

ROLLON[®]
BY TIMKEN

Telescopic guides for load carriers

Telescopic sliding rails for use in palletisation, logistics and shipping stillages.

HIGH LOAD CAPACITY
ROBUST DESIGN
COMPETITIVELY PRICED



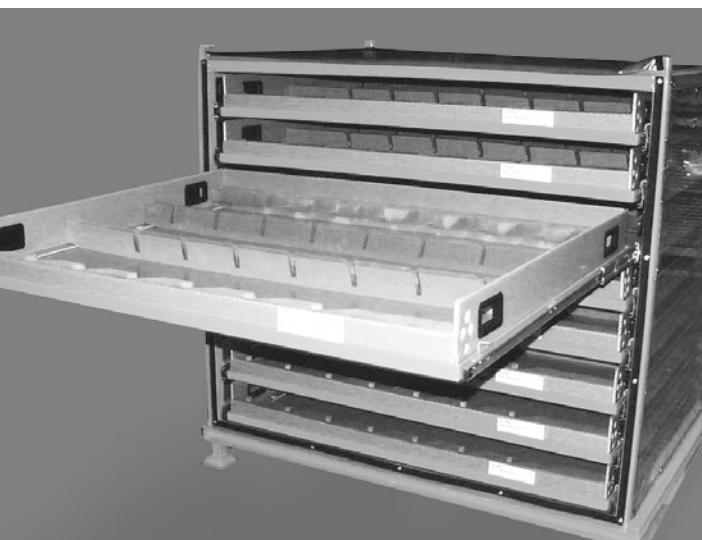
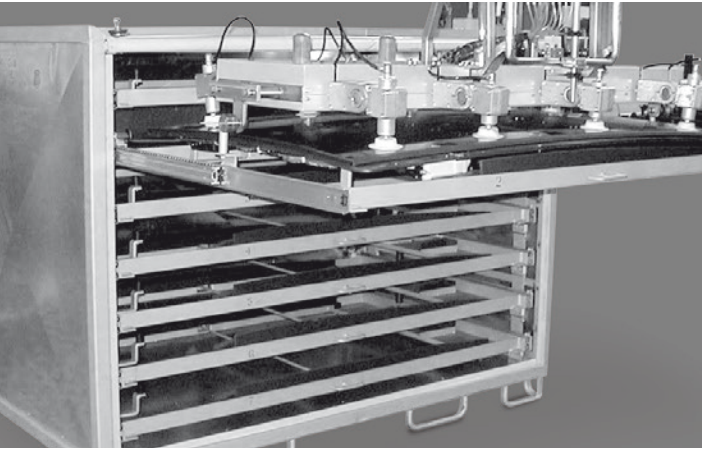
Load carriers



Professional linear technology for production parts supply



1st and 2nd tier OEM series production parts for the automotive and utility vehicle industry or pre-mounted assemblies that are transported between production facilities must often be supplied to the customer for just-in-sequence assembly processes. Custom reusable load carriers for manual or automatic withdrawal have proven to be effective for this task. The robust telescopic guides from Rollon's Hegra Rail and Light Rail series are the basis for stable and durable pull-out trays on the shipping pallet or stillage.



The high load-bearing capacities and compact dimensions of the Hegra Rail and Light Rail series telescopic slides make them ideal for constructing reliable and robust load carriers. In addition, they offer a balanced price/performance ratio and are stocked by Rollon in sufficient quantities in a variety of sizes and lengths. The compact design of the smooth-running telescopic guides makes it possible to construct a transport and storage pallet rack with a space-saving design while ensuring high rigidity combined with the required load-bearing capacity. Stainless steel versions are also available for special requirements such as applications where the stillage is exposed to the

external environment. Rollon telescopic guides are suitable for constructing load carriers for all types of parts that have to be delivered by the supplier for just-in-sequence processes at the assembly line.

Examples include:

- steering wheels
- decorative interior trim
- coverings
- cable harnesses
- IP (instrument Panel) Assemblies
- Body Panels
- Wiring Looms
- Automotive Assemblies

Whether for local, regional, national or international transport, load carriers must feature high reliability, a good price/performance ratio and low maintenance. These requirements are fulfilled one hundred percent by Rollon telescopic guides. The Rollon team supports the manufacturers of custom load carriers with advice and calculations for the production and delivery of telescopic guides, and also with optimisation of the frame construction, if needed. Load carriers with Rollon telescopic guides are suitable both for manual and automated loading and unloading, either by means of a robot or a multi-axis gantry. For these applications Rollon likewise offers support and solutions from a single source.

Product explanation



The following products are the most common telescopic guides used in load carriers. They combine a robust design with a good price/performance ratio in compact cross sections with a high load-bearing capacity.

> LFS

Full extension rails of zinc electroplated and blue passivated steel. The ball cages are made of galvanized steel. The limit stop functions in both opened and closed state. In closed state, a rollback safety device is active.



> LFS...D

100 % full extension rail of roller embossed steel profiles. The special telescopic design combines a high load-bearing capacity with a compact design.

> HVC

Full extension rails with ball bearings and strokes of circa 100 % of the closed length. Consisting of three elements of roller embossed and cold-drawn steel.



> HGT

Full extension rails with strokes of circa 100 % of the closed length, of milled and cold-drawn steel. Consisting of a solid, double T-shaped intermediate element and the two corresponding sliders. These full extension rails are specially designed for heavy loads and feature minimal deflection and high system rigidity.



Technical data

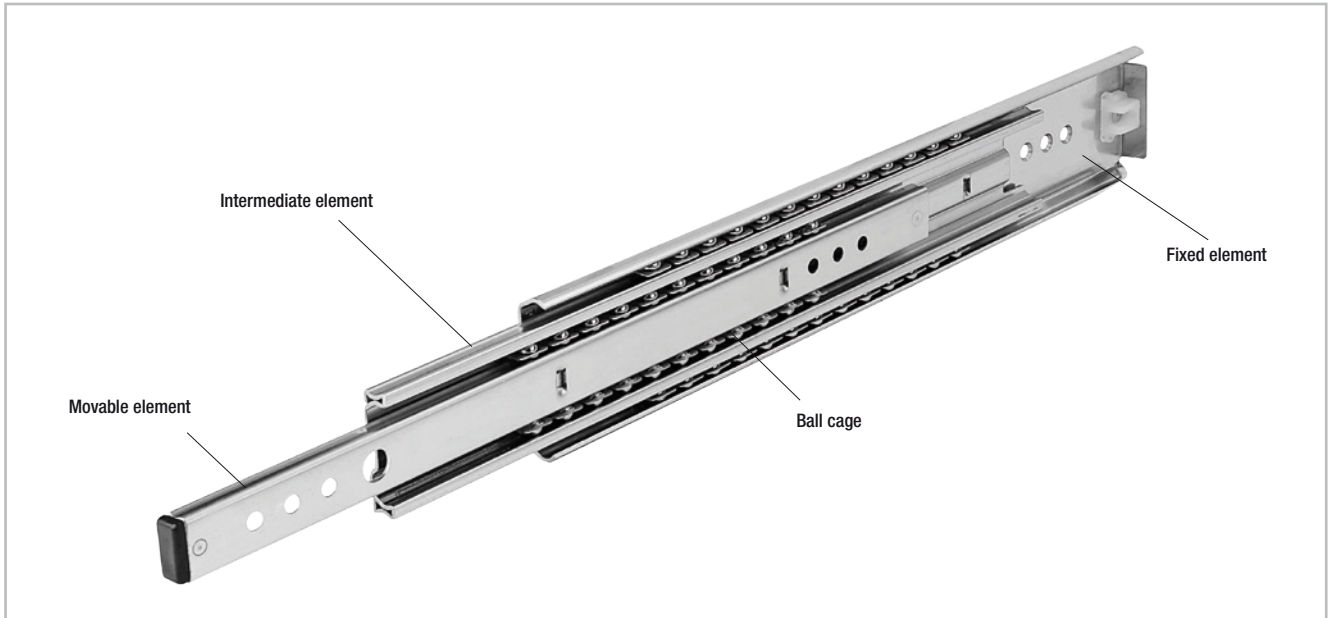


Fig. 1

Performance characteristics:

- Available sizes LFS: 57, 58
- Available sizes LFS...D: 57
- Available sizes HVC: 58
- Available sizes HGT: 60
- Temperature range: LFS, LFS...D: +10 °C to +40 °C
- Temperature range: HVC, HGT: 0 °C to +170 °C (32 °F to +338 °F)
(in exceptions also -30 °C to +250 °C (-22 °F to +482 °F))
- HVC Max. operating speed 0.8 m/s
(depending on the application)
- Operating speed LFS, LFS...D, HGT max. 0,5 m/s
(depending on the application)
- Different materials and anti-corrosion coatings are available.
Please contact our technical service.
- Special solutions, such as locking mechanisms, catches, damping elements or Einhaltung are available on request

Attention!

The load capacity for aluminum is 40 % and for stainless steel 60 % of the stated values, if available in this material variant.

Note!

For additional information please refer to our Telescopic Line catalogue or contact our technical application consultants.
The Telescopic Line product family also includes a large selection of other telescopic guides.

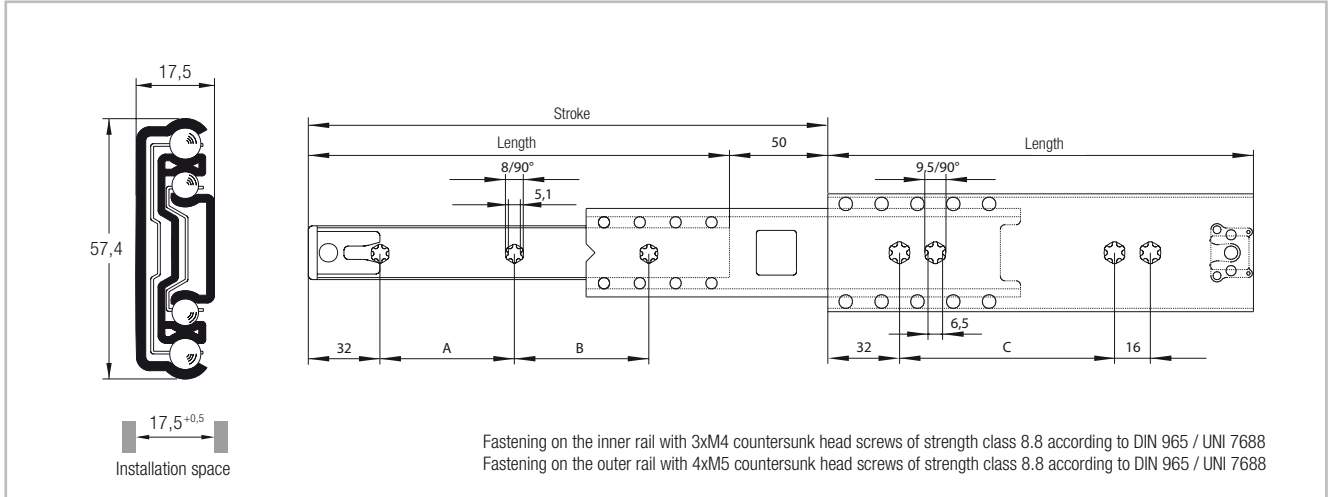
Notes:

- Horizontal installation is recommended.
- Vertical installation on request.
- Special strokes on request.
- All load capacities refer to one telescopic pair.
- Mounting screws:
The LFS and LFS...D systems require screws of strength class 8.8.
The HVC and HGT systems require screws of strength class 10.9.
- Internal stops are provided to stop the sliders when not under load, and also the ball cage. Please always include external stops in your construction for both the retracted and extended states.
- Not all accessories (interlocks, damping, Drive disk, snap) can be combined with each other (see Technical features overview). Please contact our technical service.
- In the case of the HGT with a locking mechanism, it is important to distinguish between the left and right side.
- LFS, LFS...D assembly in cross section width; recommended tolerance of +0.5 mm (mounted to tension). Installing extension rails with insufficient tolerance will reduce the life of the rails.
- Telescopic guides of aluminium or stainless steel are delivered without grease applied. If the application of grease is desired, this must be stated in the order.
- Please take into account potential dimensional deviations with the use of stainless steel versions. In this case, please contact our application engineers.

Load-bearing capacity 50–80 kg



LFS57



All dimensions are indicated in mm

Fig. 2

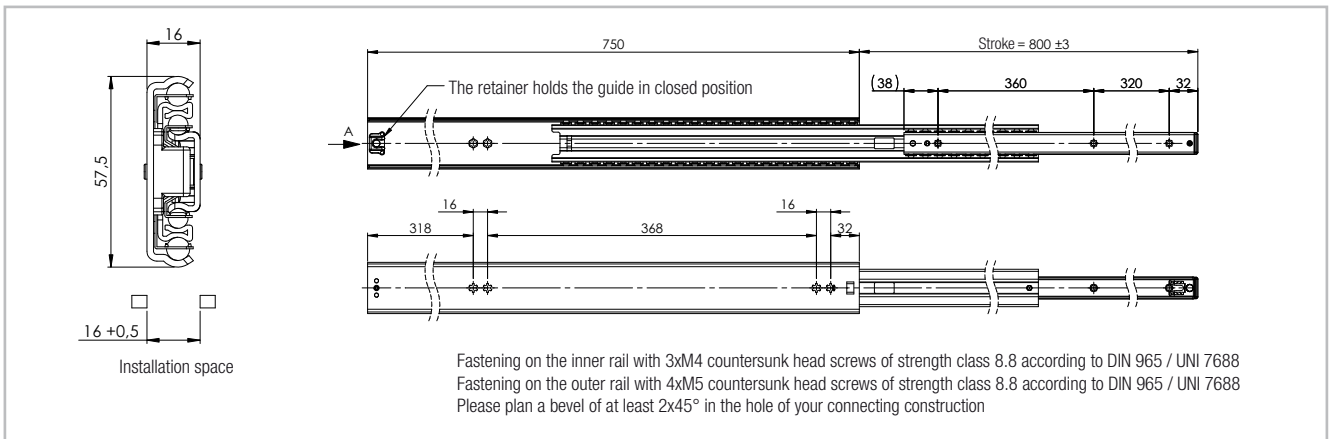
Type	Size	Length [mm]	Stroke* [mm]	A [mm]	B [mm]	C [mm]	Load-bearing capacity of one rail pair C_{Orad} [N]	Number of holes	Weight [kg]
LFS	57	400	450	160	168	256	650	3/4	1.13
		450	500		224		700		1.27
		500	550	224	208	384	750		1.42
		550	600		256		1.57		
		600	650	288	240	800	1.71		
		650	700		288		1.86		
		700	750	320	312	2.01			

Note: The specified load-bearing capacities are approximate values with 100,000 cycles and uniformly distributed load (surface load) assuming the use of all fastening positions. The load values can be lower under unfavourable conditions of use.

* The stroke is the sum of the length and the overextending rail

Tab. 1

> LFS 58–0750



All dimensions are indicated in mm

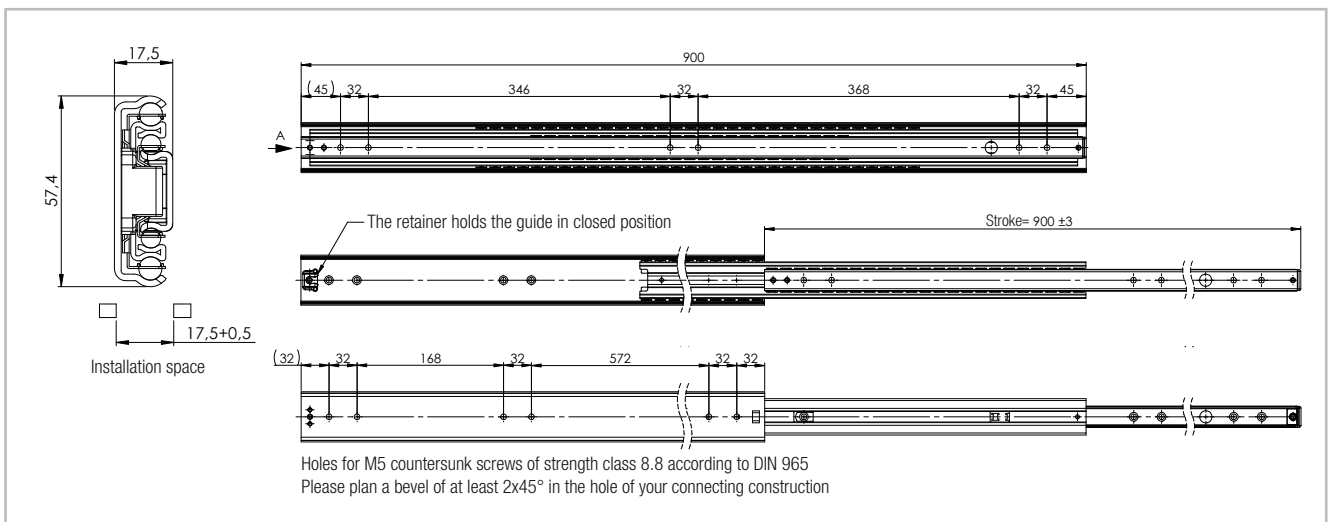
Fig. 3

Type	Size	Length L [mm]	Stroke H [mm]	Load capacity per pair C_{Orad} [N]	Number of holes	Weight [kg/m]
LFS	58	750	800	800	3/4	2.04

Note: The specified load-bearing capacities are approximate values with 100,000 cycles and uniformly distributed load (surface load) assuming the use of all fastening positions. The load values can be lower under unfavourable conditions of use.

Tab. 2

> LFS 57–0900



All dimensions are indicated in mm

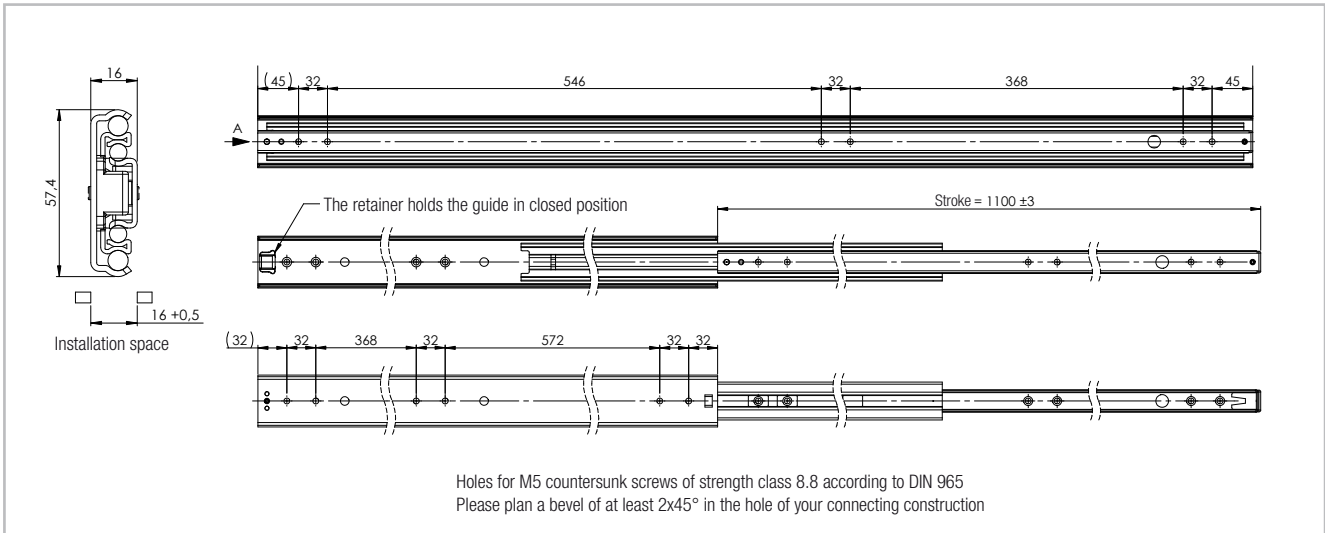
Fig. 4

Type	Size	Length L [mm]	Stroke H [mm]	Load capacity per pair C_{Orad} [N]	Number of holes	Weight [kg/m]
LFS	57	900	900	800	6	2.56

Note: The specified load-bearing capacities are approximate values with 100,000 cycles and uniformly distributed load (surface load) assuming the use of all fastening positions. The load values can be lower under unfavourable conditions of use.

Tab. 3

> LFS 58–1100



All dimensions are indicated in mm

Fig. 5

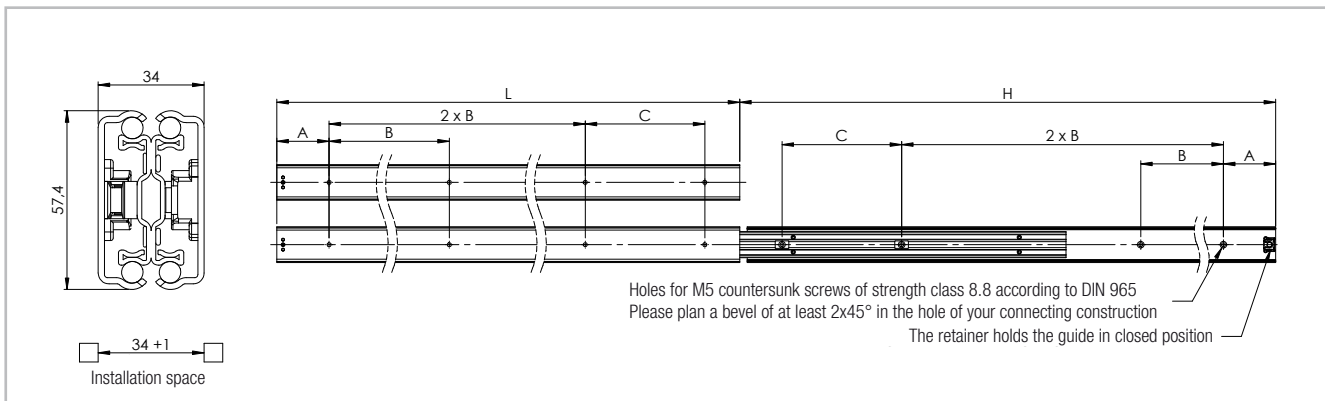
Type	Size	Length L [mm]	Stroke H [mm]	Load capacity per pair C_{Orad} [N]	Number of holes	Weight [kg/m]
LFS	58	1100	1100	700	6	3

Note: The specified load-bearing capacities are approximate values with 100,000 cycles and uniformly distributed load (surface load) assuming the use of all fastening positions. The load values can be lower under unfavourable conditions of use.

Tab. 4

Load-bearing capacity 100–330 kg ✓

> LFS 57D



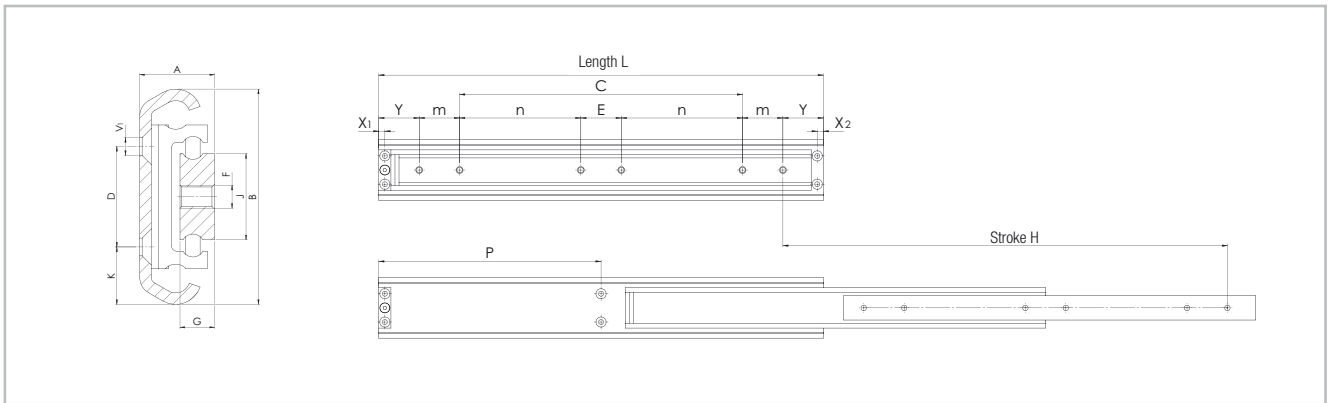
All dimensions are indicated in mm

Fig. 6

Type	Size	Length L [mm]	Stroke H [mm]	A [mm]	B [mm]	C [mm]	Load capacity per pair C_{Orad} [N]	Number of holes	Weight [kg/m]
LFS	57D	900	904	56	274	240	1200	4	4.19
		1100	1112	84	384	192	1200		5.12

Note: The specified load-bearing capacities are approximate values with 100,000 cycles and uniformly distributed load (surface load) assuming the use of all fastening positions. The load values can be lower under unfavourable conditions of use.

> HVC 58



All dimensions are indicated in mm

Fig. 7

Type	Size	Length L [mm]	Stroke H [mm]	Load capacity per pair		X1	X2	Y	m	n*	E*	C	P	Number of holes
				C _{0rad} [N]	C _{0ax} [N]									
HVC	58	400	400	2100	50 % C _{0rad}	7,5	7,5	50	50	-	-	200	-	4
		450	450	2050								250		
		500	500	2000								300		
		550	550	1950								150	275	
		600	600	1900								175	300	
		650	650	1850								200	325	
		700	700	1800								225	350	
		750	750	1750								250	325	
		800	800	1700								275	400	
		850	850	1650								300	425	
		900	900	1600								325	450	
		950	950	1500								350	475	
		1000	1000	1450								375	500	
		1100	1100	1350								425	550	
		1200	1200	1250								475	600	
		1300	1300	1150								525	650	
		1400	1400	1050								575	700	
1500	1500	1000	625	750										

The load capacity for aluminum is 40 % and for stainless steel 60 % of the stated values, if available in this material variant.

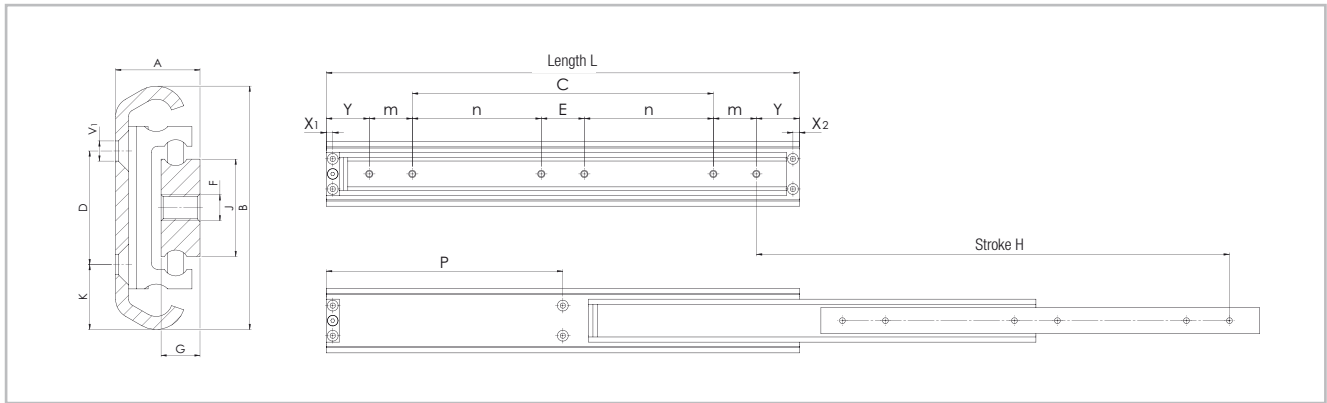
* When using full telescopes with interlocks in the open state (VO) or with interlocks open and closed (VB) the following measures change: n reduces by 35 mm - E increases to 120 mm.

Tab. 6

Type	Size	A	B	J	G	K	D	F	V1	Weight [kg/m]
HVC	58	24	58	25	12	13	32	M8	M6	6.50

Tab. 7

> HVC075



All dimensions are indicated in mm

Fig. 8

Type	Size	Length L [mm]	Stroke H [mm]	Load capacity per pair		X1	X2	Y	m	n*	E*	C	P	Number of holes
				C _{Orad} [N]	C _{Oax} [N]									
HVC	75	400	400	3300	50 % C _{Orad}	7,5	7,5	50	50	-	-	200	-	4
		450	450	3250								250		
		500	500	3200								300		
		550	550	3150								150		
		600	600	3100								175		300
		650	650	3050								200		325
		700	700	3000								225		350
		750	750	2950								250		325
		800	800	2900								275		400
		850	850	2850								300		425
		900	900	2800								325		450
		950	950	2750								350		475
		1000	1000	2700								375		500
		1100	1100	2600								425		550
		1200	1200	2500								475		600
		1300	1300	2350								525		650
		1400	1400	2200								575		700
		1500	1500	2050								625		750
		1600	1600	1900								675		800
		1700	1700	1750								725		50
1800	1800	1600	775	900										
1900	1900	1450	825	950										
2000	2000	1300	875	1000										

The load capacity for aluminum is 40 % and for stainless steel 60 % of the stated values, if available in this material variant.

*When using full telescopes with interlocks in the open state (VO) or with interlocks open and closed (VB) the following measures change: n reduces by 35 mm - E increases to 120 mm.

Tab. 8

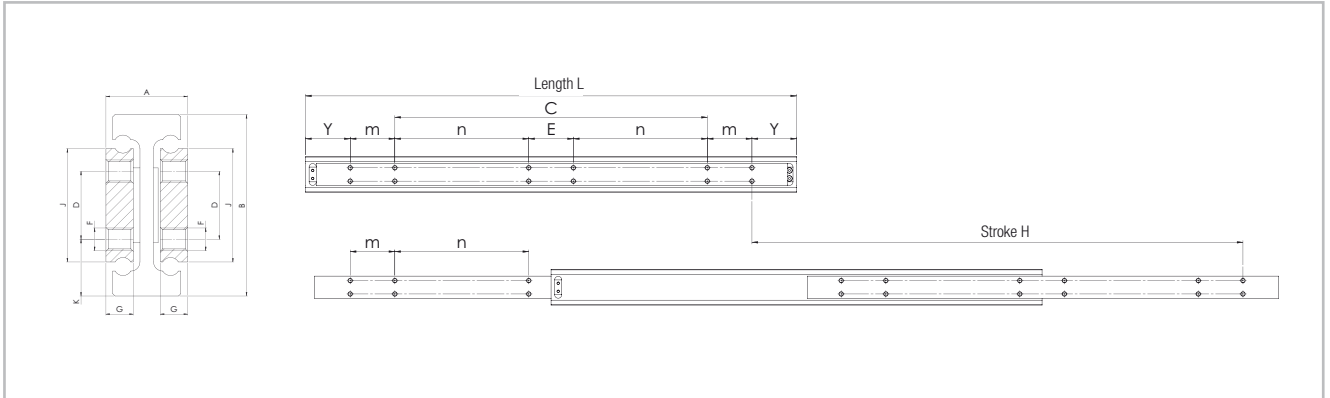
Type	Size	A	B	J	G	K	D	F	V1	Weight [kg/m]
HVC	75	26	75	30	12	20	35	M8	M6	9.30

Tab. 9

Load-bearing capacity 210–550 kg



> HGT060



All dimensions are indicated in mm

Fig. 9

Type	Size	Length L [mm]	Stroke H [mm]	Load capacity per pair		Y	m	n	E	C	Number of holes						
				C_{0rad} [N]	C_{0ax} [N]												
HGT	60	400	400	5250	60 % C_{0rad}	50	50	-	-	200	8						
		450	450	5350						250							
		500	500	5400						300							
		550	550	5500						150	50	-	-	-			
		600	600	5400						175							
		650	650	5350						200							
		700	700	5250						225							
		750	750	5100						250							
		800	800	4900						275							
		850	850	4700						300							
		900	900	4500						325					50	-	12
		950	950	4300						350							
		1000	1000	4050						375							
		1100	1100	3700						425							
		1200	1200	3300						475							
		1300	1300	2900						525							
		1400	1400	2500						575							
1500	1500	2100	625														

The load capacity for aluminum is 40 % and for stainless steel 60 % of the stated values, if available in this material variant.

Tab. 10

Type	Size	A	B	J	G	K	D	F	Weight [kg/m]
HGT	60	32	60	40	10	19	22	M6	11.70

Tab. 11



Available options (depending on telescopic version)

> Locking

Locking mechanisms make it possible to lock the Hegra rails in the end position. This prevents inadvertent extension or retraction of the rail in any case. Locking mechanisms can be implemented as locking bolts or bars. This ensures personal safety and protection of materials, especially in moving installations, as in vehicles. For models HGT with locking please observe right or left side use.

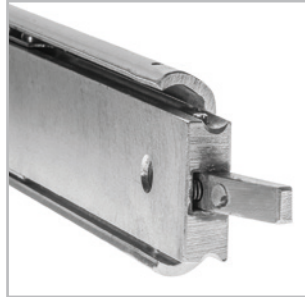


Fig. 10



Fig. 11

> Driving disc

In the full extension rails with dual stroke the intermediate element does not follow a particular order. The exact position of the element is therefore defined only in fully extended condition. The optional driving disc defines the movement of the intermediate element. This prevents unwanted protrusion of the element. An example for use of the driving disc is in warehouse rails, which are extended in both directions.



Fig. 12



Fig. 13

> Damping

Hegra telescoping rails can be equipped with damped end stops in closed position. Plastic or elastomer damping elements provide for quieter operation, a softer end stop when pushing in the rail and higher resistance at the end of the stroke.

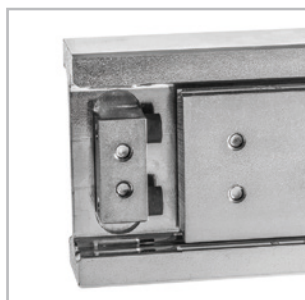


Fig. 14

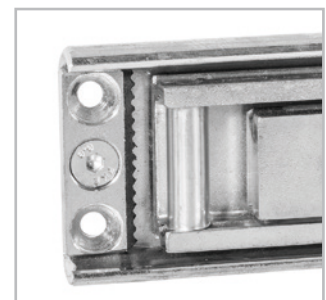


Fig. 15

> Snap

Hegra Rail telescopic guides can be partially extended with a snap through ball thrust piece. Thus, an unintended process of the telescope system is avoided.



Fig. 16

Material



Special materials for special requirements

> Stainless steel

Stainless steel telescopic guides are available for especially harsh conditions involving the risk of corrosion. They are advisable for use in load carriers that are transported in containers on ships or temporarily stored outdoors. Stainless steel is also more suitable for use in electroplating or similar applications with a potential for contact with aggressive substances.

> Aluminium

The use of aluminium telescopic guides enables the construction of lightweight load carriers, which are especially suitable for shipping of parts via air freight. However, they also reduce the cargo weight of regular shipments by truck.

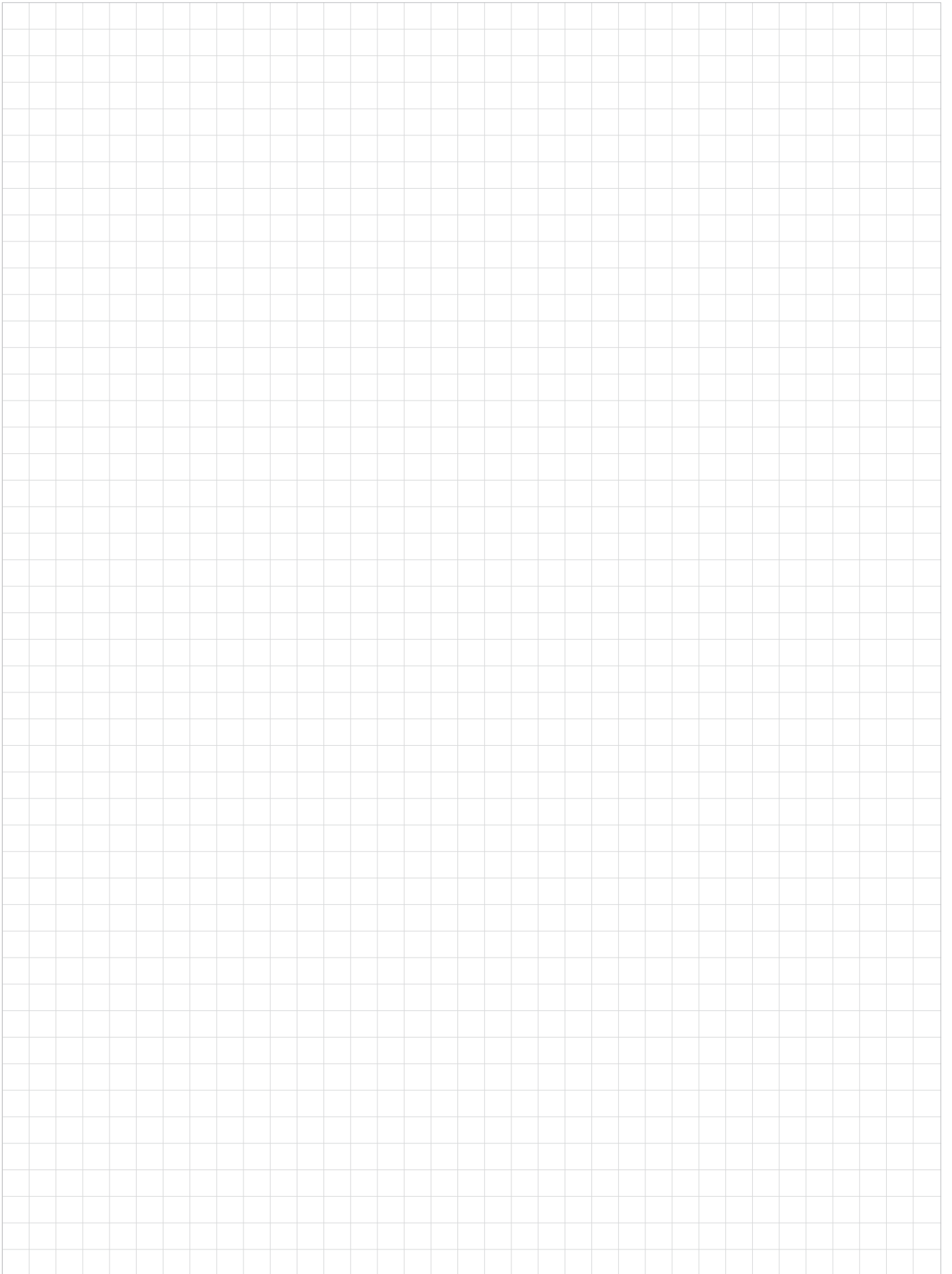
Note: The load-bearing capacity can be reduced by the use of different materials. Contact our technical application engineers for more information.

Ordering key



LFS	58	400	
	Size	Rail length in mm	
Type			

Note on ordering: The size is always indicated as 3 digits, the length of the rail and the stroke are always 4 digits with the 0 prefixes.
Ordering example: LFS058-0400



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Reliable delivery



Load carriers for parts supply must be robust and reliable, so that every part arrives undamaged and on time. Rollon telescopic guides fulfil these requirements.

For more information please visit our microsite:
<https://intralogistics.rollon.de>