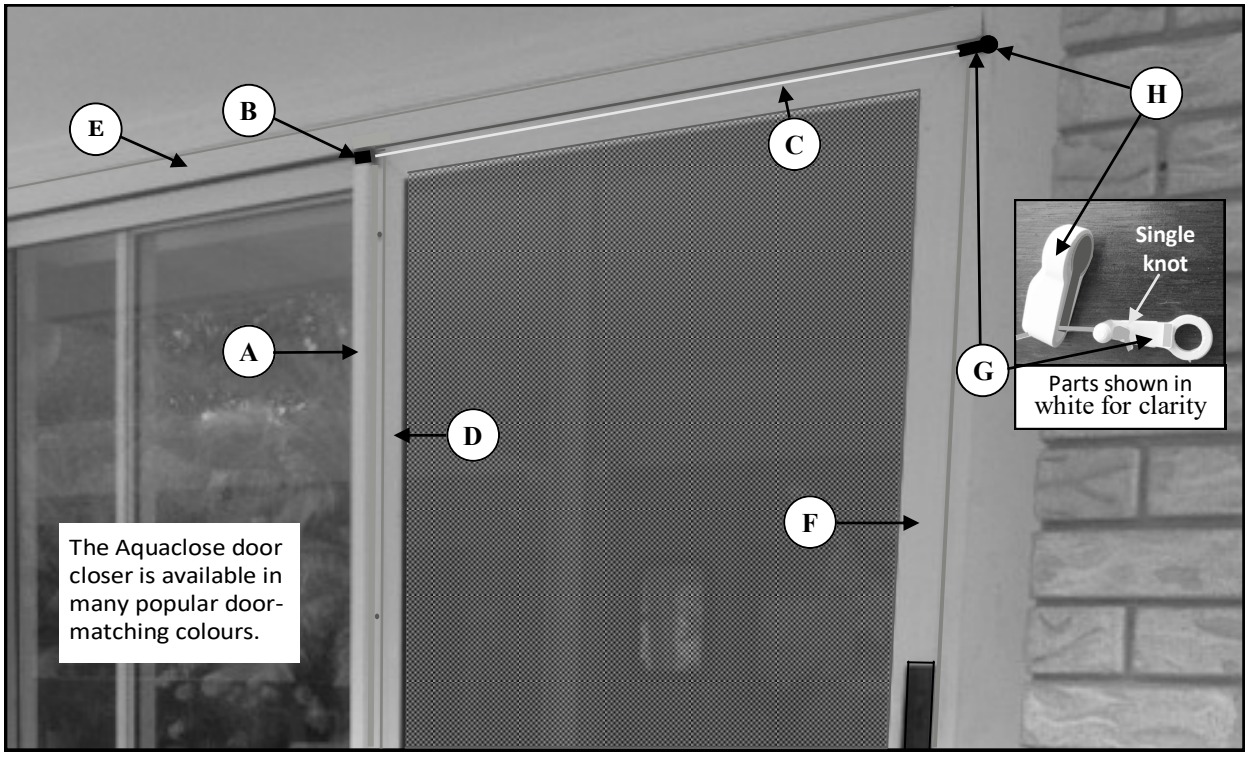

Installation Instructions — Aquaclose Water Door Closer Model 3S — Licensed by Inventco

Unpacking the door closer

1. The door closing action is provided by a pair of plastic encased steel weights operating in water. A speed limiting valve is fitted to the bottom weight. Under the control of the valve the weight assembly descends at constant speed to close the door.
2. First remove & discard the clear plastic sheath and lay the closer **(A)** down **horizontally** on a bench or table**.** Then remove & discard all securing adhesive tapes but, for now, leave in place the white cord that restrains the weights.
3. **It is important that the weights are never allowed to drop freely down the tube before adding water - damage may result.**
4. Withdraw the black pulley box **(B)** and slide it along the nylon cord **(C)**, clear of the tube.
5. Pull on the nylon cord until the top of the first weight is exposed. Two black speed limiting sleeves will also be exposed, as well as an anchor lug & cap, and some screws. Leaving the sleeves in place, remove the other items and place them aside.
6. Now untie & discard the white restraining cord, then tilt the tube and **gently** lower the weights.
7. Fill the tube close to the top with tap or rain water **(never pool water – it is corrosive).**
8. Reinsert the pulley box into the tube such that it will face towards the leading door stile **(F)**.

Installation (see also reverse page)

9. Close the door and position the closer on the face **(D)** of the trailing door stile so that the top of the pulley box is within about 5mm of the upper door track **(E)**.
10. Drill a 3.5mm hole in the door at the location of the top mounting hole in the closer flange, and fit one of the 10 gauge mounting screws. Then drill & fit the remaining two mounting screws.
11. Extend the nylon cord horizontally across to the door frame and locate a point on the frame to insert the 8 gauge anchor screw. This location must be such that the door, when fully closed, will not make contact with the exposed tip of the screw. It must also be such that there will be at least 5mm clearance around the head of the screw so that the anchor lug **(G)**, with its cap fitted, can be readily hooked over it. Now drill a 3mm hole and partially insert the anchor screw.
12. Loosely position the anchor lug cap **(H)** over the anchor lug **(G)** and thread the nylon cord through the slot in the end of the cap, and then through the slotted post of the lug. Then slide the lug & cap down the cord near to the pulley box.
13. With the door fully closed, hold the nylon cord out over the anchor screw and pull on it to lift the weight assembly 25—50mm off the bottom of the tube.
14. Continuing to hold the cord firmly in this position over the anchor screw, check that the door can be opened fully. It will normally be possible to fully open a 1200mm wide door without the weights impacting the bottom of the pulley box and possibly snapping the cord. As necessary, fit a stop to the upper or lower door track to limit door travel.
15. Lower the weight assembly and tie a **single knot** at the point in the cord where it passed over the screw. Then tighten the knot by drawing it firmly against the post on the anchor lug. **Do not cut off the excess cord as yet.**
16. Now test for closing speed. For a fully open 1200mm wide door the typical closing time is 4 – 7 sec. The speed can be adjusted by fitting a larger or smaller valve sleeve. **See overleaf for speed adjustment instructions**.
17. Finally, after any speed adjustments, snip off the excess cord so that it will not protrude out from under the anchor lug cap and then, pressing firmly, clip the cap onto the anchor lug and hook the lug onto the anchor screw.

Speed Adjustment (read completely before proceeding)

1. Where the door is closing too slowly or not at all, first check the condition of the door and tracks as described below. Note that two or more very minor contributing factors can compound to add significant rolling resistance to the door's movement.
2. Check that the door is not warped. This can cause the door to rub against the sides of the top track. Where top rollers are present and constrain the warp, the warp may not be visually evident but it can cause both the top and bottom rollers to bear against the sides of the rails, thereby significantly increasing roller friction.
3. Check that there is a some vertical free play between the door and the tracks **throughout** the door's entire travel. Adjust the rollers as necessary.
4. Check the condition of, particularly, the bottom rollers. Clean or replace as necessary.
5. Check that the **width** of the groove in the bottom rollers is **not less than** the width of the rail. This mismatch results in there no longer being single-line pure rolling action between the base of the pulley wheel groove and the top of the rail, but instead a twin line rubbing action along the flanks of the rail, thus increasing rolling resistance.
6. Check the condition of the bottom rail for pitting or damage. A proprietary rail cover may be fitted after first having checked that there is likely to still be vertical clearance available throughout the entire door travel and, preferably for lowest friction, that it is not wider than the pulley groove. This step could be left until after having exchanged the valve sleeve.
7. If necessary, remove any bug strips, or flatten them if possible, or replace them with lower profile ones.
8. To now exchange the valve sleeve, remove the door closer from the door, then remove the pulley box.
9. Lay the top of the closer against the edge of a bench or table. At even a shallow angle little or no water will run out.
10. Draw the weight assembly out onto the table top using both hands to support the weights so that they remain aligned with each other throughout their removal. With careless handling the end connections on the weights can be snapped off or damaged, or the plastic casing can be cracked or chipped allowing water penetration into the steel weight.
11. Pressing sideways, remove the valve from the lower weight.
12. Remove the medium speed valve sleeve from the valve; it will be tight. It will be seen to be marked with an **M** on one of the posts (see Fig 1).
13. Fit the **S** sleeve to reduce the closing speed, or the **F** sleeve to increase the speed.
14. Replace the valve onto the weight.
15. Ensuring that they are in line with each other so as not to rub against the sides of the tube during operation, reinsert the weights into the closer. Then replace the pulley box and refit the closer to the door.
16. Test for speed. Should the **S** sleeve have been fitted and the speed is still too high, a weight may be removed and the process repeated, with or without a change of sleeve. However, speed cannot be reduced below that obtained with just one weight and the **S** sleeve.
17. If the **F** sleeve has been fitted and the speed is still too slow or is hesitant, and the door and tracks have been checked, a third weight may be added. However, with the door already requiring more effort to open than for a free rolling door, adding a further weight will require even further effort to open the door, and will also reduce the available door travel.

Showing below are sketches of the door closer and its installation (not-to-scale)

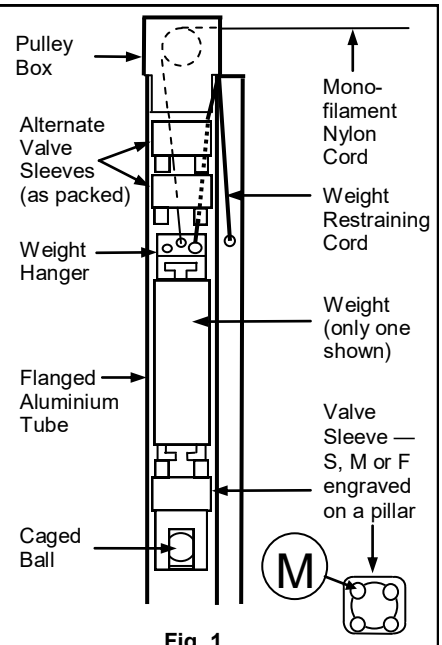

Fig. 1

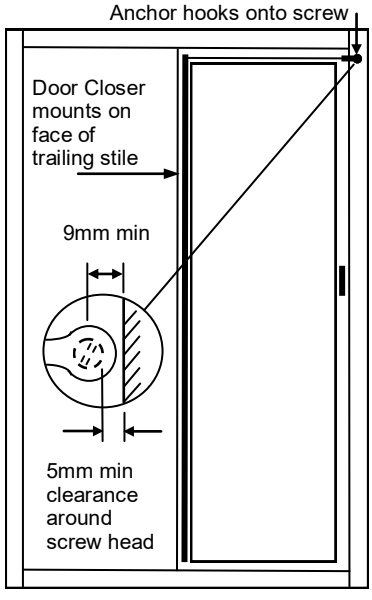

Fig. 2

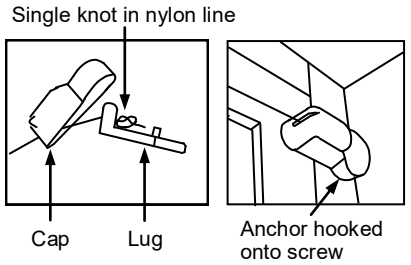

Fig. 3

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