

FITTING INSTRUCTIONS FOR RSH PRESSURE RELIEF VENTS (PRV)

OVERVIEW

The RSH series of PRVs are designed to be fitted into the walls, doors and ceilings that surround an enclosure fitted with a gaseous suppression system. The purpose of the PRV is to relieve any excess pressure generated by a gaseous discharge and fully closing upon relief to preserve agent retention time.

In order to achieve this, certain criteria must be met when installing one of these vents.

PRVs are designed to be fitted into walls, doors or partitions so that the vent will allow air to pass from the risk area outwards. Vent orientation is indicated by the arrow sticker on the top of the vent casing - arrows to be pointed out of the risk room. It is essential that the vent is fitted in an area where it will not be covered or blocked on either side of the installation.

FITTING INSTRUCTIONS

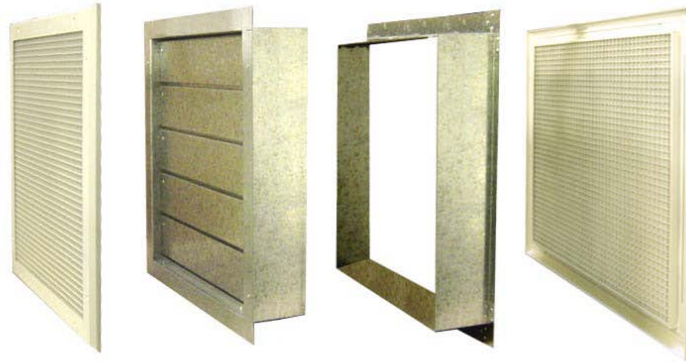
Into a stud wall partition	2
Into an exterior masonry wall	7
Into a thin partition or fire door using a Z frame	8

WARNING: RSH PRV'S ARE NOT LOAD BEARING



FITTING AN RSH SERIES PRV INTO A STUD WALL PARTITION

NOTE: Local building or fire codes may supersede these instructions. Consult your local AHJ before proceeding.



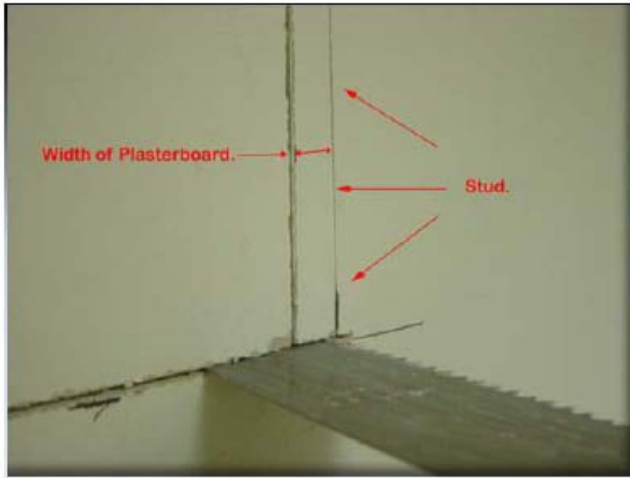
- a) First note the orientation of the PRV and its placement into the enclosure wall. The red arrows on the sticker are always on the top of the vent and denote the direction the pressurized air is to be relieved.



- b) Measure the PRV wall liner and add a 1/2 inch (12mm) to the measurement mark out and cut a hole into the stud partition. (Note that the larger of the measurements is always the width).



- c) The hole to be cut must be lined with studs and plasterboard. It is recommended to use a vertical stud as a starting point. Once the stud has been found, mark a vertical line on the plasterboard along the edge of the stud. Now draw and cut along a line measured 1/2 inch (12mm) from the initial stud marker. From here mark and cut out the rest of the hole.



- d) The opening must be framed out with similar studs that the wall is made from, e.g. if cutting into a 2hour fire rated wall with steel studs then steel studs must be used to frame the hole so as to maintain the 2 hour fire rating. The frame must then be lined with Plasterboard.



- e) Mark the flange through which the fixing screws will seat into the framing studs.

Drill 8 of 5/32 inch (4mm) fixing holes 4 inches (100mm) from each corner and thereafter at 8 inch (200mm) intervals. (At this stage it is worth dry fixing the PRV with a couple of screws and check that the wall liner will fit in and over the back of the PRV from the opposite side).

Please note: It is essential that the unit is fitted square. (Do not try to force into a hole that is not cut correctly. Distorting the body of the PRV can affect its performance. It is also essential that the PRV is fitted vertical/plumb. 3° either way is acceptable).



- f) After checking to make sure the PRV and the Wall Liner fit, run a bead of intumescent fire-rated caulk around the face of the wall opening so as to form a seal under the PRV flange and using 3 inch (75mm) long no. 6 steel screws fix the PRV into the hole.



- g) Mark and drill the wall liner flange as per PRV flange. Apply a bead of intumescent fire-rated caulk around the opening face where the wall liner flange is to fit or around the wall liner flange and fix in with 3 inch (75mm) no. 6 steel screws.



- h) Where the wall liner meets the back of the PRV, seal gap with a bead of intumescent fire-rated caulk.



- i) Check that each and every blade of the PRV opens freely. If blades are rubbing against the side casing check to make sure the frame of the PRV has been fitted square and is not twisted and there is no part of the wall opening that is jamming on the vent casing. (it may be possible to free slightly rubbing blades by tapping out casing where they touch, with a hammer).



- j) Hold grill over PRV flange and fix using 1 inch (25mm) tech screws. Do not over tighten screw since they can distort grill frame. Do the same for Wall liner.



FITTING AN RSH SERIES PRV INTO AN EXTERIOR MASONRY WALL

- a) Mark out and cut a hole through the wall 1/2 inch (12mm) larger than the body of the PRV. (note the orientation of the vent, it isn't square). The hole must be cut carefully in order to leave sufficient sound stonework around the hole into which the holding screws must fix.
- b) When necessary, support the stonework above the hole as per building regulations. (the PRV is not designed to support any part of the opening into which it is to be fitted and the surrounding masonry must be self supporting).
- c) Place grill onto PRV and fix using 1 inch (25mm) tech screws. (it is advisable to do this first so as to avoid conflict with a PRV fixing screw point). Do the same with the outside shutter on the wall liner.
- d) Dry fit both the PRV and the wall liner marking where the tech screws protrude onto the masonry. **(Please note: It is essential that the unit is fitted square. Do not try to force into a hole that is not cut correctly cut, distorting the body of the PRV can jam the blades and affect its performance. It is also essential that the PRV is fitted upright. 3° either way is acceptable).**

Remove and drill clearance holes with a masonry bit to the depth of protruding tech screws. Remove both the inside grill and outside shutter from the PRV and wall liner.

- e) Mark fixing holes to be drilled into the PRV flange and Wall liner flange. It is advisable to be on a line around 1/2 inch (12mm) in from the outside of the flange edge to allow for the maximum amount of masonry to fix into. On this line drill 4 of 5/32 inch (4mm) diameter holes at each corner (these points typically are best supported in the masonry) and then holes every 8 inch (200mm) along the flange.
- f) Hold up PRV and wall liner into hole and mark through fixing holes. Drill into masonry with a 13/64 inch (5mm) masonry bit and install plastic wall plugs.
- g) Apply a bead of intumescent fire-rated caulk around the opening to form a seal under the PRV flange and using 1 1/2 inch (35mm) no.6 steel screws fix PRV into wall.
- h) Follow the same fixing procedure with the wall liner except instead of fire-rated caulk, apply a good weather sealant under the wall liner flange, e.g. silicone caulk. Screw liner into wall with 1 1/2 inch (35mm) long no. 6 steel screws into pre drilled wall plugs. Where the wall liner meets the PRV seal joint with silicone caulk.
- i) Check that each and every blade of the PRV opens freely. If blades are rubbing against the side casing check to make sure the frame of the PRV has been fitted square and is not twisted and there is no part of the wall opening that is jamming on the vent casing. (it may be possible to free slightly rubbing blades by tapping out casing where they touch with a hammer).
- j) Fit grill to PRV and shutter to Wall Liner.
- k) Finally attach decal 'Do not block....' signs next to the PRV in both sides and where visible.

FITTING AN RSH SERIES PRV INTO A THIN PARTITION OR FIRE DOOR USING A Z FRAME



For installations where the PRV is to be fitted into a door or partition that is under 4 inches (110mm) thick for internal use or under 1 1/2 inch (160mm) for external use, the addition of a Z frame is needed.

- a) Cut a hole into the door or stud partition 1/2 inch (12mm) bigger than the size of the casing of the PRV. (check orientation, holes will not be square) (before fitting into doors assess that once fitted, the door will open correctly. This can be a particular problem if the door opens against a 90° wall such as a hallway. Do not compromise any safety regulations all building and fire codes must be adhered to as to the correct aperture required for doorways.
- b) If the PRV is to be fitted into a stud partition then the opening must be framed out with similar studs that the wall is made from, e.g. if cutting into a 2hour fire rated wall with steel studs then steel studs must be used to frame the hole so as to maintain the 2 hour fire rating of the wall.
- c) Drill 8 of 5/32 (4mm) fixing holes 4 inches (100mm) from each corner and thereafter at 8 inch (200mm) intervals. Run a bead of intumescent fire-rated caulk around the face of the wall or door opening so as to form a seal under the PRV flange and using 1 inch (25mm) (for doors) and 2 inch (50mm) (for walls) no. 6 steel screws fix the PRV into the hole. (NOTE: Do not try to force into a hole that is not cut correctly, distorting the body of the PRV can affect its performance and will nullify any warranty. It is also essential that the PRV is fitted upright. 3° either way is acceptable.)
- d) On the Z Frame, drill 8 of 5/32 inch (4mm) fixing holes 4 inch (100mm) from each corner and thereafter at 8 inch (200mm) intervals. Run a bead of intumescent fire-rated caulk around the face of the wall or door opening so as to form a seal under the Z Frame flange and using 1 inch (25mm) (for doors) and 2 inch (50mm) (for walls) no. 6 steel screws fix the Z Frame onto the back of the door/wall to cover the PRV.
- e) Check that each and every blade of the PRV opens freely. If blades are rubbing against the side casing check to make sure the frame of the PRV has been fitted square and is not twisted in any way and there is no part of the wall opening that is jamming on the vent casing. (it may be possible to free slightly rubbing blades by tapping out casing where they touch, with a hammer).
- f) Using 1 inch (25mm) tech screws fix the internal grill over the PRV. Using 1 inch (25mm) tech screws fix the external grill/louver/shutter onto the Z Frame.