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Installation instructions for sectional doors type iso9-2 / iso20-2 with extension spring, disassembled version

The door manufacturer accepts no liability for incorrect mounting.

- Mounting should only be carried out by qualified fitters

Please read carefully before mounting

Scope of delivery:

Section package, frame package, panel package

The following items are required for mounting

- the following tools (place inside the garage before mounting the door if there is no other entrance to the garage)

  folding rule/tape measure, water level, water pump pliers, reversible ratchet handle with extension and wrench socket inserts size 7, 10 and 13 (fork or wrench socket also possible) fork or open spanner from size 13 for tightening springs (cf. Item 29), cross-tip screwdrivers size 2 and 3, slot screwdriver, hammer drill with drill bits, Ø10mm (drilling depth of at least 65mm), at least 2 screw clamps, possibly square timber, hammer, chisel and
- Mounting material suitable for the building situation. **Note: Check that the wood screws S8 supplied and the plugs S9 are suitable for the building situation before use.**
- **Important :**
- **The door may only be mounted in a finished opening and on a finished floor!**
- As a precautionary measure, compare the garage dimensions with the coordinating size of the door before mounting.
  - minimum inside width of garage
    = coordinating size –width + 180mm
  - minimum garage ceiling height
    =coordinating size –height + 120mm (also suffices for door operators)
  - minimum side room right and left = 55mm
- **Letter/numeral combinations, e. g. S8, refer to the respective mounting and installation materials in the illustrated section, a successive subscript L or R, e. g. 1_L, indicates a part for the left or right side (observe markings on parts). The omission of a subscript L or R indicates a part that can be used either left or right. Figures in brackets, e. g. [1.10], refer to the respective illustration in the illustrated section.**

Mounting of door frame

(1) Lay the angular frames 1_R + 1_L on to wood or something similar (to protect them from scratches) and screw together the angular frame 1_R + frame panel **3** + angular frame 1_L (tapping screws have already been pre-mounted) **[1.10a]**.

(2) Screw the leading plate **4** with **S13** on top on the right angular frames 1_R **[1.10b]**.

(3) **Loosely** screw the wall anchor **7** to the angular frames $1_{R/L}$ right and left with **S6** + **M12** according to the side room.

(3a) Side room 55 - 120mm: Set the wall anchor **7** to the inside **[1.10ca]**.

(3b) Side room more than 120mm: set the wall anchor **7** to the side **[1.10cb]**.

If other mounting materials are used, make sure they have at least the same load-carrying capacity as the supplied wall anchor 7.

(4) Set up the door frame behind the opening, **secure it so it cannot fall over,** and use the water level to align exactly parallel and at a right-angle **[1.15]** (also ensure that the frame panel **3** is level). Centre and clip panel retainers **13** to the upper frame part **[1.15d]**. Finally fasten with **S8** + **S9** **[1.15a-e]. Note: do not twist or bend the angular frames $1_{R/L}$; it might be necessary to fill the space between frame and masonry with suitable material before tightening the screws!!!**

(5) Screw each of the right 14_R and left 14_L pair of horizontal tracks to end piece $16_{R/L}$ **[1.20a]** + upper rope fixation **5** **[1.20a]** + spring channel bracket **8** each front & back **[1.20b,c]**+ end connection bracket $10_{R/L}$ **[1.20d]** with **S6** + **S12**.

(6) Stick on foamed rubber **9** on spring channel bracket **8** **[1.20b]**, mount spring channel **12** with **S6** + **S12** and put on the edge protection **24** on the front **[1.20e,f]**.

(7) Mounting of anchor tracks

(7a) If the distance between the wall and the pair of horizontal tracks $14_{R/L}$ is smaller than 500mm (internal width of the garage max. coordinating size+ 1030mm if door is fitted in the middle) push an anchor track **27** with connecting brackets **28** right and left into the track connector **6** and screw the clamping plate **29** to **S6** + **S12** in such a way that the anchor tracks can still be pulled out **[1.20a,b]**.

(7b) If the distance between the wall and the pair of horizontal tracks is more than 500mm the track connector **6** can be later fixed to the ceiling (Cf . Point. 14).

(8) Screw the horizontal pair of tracks $14_{R/L}$ to the end pieces $16_{R/L}$ with the header bracket **S5** + **S12** so that later the door remains raised when lifted up **[1.25c]**. If the distance to the wall to small than use the hammer head screw **S7** **[1.25c]**.

(9) Screw the track connector **6** each with **S6** + **S12** to the end connection brackets $20_{R/L}$ **[1.25d]**.

(10) Premount springs **[1.30]**.

Place both triple extension spring assemblies **11** with the plastic sliding elements downwards on the floor of the garage (with the spring tightening strap pointing to the back wall of the garage). Screw a deflection pulley cable assembly **12** with the **black** side showing upwards to one of the triple extension spring assemblies **11** with **S5** + **S12**. **This is the right spring assembly. Both cable ends are pointing to the left inside garage wall [1.30aa].** Screw the

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other deflection pulley cable assembly **11** with the ***red*** side showing upwards to the other triple extension spring assembly **12** with **S5** + **S12**.**This is the left spring assembly. Both cable ends are pointing to the right inside garage wall** [1.30ab].

(11) Insert the right and left spring assemblies into the right and left spring channel **8** and hang in the first hole of the spring tightening strap in the spring hooks on the corner connection brackets **20**$_{R/L}$ and **secure with spring connectors 15** [1.30b].

(12) Mount springs

(12a) Insert the ends of the double steel cables **12** into the upper rope fixation **5** [1.30c]. **Make sure the double steel cables 12 are not twisted.**

(12b) Insert the other end of the double steel cables **12** (it clamp 2 cable) into the upper hole from the angular frames **1**$_{L/R}$ [1.30c].

(12c) Lift up the pairs of horizontal tracks **14**$_{R/L}$ and secure them against falling down (Make sure the track connector **6** is safely supported). Make sure rhe double cables **12** are in the angular frames **1**$_{L}$.

(12d) Screw the cable deflection pulley **17** on the head angle from the angular frames **1**$_{L}$ 2 x **S6** [1.30d].

(12e) Pull out the double steel cables **12** of the angular frames **1**$_{L}$ and lead it over the cable deflection pulley **17**, than fix it and screw the rope unwind security **18** and the cable deflection pulley **17** with **S3** [1.30e].

(13) Screw track bends **30** with **S6** + **S12** to the angular frame **1**$_{R/L}$ and with **S6** + **S12** to the front suspension brackets **8** **(make sure the transition between the track profiles is straight)** [1.35a].

(14) Level out the track connectors **6** and the pairs of horizontal tracks **14**$_{R/L}$ using a water level and loosely screw to the wall/ceiling.

(14a) Wall mounting: pull connecting brackets **28** and dowel with **S8** + **S9** [1.35b].

(14b) Ceiling mounting: screw together an anchor track **27**, connecting bracket **28** and clamping plate **29** and dowel with **S8** + **S9** [1.35c].

(14c) Screw an additional anchor track **27** to the suspension bracket **8** with **S6** + **S12** and dowel with the connection bracket on the ceiling **28** + **S8** + **S9**. If necessary, shorten the anchor tracks **27** depending on the height of the ceiling [1.35d].

If necessary a additional ancor track **27** on the forehold spring channel bracket **8** you must be notch the anchor track **27** because the shearing point [1.35e].

Mounting of door leaf (top section is positioned in the section packet on top)

(15) Floor section

(15a) Screw the floor profile **47** with **S10** to the floor section **44** (leave the outer holes free) and insert rubber stoppers **45**$_{R/L}$ [1.40a]. Notch protective foil at one end and remove carefully [1.40ba, bb].

(15b) Place the floor section **44** between the angular frames **1**$_{R/L}$ and put a 3 cm-thick piece of wood (or something similar) underneath it so that later the door can be lifted. Secure the floor section **44** so that it cannot fall over [1.40].

(15c) Pull out roller **56** from side hinge **48**$_{R/L}$ with pre-installed roller holder **61**, stick the roller **56** in the other side of the roller holder **61** and mount the side hinge **48**$_{R/L}$ on the floor section **44** with **S10** [1.40c,d].

(15d) Pull out roller 56 from lower cable mounts **57**$_{R/L}$ with pre-installed roller holder 61 (by operator: place one shims each on the axles) stick the roller **56** in the other side of the roller holder **61** and mount the lower cable mounts **57**$_{R/L}$ on the floor section **44** with 4 x **S10** [1.40e].

(15e) For the subsequent assembly turn up the cable hang on roller holder **61** [1.40f].

(16) Lock section [1.45]

(16a) Place the lock section **67** between the angular frames **1**$_{R/L}$ and secure it so that it cannot fall over and screw side hinges **48**$_{R/L}$ as with the floor section **44** **S10** [1.45a].

(16b) Screw middle hinges **68** on lock section **67** and connect with the floor section **44** **S10** [1.45b].

(16c) Press clip **69** into the matching recess on the outside handle **70** with the long square neck [1.45d].

(16d) Mount the lock set to the lock section **67** as depicted diagramm [1.45d]: Insert the handle plate **72** to the cover plate **71** from the outside into the rectangular hole of the lock section **67** and screw to the lock set **73** + **76** insert the outside handle **70** through the square hole of the cover plate **73** (right-angle bend pointing up) and screw (with **iso9-2**: clamp distance frame **75** in between) to the inside handle **78** from the inside using **S2**. Note: the lever arm **77** (zinc diecasting) must point upwards to the right.

(16e) For doors without operators: slide retracting bolt **80** in catch **79** as well as lever arm **77** and fasten to lock section with **S10** [1.45d].

(17) Middle section(s) [1.50]

Screw middle sections analogously to floor/lock section with hinges **48**$_{R/L}$ + **68**, insert into the angular frame **1**$_{R/L}$ and mount the rollers **56**.

(18) Top section [1.50]

(18a) Mount the upper roller block **90**$_{R/L}$ with the upper roller holder **88**$_{R/L}$ **S5** + **S12** [1.50a].

(18b) Place the top section **87** between the angular frames **1**$_{R/L}$ and secure it so that it cannot fall over and screw upper roller block **90**$_{R/L}$. Screw middle hinges **68** on top and middle section with **S10** [1.50b].

(19) Adjusting the rollers:

(19a) Pull all roller holder out from door leaf in the direction indicated by the arrow so that the door leaf sits close on the frame seal (space between section skirt from grey segment of frame seal: approx. 1 mm). Rollers should turn easily by hand. [1.50c].

Elevation adjustment of upper caster

(19b) With manually operated doors and NovoPort-operator: centre of roller should slide into the tail end **16**$_{R/L}$ approx. 5mm (starting point: lower edge of upper roller holder **90**$_{R/L}$ retainer must be flush with the upper castor roller block) [1.50da].

(19c) With door operator on ceiling: Roller should lie in the upper corner of the tail end. [1.50db].

(20) Lift the door leaf and push into its final position. **Secure the door leaf so that it cannot fall down.** Pull the two single cable ends **12** from the mounting-aid bracket **18** **(Warning: the cable can be under slight initial tension)**, hook them into the lower cable rocker on the lower cable mount **57**$_{R/L}$ **and clamp with security plug 22** [1.50e]. **Do not twist the double steel cables!!**

The instructions for installation, operating and maintenance must be kept in a safe place as long as the door is in use!

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(21) Check spring tension: Before closing, the door must be under a slight spring tension, so that the double steel cables **12** do not jump out of the cable rollers **5**.

(22) Closing the door.

(23) **When tensioning/detensioning the springs 11, suitable protection is to be worn and the door leaf must be secured so that it cannot fall down!** To tighten the springs **11**, remove the spring connector **15** pull the spring tightening strap to the back and allow it to catch safely (e.g. using a fork spanner or open spanner form size 13) in the next hole. Insert the spring connector **15** once more. The hook-up of the left and right spring **11** may differ by one hole. Carry out a test run (cf. Point 30) and repeat the procedure, if necessary **[1.55f]**.

(24) Check the spring tension once more. Open the door halfway. The door must remain open of its own accord in this position.

(24a) If the door closes noticeably, increase the extension spring tension in accordance with Point 26.

(24b) If the door opens noticeably, decrease the extension spring tension in accordance with Point 26.

(25) For manually-operated doors: mount staple plate 93 as follows: **[1.65]**

(25a) Close door from inside and fix with screw clamps. Hold staple plate $\mathbf{93_R}$ or $\mathbf{93_L}$ to the left or right of the catch **79** and fasten to the respective punch outs (rear series of holes) in the angle frame $\mathbf{1_R/1_L}$ with **S6** + **S12** (**S13**, if necessary) **[1.55a,b]**.

(25b) Open and close garage door several times to check locking function. When closing, the catch **79** must snap into the staple plate $\mathbf{93_R}$ or $\mathbf{93_L}$. If necessary, slide staple plate $\mathbf{93_R}$ or $\mathbf{93_L}$ vertically to adjust. Connect security angle **94** with staple plate $\mathbf{93_R}$ and $\mathbf{93_L}$ by screwing them with **S6** and **S12** **[1.55c]**.

(25c) For manually operated doors: Fasten rope retainer **91** for hand rope **96** with **S10** to the lowest section **[1.55d]**. Lead rope **96** through the respective holes in the rope retainer **91** secure with knot as well as hang to connecting plate **18** **[1.55e]**.

(25d) Mannually open door and mark the endposition of top casters $\mathbf{90_R/90_L}$. Close the door and insert track clip **89** at marked position and tighten. Space between rearmost point to lowest point of clip has to be equal **[1.55f,g]**.

For door operator do not use hand rope!

Inspection instructions

(26) For the sectional door to function properly and smoothly as well as to ensure the maximum serviceable life, it is essential that all parts are properly installed. In the event that the door does not function perfectly, check the following items:

(27) Are the side angle frames, the frame panels and the horizontal track pairs horizontally, vertically and diagonally exactly aligned and securely fastened?

(28) Have all screws been securely tightened?

(29) Are the track joints between the angle frames and the 89°-bends smooth and well-aligned? (point 16)

(30) Check spring tension: open door half-way. The door must rest in this position without additional support.

(31) Should the door sink or close, increase the tension of the torsion springs. (point 24)

(32) Should the door open further, reduce the tension of the torsion springs. (point 24)

(33) Have the spring connectors at the back corner connection brackets been inserted?

(34) Rollers: can all the rollers be turned effortlessly by hand when the door is closed (cf. Point 19)?

(35) Have the top rollers been adjusted correctly? (cf. Point 19b,c)?

(36) Are the distances between the roller axles and roller holders identical when the door is half opened?

(37) Do the double steel cables lie in their guides exactly and without twisting?

(38) In the case of a door operator: has the locking system been dismounted?

Dismounting instructions for sectional doors Type iso9-2 / iso20-2 with extension spring, disassembled version

- Dismounting should only be carried out by suitably qualified fitters -

Please read carefully before dismounting

The following tools are necessary for dismounting work:

Fork or socket wrenches sizes 7, 10 and 13, reversible ratchet handle with extension and wrench socket sizes 7, 10 and 13, cross-tip screwdrivers size 2 and 3, at least two screw clamps, possibly a hammer and chisel.

Unhooking the springs

Warning: Suitable protection is to be worn when unhooking the springs and the door leaf must be secured so that it cannot fall down!

Move the door leaf into the open position and secure it against falling down. Remove the spring connectors. Unhook the spring tightening straps from the spring hooks and allow the spring tightening strap to catch securely in the last hole. Insert the spring connectors.

Unhook the cable clamp of the double steel cable carefully **(double steel cable might be under slight initial tension)** from the lower cable rocker on the lower left and right mounts.

Close the door carefully.

Secure the pairs of horizontal tracks so they cannot fall down.

Dismount the 89° bends.

Unscrew the fixtures for the horizontal pairs of tracks from the walls and ceiling.

Fold down the pairs of horizontal tracks, unhook the double steel cables, remove the spring assemblies and unscrew the horizontal pairs of tracks from the door frame.

Dismount the anchor tracks.

Unscrew the pairs of horizontal tracks from the track connector.

Dismount the rollers and hinges section by section from top to bottom and remove the corresponding sections from the door.

Secure the door frame so that it cannot fall down. Loosen the wall and floor screws, remove the door frame from the opening, lay it on the floor and disassemble (in reverse order to that described for assembly).

Operating and maintenance instructions for sectional doorsType iso9-2 / iso20-2 with extension spring, disassembled version

The door manufacturer accepts no liability if the door is not operated or serviced correctly and/or if original spare parts are not used. This also applies to any unauthorised changes made to the construction of the door.

The instructions for installation, operating and maintenance must be kept in a safe place as long as the door is in use!

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Operation:

The mechanical mechanisms of this garage door have been designed to reduce the risk of bruising, cutting and in any way injuring persons operating or standing near the door. The following items are essential for the safe operation of the garage door:

- Before and during door actuation ensure that - apart from the person operating the door - no other persons or objects are near any of the moving door parts (e. g. door leaf, casters etc.).
- The sectional door may only be operated by hand with the outside handle, the inside handle and, if necessary with the hand cable. Keep hands away from any moving parts.
- Lock function:
  - A full turn of the key enables constant opening and closing of the sectional door without key.
  - A ¾ turn of the key enables the sectional door to be opened. If the key is turned back a ¾ revolution, the door is locked.
  - By switching the position of the inside locking knob, the door can be opend and closed without a key.
- The opening area of the door must be kept free of persons and objects when operating the door from the inside or outside.
- When opening the door, push the door leaf into its end position and wait until it has come to stop before doing anything else. The spring tension must be adequate. **To change the spring tension, see Point 30ff.**

  Attention: Spring tension may only be altered by qualified fitters!
- This door may only be operated within an ambient temperature range of - 30° C to + 40° C.
- When closing the sectional door, make sure the retracting bolt catches securely.
- When fitting this door with a door operator,
  - The door installation must comply with all valid EU directives (machinery directive, low voltage directive, EMC directive etc.) and all applicable national and international codes.
  - The door installation must be marked correctly with a nameplate and the CE symbol by the manufacturer and a declaration of conformity must be issued.
  - The documentation given to the customer must be written in the language of the customer's country and must be kept in a safe place for the complete period of the use of the door.
  - The staple plate, the catch mechanism and the retracting bolt must be dismounted.

It is absolutely obligartory to dismount the hand cable!

Adjustments to the electric operator must only be carried out by approviately fitters!

Maintenance:

The following points must be checked after mounting the door and at least every six months thereafter.

Maintenance by unqualified persons or appropriately qualified fitters:

- **Check** the door in accordance with the inspection instructions (Points 26f).
- After installing the sectional door, and after approximately every 5,000 door movements, **lubricate/grease** the roller axles in the roller holders and clean the horizontal tracks and the spring channels.
- Do not oil the lock cylinder; if it is stiff, use only a light graphite spray to correct this.
- Make sure there is adëquate ventilation for the door frame; water must be able to run off.
- Protect the sectional door against corrosive and aggressive substances, such as acids, lyes and de-icing salt.
- Sectional doors with steel fillings are factory-coated with polyester. Customer painting of the door must be carried out with a two-component epoxy primer containing solvent and, after drying, with normal weather-proof paint within three months of delivery.
- The door must be re-painted regularly as made necessary by local weather conditions.

Maintenance by appropriately qualified fitters:

- Check whether screws and clamps are tight and re-tighten if necessary.
- Check wearing parts (springs, double steel cables etc.) and, if necessary, replace with original spare parts. To check the spring assemblies, the spring channel can be removed without dismounting the horizontal pairs of tracks by loosening the screws at the front and back of the spring channel and on the middle suspension bracket.
- Make sure the spring tension is correct. Should it become necessary to change the spring tension, proceed according to Point 30ff of the installation instructions.
- Replace the multiple spring assemblies and double steel cables after about 25,000 door movements (opening and closing).
  This is necessary in the case of:

0 - 5	door movements per day	every 14 years
6 - 10	"	" 7 years
11 - 20	"	" 3.5 years

10-year Manufacturer's Guarantee on sectional doors Type iso9-2 / iso20-2 extension spring, disassembled version

In addition to the warranty set forth in our General Terms of Sale and Delivery, we also grant a 10 year guarantee on the above-described sectional door up to a maximum of 50,000 dppr operations.

Should the door, or parts thereof, become provenly unusable or the usefulness be significantly impaired as a result of material or fabrication defects, we will, at our discretion, provide for repair or replacement at no cost to the customer.
The manufacturer accepts no liability for damage resulting from incorrect installation and mounting, incorrect initial use, improper servicing and maintenance, improper use or unauthorised changes to the door construction. The same applies to damage incurred in transit, force majeure, external influences or natural wear and tear and special atmospheric stress. This applies in particular to the primer coat.
The final customer painting must have been carried out within three months after delivery.
No liability can be accepted for unauthorised changes or improvements to functional parts or the fitting of additional filling weight which can no longer be carried by the designated multiple spring assemblies.
Any defects are to be reported in writing without delay and the affected parts are to be sent to us on demand.
Costs for dismounting and installation, freight charges and postal costs are the responsibility of the customer.
Should the complaint prove to be unjustified, the customer shall bear our costs incurred. The guarantee is only valid in conjunction with the receipted invoice and commences on the day of delivery.

The instructions for installation, operating and maintenance must be kept in a safe place as long as the door is in use!