FDB PANEL FITTINGS
KNOWLEDGE BASE

Ref: KB 04.1

Compression Locks

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

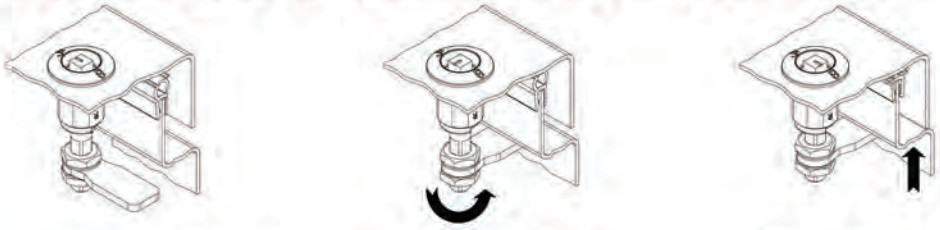
There are two basic types:
Double-action quarter turn (see below) and lever actuated (see page 2).

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:

FDB Panel Fittings, Unit 20, Worton Hall Industrial Estate, Isleworth, TW7 6ER, Call: 0208 568 1616, Visit: www.fdb.co.uk,
E-mail: info@fdb.co.uk

Compression Locks

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.