

Compression Locks

Compression locks have been around for many years but recently there has been a considerable increase in the availability of styles and features that now provide engineers with solutions for most industrial applications.

There are two basic types:

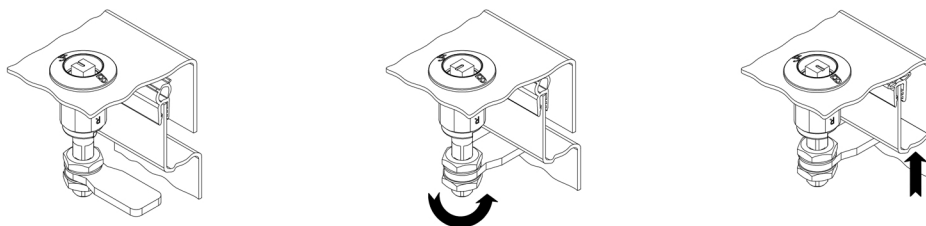
Double-action quarter turn (see below) and lever actuated (see page 2).

Double -action quarter turns

For panel builders, the double action type has many advantages since the technology for compression latching enables additional gasket pull-down over that provided by conventional quarter turn locks. They are thus specially well-suited for applications that require quick, secure locking and where high degrees of sealing are required.

They also provide a considerable level of vibration resistance which is desirable for example on moving machinery, wind turbines, generator covers and special purpose/agricultural vehicles.

Operation is double action i.e. the first 90° turn locates the cam behind the frame then a further 90° turn pulls the cam towards the frame by typically 6-8mm to provide positive compression.



A further benefit is that when the lock is opened, the door remains latched during the first 90° turn while compression is released from the seal. This allows any pressure inside the cabinet to escape before the door is fully opened.

Available with a choice of various fixed cams or extension spindle to allow in-situ adjustment to the optimum level. Most types have visual indication of the locked/unlocked status.

Designed to fit industry standard cut-outs, they are also ideal for retro-fit applications.

Low profile housings are available to minimise protrusion and other recent innovations include padlockable and cylinder key operated versions. For special applications there are elegant Snap-Line latches with a special planetary gear and friction-less roller for high contact pressure (see the FDB video on our YouTube channel).

Just some of the many variations are shown below:



These notes are intended for general guidance only. Please refer to the relevant datasheets for full details of any of the products mentioned.

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Lever Actuated

Lever actuated types are commonly used to secure doors, hinged lids and covers on specialist vehicles, flight cases etc. They are usually flush mounting and adjustable over a range of depths.

Typical types are shown below:

6-162



Simple low profile latch for light duty applications e.g. panels and hatches on specialist vehicles, glove compartments, maintenance panels etc.
Simple clip-in mounting suitable for material thickness from 1.4mm to 3mm.
The adjusting screw ensures a consistent pressure on the seal and can be adjusted to increase or decrease the sealing pressure; ideal for retro-fit applications.
Locking and non-locking versions available*

6-160.01



Vibration-proof latch which is installed and fixed from outside the panel. In the "closed" position, the fixing screw cannot be removed.
7 versions available covering 'H' range from 0 to 34mm in 6mm increments. The spring bolt holds doors/flaps under tension against the frame and does not require adjustment.
Locking and non-locking versions available*
For user adjustable version of this latch, refer to type 6-160: Two types available with 'H' range from 3mm to 24mm and from 22mm to 46mm.

6-166

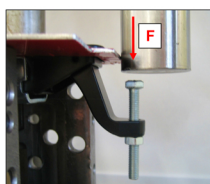


Low profile, flush mounting, lever actuated "lift and turn" latch manufactured in polyamide (with steel pin). When closed the cam is fully arrested by notches and pegs.
Simple clip-in mounting suitable for material thickness from 5mm to 5.5mm without using additional mounting bracket.

*Locking versions have stainless steel dust shutters.

For full details and datasheets of the above mentioned products, please see our website: www.fdb.co.uk

Lever Latch – Typical Test Result



To evaluate the load value, the latch was mounted on a steel plate and subjected to an increasing force on the locking bolt.

With a force of 800N, the steel plate starts to deform but the locking arm **withstood a force of 1500N before breaking.**

NB The values determined represent the results of a specific test and users should consider precautions relevant to any respective installation.

