



RACK & PINION SYSTEM

- ✓ Low weight without reduction of the strength
- ✓ The strongest rack in the market
- ✓ Aluminum racks have much better wear resistance than steel racks
- ✓ Reinforcement of aluminum at all points of attachment
- ✓ Long durability - up to 30 years
- ✓ Minimum of maintenance
- ✓ Low noise level



Rack-and-pinion vent opening system for greenhouses

The LV7R/B and LV20 R/B aluminum racks form part of our vent opening system for greenhouse vents. The design and manufacturing of the rack-and pinion opening systems are based on more than 40 years' experience. They are therefore thoroughly tested products.

The design of the rack

- The design of our original rack ensures that the weight from the windows is always resting on the whole rack.
- The low weight of LV7R/B and LV20R/B meets the requirements for still lighter greenhouse constructions without reducing the strength.
- The construction of the rack-and-pinion system ensures also a low noise level during operation.

Solid and reliable

- The teeth are placed as close as possible to the drive shaft, resulting in reduced torque and reduced twisting on the shaft. With less torque required, smaller gear motors can be used.
- The aluminium rack also exhibits great tolerance towards temperature changes and smaller mechanical irregularities in the construction.

Profile

- The super ellipse profile gives the strongest rack and an accurate adaptation between the compressive load and the bending torque.
- LV20 has been further reinforced to stand up to the continually increasing load demands.

Pinion

- The pinion rests in special synthetic bearing materials, as the radial force (about 50 % of the lifting power) is to be transferred.
- The rollers in synthetic bearing materials, influenced by the same strong force, give a smooth and silent operation.
- The pinion is reinforced for a safe fastening on the drive shaft and to transfer the maximum screw force.

Materials

- The rack is made from a hard aluminum alloy which – together with the softer zinc pinion – gives a considerable strength and optimal durability.
- The rack is reinforced of aluminum at all points of attachment. These points makes this rack the strongest in the market.
- The pinion is provided with special rollers in a synthetic material, resulting in a minimum of friction during operation.

Maintenance

- The rack and pinion require only a minimum of maintenance, as the closed housing keeps dirt out.
- All movable parts in the pinion have been specially factory-treated with a teflon lubricant and require only a minimum of maintenance.
- The rack should be greased once a year as a minimum.



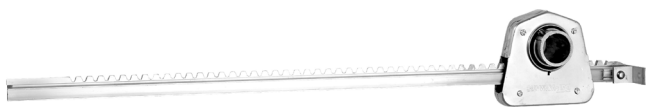
LEARN MORE ABOUT LV7R/B & LV20R/B - AND HOW YOU CHOOSE THE RIGHT SOLUTION

Why rack and pinion from DGT by Senmatic are long lasting

- The design is made to resist the cold/warm stretch of the drive shaft
- All moveable parts are made of aluminum - no rusting parts
- Aluminum rack with solid teeth preventing skewed wear
- Mounting point of solid aluminum, meaning the hole stays round and the window closes perfectly
- Easy to maintain

The difference between LV7 and LV20

LV7 - normal strength
LV20 - Extra strong



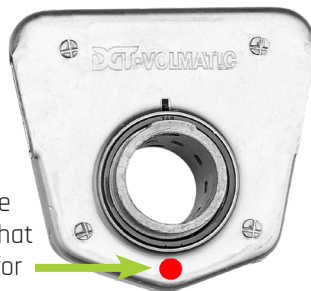
Straight rack
Available as both LV7 and LV20 in several lengths



Curved rack
Available as both LV7 and LV20 in several lengths



Mark (can be white or red) indicates that this is the pinion for LV7 curved rack

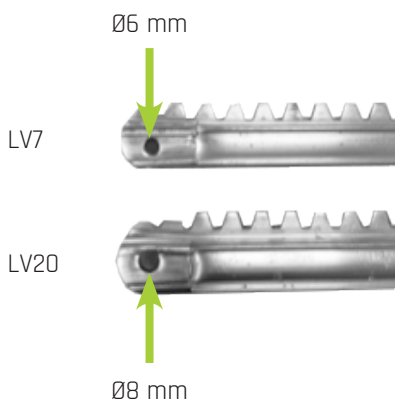


LV7R pinion - for straight rack - angled top - item no. 840070

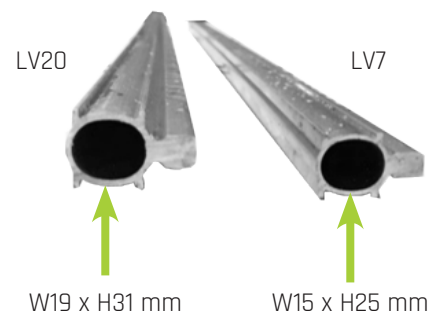
LV7B pinion - for curved rack - angled top - item no. 840080



LV20 pinion - for straight and curved rack - square top - item no. 840200

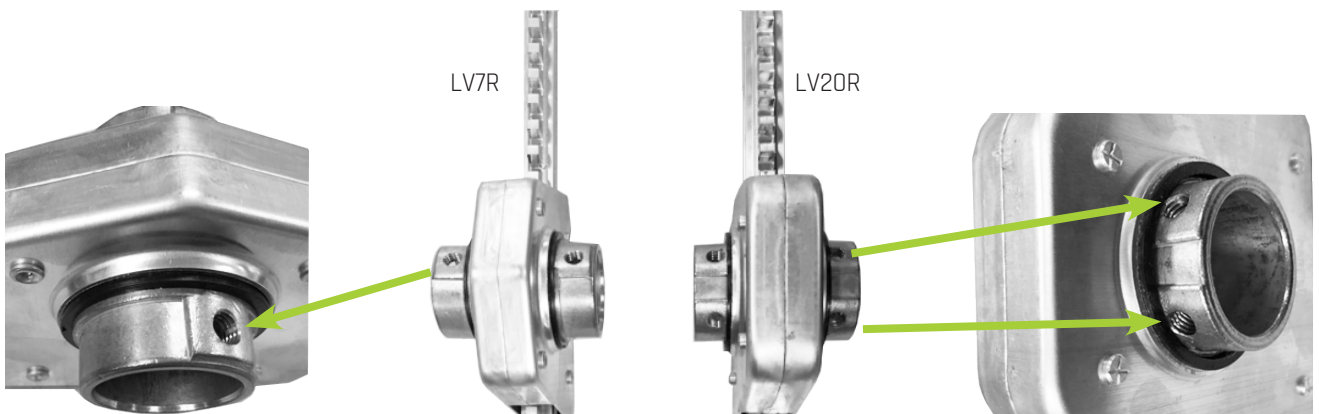
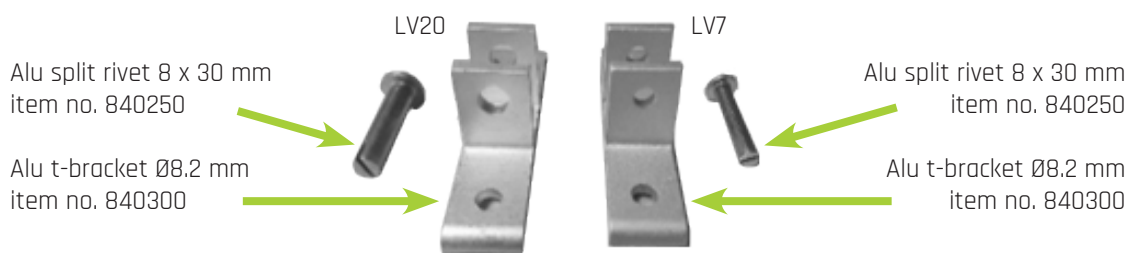
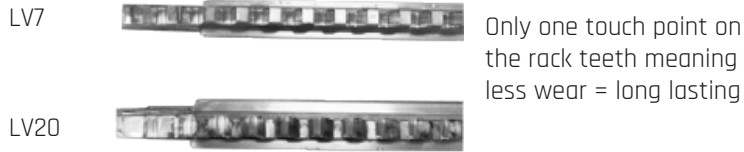


Solid aluminum unit inserted before the rack is squeezed. The hole is made afterwards. This secures a long lasting use, without worn or deformation of the hole.





LEARN MORE ABOUT LV7R/B & LV20R/B



LV7 has 1 grub screw for attachment to the drive shaft

LV20 has 2 grub screws for attachment to the drive shaft

2 grub screws m8 x 10 are delivered if a complete LV7 is ordered. Can also be ordered separately by using item no. 840850



4 grub screws m8 x 10 are delivered if a complete LV20 is ordered. Can also be ordered separately by using item no. 840850

LV7 complete - item no. starts with 90...



LV20 complete - item no. starts with 90...

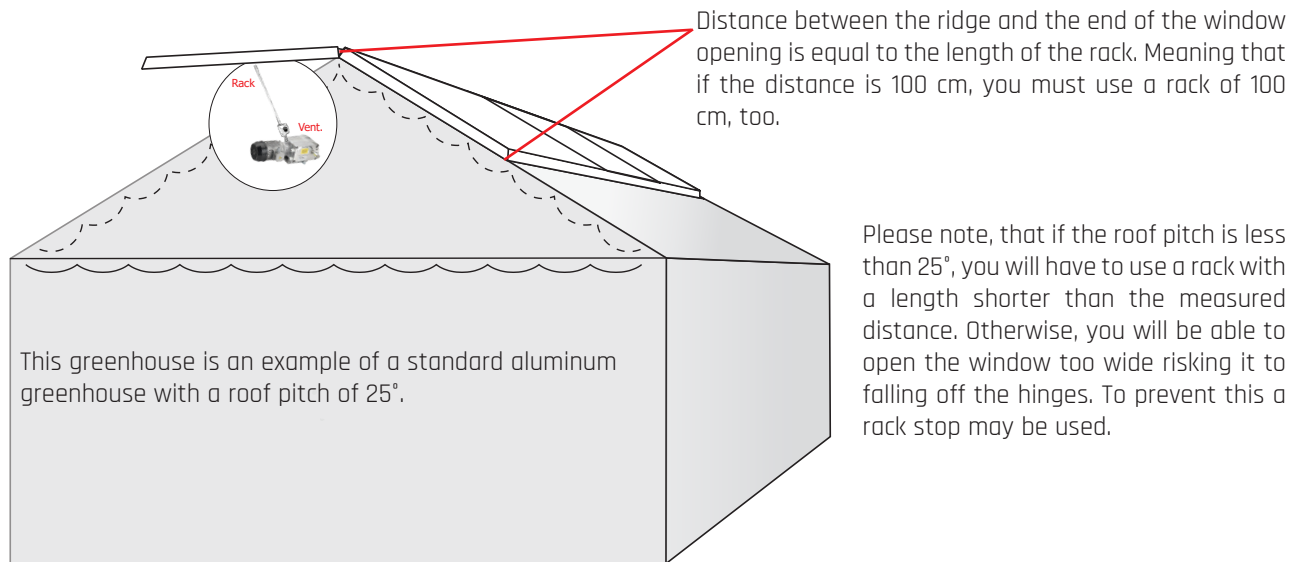




LEARN MORE ABOUT LV7R/B & LV20R/B

How to choose the right rack solution

To find the right rack for your purpose there are some conditions you will have to be aware of. You need to know some of the measurements in your greenhouse or building, and for a calculation you will have to know which material is being used for the building. Please see below for further explanation.



How to choose between LV7 and LV20:

LV7:
Recommended for standard aluminum greenhouses with a measured distance up to 150 cm. This is the recommended maximum length, but for certain special constructions a rack of 165 cm may be used.
Recommended load: LV7 curved: 25 kg - LV7 straight: 50 kg

LV20:
Recommended for greenhouses with a measured distance of more than 150 cm. The shorter LV20 are mostly used for heavy constructions such as entrances and superstructure industrial constructions.
Recommended load: LV20 curved: 40 kg - LV20 straight: 75 kg

Curved or straight rack?

A curved rack is used for greenhouses with a limited top space, e.g. in smaller greenhouses or if the screens are close to the ridge. Straight racks are used for all other purposes.

How to calculate the use / selection of racks based on the load:

This example is based on a standard greenhouse of 50 m. The max. distance between the mounted racks must be 2 m.
Greenhouse of 50 m / 2 m = min. 25 racks.

Total weight of material (glass, plastic, aluminum etc.) used for the window opening is calculated this way:

The weight of a window section in a standard greenhouse is typically 15 kg per m². - ex. of calculation:

(window section L1.50 m x W1 m) x 50 m greenhouse = 75 m² x 15 kg = 1125 kg.
The racks support 50 % of the total weight = 562.5 kg
562.5 kg / 25 racks = load of 22.5 kg each rack.

This result means that all 4 types of racks may be used - but of course depending on the type of greenhouse and purpose.



ITEM NUMBERS / LV7R

LV7R = straight rack. Max. recommended load: 50 kg and a recommended length of max. 150 cm

Delivered complete with rack, pinion, split rivet, tbracket, M8x10 grub screws. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90101000	60
90101100	75
90101150	90
90101200	100
90101300	125
90101350	135
90101400	140
90101500	150
90101550	165

Delivered with rack, pinion, split rivet, M8 x 10 grub screws - but no t-bracket.
Tolerance: +/- 5 cm.



Item no.	Length (cm)
90101001	60
90101101	75
90101151	90
90101201	100
90101301	125
90101351	135
90101401	140
90101501	150
90101551	165

Delivered with the rack, only.

Tolerance: +/- 5 cm.



Item no.	Length (cm)
100900	50
101000	60
101100	75
101150	90
101200	100
101300	125
101350	135
101400	140
101500	150
101550	165

Single parts



Pinion - 1 pcs per rack,
item no. 840070



Split rivet 6 x 30 mm - 1 pcs per rack,
item no. 840100



Grub screw M8 x 10 - order 2 pcs per rack,
item no. 840850



T-bracket - 1 pcs per rack,
item no. 840150



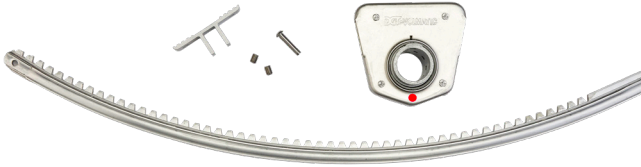
Rack stop - 1 pcs per rack,
item no. 840170



ITEM NUMBERS / LV7B

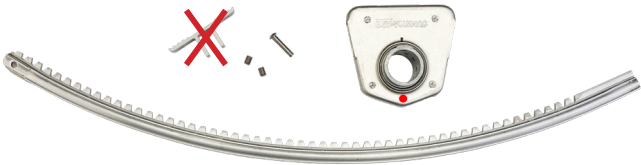
LV7B = curved rack. Max. recommended load: 25 kg and a recommended length of max. 150 cm

Delivered complete with rack, pinion, split rivet, tbracket, M8x10 grub screws. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90101601	75
90101650	90
90101700	100
90101800	125
90101850	140
90101900	150
90101950	165

Delivered with rack, pinion, split rivet, M8 x 10 grub screws - but no t-bracket. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90101601	75
90101651	90
90101701	100
90101801	125
90101851	140
90101901	150

Delivered with the rack, only.

Tolerance: +/- 5 cm.



Item no.	Length (cm)
101600	75
101650	90
101700	100
101800	125
101850	140
101900	150
101950	165

Single parts



Pinion - 1 pcs per rack,
item no. 840080



Split rivet 6 x 30 mm - 1 pcs per rack,
item no. 840100



Grub screw M8 x 10 - order 2 pcs per rack,
item no. 840850



T-bracket - 1 pcs per rack,
item no. 840150



Rack stop - 1 pcs per rack,
item no. 840170



ITEM NUMBERS / LV20R

LV20R = straight rack. Max. recommended load: 75 kg

Delivered complete with rack, pinion, split rivet, tbracket, M8 x 10 grub screws. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90106000	75
90106100	100
90106200	125
90106250	140
90106300	150
90106350	160
90106400	165
90106500	180
90106600	200
90106610	210
90106620	250

Delivered with rack, pinion, split rivet, M8 x 10 grub screws - but no t-bracket. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90106630	300**
90106640	350**
90106650	400**
90106660	450**

** Only for pulling of screens - unusable for windows

Delivered with the rack, only.

Tolerance: +/- 5 cm.



Item no.	Length (cm)
106010	65
106000	75
106090	90
106100	100
106200	125
106250	140
106300	150
106350	160
106400	165
106500	180
106600	200
106610	220
106620	250
106630	300**
106640	350**
106645	375**
106650	400**
106660	450**

** Only for pulling of screens - unusable for windows



ITEM NUMBERS / LV20R - CONTINUED

LV20R = straight rack. Max. recommended load: 75 kg

Delivered with rack, pinion, split rivet, M8 x 10 grub screws - but no t-bracket. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90106201	125
90106401	165
90106501	180

Delivered with rack, pinion, M8 x 10 grub screws - but no t-bracket or split rivet. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90106630	300**
90106640	350**
90106650	400**
90106660	450**

** Only for pulling of screens - unusable for windows

Single parts



Pinion - 1 pcs per rack,
item no. 840200



Split rivet 8 x 30 mm - 1 pcs per rack,
item no. 840250



Grub screw M8 x 10 - order 4 pcs per rack,
item no. 840850



T-bracket - 1 pcs per rack,
item no. 840300



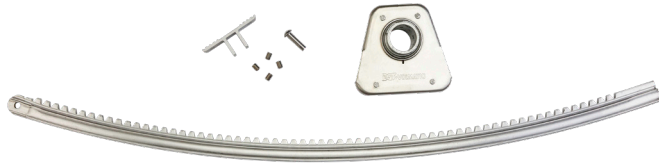
Rack stop - 1 pcs per rack,
item no. 840350



ITEM NUMBERS / LV20B

LV20B = curved rack. Max. recommended load: 40 kg

Delivered complete with rack, pinion, split rivet, tbracket, M8 x 10 grub screws. Tolerance: +/- 5 cm.



Item no.	Length (cm)
90106680	65
90106685	75
90106690	90
90106700	100
90106800	125
90106850	140
90106860	150
90106870	160

Delivered with the rack, only.

Tolerance: +/- 5 cm.



Item no.	Length (cm)
106675	75
106690	90
106700	100
106800	125
106850	140
106860	150
106865	160

Single parts



Pinion - 1 pcs per rack,
item no. 840080



Split rivet 6 x 30 mm - 1 pcs per rack,
item no. 840100



Grub screw M8 x 10 - order 2 pcs per rack,
item no. 840850



T-bracket - 1 pcs per rack,
item no. 840150



Rack stop - 1 pcs per rack,
item no. 840170

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