



## Installation instructions for sectional doors type iso 9/20 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, Ø 10 mm (drilling depth of at least 65 mm), at least 2 screw clamps, possibly square timber, hammer, chisel and
- Mounting material suitable for the building situation. **Note: Check that the wood screws S2 supplied and the plugs D1 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 + 200 mm
  - minimum garage ceiling height = coordinating size –height + 120 mm (also suffices for door operators)
  - minimum side room right and left = 55 mm
- All references in these instructions to left/right always refer to the view from inside the garage looking out! All dimensions are in millimetres. The information given is subject to change without notice. Letters and figures on a grey background, for example S1, refer to the corresponding mounting material in the illustrated section. Figures on a grey background, for example 2, refer to the corresponding parts in the exploded views (subsequently a subscripted L or R, for example 1L: Parts for the left or right side are different (Observe the markings on the parts), without subscription = usable right/left).**

### Mounting of door frame

- Lay the angular frames 1R + 1L on to wood or something similar (to protect them from scratches) and screw together the angular frame 1L + frame panel 2 + angular frame 1L + track connector 3 (tapping screws have already been pre-mounted).
- Loosely** screw the wall anchor 4 to the angular frames 1R/L right and left with S1 + M1 according to the side room.
  - Side room 55–120 mm: Set the wall anchor 4 to the inside.
  - Side room more than 120 mm: set the wall anchor 4 to the side.

**If other mounting materials are used, make sure they have at least the same load-carrying capacity as the supplied wall anchor 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 (check the rectangularity by comparing the two diagonal distances; also ensure that the frame panel 2 is level). Centre and clip panel retainers 7 to the upper frame part. Finally fasten with S2 + D1 as well as S1 + M1 **Note: do not twist or bend the angular frames 1R/L; it might be necessary to fill the space between frame and masonry with suitable material before tightening the screws!!!**
- Remove the track connector 3 completely, including tapping screws.
- Screw each of the right 5R and left 5L pair of horizontal tracks to end connection bracket 6R/L + spring channel bracket 8 each front & back + end piece 11R/L + spring channel 12 + cable deflection pulley 13. Mount (S1 + M1) and foamed rubber 9 (5a) – (5f)
- Screw the horizontal pair of tracks 5R/L to the end pieces 11R/L with the header bracket so that later the door remains raised when lifted up. To do so:
  - in the case of side rooms of 55–120 mm: screw S3 loosely to M1. Insert S3 through the rectangular hole in the end piece 11R/L and header bracket, turn by 90°, so that the square catches in the hole in the frame 11R/L. Tighten M1 by hand.
  - In the case of side rooms of more than 120 mm: Insert S4 through the rectangular hole in the end piece 11R/L and header bracket and screw by hand to M1
- Mounting of anchor tracks 14
  - If the distance between the wall and the pair of horizontal tracks 5R/L is smaller than 500 mm (internal width of the garage max. coordinating size +1030 mm if door is fitted in the middle) push an anchor track 14 right and left into the track connector 3 and screw the clamping plate 15 to S1 + M1 in such a way that the anchor tracks can still be pulled out.
  - If the distance between the wall and the pair of horizontal tracks is more than 500 mm the track connector 3 can be later fixed to the ceiling (Cf. Point. 15).
- Screw the track connector 3 each with S1 + M1 to the end connection brackets 6R/L.
- Hook a mounting aid 16 into the upper rectangular holes of the angular frames 1R/L.
- Premount springs. Place both triple extension spring assemblies 17 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 18 with the **black** side showing up-



wards to one of the triple extension spring assemblies **17** with **S4 + M1**. **This is the right spring assembly. Both cable ends are pointing to the right inside garage wall.** Screw the other deflection pulley cable assembly **18** with the **red** side showing upwards to the other triple extension spring assembly **17** with **S4 + M1**. **This is the left spring assembly. Both cable ends are pointing to the left inside garage wall.**

- 11** Insert the right and left spring assemblies into the right and left spring channel **12** and hang in the first hole of the spring tightening strap in the spring hooks on the corner connection brackets **6<sub>R/L</sub>** and **secure with spring connectors 19**.
- 12** Insert the ends of the double steel cables into the mounting-aid bracket **16**. **Make sure the double steel cables are not twisted.**  
By
- 12a** Placing each of the two cable ends around the front deflection pulley cable **13** and hooking into the mounting-aid bracket **16**.
- 12b** Then hook the double cable clamp (clamps two cables) directly into the mounting-aid bracket **16**.
- 12c** **Check once more to ensure the double steel cables are not twisted.**
- 13** Apply slight initial tension to both spring assemblies. To tighten the springs, remove the spring connection **19**, pull the spring tightening strap to the back making sure it catches securely in the corresponding hole and replace the spring connection **19**.
- 14** Lift up the pairs of horizontal tracks **5<sub>R/L</sub>** and **secure them against falling down (Make sure the track connector 3 is safely supported). Also make sure that the cable clamps of the double steel cables remain in the mounting-aid bracket 16.**
- 15** Level out the track connectors **3** and the pairs of horizontal tracks **5<sub>R/L</sub>** using a water level and loosely screw to the wall/ceiling.
- 15a** Ceiling mounting: anchor tracks **14** + clamping plate **15** + connecting brackets **20 + S1 + M1 + S2 + D1**.
- 15b** Wall mounting: connecting brackets **20 + S1 + M1 + S2 + D1**.
- 16** Screw track bends **21** with **S5 + M1** to the angular frame **1<sub>R/L</sub>** and with **S1 + M1** to the front suspension brackets **10** (**make sure the transition between the track profiles is straight**).  
Fasten track connectors **3** and the pairs of horizontal tracks **5<sub>R/L</sub>** completely.
- 17** Screw both upper cable mounts **22** through the header bracket with **S6** into the corner piece **11<sub>R/L</sub>**. Tighten **M1** on the lower corner piece **11<sub>R/L</sub>** pull out the double steel cables from the mounting-aid bracket **16**. (**Warning; the cable is under slight initial tension**) and hook into the upper cable mount **22**. **Be careful not to twist the double steel cables!!**
- Mounting of door leaf** (top section is positioned in the section packet on top)
- 18** Floor section
- 18a** Screw the aluminium floor profile **23** with **S7** to the floor section (leave the outer holes free) and insert rubber stoppers **24<sub>R/L</sub>**.
- 18b** Right and left on the upper floor section, screw a side hinge **25** and a middle hinge **26** (two middle hinges from from coordinating widths of > 2500) each with two **S7** to the floor section.

- 18c** Place the floor section between the angular frames **1<sub>R/L</sub>** 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 so that it cannot fall over.
- 18d** Place a roller with a long axis **27** into a left and right roller holder **28<sub>R/L</sub>**, insert into the vertical tracks and screw to the side hinges **25** with **S1 + M1**.
- 18e** Place two shims **U1** each on the axles of two rollers with short axles **29**, place in the lower roller holders **30** (zinc diecastings) and screw the roller holders with **S4 + M1** to the lower cable mounts **31<sub>R/L</sub>**. Screw the lower cable mounts **31<sub>R/L</sub>** to the floor section right and left with four **S7** each.

## 19 Lock section

- 19a** Screw side guide plate **36** with **S7** into the right top-most side hole to the lock section.
- 19b** Press clip into the matching recess on the outside handle **40** with the long square neck.
- 19c** Insert the lock section into the angular frame **1<sub>R/L</sub>** making sure it cannot fall over. Screw with two **S7** each to the side hinges **25** + middle hinge/s **26** to the floor section.
- 19d** Mount side hinges **25** with long rollers **27** and roller holders **28<sub>R/L</sub>** and middle hinge/s **26**. Compare with 18b / 18d.
- 19e** Mount the lock set to the lock section: Lock plate **38** + lock set **39** (+ distance frame **33** with **iso 9**) + outside handle **40** + inside handle **35**:  
Insert the handle plate to the cover plate **38** from the outside into the rectangular hole of the lock section and screw to the lock set **39** (with **iso 9**: clamp distance frame **33** in between) from the inside using two **S11**. Insert the outside handle **40** through the square hole of the cover plate **38** (right-angle bend pointing up) and screw to the inside handle from the inside **35** using **S9**. Note: the lever arm (zinc diecasting) must point upwards to the right.
- 19f** For doors without door operators (otherwise proceed to Point 20) insert **S10** from behind into the square hole in the catch mechanism **37**. Secure temporarily with **M2** to prevent it from falling out. Screw the catch mechanism **37** with two **S7** right and left of the lock section in the pre-drilled holes.

## 20 Middle section(s)

Screw middle sections analogously to floor/lock section with hinges **25 + 26**, insert into the angular frame **1<sub>R/L</sub>** and mount the rollers **27** + roller holders **28<sub>R/L</sub>**.

## 21 Top section

Screw the upper roller blocks **44<sub>R/L</sub>** on the left/right of the top section with three **S7**. Insert the top section into the angular frame **1<sub>R/L</sub>** insert the upper roller holders with rollers **45<sub>R/L</sub>** in the upper horizontal track on the right/left and screw with **S4 + M1** to the upper roller blocks **44<sub>R/L</sub>**.

## 22 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 from the mounting-aid bracket **16** (**Warning: the cable can be under slight initial tension**), hook them into the lower cable rocker on the lower cable mount **31<sub>R/L</sub>** and clamp with security plug. **Do not twist the double steel cables!! (22a) – (22c)**

## 23 Hook retracting bolts **41 + 42** with retracting bolt guidance **43** to the lever arm (straight retracting bolt **41** on the right, bent retracting bolt **42** on the left).



- 24** Adjusting the horizontal rollers **5<sub>R/L</sub>**:  
All roller axles must project the same distance from the roller holders **28<sub>R/L</sub>**, if necessary, adjust them by aligning the horizontal tracks **5<sub>R/L</sub>** diagonally.
- 25** Check spring tension: Before closing, the door must be under a slight spring tension, so that the double steel cables do not jump out of the cable rollers. **Suitable protection must be worn when tensioning or de-tensioning the springs and the door leaf must be secured against falling ! Compare with Point 31.**
- 26** Closing the door
- 27** Adjust retracting bolts **41** + **42** with 3–4 mm tolerance at lever arm and fix to the catch mechanism **37** with **M2**. Adjust retracting bolt guidance **43** centrally on the section width and fix with **S12** to the door leaf. By turning the inner handle **35** by 45° the latch **37** has to be fully retracted. **(32b)**
- 28** Screw an additional anchor track **14** to the suspension bracket **8** with **S1** + **M1** and dowel with the connection bracket on the ceiling **20** + **S2** + **D1**.  
If necessary, shorten the anchor tracks **14** depending on the height of the ceiling.
- 29** Adjusting the rollers **27** + **29**:  
**29a** Loosen **M1** on the roller holders **28<sub>R/L</sub>** + **30**  
**29b** Pull all rollers **27** + **29**, **except for the second one from the bottom** away from the door leaf in the direction of the arrow so that the door frame lies neatly against the frame seal (distance between the section borders and grey rubbing strip approx. 1 mm). Rollers **27** + **29** must remain easy to turn by hand. Tighten **M1**.  
**29c** **Adjustment of second bottom 27** roller. Pull the roller holder **28<sub>R/L</sub>** on the side hinge **25** slightly back to create a gap of approx. 1 mm between the section border and the grey rubbing strip. Press the roller **27** forwards to the straight surface of the vertical track (door leaf) in the direction of the arrow so that the roller **27** lies neatly on the straight surface of the vertical track. Tighten **M1**.  
**Adjusting the height of the top roller 45<sub>R/L</sub>**  
**29d** • for opening /closing with door operator: the roller must lie in the top corner area of the end piece **11<sub>R/L</sub>**  
**29e** • for manual opening/closing: the centre of the rollers must dip by about 5 mm into the end piece **11<sub>R/L</sub>**. (Guide: The lower edge of the upper roller holder **45<sub>R/L</sub>** must be flush with the marking on the upper roller block **44<sub>R/L</sub>**).
- 30** Check the spring tension once more. Open the door halfway. The door must remain open of its own accord in this position.  
**30a** If the door closes noticeably, increase the extension spring tension in accordance with Point 31.  
**30b** If the door opens noticeably, decrease the extension spring tension in accordance with Point 31.
- 31** **When tensioning/detensioning the springs, suitable protection is to be worn and the door leaf must be secured so that it cannot fall down!** To tighten the springs, remove the spring connector **19** 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 **19** once more. The hook-up of the left and right spring may differ by one hole. Carry out a test run (cf. Point 30) and repeat the procedure, if necessary.
- 32** Manual opening/closing of doors (otherwise proceed with Point 31) mount the staple plate **46<sub>R/L</sub>**, by  
**32a** Closing the door from the inside and fixing with a screw clamp. Hold the staple plate **46<sub>R/L</sub>** right/left above the bar **37** and screw into the two corresponding rectangular holes (front row of holes) in the angular frame **1<sub>R/L</sub>**.  
• Side room: 55 mm bis 120 mm: Place a ring **U2** on **S3** and loosely screw on **M1**. Insert **S3** through the rectangular holes in the staple plate **46<sub>R/L</sub>** and angular frame **1<sub>R/L</sub>**, turn by 90°, pull **M1** so that the square catches in the angular frame **1<sub>R/L</sub>**. Then tighten **M1**.  
• Side room more than 120 mm: Insert **S1** through the rectangular hole in the staple plate and the angular frame **1<sub>R/L</sub>** and screw tight with **M1**.  
**32b** Check the locking action by repeatedly opening and closing the door. When closing, the bar **37** must always catch completely under the staple plate **46<sub>R/L</sub>**, if necessary, adjust by moving the staple plate **46<sub>R/L</sub>** vertically.  
**32c** Pass the hand cable **47** through the corresponding holes in the lower cable mount **31<sub>R/L</sub>** and secure them with knots and hook into the front suspension bracket **10**.

**With door operator the hand cable may not be used!!**



## Inspection instructions

Operation, service life and the easy running of the sectional door depend decisively on all parts being mounted in accordance with the installation instructions. If the door should nevertheless not function perfectly, please check the following points:

- 33 Have the side angular frames, the frame panel and the pairs of horizontal tracks been aligned exactly in the horizontal, vertical and diagonal plane and have they been securely mounted?
- 34 Have all screwed connections been tightened properly?
- 35 Have the transitions between the vertical tracks in the angular frame and the 89° bends been adjusted? (cf. Point 16)?
- 36 Have the spring tightening straps been tightened to exactly the same position on both sides? Check the extension spring tension. Open the door halfway. The door must remain of its own accord in this position.
  - 36a If the door closes noticeably, increase the extension spring tension in accordance with Point 31.
  - 36b If the door opens noticeably, reduce the extension spring tension in accordance with Point 31.
- 37 Have the spring connectors at the back corner connection brackets been inserted?
- 38 Rollers: can all the rollers be turned effortlessly by hand when the door is closed (cf. Point 29)?
- 39 Have the top rollers been adjusted correctly? (cf. Point 29d/e)?
- 40 Have the second-to-bottom rollers been adjusted correctly? (cf. Point 29c)?
- 41 Are the distances between the roller axles and roller holders identical when the door is half opened? (cf. Point 25)?
- 42 Do the double steel cables lie in their guides exactly and without twisting?
- 43 In the case of a door operator: has the locking system been dismantled?

## Dismounting instructions for sectional doors Type iso 9/20 with extension spring, disassembled version

– Dismounting should only be carried out by suitably qualified fitters

Please read carefully before dismantling

The following tools are necessary for dismantling 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.

- 44 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.
- 45 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.

- 46 Close the door carefully.
- 47 Secure the pairs of horizontal tracks so they cannot fall down.
- 48 Dismount the 89° bends.
- 49 Unscrew the fixtures for the horizontal pairs of tracks from the walls and ceiling.
- 50 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.
- 51 Dismount the anchor tracks.
- 52 Unscrew the pairs of horizontal tracks from the track connector.
- 53 Dismount the rollers and hinges section by section from top to bottom and remove the corresponding sections from the door.
- 54 **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 doors

### Type iso 9/20 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.**

#### 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 opened 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 dismantled.

**It is absolutely obligatory to dismantle the hand cable!**

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

#### **Maintenance:**

**The maintenance intervals are dependent on frequency of use and field of application, but at least once in the year.**

**Maintenance by unqualified persons or appropriately qualified fitters:**

- **Check** the door in accordance with the inspection instructions (Points 33f).
- 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 adequate 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 dismantling 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 28ff 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 door movements per day every 7 years

11–20 door movements per day every 3.5 years

### **10-year Manufacturer's Guarantee on sectional doors Type iso 9/20 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 dismantling 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.