ROEMHELD
HILMA ▪ STARK

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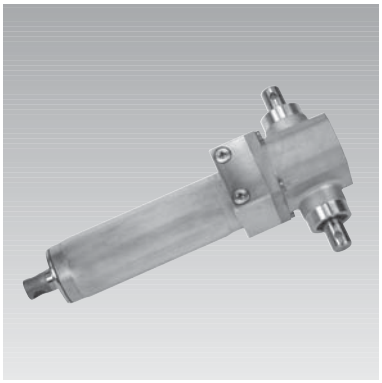
Linear actuators RH 1250
Max. lifting force 4.5 to 12.5 kN, stroke 140 to 250 mm
Manual-hydraulic version



Application

Linear actuators RH 1250 are universally used as manually-operated actuators for linear movements.

Principal use

- Height adjustment of hospital and nursing beds as well as mobile nursing chairs
- Height adjustment of patient transporters and therapy couches
- Adjustment of examination and care chairs as well as childbirth beds
- Height adjustment of instrument tables
- Actuator for lifting modules and lifting tables

Fixing and installation

The linear actuators RA 1250 have 1 location hole Ø 12.1 mm in the plunger and 2 centring pivots Ø 38 mm for the connection of user's constructions.
As an option alternative variants can be equipped with a fork or flange mounting located in one bore hole Ø 12.1 mm instead of the 2 centring pivots.
The user's construction must exclude side loads and forced conditions.
The centring pivots Ø 38 mm are unlacquered.

Advantages

- High operating safety due to speed limiting and pressure relief valve
- Optional descent actuation by pushing or turning
- Optional fork or flange mounting
- Variable mounting position due to pressure membrane
- Precise plunger guide
- Independent of external energy supply
- No obligatory tests as per electrical safety regulations
- Compact design
- Single-lever operation
- Maintenance free
- Resistant against disinfectants
- 8 different lacquerings as an option

Description

Linear actuators RH 1250 are manually operated, hermetically sealed, hydro-mechanical actuators for linear adjusting procedures.
The compact design contains the pump piston and the valve technology in the lower part. In the upper part the oil reservoir and the plunger cylinder are integrated.
Due to the enclosed design, the actuator is ready for operation in nearly all installation positions.

The hydraulic transmission in connection with the manual operation allows a good dosage of very high forces.
Important for that are also the mechanics with minimum clearance as well as the sensitive responding valves with exactly defined switching points.

In principle only push forces can be generated.

Operation

The plunger rod is extended by reversible rotation of approx. 40° by an operating lever at the operating shaft.
The recommended lever length is approx. 300 mm.

To retract the plunger cylinder the operating shaft has to be turned to the opposite direction by approx. 10°. The operating shaft returns automatically.

Linear actuators RH 1250 manually operated

Part-no.: M8-XX-XX-X-A-X-L-X-A

Technical characteristics

Max. push force:	4,500 - 12,500 N
Stroke:	140 - 250 mm

Operations

- Pedal or hand lever

- Optional descent actuation by pushing or turning

Mechanical interface

Plunger eye Ø 12 mm
Centring pivot Ø 38 mm
Optionally: Fork cover or flange cover

Accessories

- Pedal
- Hand lever
- Bearing blocks

Material

Cylinder body:	Aluminium
Operating shaft:	Steel, corrosion resistant
Plunger:	Stee,l corrosion resistant

Important notes!

The linear actuators RA 1250 are resistant against corrosion, detergents and disinfectants up to +70 °C.

The admissible operating temperature is +10° up to +40 °C.

To retract the plunger of the linear actuator a push load of at least 100 N is required.

A pull load acting on the actuator is not admissible and can lead to malfunctions.

The return moment of the operating shaft amounts to max. 6 Nm and may not be exceeded by user's constructions. Otherwise an unintentional descent of the actuator can occur.

Standard version

Description

All versions of the RH 1250 are operated with an operating lever, that is screwed or pinned at the operating shaft.
The integrated flow control valve provides for an uniform descent speed in all load conditions.

Due to the drilled operating shaft the actuator can quickly be installed and put into operation.

The standard version of the actuator is located by forks or eyes in the user's construction at the centring pivots Ø 38 mm and is secured with a bolt Ø 12 mm. It has to be considered that the user's construction always acts with push force onto the actuator.

The actuator has a high safety against overload. In the case of overload it is not possible to continue pumping the actuator, but descent is possible. The operator has to make sure that the actuator is not overloaded.

Technical characteristics

Lifting force	Pump strokes	Required torque
[N]	[per 100 mm]	[Nm/full load]
4500	7±1	160
6500	9±1	160
9500	13±1	160
12500	22±1	170

v Descent	Release torque	Release angle
[s/100 mm]	[Nm/full load]	[°]
4±1	10	2 - 10
4±1	11	2 - 10
4±1	15	2 - 10
4±1	17	2 - 10

Stroke [mm]	L [mm]	L + stroke [mm]	Weight [kg]
140	252	392	3
200	312	512	3.5
250	362	612	4

Code for part numbers

Part-no. M8-XX-XX-XA-S-L-X-A

Maximum lifting force
(Push force)

04 = 4,500 N
06 = 6,500 N
09 = 9,500 N
12 = 12,500 N

Stroke
14 = 140 mm
20 = 200 mm
25 = 250 mm

Bore hole operating shaft
1 = 90° to the plunger (see drawing)
2 = 90° rotated
(parallel to the plunger)
3 = without bore hole

Standard version

Colour
1 = unlacquered
2 = RAL 9016 traffic white
3 = RAL 9006 white aluminium
4 = RAL 9005 black
5 = RAL 7035 light grey
6 = RAL 7038 agate grey
7 = RAL 1018 zinc yellow
8 = RAL 3000 flame red
9 = RAL 5002 ultramarine blue

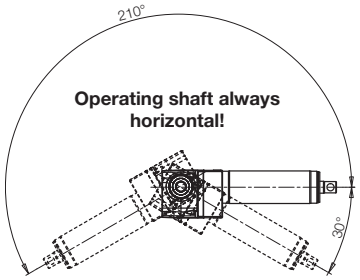
Available on request:
Stroke lengths up to 600 mm in gradations of 50 mm (up to lifting force 6 kN)
Front-side thread M8 in the plunger
Antimagnetic versions

Important notes!

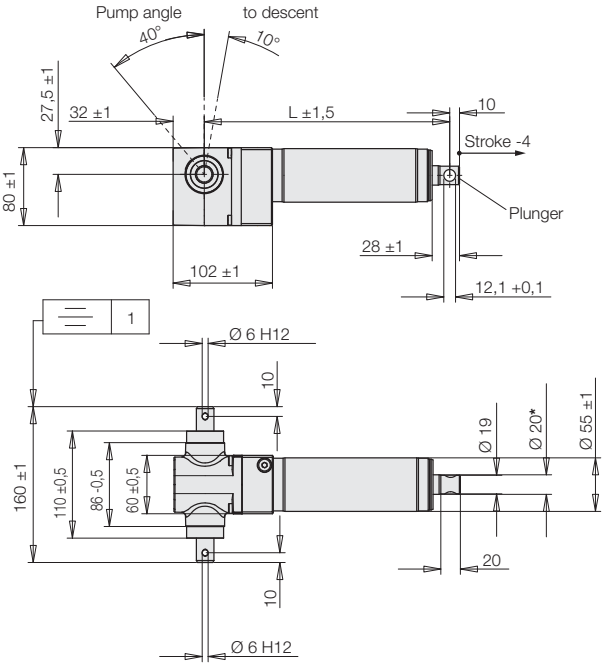
The indicated torques are the maximum torques required for operation.

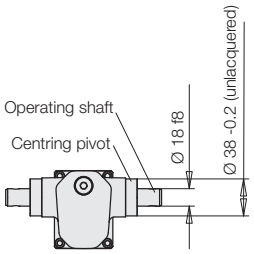
To avoid an overload of the actuator, external stops are to be provided for the operating elements in order to limit the pump angle to 40°. Also for extensions with far-off levers supports for torque compensation have to be provided.

Admissible installation positions



Dimensions





* Ø 22 for versions with lifting force 12,500 N

Operating and mounting variants

Description

The RH 1250 is available in different variants. Besides the standard version there are 2 alternative operating possibilities available for the release of the descent.

Alternatively to the fixing of the housing of the standard version with centring pivot Ø 38 mm the RH 1250 can be equipped with a fork mounting or a flange mounting.

Code for part numbers

Part-no. M8-XX-XX-X-A-X-L-X-A

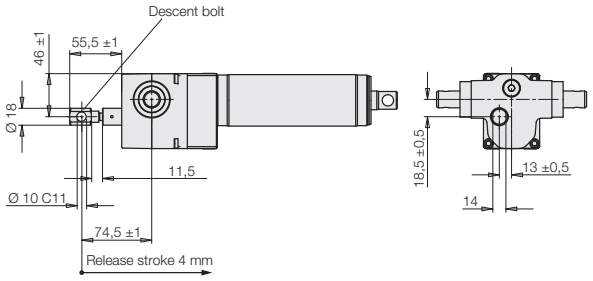
Variants

D = Descent actuation by pushing
H = Descent actuation by turning
G = Fork mounting
F = Flange mounting

Descent actuation by pushing

Most selected variant for the emergency adjustment in the hospital bed. By pushing the descent bolt the plunger can be reliably retracted.
The descent bolt returns automatically. The return force is max. 10 N.

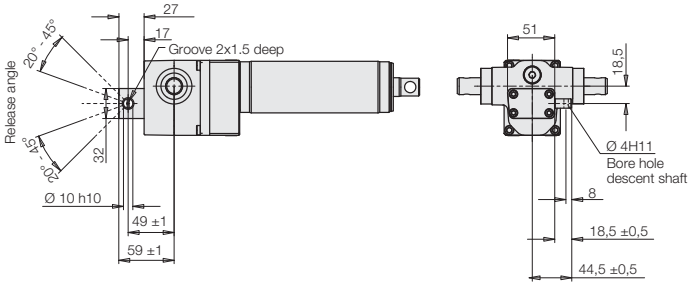
Lifting force stroke	Release force	Release
[N]	[N/full load]	[mm]
4500	450	6±2
6500	700	6±2
9500	900	6±2
12500	1000	6±2



Descent actuation by turning

The smooth variant. By turning the descent shaft the plunger can be retracted. After the actuation the user has to turn back the descent shaft to the off-position. The descent actuation by turning functions in both directions and does not return automatically.

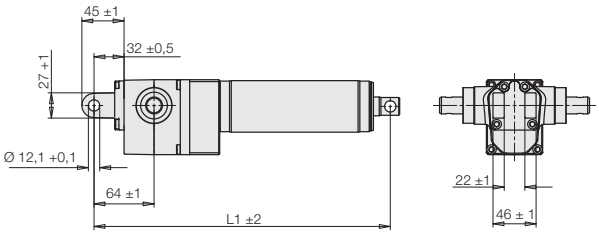
Lifting force	Release torque	Release angle
[N]	[Nm/full load]	[°]
4500	5	20-45
6500	10	20-45
9500	15	20-45
12500	17	20-45



Fork mounting

For easy mounting by means of flange and bolts.

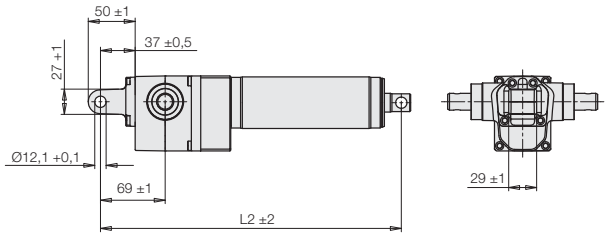
Stroke [mm]	L1 [mm]	L1 + stroke [mm]	Weight [kg]
140	316	456	3
200	376	576	3.5
250	426	676	4



Flange mounting

Often selected variant for example in therapy couches. Integration of the actuator in a steel structure by means of bolts and fork.

Stroke [mm]	L2 [mm]	L2 + stroke [mm]	Weight [kg]
140	321	461	3
200	381	581	3.5
250	431	681	4

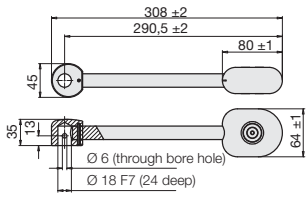


Important note!
Flanges have bevels of mould.

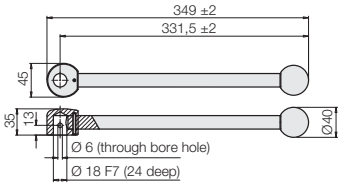
Accessories
Important notes

Accessories

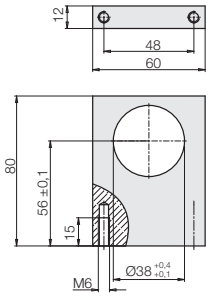
● **Pedal**
Pre-drilled for the arrangement of 90° to the shaft bore hole
Part-no. 0990-180



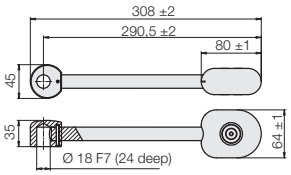
● **Hand lever**
Pre-drilled for the arrangement of 90° to the shaft bore hole
Part-no. 0990-182



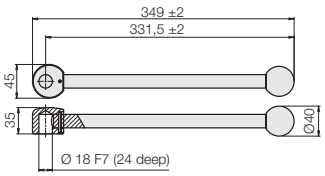
● **Bearing block**
For location of the RH 1250 at the bearing eyes Ø38
2 off are required
Part-no. 3537-289



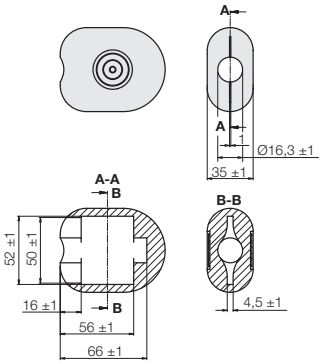
● **Pedal**
Without bore hole for user specific arrangement.
Part-no. 0990-181



● **Hand lever**
Without bore hole for user specific arrangement.
Part-no. 0990-183



● **Pedal cover**
For user-specific lever or as spare part
Part-no. 3549-002



Important notes

Due to the pressure membrane RH 1250 can be used in variable installation positions.
In the inadmissible installation positions (see page 2), it is however possible that no hydraulic oil can flow to the pump piston and no more stroke movement is effected. But this does not lead to a damage of the actuator. If the actuator is moved again to an admissible position, the actuator functions as usual.

The RH 1250 is not suitable for pull load. If the plunger will be loaded by pulling, air can be pulled into the hydraulic system and this can lead to malfunctions. These can be eliminated by repeated extension and retraction of the actuator.