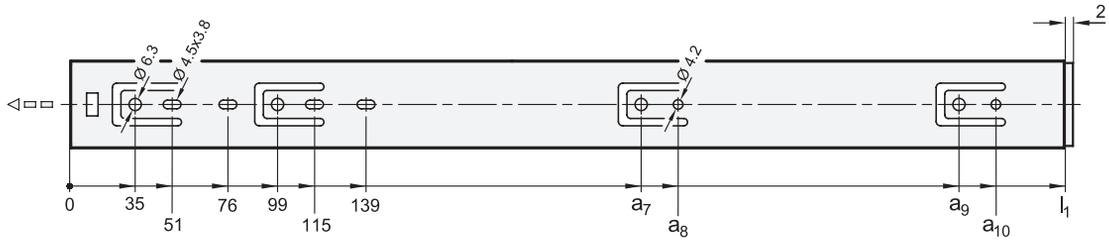
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1424 (with Dampened Self-Retracting Mechanism) → page 30*
- *Telescopic Slides GN 1410 (with Full Extension) → page 13*

How to order

1 2 3 4
GN 1414-650-F-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

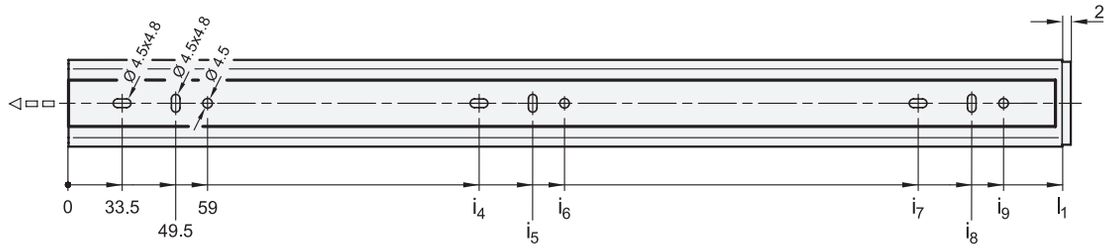


Metric table

Dimensions in: millimeters - *inches*

l_1	a_7	a_8	a_9	a_{10}
300 *11.81*	191.75 *7.55*	207.75 *8.18*	-	-
350 *13.78*	241.75 *9.52*	257.75 *10.15*	-	-
400 *15.75*	291.75 *11.49*	307.75 *12.12*	-	-
450 *17.72*	195 *7.68*	211 *8.31*	341.75 *13.45*	357.75 *14.08*
500 *19.69*	227 *8.94*	243 *9.57*	391.75 *15.42*	407.75 *16.05*
550 *21.65*	259 *10.20*	275 *10.83*	441.75 *17.39*	457.75 *18.02*
600 *23.62*	291 *11.46*	307 *12.09*	491.75 *19.36*	507.75 *19.99*
650 *25.59*	323 *12.72*	339 *13.35*	541.75 *21.33*	557.75 *21.96*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

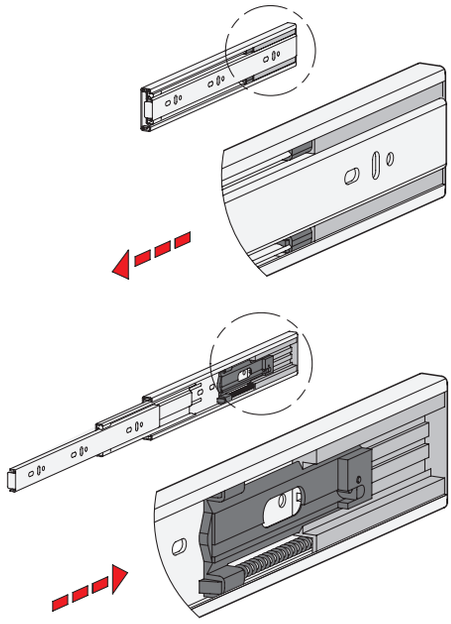
l_1	i_4	i_5	i_6	i_7	i_8	i_9
300 *11.81*	129.5 *5.10*	145.5 *5.73*	-	225.5 *8.88*	241.5 *9.51*	251 *9.88*
350 *13.78*	129.5 *5.10*	145.5 *5.73*	155 *6.10*	289.5 *11.40*	305.5 *12.03*	315 *12.40*
400 *15.75*	161.5 *6.36*	177.5 *6.99*	187 *7.36*	321.5 *12.66*	337.5 *13.29*	347 *13.66*
450 *17.72*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	385.5 *15.18*	401.5 *15.81*	411 *16.18*
500 *19.69*	225.5 *8.88*	241.5 *9.51*	251 *9.88*	449.5 *17.70*	465.5 *18.33*	475 *18.70*
550 *21.65*	225.5 *8.88*	241.5 *9.51*	251 *9.88*	481.5 *18.96*	497.5 *19.59*	507 *19.96*
600 *23.62*	257.5 *10.14*	273.5 *10.77*	283 *11.14*	513.5 *20.22*	529.5 *20.85*	539 *21.22*
650 *25.59*	289.5 *11.40*	305.5 *12.03*	315 *12.40*	577.5 *22.74*	593.5 *23.37*	603 *23.74*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer and inner slide having a Ø of 4.5 mm must be used. Alternatively, the outer slide has holes with a Ø of 6.3 mm for metric screws. The slotted holes, Ø 4.5 x 4.8 mm, are also used for mounting and facilitate adjustment. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 4	M 4
Phillips pan head screw	ISO 7045	M 4	M 4
Phillips pan head self-tapping screw	ISO 7049	ST 3.9 / 4.2	ST 3.9 / 4.2

Self-retracting mechanism, dampened



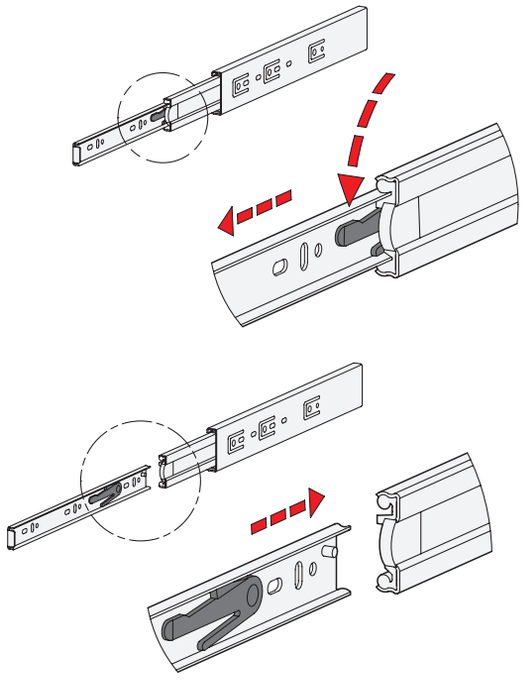
GN 1414 telescopic slides have a dampened self-retracting mechanism, which is also called “soft-close”. The dampened self-retracting mechanism is divided into two main functions and provides the best possible ease of use when closing an extension.

On the one hand, the self-retracting mechanism automatically retracts the slides on the last 47 mm of stroke to the retracted end position, where they are held in place accordingly. The retraction force is about 40 newtons per slide pair. On the other hand, the closing movement on the mentioned stroke is slowed down by the damping mechanism and thus reduces the speed considerably. An extremely smooth and gentle closing movement is achieved. This retraction force has to be overcome accordingly when opening the extension.

The dampened self-retracting mechanism is designed for load values up to 36 kg based on 60,000 cycles (LGA standard). Proper use, such as reducing the travel speed to max 0.15 m/s when the retraction mechanism is reached, as well as compliance with the load values are required.

With this slide version, the available retraction force can be regarded as a locking device, which is noticeable through a slight restriction on opening the extension.

Detach function

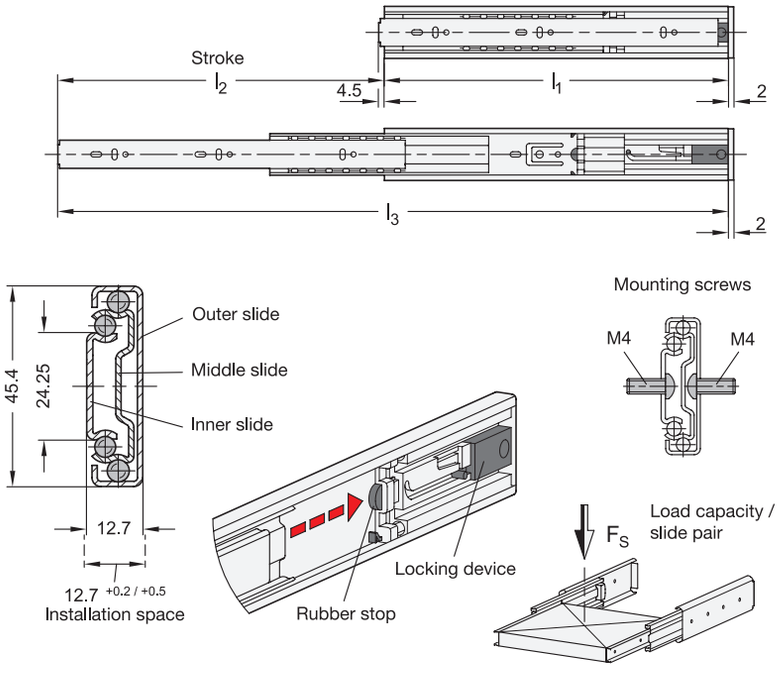


The detach function allows the extension to be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

The telescopic slide can be quickly and easily detached in the extended position through activation of the release lever, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanism prevents accidental detachment of the slide.



Metric

2 Type

F With rubber stop, locking device in retracted position, detach function

3 Identification no.

1 Mounting with through holes

Metric table

1

l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	at 100,000 cycles
350 *13.78*	350 *13.78*	700 *27.56*	380 N *85.43 lbf*	290 N *65.19 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	430 N *96.67 lbf*	340 N *76.44 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	430 N *96.67 lbf*	340 N *76.44 lbf*
500 *19.69*	500 *19.69*	1000 *39.37*	380 N *85.43 lbf*	290 N *65.19 lbf*

1

l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	at 100,000 cycles
550 *21.65*	550 *21.65*	1100 *43.31*	330 N *74.19 lbf*	240 N *53.95 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	300 N *67.44 lbf*	200 N *44.96 lbf*
650 *25.59*	650 *25.59*	1300 *51.18*	300 N *67.44 lbf*	200 N *44.96 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage, outer slide
  Plastic
- Ball cage, inner slide
  Steel, zinc plated
- Rubber stop and detach function
  Plastic / Elastomer
- Push to open mechanism
  Steel / plastic
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes

Information

GN 1418 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension). The rubber stops dampen the impact of the slide in the end position. This feature minimizes noise development and increases the service life. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

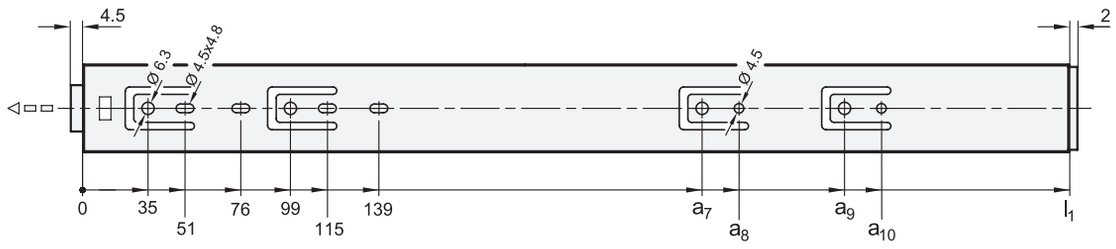
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1412 (with Self-Retracting Mechanism) → page 16*
- *Telescopic Slides GN 1414 (with Dampened Self-Retracting Mechanism) → page 19*

How to order

1 2 3 4
GN 1418-500-F-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

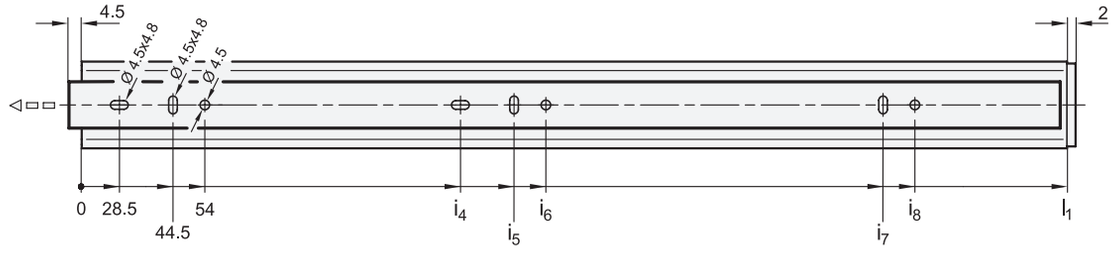


Metric table

Dimensions in: millimeters - *inches*

l_1	a_7	a_8	a_9	a_{10}
350 *13.78*	195 *7.68*	211 *8.31*	-	-
400 *15.75*	195 *7.68*	211 *8.31*	-	-
450 *17.72*	259 *10.20*	275 *10.83*	-	-
500 *19.69*	291 *11.46*	307 *12.09*	-	-
550 *21.65*	355 *13.98*	371 *14.61*	-	-
600 *23.62*	387 *15.24*	403 *15.87*	451 *17.76*	467 *18.39*
650 *25.59*	419 *16.50*	435 *17.13*	483 *19.02*	499 *19.65*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

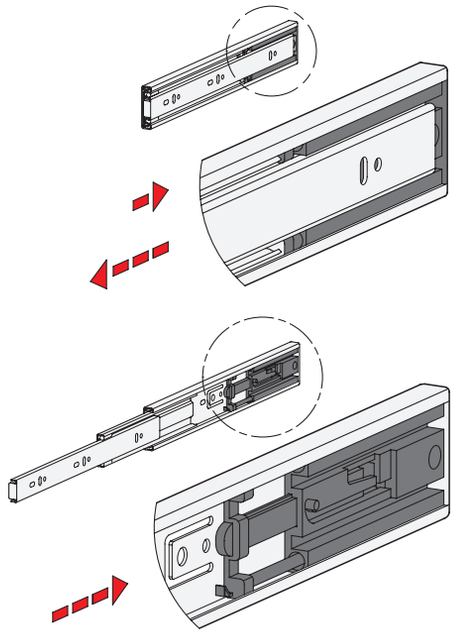
l_1	i_4	i_5	i_6	i_7	i_8
350 *13.78*	125 *4.92*	141 *5.55*	150.5 *5.93*	269 *10.59*	278.5 *10.96*
400 *15.75*	189 *7.44*	205 *8.07*	214.5 *8.44*	301 *11.85*	310.5 *12.22*
450 *17.72*	189 *7.44*	205 *8.07*	214.5 *8.44*	333 *13.11*	342.5 *13.48*
500 *19.69*	189 *7.44*	205 *8.07*	214.5 *8.44*	365 *14.37*	374.5 *14.74*
550 *21.65*	189 *7.44*	205 *8.07*	214.5 *8.44*	397 *15.63*	406.5 *16.00*
600 *23.62*	253 *9.96*	269 *10.59*	278.5 *10.96*	493 *19.41*	502.5 *19.78*
650 *25.59*	253 *9.96*	269 *10.59*	278.5 *10.96*	525 *20.67*	534.5 *21.04*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer and inner slide having a Ø of 4.5 mm must be used. Alternatively, the outer slide has holes with a Ø of 6.3 mm for metric screws. The slotted holes, Ø 4.5 x 4.8 mm, are also used for mounting and facilitate adjustment. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 4	M 4
Phillips pan head screw	ISO 7045	M 4	M 4
Phillips pan head self-tapping screw	ISO 7049	ST 3.9 / 4.2	ST 3.9 / 4.2

Push to open mechanism



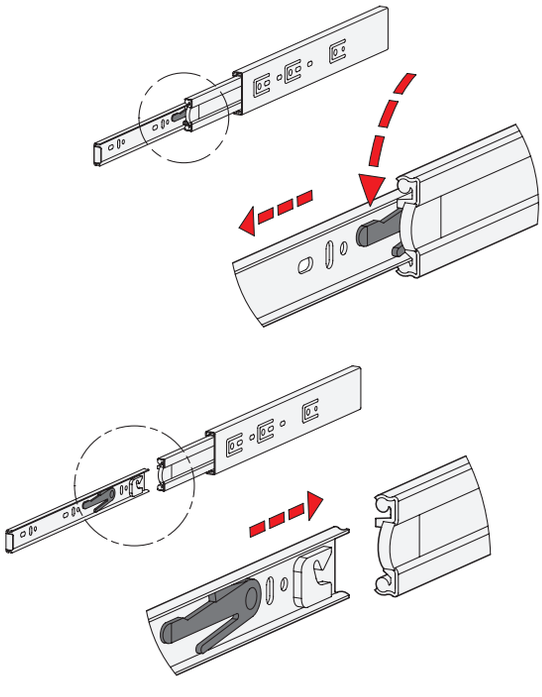
GN 1418 telescopic slides have an opening mechanism, which is referred to as “Push to Open” or “Touch to Open” mechanism. In addition to the best possible ease of use when opening an extension, this system offers the advantage to have drawers without a handle on the front side. This results in a simple and high-quality design.

The mechanism is actuated by pressing manually on the front side of the extension or drawer. The force required to activate the opening mechanism is about 40 N per slide pair. The inner slide is extended by about 4.5 mm in its basic position and can be pushed in a maximum of 8 mm in the closing direction. This is to be taken into account in the design to avoid a collision. The pressure or release point is already reached at about 3 mm, which causes the extension to slide out smoothly to about 42 mm in the opening direction after being released.

The same force has to be overcome when closing the extension. Over the last 42 mm, the travel speed is to be reduced to max. 0.15 m/s.

When closed, the slide is held in place by the opening mechanism as a type of locking device.

Detach function

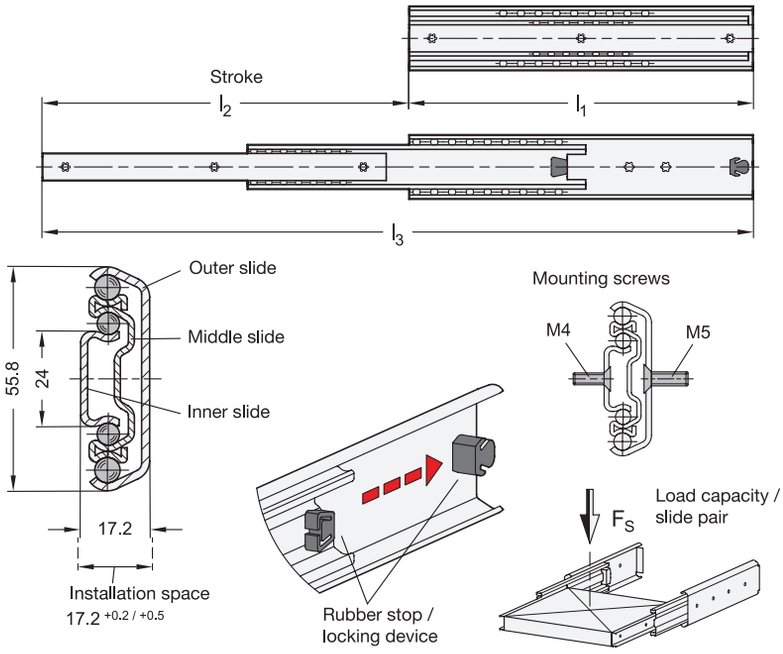


The detach function allows the extension to be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

The telescopic slide can be quickly and easily detached in the extended position through activation of the release lever, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanism prevents accidental detachment of the slide.



Metric

2 Type

E With rubber stop, locking device in retracted position

3 Identification no.

2 Mounting with countersunk holes

Metric table

Dimensions in: millimeters - *inches*

1 l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
300 *11.81*	320 *12.60*	620 *24.41*	940 N *211 lbf*	680 N *153 lbf*
350 *13.78*	375 *14.76*	725 *28.54*	960 N *216 lbf*	770 N *173 lbf*
400 *15.75*	440 *17.32*	840 *33.07*	970 N *218 lbf*	730 N *164 lbf*
450 *17.72*	495 *19.49*	945 *37.20*	1100 N *247 lbf*	830 N *187 lbf*
500 *19.69*	550 *21.65*	1050 *41.34*	1190 N *268 lbf*	910 N *205 lbf*
550 *21.65*	600 *23.62*	1150 *45.28*	1180 N *265 lbf*	900 N *202 lbf*

1 l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
600 *23.62*	650 *25.59*	1250 *49.21*	1230 N *277 lbf*	970 N *218 lbf*
700 *27.56*	750 *29.53*	1450 *57.09*	1290 N *290 lbf*	1030 N *232 lbf*
800 *31.50*	848 *33.39*	1648 *64.88*	1210 N *272 lbf*	1020 N *229 lbf*
900 *35.43*	950 *37.40*	1850 *72.83*	1050 N *236 lbf*	900 N *202 lbf*
1000 *39.37*	1050 *41.34*	2050 *80.71*	810 N *182 lbf*	720 N *162 lbf*
1200 *47.24*	1250 *49.21*	2450 *96.46*	640 N *144 lbf*	570 N *128 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With latches, partially with detach function (in retracted position)
- With locking device (in retracted and / or extended position)
- Other finishes
- With support bracket

Information

GN 1420 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension). The rubber stops dampen the impact of the slide in the two end positions and take on the locking function in the retracted position. This feature is noticeable through a slight resistance on opening and closing. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

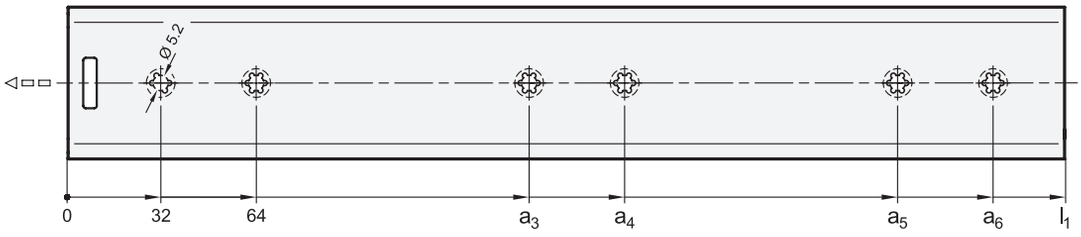
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*

How to order

1 2 3 4
GN 1420-900-E-2-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

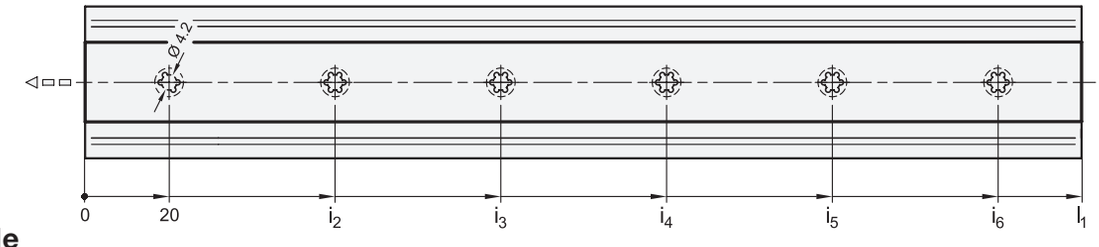


Metric table

Dimensions in: millimeters - *inches*

l_1	a_3	a_4	a_5	a_6
300 *11.81*	192 *7.56*	224 *8.82*	-	-
350 *13.78*	192 *7.56*	224 *8.82*	-	-
400 *15.75*	224 *8.82*	256 *10.08*	-	-
450 *17.72*	288 *11.34*	320 *12.60*	-	-
500 *19.69*	320 *12.60*	352 *13.86*	-	-
550 *21.65*	352 *13.86*	384 *15.12*	-	-
600 *23.62*	416 *16.38*	448 *17.64*	-	-
700 *27.56*	448 *17.64*	480 *18.90*	-	-
800 *31.50*	384 *15.12*	416 *16.38*	672 *26.46*	704 *27.72*
900 *35.43*	416 *16.38*	448 *17.64*	768 *30.24*	800 *31.50*
1000 *39.37*	480 *18.90*	512 *20.16*	864 *34.02*	896 *35.28*
1200 *47.24*	576 *22.68*	608 *23.94*	1056 *41.57*	1088 *42.83*

Mounting holes - Inner slide



Metric table

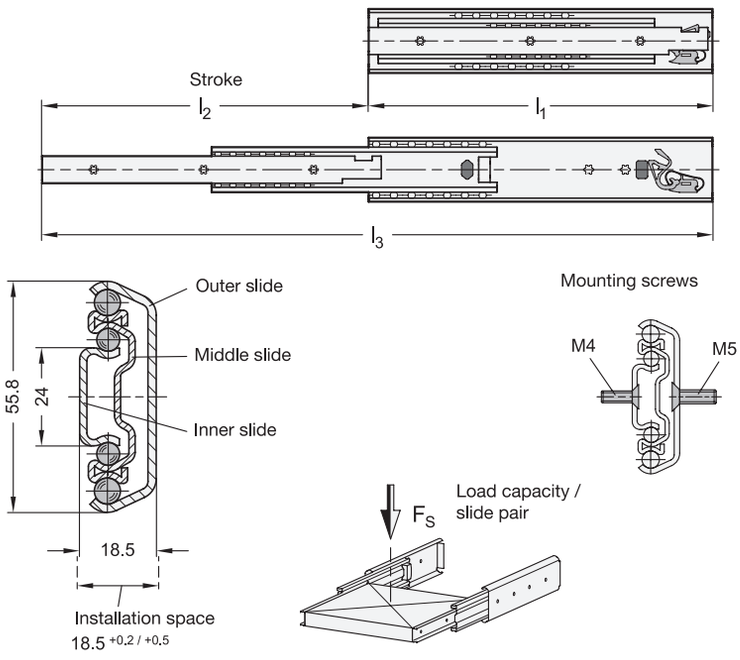
Dimensions in: millimeters - *inches*

l_1	i_2	i_3	i_4	i_5	i_6
300 *11.81*	150 *5.91*	280 *11.02*	-	-	-
350 *13.78*	175 *6.89*	330 *12.99*	-	-	-
400 *15.75*	200 *7.87*	380 *14.96*	-	-	-
450 *17.72*	225 *8.86*	430 *16.93*	-	-	-
500 *19.69*	250 *9.84*	480 *18.90*	-	-	-
550 *21.65*	275 *10.83*	530 *20.87*	-	-	-
600 *23.62*	300 *11.81*	580 *22.83*	-	-	-
700 *27.56*	350 *13.78*	680 *26.77*	-	-	-
800 *31.50*	271 *10.67*	522.5 *20.57*	774 *30.47*	-	-
900 *35.43*	305 *12.01*	589 *23.19*	874 *34.41*	-	-
1000 *39.37*	258 *10.16*	497 *19.57*	735.5 *28.96*	974 *38.35*	-
1200 *47.24*	251 *9.88*	482 *18.98*	712 *28.03*	943 *37.13*	1174 *46.22*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Phillips countersunk flat head screw	DIN 965	M 5	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4 / 4.5



Metric

2 Type

B With rubber stop

3 Identification no.

2 Mounting with countersunk holes

Metric table

Dimensions in: millimeters - *inches*

1				
l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
300 *11.81*	285 *11.22*	585 *23.03*	940 N *211 lbf*	640 N *144 lbf*
350 *13.78*	350 *13.78*	700 *27.56*	960 N *216 lbf*	730 N *164 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	970 N *218 lbf*	770 N *173 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	1100 N *247 lbf*	880 N *198 lbf*
500 *19.69*	500 *19.69*	1000 *39.37*	1190 N *268 lbf*	900 N *202 lbf*

1				
l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
550 *21.65*	550 *21.65*	1100 *43.31*	1180 N *265 lbf*	980 N *220 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	1230 N *277 lbf*	990 N *223 lbf*
700 *27.56*	700 *27.56*	1400 *55.12*	1290 N *290 lbf*	1030 N *232 lbf*
800 *31.50*	800 *31.50*	1600 *62.99*	1210 N *272 lbf*	1060 N *238 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Self-retracting mechanism
  Stainless steel / plastic
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With locking device (in extended position)
- Other finishes
- With support bracket

Information

GN 1422 telescopic slides with self-retracting mechanism are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension).

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

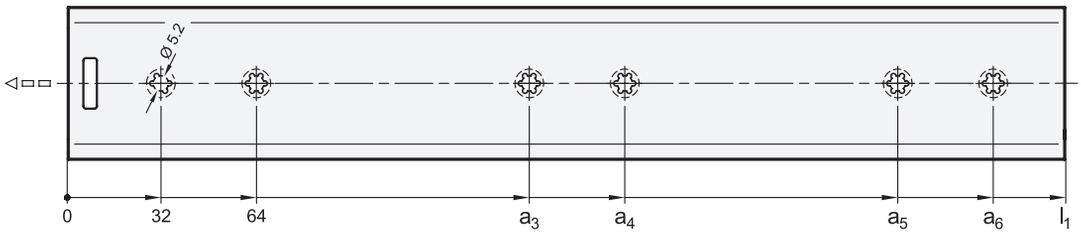
see also...
- *List of Telescopic Slide Types* → *page 4*
- *Technical Information on Telescopic Slides* → *page 48*
- *Telescopic Slides GN 1432 (with Self-Retracting Mechanism)* → *page 37*
- *Telescopic Slides GN 1424 (with Dampened Self-Retracting Mechanism)* → *page 30*

How to order

1 2 3 4
GN 1422-350-B-2-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

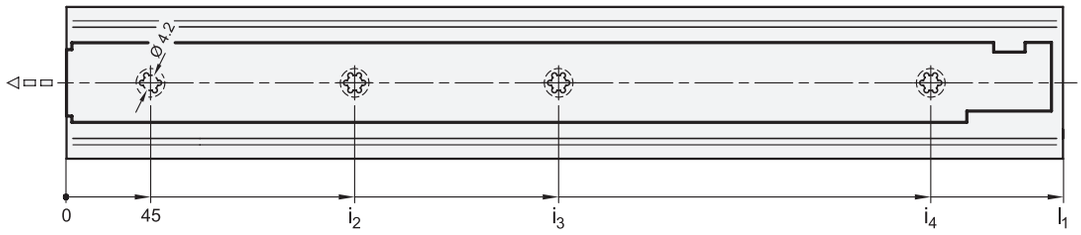


Metric table

Dimensions in: millimeters - *inches*

l_1	a_3	a_4	a_5	a_6
300 *11.81*	192 *7.56*	224 *8.82*	-	-
350 *13.78*	192 *7.56*	224 *8.82*	-	-
400 *15.75*	224 *8.82*	256 *10.08*	-	-
450 *17.72*	288 *11.34*	320 *12.60*	-	-
500 *19.69*	320 *12.60*	352 *13.86*	-	-
550 *21.65*	352 *13.86*	384 *15.12*	-	-
600 *23.62*	416 *16.38*	448 *17.64*	-	-
700 *27.56*	448 *17.64*	480 *18.90*	-	-
800 *31.50*	384 *15.12*	416 *16.38*	672 *26.46*	704 *27.72*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

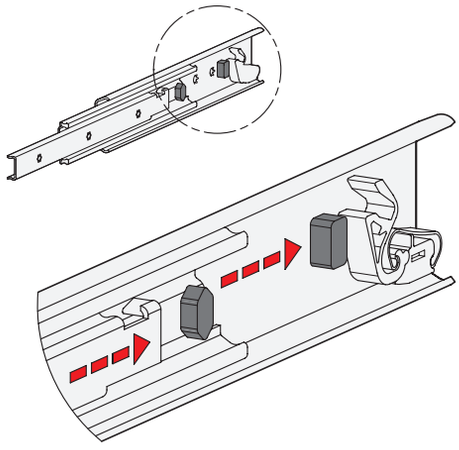
l_1	i_2	i_3	i_4
300 *11.81*	141 *5.55*	237 *9.33*	-
350 *13.78*	173 *6.81*	301 *11.85*	-
400 *15.75*	173 *6.81*	333 *13.11*	-
450 *17.72*	205 *8.07*	397 *15.63*	-
500 *19.69*	237 *9.33*	461 *18.15*	-
550 *21.65*	269 *10.59*	493 *19.41*	-
600 *23.62*	173 *6.81*	301 *11.85*	557 *21.93*
700 *27.56*	173 *6.81*	333 *13.11*	653 *25.71*
800 *31.50*	205 *8.07*	397 *15.63*	749 *29.49*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket countersunk head screw	DIN 7991	M 5	M 4
Phillips countersunk flat head screw	DIN 965	M 5	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4 / 4.5

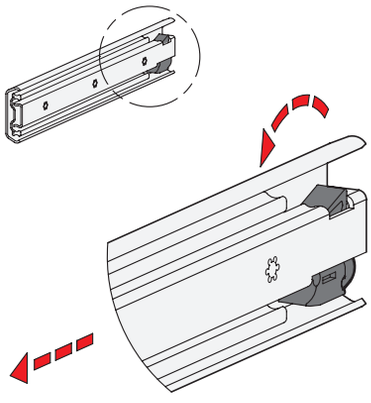
Rubber stop

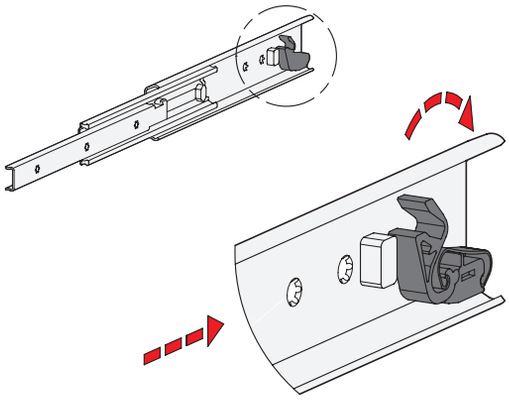


The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

Self-retracting mechanism

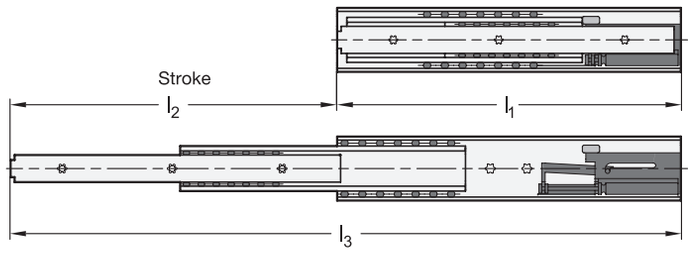


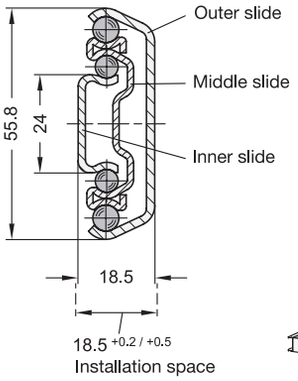


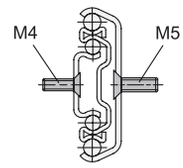
GN 1422 telescopic slides have an integrated self-retracting mechanism, which significantly improves the ease of use when closing the extensions.

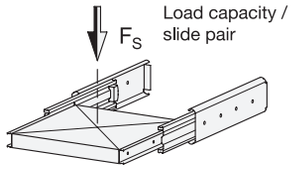
By means of the retraction mechanism, the slides are automatically retracted on the last 22 mm of stroke with a force of approximately 30 newtons for each slide pair and held in the retracted end position. This retraction force has to be overcome accordingly when opening the extension.

The self-retracting mechanism is also designed in such a way that it uncouples and will not be damaged when the extension is opened or closed in a jerky manner or too quickly. On the following stroke, the self-retracting mechanism clicks back into place automatically, ensuring that the function remains intact.









Metric

2 Type

B With rubber stop

3 Identification no.

2 Mounting with countersunk holes

Metric table

Dimensions in: millimeters - *inches*

1 l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
350 *13.78*	335 *13.19*	685 *26.97*	650 N *146 lbf*	570 N *128 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	750 N *169 lbf*	680 N *153 lbf*
450 *17.72*	451 *17.76*	901 *35.47*	750 N *169 lbf*	750 N *169 lbf*
500 *19.69*	506 *19.92*	1006 *39.61*	750 N *169 lbf*	750 N *169 lbf*

1 l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
550 *21.65*	555 *21.85*	1105 *43.50*	750 N *169 lbf*	750 N *169 lbf*
600 *23.62*	612 *24.09*	1212 *47.72*	750 N *169 lbf*	750 N *169 lbf*
700 *27.56*	700 *27.56*	1400 *55.12*	750 N *169 lbf*	750 N *169 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Self-retracting mechanism, dampened
  Steel / plastic
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With locking device (in extended position)
- Other finishes
- With support bracket

Information

GN 1424 telescopic slides with dampened self-retracting mechanism are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension).

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

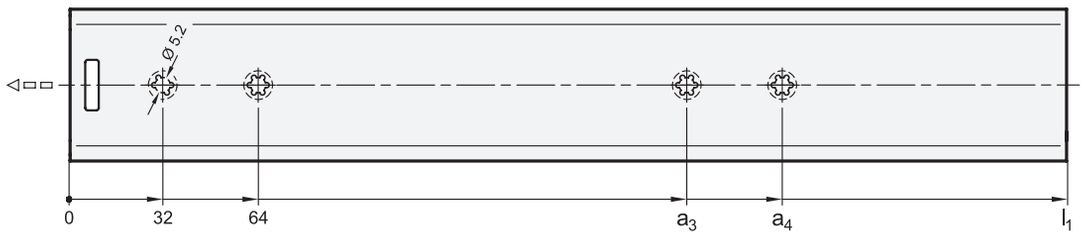
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1422 (with Self-Retracting Mechanism) → page 27*
- *Telescopic Slides GN 1432 (with Self-Retracting Mechanism) → page 37*

How to order

1 2 3 4
GN 1424-400-B-2-ZB

1	**Length l_1**
2	**Type**
3	**Identification no.**
4	**Finish**

Mounting holes - Outer slide

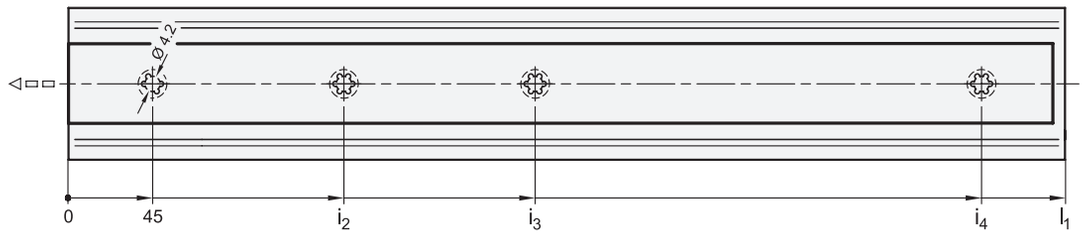


Metric table

Dimensions in: millimeters - *inches*

l_1	a_3	a_4
350 *13.78*	192 *7.56*	224 *8.82*
400 *15.75*	224 *8.82*	256 *10.08*
450 *17.72*	288 *11.34*	320 *12.60*
500 *19.69*	320 *12.60*	352 *13.86*
550 *21.65*	352 *13.86*	384 *15.12*
600 *23.62*	416 *16.38*	448 *17.64*
700 *27.56*	448 *17.64*	480 *18.90*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

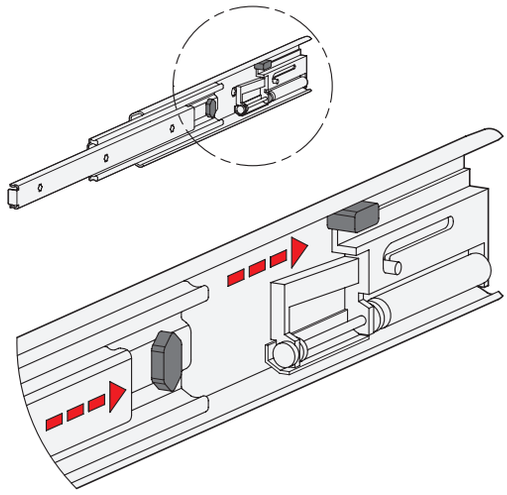
l_1	i_2	i_3	i_4
350 *13.78*	173 *6.81*	301 *11.85*	-
400 *15.75*	173 *6.81*	333 *13.11*	-
450 *17.72*	205 *8.07*	397 *15.63*	-
500 *19.69*	237 *9.33*	461 *18.15*	-
550 *21.65*	269 *10.59*	493 *19.41*	-
600 *23.62*	173 *6.81*	301 *11.85*	562 *22.13*
700 *27.56*	173 *6.81*	333 *13.11*	653 *25.71*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket countersunk head screw	DIN 7991	M 5	M 4
Phillips countersunk flat head screw	DIN 965	M 5	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4 / 4.5

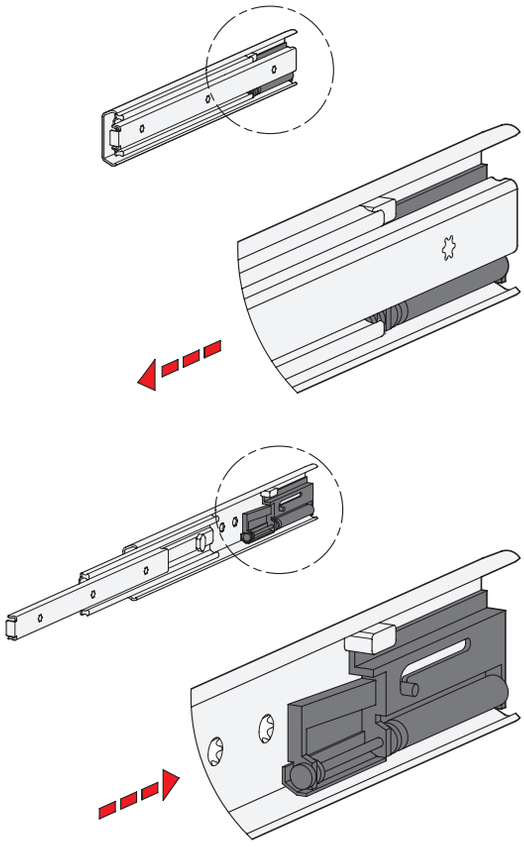
Rubber stop



The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

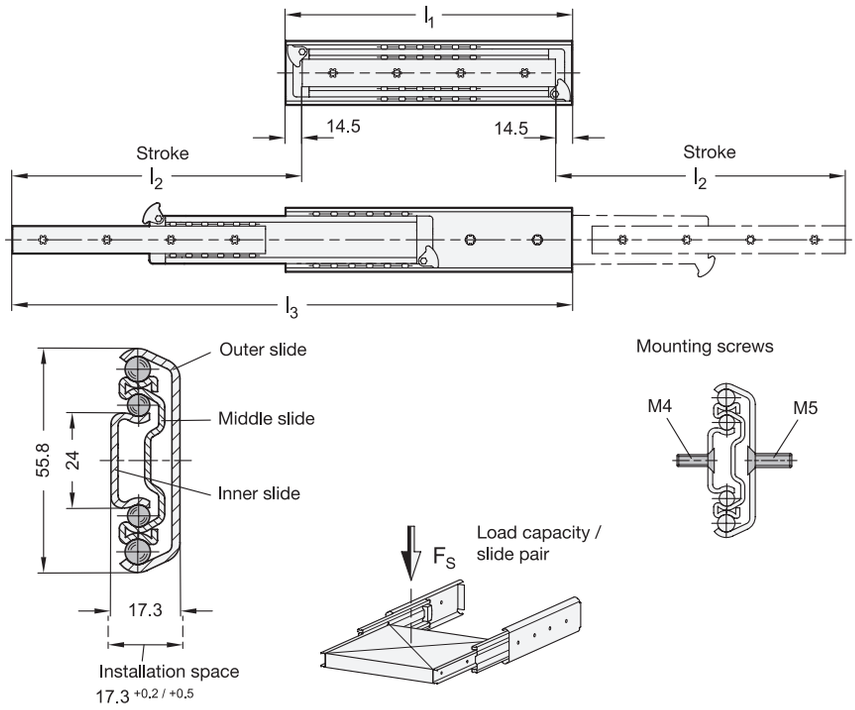
Self-retracting mechanism, dampened



GN 1424 telescopic slides have a dampened self-retracting mechanism, which is also called “soft-close”. The dampened self-retracting mechanism is divided into two main functions and provides the best possible ease of use when closing the extension.

On the one hand, the self-retracting mechanism automatically retracts the slides on the last 40 mm of stroke to the retracted end position, where they are held in place accordingly. The retraction force is about 35 newtons per slide pair. On the other hand, the closing movement on the mentioned stroke is slowed down by the damping mechanism and thus reduces the speed considerably. An extremely smooth and gentle closing movement is achieved. This retraction force has to be overcome accordingly when opening the extension.

The dampened self-retracting mechanism is designed for load values up to 75 kg based on 60,000 cycles (LGA standard). Proper use, such as reducing the travel speed to max. 0.15 m/s when the retraction mechanism is reached, as well as compliance with the load values are required.



Metric

2 Type

B With rubber stop

3 Identification no.

2 Mounting with countersunk holes

Metric table

Dimensions in: millimeters - *inches*

1				
l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	at 100,000 cycles
500 *19.69*	503 *19.80*	988.5 *38.92*	1140 N *256 lbf*	760 N *171 lbf*
600 *23.62*	607 *23.90*	1192.5 *46.95*	1190 N *268 lbf*	790 N *178 lbf*
700 *27.56*	711 *27.99*	1396.5 *54.98*	1310 N *294 lbf*	870 N *196 lbf*
800 *31.50*	815 *32.09*	1600.5 *63.01*	1380 N *310 lbf*	920 N *207 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes
- With support bracket

Information

GN 1426 telescopic slides are installed in pairs. The special design allows the stroke to achieve ≈ 100 % of the nominal length l_1 on both sides (double-sided full extension). Applications such as the double-sided loading of a drawer can be realized in this way. The rubber stops dampen the impact of the slide in the extended end position. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

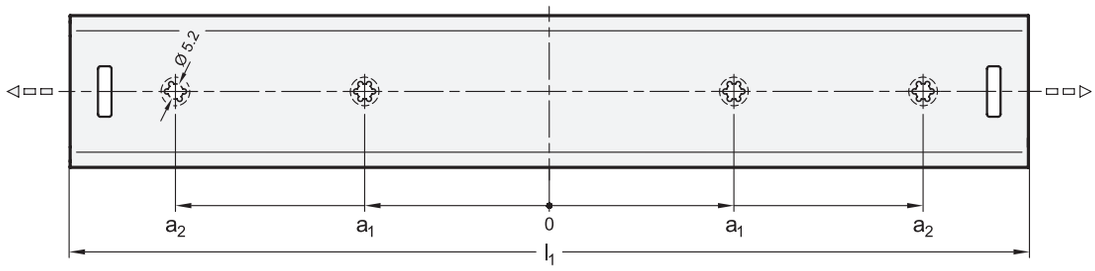
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1420 (with Full Extension) → page 25*

How to order

1 2 3 4
GN 1426-800-B-2-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

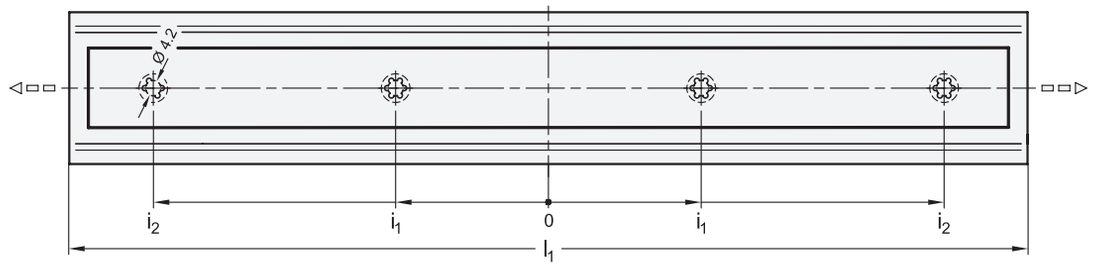


Metric table

Dimensions in: millimeters - *inches*

l_1	a_1	a_2
500 *19.69*	64 *2.52*	192 *7.56*
600 *23.62*	80 *3.15*	240 *9.45*
700 *27.56*	96 *3.78*	288 *11.34*
800 *31.50*	112 *4.41*	336 *13.23*

Mounting holes - Inner slide



Metric table

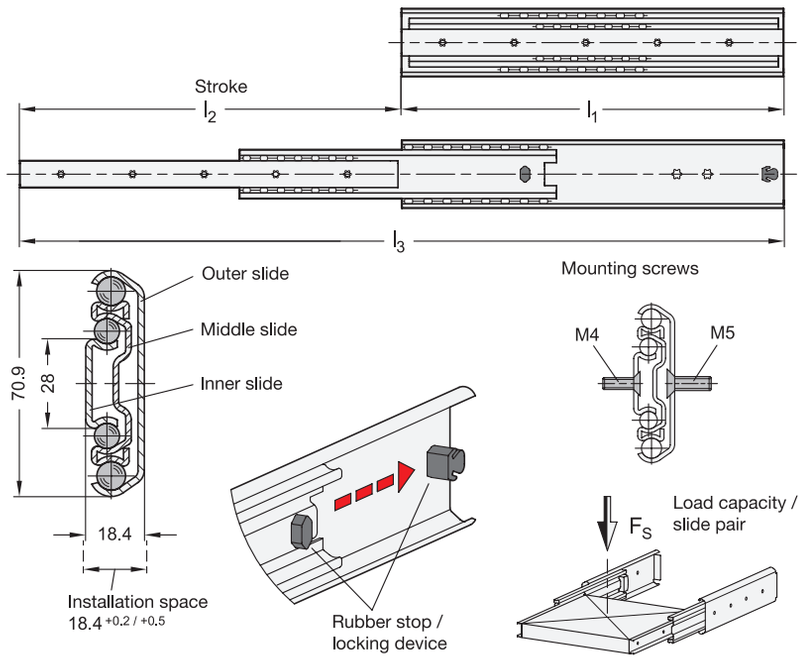
Dimensions in: millimeters - *inches*

l_1	i_1	i_2
500 *19.69*	64 *2.52*	192 *7.56*
600 *23.62*	80 *3.15*	240 *9.45*
700 *27.56*	96 *3.78*	288 *11.34*
800 *31.50*	112 *4.41*	336 *13.23*

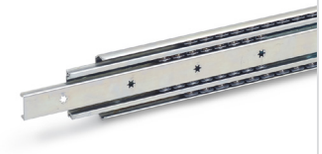
Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Phillips countersunk flat head screw	DIN 965	M 5	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4 / 4.5



Metric



2 Type

E With rubber stop, locking device in retracted position

3 Identification no.

2 Mounting with countersunk holes

Metric table

Dimensions in: millimeters - *inches*

1 l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
400 *15.75*	435 *17.13*	835 *32.87*	1570 N *353 lbf*	970 N *218 lbf*
450 *17.72*	485 *19.09*	935 *36.81*	1600 N *360 lbf*	1030 N *232 lbf*
500 *19.69*	545 *21.46*	1045 *41.14*	1690 N *380 lbf*	1150 N *259 lbf*
550 *21.65*	595 *23.43*	1145 *45.08*	1870 N *420 lbf*	1160 N *261 lbf*
600 *23.62*	650 *25.59*	1250 *49.21*	1890 N *425 lbf*	1180 N *265 lbf*

1 l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
700 *27.56*	750 *29.53*	1450 *57.09*	1870 N *420 lbf*	1370 N *308 lbf*
800 *31.50*	850 *33.46*	1650 *64.96*	2120 N *477 lbf*	1470 N *330 lbf*
900 *35.43*	950 *37.40*	1850 *72.83*	1920 N *432 lbf*	1250 N *281 lbf*
1000 *39.37*	1050 *41.34*	2050 *80.71*	1790 N *402 lbf*	1080 N *243 lbf*
1200 *47.24*	1250 *49.21*	2450 *96.46*	1630 N *366 lbf*	950 N *214 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With latches, partially with detach function (in retracted and / or extended position)
- With locking devices (in retracted and / or extended position)
- Other finishes
- With support bracket

Information

GN 1430 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension). The rubber stops dampen the impact of the slide in the two end positions and take on the locking function in the retracted position. This feature is noticeable through a slight resistance on opening and closing. If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

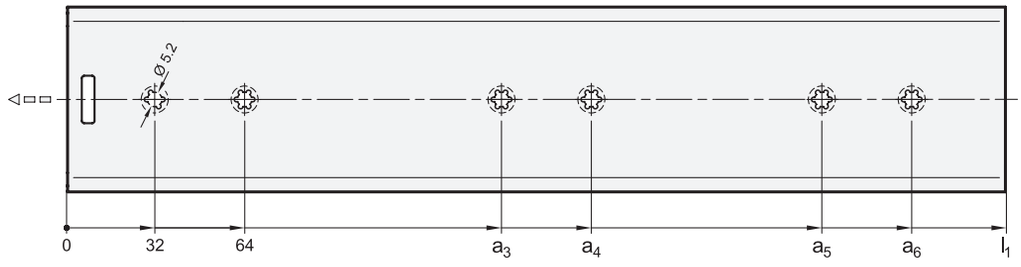
see also...
- *List of Telescopic Slide Types* → *page 4*
- *Technical Information on Telescopic Slides* → *page 48*
- *Telescopic Slides GN 1440 (with Full Extension)* → *page 40*

How to order

1 2 3 4
GN 1430-1200-E-2-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide



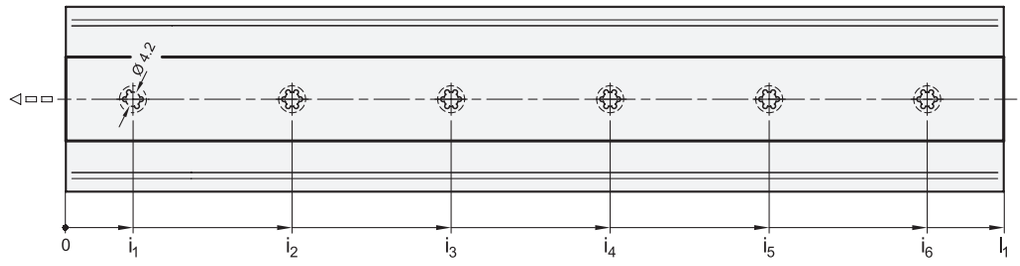
Metric table

Dimensions in: millimeters - *inches*

l_1	a_3	a_4	a_5	a_6
400 *15.75*	288 *11.34*	320 *12.60*	-	-
450 *17.72*	288 *11.34*	320 *12.60*	-	-
500 *19.69*	352 *13.86*	384 *15.12*	-	-
550 *21.65*	352 *13.86*	384 *15.12*	-	-
600 *23.62*	448 *17.64*	480 *18.90*	-	-

l_1	a_3	a_4	a_5	a_6
700 *27.56*	448 *17.64*	480 *18.90*	-	-
800 *31.50*	384 *15.12*	416 *16.38*	672 *26.46*	704 *27.72*
900 *35.43*	416 *16.38*	448 *17.64*	768 *30.24*	800 *31.50*
1000 *39.37*	480 *18.90*	512 *20.16*	864 *34.02*	896 *35.28*
1200 *47.24*	576 *22.68*	608 *23.94*	1056 *41.57*	1088 *42.83*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

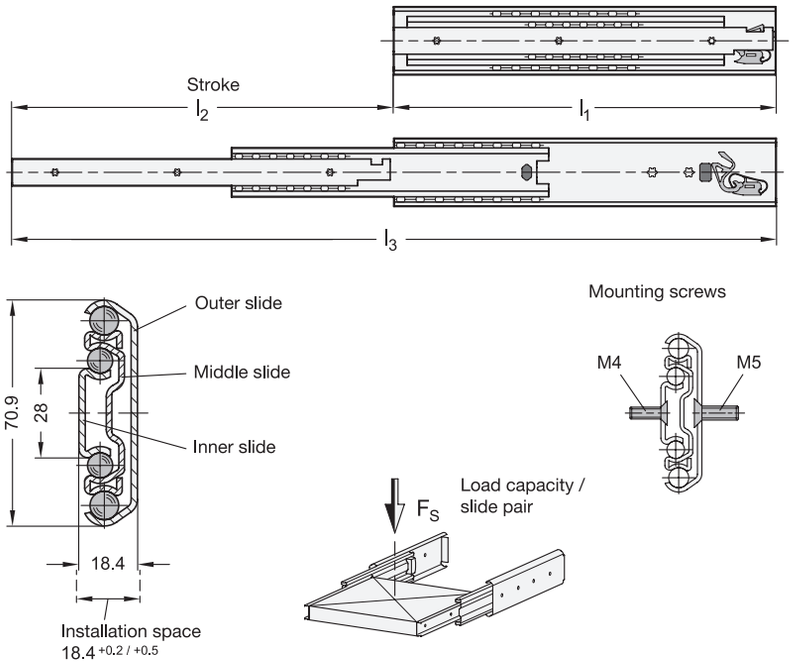
l_1	i_1	i_2	i_3	i_4	i_5	i_6
400 *15.75*	43 *1.69*	118 *4.65*	193 *7.60*	268 *10.55*	343 *13.50*	-
450 *17.72*	43 *1.69*	130.5 *5.14*	218 *8.58*	305.5 *12.03*	393 *15.47*	-
500 *19.69*	43 *1.69*	143 *5.63*	243 *9.57*	343 *13.50*	443 *17.44*	-
550 *21.65*	43 *1.69*	155.5 *6.12*	268 *10.55*	380.5 *14.98*	493 *19.41*	-
600 *23.62*	43 *1.69*	168 *6.61*	293 *11.54*	418 *16.46*	543 *21.38*	-

l_1	i_1	i_2	i_3	i_4	i_5	i_6
700 *27.56*	43 *1.69*	193 *7.60*	343 *13.50*	493 *19.41*	643 *25.31*	-
800 *31.50*	20 *0.79*	271 *10.67*	522.5 *20.57*	774 *30.47*	-	-
900 *35.43*	20 *0.79*	305 *12.01*	589 *23.19*	874 *34.41*	-	-
1000 *39.37*	20 *0.79*	258.5 *10.18*	497 *19.57*	735.5 *28.96*	974 *38.35*	-
1200 *47.24*	20 *0.79*	251 *9.88*	482 *18.98*	712 *28.03*	943 *37.13*	1174 *46.22*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Phillips countersunk flat head screw	DIN 965	M 5	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4 / 4.5



Metric

2 Type

B With rubber stop

3 Identification no.

2 Mounting with countersunk holes

Metric table

1

l_1	l_2 +4 −4 Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
400 *15.75*	400 *15.75*	800 *31.50*	1700 N *382 lbf*	1030 N *232 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	1900 N *427 lbf*	1160 N *261 lbf*
500 *19.69*	500 *19.69*	1000 *39.37*	2120 N *477 lbf*	1250 N *281 lbf*
550 *21.65*	550 *21.65*	1100 *43.31*	2300 N *517 lbf*	1400 N *315 lbf*

1

l_1	l_2 +4 −4 Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
600 *23.62*	600 *23.62*	1200 *47.24*	2300 N *517 lbf*	1450 N *326 lbf*
700 *27.56*	700 *27.56*	1400 *55.12*	2280 N *513 lbf*	1450 N *326 lbf*
800 *31.50*	800 *31.50*	1600 *62.99*	2190 N *492 lbf*	1550 N *348 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Steel, zinc plated
- Rubber stop
  Plastic / Elastomer
- Self-retracting mechanism
  Stainless steel / plastic
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- With locking device (in extended position)
- Other finishes
- With support bracket

Information

GN 1432 telescopic slides with self-retracting mechanism are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension).

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

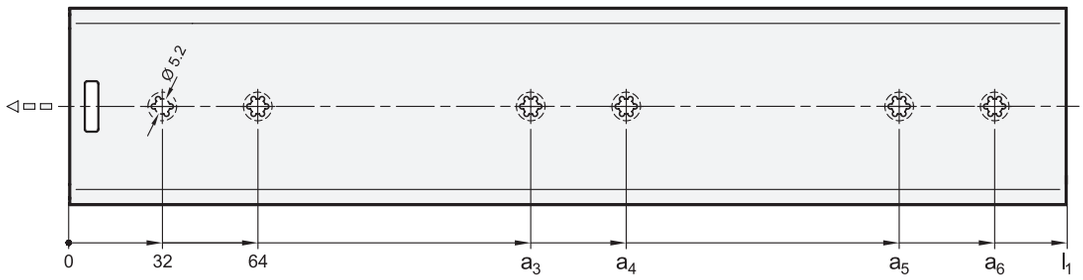
see also...
- *List of Telescopic Slide Types* → *page 4*
- *Technical Information on Telescopic Slides* → *page 48*
- *Telescopic Slides GN 1422 (with Self-Retracting Mechanism)* → *page 27*
- *Telescopic Slides GN 1424 (with Dampened Self-Retracting Mechanism)* → *page 30*

How to order

1 2 3 4
GN 1432-550-B-2-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

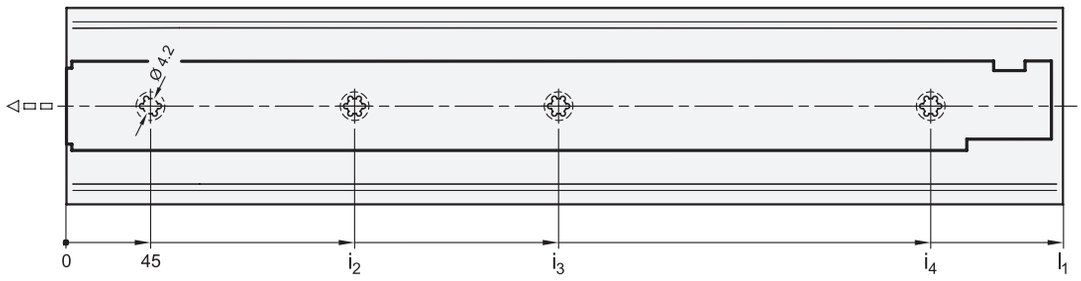


Metric table

Dimensions in: millimeters - *inches*

l_1	a_3	a_4	a_5	a_6
400 *15.75*	288 *11.34*	320 *12.60*	-	-
450 *17.72*	288 *11.34*	320 *12.60*	-	-
500 *19.69*	352 *13.86*	384 *15.12*	-	-
550 *21.65*	352 *13.86*	384 *15.12*	-	-
600 *23.62*	448 *17.64*	480 *18.90*	-	-
700 *27.56*	448 *17.64*	480 *18.90*	-	-
800 *31.50*	384 *15.12*	416 *16.38*	672 *26.46*	704 *27.72*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

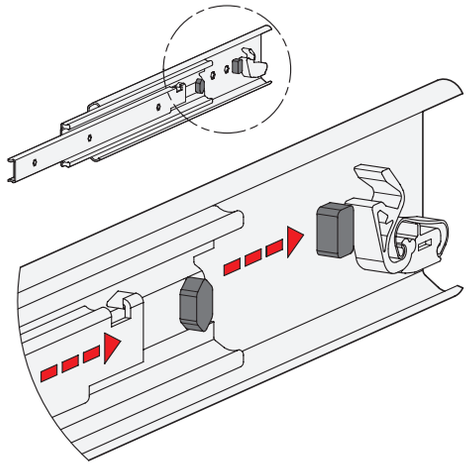
l_1	i_2	i_3	i_4
400 *15.75*	173 *6.81*	333 *13.11*	-
450 *17.72*	205 *8.07*	397 *15.63*	-
500 *19.69*	237 *9.33*	461 *18.15*	-
550 *21.65*	269 *10.59*	493 *19.41*	-
600 *23.62*	173 *6.81*	301 *11.85*	557 *21.93*
700 *27.56*	173 *6.81*	333 *13.11*	653 *25.71*
800 *31.50*	205 *8.07*	397 *15.63*	749 *29.49*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available countersunk holes of the outer and inner slide must be used. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Phillips countersunk flat head screw	DIN 965	M 5	M 4
Phillips countersunk flat head self-tapping screw	DIN 7997	Size 5	Size 4 / 4.5

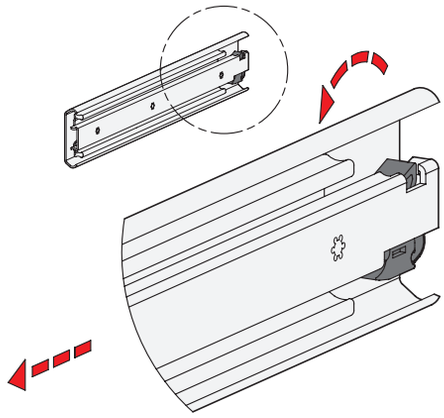
Rubber stop

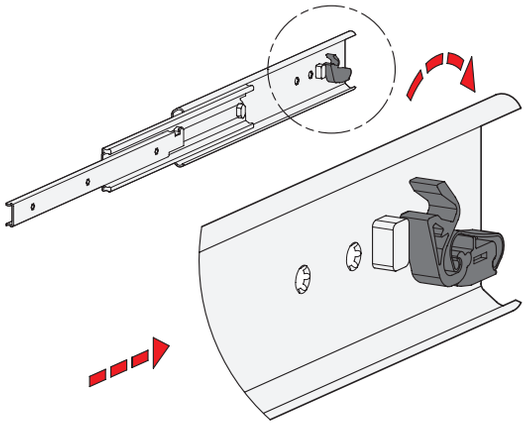


The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

Self-retracting mechanism

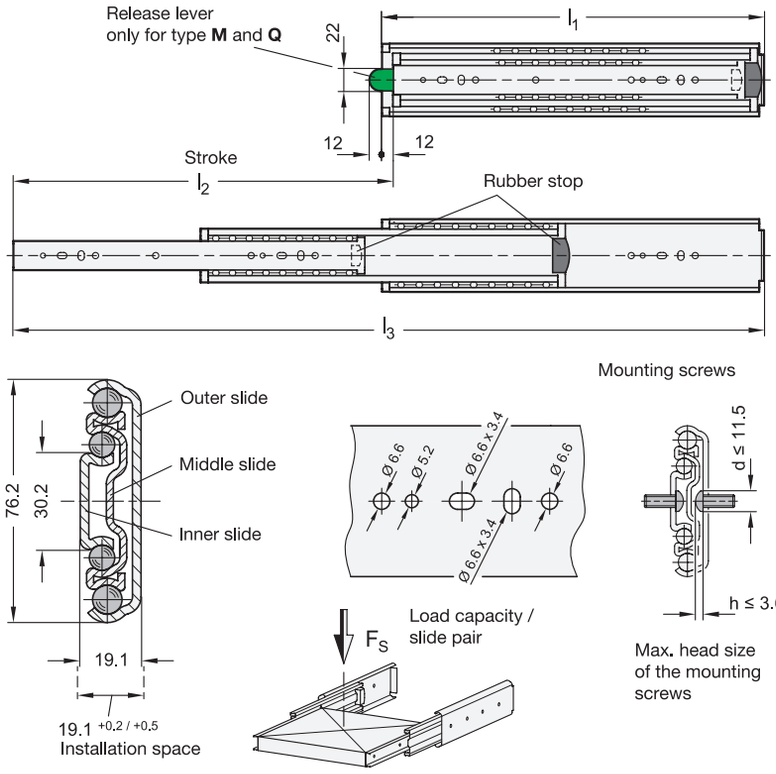




GN 1432 telescopic slides have an integrated self-retracting mechanism, which significantly improves the ease of use when closing the extensions.

By means of the retraction mechanism, the slides are automatically retracted on the last 22 mm of stroke with a force of approximately 30 newtons for each slide pair and held in the retracted end position. This retraction force has to be overcome accordingly when opening the extension.

The self-retracting mechanism is also designed in such a way that it uncouples and will not be damaged when the extension is opened or closed in a jerky manner or too quickly. On the following stroke, the self-retracting mechanism clicks back into place automatically, ensuring that the function remains intact.



Metric

2 Type

B With rubber stop
M With rubber stop, latch in retracted position
K With rubber stop, latch in extended position
Q With rubber stop, latch in extended and retracted position

3 Identification no.

1 Mounting with through holes

Metric table

1				
l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
300 *11.81*	298 *11.73*	586 *23.07*	2250 N *506 lbf*	1575 N *354 lbf*
400 *15.75*	398 *15.67*	786 *30.94*	2500 N *562 lbf*	1750 N *393 lbf*
500 *19.69*	512 *20.16*	1000 *39.37*	2600 N *585 lbf*	1800 N *405 lbf*
600 *23.62*	610 *24.02*	1198 *47.17*	2750 N *618 lbf*	1920 N *432 lbf*
700 *27.56*	708 *27.87*	1396 *54.96*	2950 N *663 lbf*	2250 N *506 lbf*

1				
l_1	l_2 $^{+4}_{-4}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 100,000 cycles
800 *31.50*	806 *31.73*	1594 *62.76*	3100 N *697 lbf*	2175 N *489 lbf*
900 *35.43*	904 *35.59*	1792 *70.55*	3200 N *719 lbf*	2250 N *506 lbf*
1000 *39.37*	1000 *39.37*	1988 *78.27*	3250 N *731 lbf*	2275 N *511 lbf*
1200 *47.24*	1212 *47.72*	2400 *94.49*	2950 N *663 lbf*	2025 N *455 lbf*
1500 *59.06*	1504 *59.21*	2992 *117.80*	2250 N *506 lbf*	1575 N *354 lbf*

Specification

4

- Slide profile
  Steel, zinc plated, blue passivated finish **ZB**
- Balls
  Rolling bearing steel, hardened
- Ball cage
  Plastic
- Latches
  Zinc die-cast / plastic
- Rubber stop
  Plastic / Elastomer
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options
- Other finishes

Information

GN 1440 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension). Patented plastic ball cages ensure particularly smooth running of the slide.

Telescopic slides of various types, for example with and without latch, can be combined freely, which is why the GN 1440 is supplied **individually** and **not** in pairs. Thanks to the symmetrical design, all types can be installed on either the left or right side.

All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

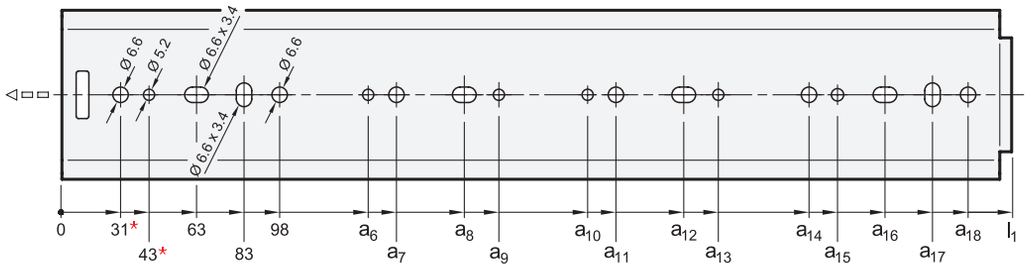
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*

How to order

1 2 3 4
GN 1440-1500-K-1-ZB

1	Length l_1
2	Type
3	Identification no.
4	Finish

Mounting holes - Outer slide

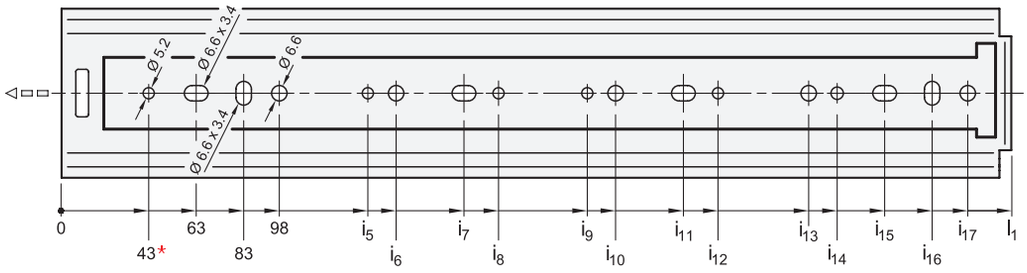


Metric table

Dimensions in: millimeters - *inches*

l_1	a_6	a_7	a_8	a_9	a_{10}	a_{11}	a_{12}	a_{13}	a_{14}	a_{15}	a_{16}	a_{17}	a_{18}
300 *11.81*	-	-	-	-	-	-	-	-	161 *6.34*	173 *6.81*	193 *7.60*	213 *8.39*	228 *8.98*
400 *15.75*	-	-	-	-	-	-	-	-	261 *10.28*	273 *10.75*	293 *11.54*	313 *12.32*	328 *12.91*
500 *19.69*	-	-	-	-	-	-	-	-	361 *14.21*	373 *14.69*	393 *15.47*	413 *16.26*	428 *16.85*
600 *23.62*	213 *8.39*	228 *8.98*	363 *14.29*	378 *14.88*	-	-	-	-	461 *18.15*	473 *18.62*	493 *19.41*	513 *20.20*	528 *20.79*
700 *27.56*	213 *8.39*	228 *8.98*	363 *14.29*	378 *14.88*	-	-	-	-	561 *22.09*	573 *22.56*	593 *23.35*	613 *24.13*	628 *24.72*
800 *31.50*	313 *12.32*	328 *12.91*	463 *18.23*	478 *18.82*	-	-	-	-	661 *26.02*	673 *26.50*	693 *27.28*	713 *28.07*	728 *28.66*
900 *35.43*	313 *12.32*	328 *12.91*	463 *18.23*	478 *18.82*	-	-	-	-	761 *29.96*	773 *30.43*	793 *31.22*	813 *32.01*	828 *32.60*
1000 *39.37*	413 *16.26*	428 *16.85*	563 *22.17*	578 *22.76*	-	-	-	-	861 *33.90*	873 *34.37*	893 *35.16*	913 *35.94*	928 *36.54*
1200 *47.24*	313 *12.32*	328 *12.91*	463 *18.23*	478 *18.82*	713 *28.07*	728 *28.66*	863 *33.98*	878 *34.57*	1061 *41.77*	1073 *42.24*	1093 *43.03*	1113 *43.82*	1128 *44.41*
1500 *59.06*	413 *16.26*	428 *16.85*	563 *22.17*	578 *22.76*	913 *35.94*	928 *36.54*	1063 *41.85*	1078 *42.44*	1361 *53.58*	1373 *54.06*	1393 *54.84*	1413 *55.63*	1428 *56.22*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

l_1	i_5	i_6	i_7	i_8	i_9	i_{10}	i_{11}	i_{12}	i_{13}	i_{14}	i_{15}	i_{16}	i_{17}
300 *11.81*	-	-	-	-	-	-	-	-	-	173** *6.81*	-	213 *8.39*	228 *8.98*
400 *15.75*	-	161 *6.34*	-	-	-	-	-	-	261 *10.28*	273 *10.75*	293 *11.54*	313 *12.32*	328 *12.91*
500 *19.69*	-	229 *9.02*	-	-	-	-	-	-	361 *14.21*	373 *14.69*	393 *15.47*	413 *16.26*	428 *16.85*
600 *23.62*	213 *8.39*	228 *8.98*	398 *15.67*	413 *16.26*	-	-	-	-	461 *18.15*	473 *18.62*	493 *19.41*	513 *20.20*	528 *20.79*
700 *27.56*	313 *12.32*	328 *12.91*	463 *18.23*	478 *18.82*	-	-	-	-	561 *22.09*	573 *22.56*	593 *23.35*	613 *24.13*	628 *24.72*
800 *31.50*	313 *12.32*	328 *12.91*	498 *19.61*	513 *20.20*	-	-	-	-	661 *26.02*	673 *26.50*	693 *27.28*	713 *28.07*	728 *28.66*
900 *35.43*	413 *16.26*	428 *16.85*	563 *22.17*	578 *22.76*	-	-	-	-	761 *29.96*	773 *30.43*	793 *31.22*	813 *32.01*	828 *32.60*
1000 *39.37*	413 *16.26*	428 *16.85*	598 *23.54*	613 *24.13*	-	-	-	-	861 *33.90*	873 *34.37*	893 *35.16*	913 *35.94*	928 *36.54*
1200 *47.24*	313 *12.32*	328 *12.91*	463 *18.23*	478 *18.82*	713 *28.07*	728 *28.66*	863 *33.98*	878 *34.57*	1061 *41.77*	1073 *42.24*	1093 *43.03*	1113 *43.82*	1128 *44.41*
1500 *59.06*	413 *16.26*	428 *16.85*	563 *22.17*	578 *22.76*	913 *35.94*	928 *36.54*	1063 *41.85*	1078 *42.44*	1361 *53.58*	1373 *54.06*	1393 *54.84*	1413 *55.63*	1428 *56.22*

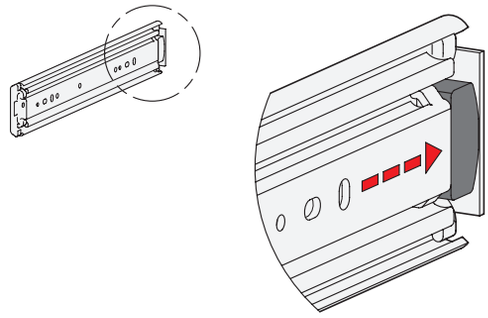
* Hole can only be used with type B and type K ** Hole can only be used with type B and type M

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer and inner slide having a Ø of 6.6 mm must be used. Alternatively, holes with a Ø of 5.2 mm are available. The slotted holes, Ø 6.6 x 3.4 mm, facilitate adjustment during mounting. Failure to use mounting screws reduces the load capacity. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 5 / M 6	M 5 / M 6
Low head socket cap screw	DIN 7984 / DIN 6912	M 5	M 5

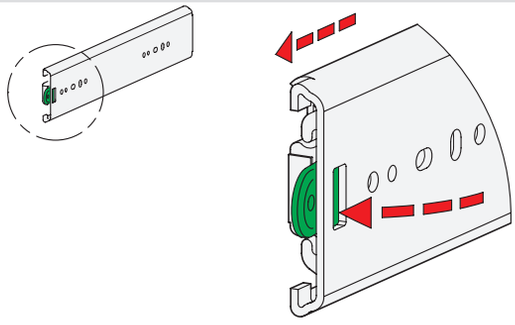
Type **B** with rubber stop



The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

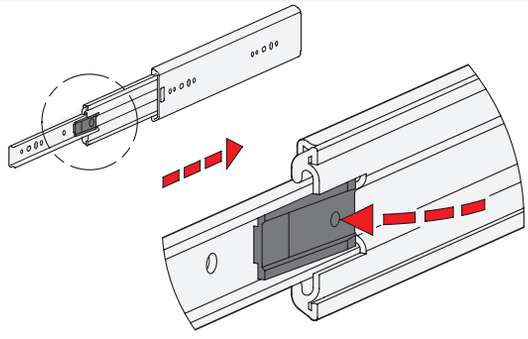
Type **M** with rubber stop, latch in retracted position



Type M is used in applications where the slide is to be latched in the retracted end position. This feature prevents the slide from extending on its own, for example due to an inclined position. If larger loads occur in the direction of extension in the latched position, they should be absorbed by additional latch elements.

When closed, the latch mechanism locks into place under spring load via a recess on the outer rail. Pressing the release lever releases the inner and middle slide for extension. Back in the retracted position, the mechanism automatically locks into place again via the recess on the outer slides by moving over a ramp.

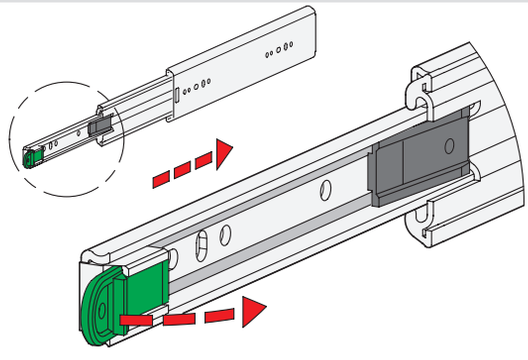
Type **K** with rubber stop, latch in extended position



Type K is used when the extension is to remain in the extended position for a certain amount of time. This feature allows maintenance work to be performed with the slide being extended, for example. If larger loads occur in the latched position, they should be absorbed by additional latch elements.

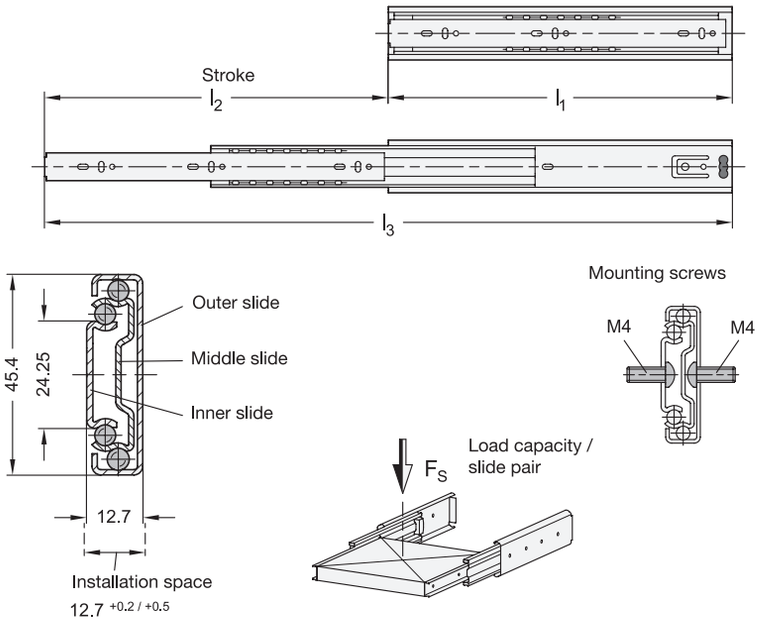
For the function to be activated, the slide has to be fully extended to the front, where it will automatically lock into place via a pretensioned latching lever. Pressing the lever releases the slide, allowing the slide to retract again.

Type **Q** with rubber stop, latch in extended and retracted position



Type Q unites the properties of types M and K. The inner and middle slide lock into place in the two end positions.

Unlike the release of type K, type Q is actuated through an internal rod by a convenient “remote control.” To do this, the green release lever is pressed outwards, the latching lever is activated, and the slide is released for retraction.



Metric

SS Stainless Steel

2 Type

F With rubber stop, locking device in retracted position, detach function

3 Identification no.

1 Mounting with through holes

Metric table

Dimensions in: millimeters - *inches*

1				
l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 50,000 cycles
300 *11.81*	300 *11.81*	600 *23.62*	430 N *96.67 lbf*	310 N *69.69 lbf*
350 *13.78*	350 *13.78*	700 *27.56*	450 N *101 lbf*	330 N *74.19 lbf*
400 *15.75*	400 *15.75*	800 *31.50*	480 N *108 lbf*	360 N *80.93 lbf*
450 *17.72*	450 *17.72*	900 *35.43*	480 N *108 lbf*	360 N *80.93 lbf*

1				
l_1	l_2 $^{+3}_{-3}$ Stroke	l_3	F_s per pair at 10,000 cycles	F_s per pair at 50,000 cycles
500 *19.69*	500 *19.69*	1000 *39.37*	450 N *101 lbf*	330 N *74.19 lbf*
550 *21.65*	550 *21.65*	1100 *43.31*	430 N *96.67 lbf*	310 N *69.69 lbf*
600 *23.62*	600 *23.62*	1200 *47.24*	410 N *92.17 lbf*	310 N *69.69 lbf*

Specification

4

- Slide profile and balls
  Stainless steel AISI 304 **NI**
- Ball cage, outer slide
  Plastic
- Ball cage, inner slide
  Stainless steel AISI 304
- Ruber stop and detach function
  Plastic / Elastomer
- Lubricant
  Roller bearing grease, FDA compliant
- Operating temperature -4 °F to +212 °F
  (-20 °C to +100 °C)
- *Stainless Steel Characteristics*
  → *Standard Parts Handbook page 2143*
- RoHS compliant

On request

- Other lengths and hole distances
- Other mounting options

Information

GN 1450 telescopic slides are installed in pairs. The stroke reaches ≈ 100 % of the nominal length l_1 (full extension).

The telescopic slides are delivered in **pairs**. They can be installed on either the left or right side due to the design. All mounting holes are easy to reach through auxiliary holes. Only the mounting holes are shown, but other production-related holes may be present.

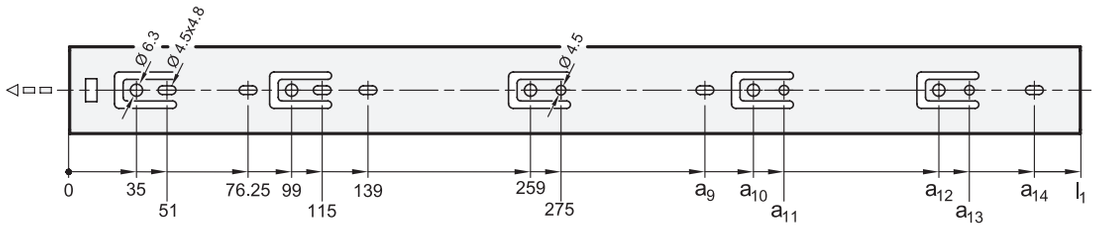
see also...
- *List of Telescopic Slide Types → page 4*
- *Technical Information on Telescopic Slides → page 48*
- *Telescopic Slides GN 1410 (Steel, with Full Extension) → page 13*

How to order

1 2 3 4
GN 1450-400-F-1-NI

1	Length l_1
2	Type
3	Identification no.
4	Material

Mounting holes - Outer slide

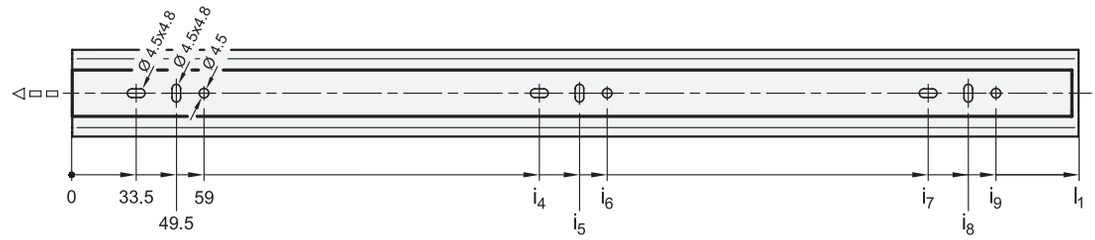


Metric table

Dimensions in: millimeters - *inches*

l_1	a_9	a_{10}	a_{11}	a_{12}	a_{13}	a_{14}
300 *11.81*	-	-	-	-	-	-
350 *13.78*	309 *12.17*	-	-	-	-	-
400 *15.75*	-	323 *12.72*	339 *13.35*	-	-	373 *14.69*
450 *17.72*	361.5 *14.23*	387 *15.24*	403 *15.87*	-	-	-
500 *19.69*	361.5 *14.23*	387 *15.24*	403 *15.87*	451 *17.76*	467 *18.39*	-
550 *21.65*	361.5 *14.23*	387 *15.24*	403 *15.87*	451 *17.76*	467 *18.39*	501 *19.72*
600 *23.62*	361.5 *14.23*	387 *15.24*	403 *15.87*	515 *20.28*	531 *20.91*	565 *22.24*

Mounting holes - Inner slide



Metric table

Dimensions in: millimeters - *inches*

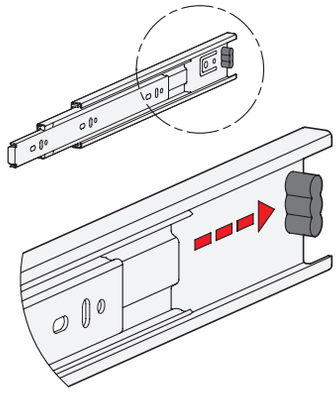
l_1	i_4	i_5	i_6	i_7	i_8	i_9
300 *11.81*	129.5 *5.10*	145.5 *5.73*	155 *6.10*	257.5 *10.14*	273.5 *10.77*	283 *11.14*
350 *13.78*	161.5 *6.36*	177.5 *6.99*	187 *7.36*	289.5 *11.40*	305.5 *12.03*	315 *12.40*
400 *15.75*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	353.5 *13.92*	369.5 *14.55*	379 *14.92*
450 *17.72*	193.5 *7.62*	209.5 *8.25*	219 *8.62*	385.5 *15.18*	401.5 *15.81*	411 *16.18*
500 *19.69*	225.5 *8.88*	241.5 *9.51*	251 *9.88*	449.5 *17.70*	465.5 *18.33*	475 *18.70*
550 *21.65*	257.5 *10.14*	273.5 *10.77*	283 *11.14*	481.5 *18.96*	497.5 *19.59*	507 *19.96*
600 *23.62*	289.5 *11.40*	305.5 *12.03*	315 *12.40*	545.5 *21.48*	561.5 *22.11*	571 *22.48*

Mounting screws

For the listed loading forces F_S to be absorbed reliably in the surrounding structure, all available through holes of the outer and inner slide having a Ø of 4.5 mm must be used. Alternatively, the outer slide has holes with a Ø of 6.3 mm for metric screws. The slotted holes, Ø 4.5 x 4.8 mm, are also used for mounting and facilitate adjustment. Failure to use mounting screws reduces the specified load capacity accordingly. The following screws can be used for mounting:

Designation - Standard		Outer slide	Inner slide
Socket button head screw	ISO 7380	M 4	M 4
Phillips pan head screw	ISO 7045	M 4	M 4
Phillips pan head self-tapping screw	ISO 7049	ST 3.9 / 4.2	ST 3.9 / 4.2

Rubber stop, locking device in retracted position

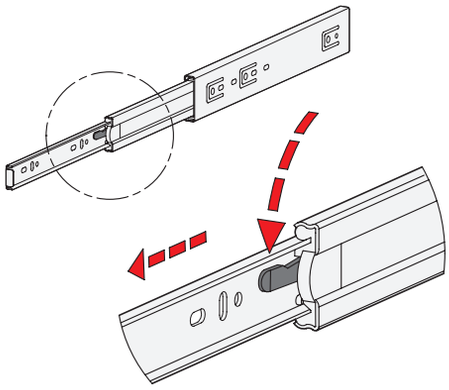


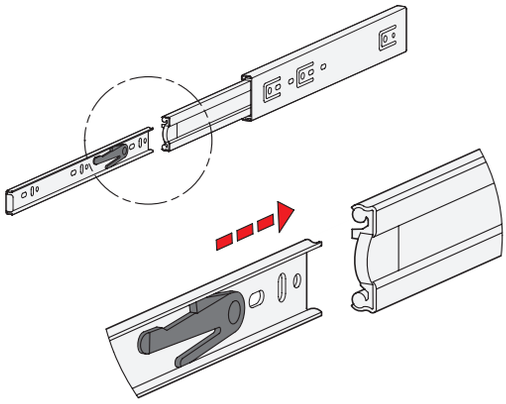
The rubber stops dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

In the retracted end position, the rubber stop additionally takes on a locking function, which is noticeable through a slight resistance on opening and closing.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional stop elements.

Detach function





The detach function allows the extension to be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

The telescopic slide can be quickly and easily detached in the extended position through activation of the release lever, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanism prevents accidental detachment of the slide.

General installation information

When installing telescopic slides, the following installation information should be observed, which should ideally already be taken into account when designing the extensions. This will ensure smooth-running, quiet, and low-wear motion of the slides over a long period of time and guarantees their function in the long run.

- Telescopic slides are generally installed in pairs so that the mounting surfaces of the housing and extension side are level, parallel and at a right angle as well as correctly aligned with one another in regard to their position. Furthermore, attention should be given to sufficient stability of the mounting structure so as to keep geometric errors, caused by elastic deformation, as minimal as possible.
- Mounting holes should be applied in such a way that the slides cannot twist or warp during installation. In addition, the slides need to be positioned in the direction of extension in such a way that the extensions reach the end position at the same time when they are retracted or extended. This results in an even load on the rubber stops and locking devices.
- The width of the respective slide installation spaces should be designed with a tolerance of +0.2 / +0.5 mm. This ensures that the slides are subjected to a slight tensile stress in the direction of the middle of the extension. This promotes optimum performance and a long service life.
- Before installation, the inner slides should be moved to the extended and retracted end position once to allow the ball cages to assume their intended position. Installation should also take place at room temperature.
- After installation, the telescopic slides and extensions are to be checked for ease of movement. In case of discrepancies, such as sticking or warping, the cause has to be determined and eliminated through appropriate actions.

Mounting holes, mounting screws

When installing telescopic slides, always use all holes provided for mounting. This will ensure that the forces resulting from the maximum load capacity F_S (nominal load) can be transferred safely from the telescopic slides to the surrounding structure. Failure to use mounting screws reduces the specified load capacity accordingly.

The outer and inner slides have further recesses and auxiliary holes in addition to the holes intended for mounting. The catalog drawings and the CAD data available for download do not show these holes to avoid confusion and design faults. These holes are needed, for example, for the mounting of type-dependent equipment features, such as the self-retracting mechanisms.

Some slide versions have mounting options for screws of various sizes. In this case, all positions of a size or type should be used. Auxiliary holes, which ensure that all mounting holes can be reached, are included in the CAD data but are not shown in the catalog drawings.

The type and specification of the suitable screws are indicated on the respective catalog pages. It is generally recommended to use screws of property class 8.8 in compliance with the specified tightening torque.

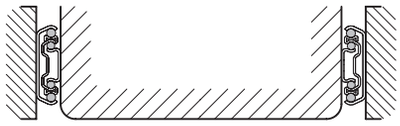
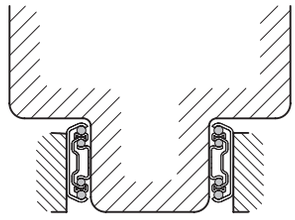
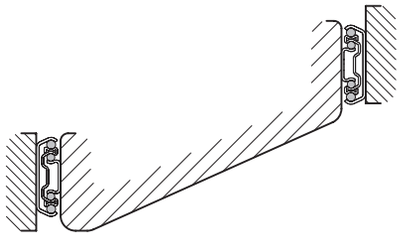
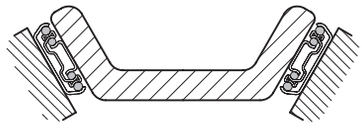
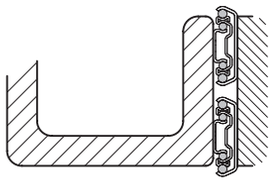
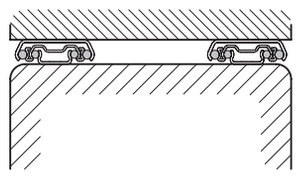
Installation position

Telescopic slides are preferably side-mounted and installed in pairs in a horizontal position. This ensures that the highest possible stability and torsional stiffness is achieved in the smallest installation space and allows for absorption of the maximum load (nominal load). The performance features are optimum in this installation position and wear is reduced to a minimum.

The top and / or bottom mount of the slide is also possible with certain restrictions. The maximum load in this case is only about 20 % to 25 % of the specified nominal load. This more unfavorable slide cross-section results in considerably higher bending in the extended state. As a result, the ball cages may touch the heads of the mounting screws. In case of doubt, the function under load is to be checked in a test setup.

Installing slides in a perpendicular position to the direction of extension is not recommended as increased cage slip occurs in this case. This means that the upper and lower end position of the slide may only be reached with an increased amount of force after a few cycles since the force of gravity causes the ball cage to become dislocated from its correct position.

The following examples show possible **installation positions** of telescopic slides that are considered favorable or acceptable and some that are regarded as unfavorable and should therefore be avoided.

	Side mount, on both sides	
Favorable		
	Side mount, vertical offset, on both sides	**Side mount, inclined offset, on both sides**
Acceptable		
	Side mount, on one side	**Top and / or bottom mount, on both sides**
Unfavorable		

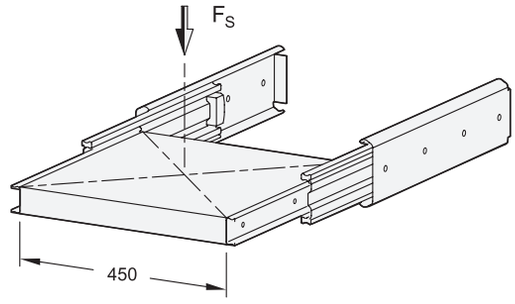
Load capacity

The maximum load capacity of telescopic slides depends on the slide cross-section and the nominal length l_1 as well as the resulting stroke l_2. Furthermore, the extension width, the slide materials used and the components of the equipment options, such as the dampened self-retracting mechanism, have a corresponding influence.

The information on the maximum load capacity of the telescopic slides was determined in endurance tests under the following conditions:

- Slide arrangement in pairs, side mount
- Observance of all mounting information
- Warp-resistant test setup
- Equal distribution of the maximum load F_S over the entire extension area
- Standard slide spacing of 450 mm
- 10,000 or 100,000 test cycles (one extension and one retraction = one cycle)
- Gradual increase of the load

Wear, performance, and maximum bending were assessed after each test section.

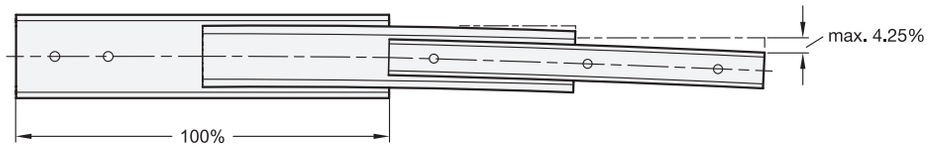


Bending

When extended, telescopic slides demonstrate elastic bending under load, which is most noticeable at the far end of the inner slide. The general rule is that the extent of deformation may not be higher than 4.25 % of the travel path. All slides are within this value at maximum load.

Example:

A telescopic slide with a nominal length of l_1 = 500 mm is extended to the end position and loaded with the maximum load over the entire extension area. The bending at the front-most point of the slide may now be a maximum of 21.25 mm.



Tolerances

All components of the telescopic slides are subject to manufacturing tolerances that ensure consistent quality and a long service life.

Since the stroke results from the interaction of all individual parts of the telescopic slides, the sum of all individual tolerances also has to be taken into account for the length tolerance of the stroke. In addition, the slight deformation of any existing rubber stops should be mentioned. This results in relatively large total tolerances, which are listed on the respective catalog pages and can therefore be taken into account in the design of the extensions.

Travel speed

The permissible extension and retraction speeds of the telescopic slides are specified with a maximum of 0.3 m/s. Shortly before the end of the stroke, the speed should be reduced to less than 0.15 m/s so that the stops, rubber stops, dampened self-retracting mechanisms etc. are not subjected to excessive, abrupt loads.

Slide materials, finishes and corrosion protection

The telescopic slides supplied by JW Winco are made of high-quality steel or stainless steel bands.

The stainless steel telescopic slides are generally delivered with a mill finish.

The steel telescopic slides are partly made of a pre-zinc plated steel band and are subsequently galvanically batch zinc plated and blue passivated with 5 to 7 µm. Corrosion resistance in the salt spray test for at least 72 hours against white rust is ensured in this way.

To achieve higher corrosion resistance, further finish refinements can be provided on request. Two processes are available:

- Galvanically batch zinc plated 5 to 7 µm, black passivated, corrosion resistance in salt spray test for at least 120 hours against white rust
- Galvanically batch zinc plated 5 to 7 µm, passivated, electrolytically coated with T2 top coat / sealer 8 to 12 µm, corrosion resistance in the salt spray test for at least 96 hours against white rust / 500 hours against red rust

All materials and finish refinements used are RoHS compliant.

Lubrication and maintenance

Telescopic slides are permanently lubricated with high-quality, mineral oil-based and lead-free ball bearing greases.

For stainless steel telescopic slides, special FDA compliant greases are used that are neutral in taste and odor. The greases comply with lubricant class H1, which allows them to be used in areas where it is technically infeasible to prevent occasional contact with food. In general, direct contact can be prevented by taking appropriate actions, such as optimum placement of the slides or the use of covers.

Re-lubrication is not necessary under normal conditions of use since the ball cages and balls “push out” small amounts of obtained dirt from the slides when the slides move. In applications with heavier contamination, the slides should be cleaned from time to time with a clean cloth and then re-lubricated. Possible lubricants for the steel versions are, for example, Shell Alvania EP 1 or Klüberplex BE 31-222.

Cage slip

With rapid changes of direction and high acceleration forces, cage slip can occur in the worst case, especially with long ball cages. In this case, the cage does not move synchronously at half the speed of the middle and inner slides but it gradually loses its correct position due to sliding. In such cases, an “idle stroke” may need to be moved to the extended and retracted end position of the slide at moderate speed and under low load in order to reposition the cage.

Operating temperature

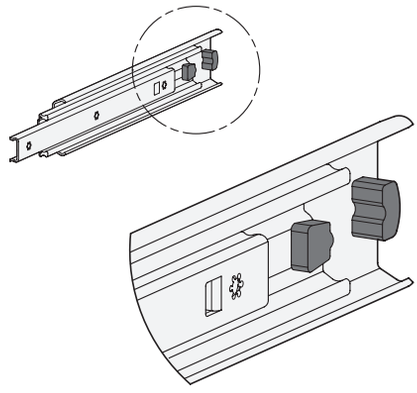
The operating temperature of telescopic slides is within the range of -4 °F to +212 °F (-20 °C to +100 °C) and is determined primarily by the plastic and elastomer parts used in the slides. Depending on the place of use and the application, the user may have to check the function of the extensions if the temperature is at the limit.

Information

Telescopic slides can be delivered with a number of equipment options. They are partly available for one of the two end positions as well as in combination. The options are defined by the “type” in the part number.

The following overview shows examples of possible characteristics of the various types and equipment features. The components used and the mechanisms employed are adapted to the available installation space, the cross-section, and the structure of the selected slide and are therefore designed differently depending on the slide version. However, the functionality is comparable and partially even identical.

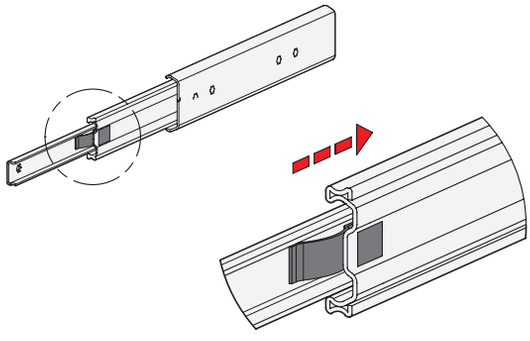
Rubber stops



The rubber stops used in almost all slide versions dampen the impact of the slide in the two end positions. This feature minimizes noise development and increases the service life. Attached to the slides in a partially concealed, partially visible manner, the stops meet each of the requirements in regards to shape, material, and hardness.

If larger static or dynamic loads occur in the direction of extension, they should be absorbed by additional end stops.

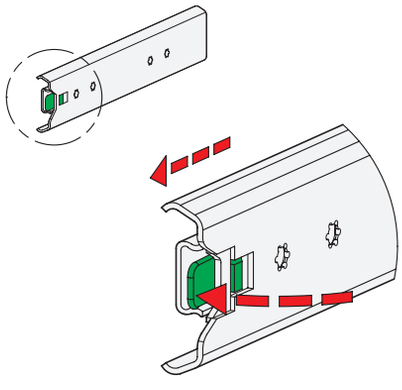
Locking devices



The locking function is noticeable through a slight resistance of the slides in the end positions, which have to be overcome when opening and closing. The locking device in the retracted end position is usually integrated into the rubber stop function, making additional components unnecessary.

The locking device is frictionally engaged and therefore does not act as a positive latch.

Latches

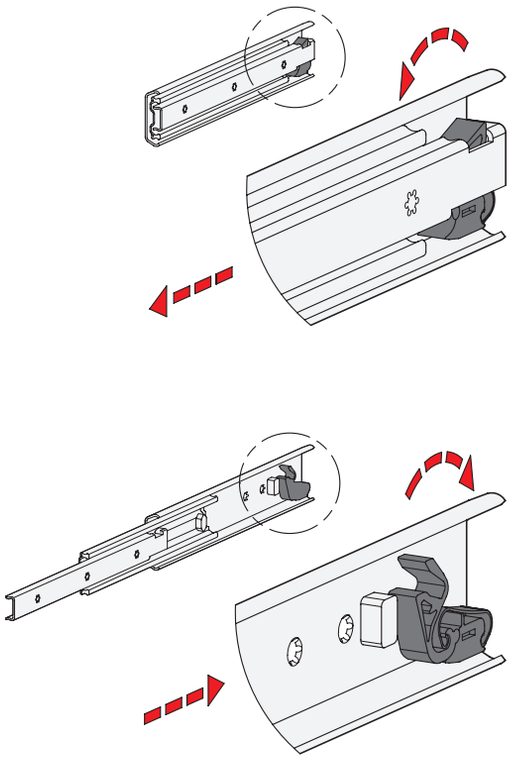


Unlike the locking device, a latch positively secures the slides in the end positions. Telescopic slides with latches are used when the slides need to be protected against independent extension or retraction, for example, due to inclined position.

A mechanism installed inside the slide automatically locks into place under spring load when the respective end positions are reached by moving over a ramp. Pressing the release lever releases the latch, allowing the slide to move again.

If larger loads occur in the direction of extension in the latched position, they should be absorbed by additonal latch elements.

Self-retracting mechanism

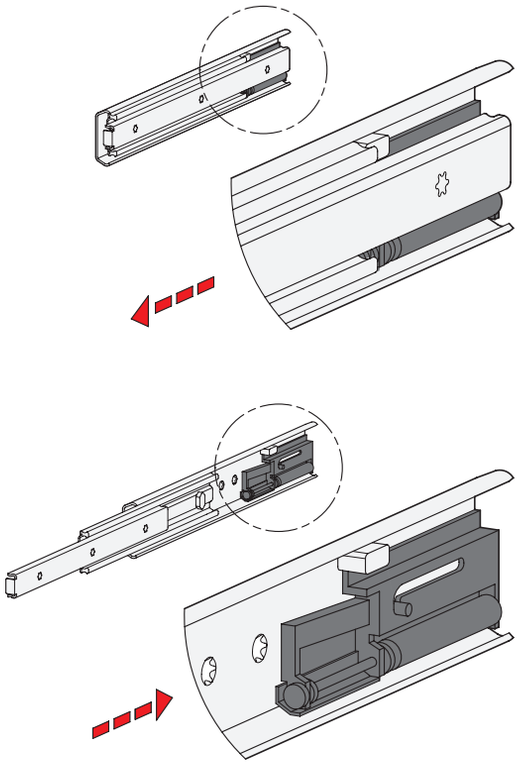


Telescopic slides can have an integrated self-retracting mechanism, which significantly improves the ease of use when closing the extensions.

By means of the retraction mechanism, the slide versions shown in the example are automatically retracted on the last 22 mm of stroke with a force of approximately 30 newtons for each slide pair and are held in the retracted end position. This force has to be overcome accordingly when opening the extension.

This version is also designed in such a way that the mechanism uncouples and will not be damaged when the extension is opened or closed in a jerky manner or too quickly. On the following stroke, the self-retracting mechanism clicks back into place automatically, ensuring that the function remains intact.

Self-retracting mechanism, dampened

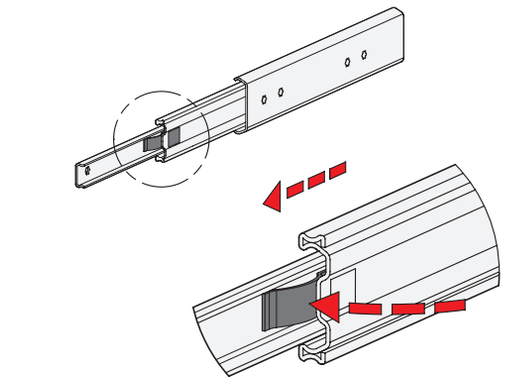


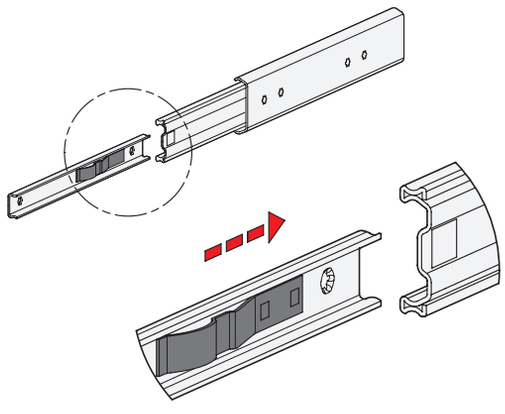
Dampened self-retracting mechanisms, which are also called “soft-close”, are divided into two main functions and provide the best possible ease of use when closing the extension.

In the example shown, the self-retracting mechanism automatically retracts the slides on the last 40 mm of stroke to the retracted end position, where they are held in place accordingly. The retraction force is about 35 newtons per slide pair. Also the closing movement on the mentioned stroke is slowed down by the damping mechanism and thus reduces the speed considerably. An extremely smooth and gentle closing movement is achieved. This retraction force has to be overcome accordingly when opening the extension.

When dampened self-retracting mechanisms are used, the specified load values and travel speeds may not be exceeded on reaching the retraction mechanism.

Detach function





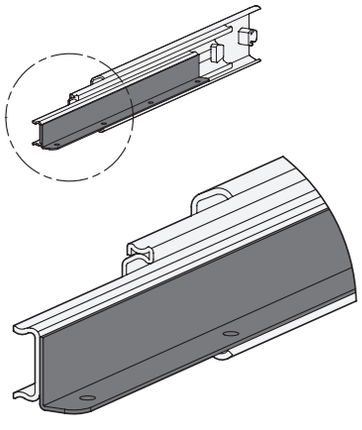
Telescopic slides with a detach function can be completely separated from one another in the area of the middle and inner slide. This feature not only facilitates mounting, it also allows the extension to be quickly removed, for example when frequent maintenance work is performed on the components located behind.

In the example shown, the telescopic slide can be quickly and easily detached in the extended position through activation of a flat spring, allowing the inner slide to be removed from the front.

For re-attaching the slides, the ball cages need to be moved to the extended end position. Then the inner slide is inserted to the retracted end position where it locks into place automatically.

The protected arrangement of the release mechanisms prevents accidental detachment of the slide.

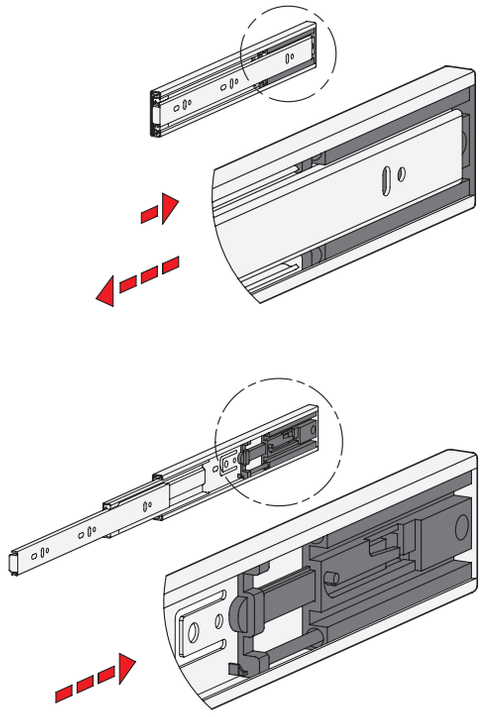
Support and mounting brackets



Support brackets on the inner slide are available on request for some slide versions - even in small quantities. The support bracket is used for simple mounting, e.g. of a drawer, if side mounting is not possible. They are mounted by means of through holes that are arranged in the bracket in a vertical direction.

The mounting screws only secure the position of the drawer in this case. There is no additional reinforcement of the slides themselves, as in the case of side mounting. The drawers should therefore be designed as rigidly as possible so that the vertical load does not introduce any unnecessary tension through the support bracket into the slides.

Push to open mechanism



Telescopic slides can have an opening mechanism, which is referred to as “Push to Open” or “Touch to Open” mechanism. In addition to the best-possible ease of use when opening an extension, this system offers the advantage to have drawers without a handle on the front side. This results in a simple and high-quality design.

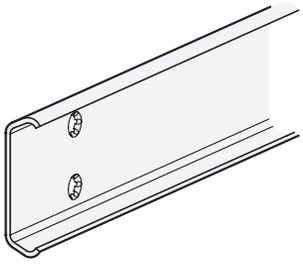
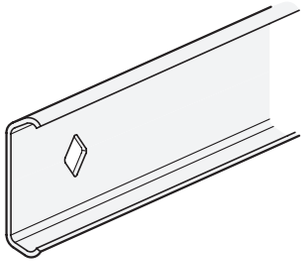
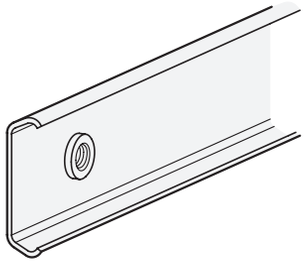
The mechanism is actuated by pressing manually on the front side of the extension or drawer.

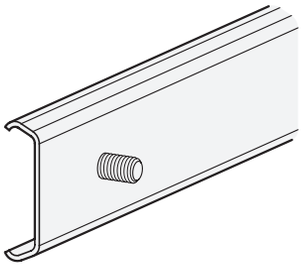
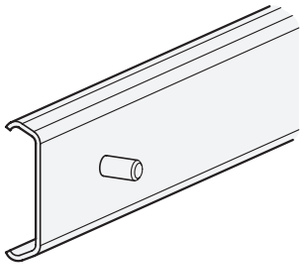
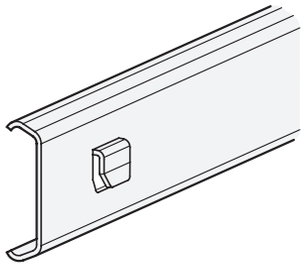
In the shown example, the force required to activate the opening mechanism is about 40 N per slide pair. The inner slide is extended by about 4.5 mm in its basic position and can be pushed in a maximum of 8 mm in the closing direction. This is to be taken into account in the design to avoid a collision. The pressure or release point is already reached at about 3 mm, which causes the extension to slide out smoothly to about 42 mm in the opening direction after being released.

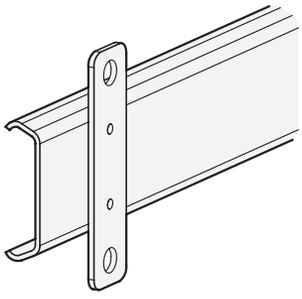
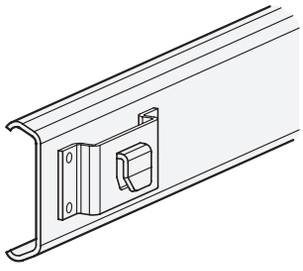
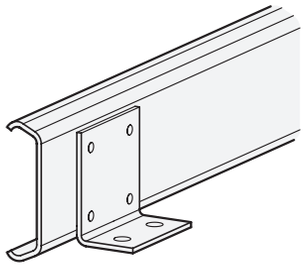
When using telescopic slides with push to open mechanism, the load values and travel speeds specified on the respective standard sheet must not be exceeded when reaching the retraction mechanism.

Information

In addition to the standard mounting of telescopic slides with through holes or countersunk holes, other mounting options can be provided on request. Possible mounting types can be realized on the inner or outer slide as well as in combination depending on the requirement. Some examples are shown below. Further application-specific mounting options are also possible after feasibility has been checked.

Countersunk holes	Other mounting holes	Press nuts
		

Threaded studs / bolts	Mounting studs / bolts	Mounting clips
		

Mounting plates, spot-welded	Spacers, spot-welded	Support brackets, spot-welded
		

J.W. Winco, Inc.*
2815 South Calhoun Road
New Berlin, WI 53151
USA

Phone +1-800-877-8351
E-Mail sales@jwwinco.com

*ISO 9001 certified

J.W. Winco Canada, Inc.
300 Trowers Rd, Unit 11,
Woodbridge, ON L4L 5Z9
Canada

Phone +1-800-397-6993
E-Mail sales@jwwinco.ca

JW Winco México, S.A. de C.V.
Parque Industrial Makro, Bodega 10
Santa Catarina, N.L. 66359
México

Phone +52(81)2721-4021
E-Mail ventas@jwwinco.mx

www.jwwinco.com