



USER GUIDE

MX80, MX100 & MX150 series Explosion Relief Valves

Suitable for use on engines, gear cases and compressors the MX80, MX100 and MX150 series Explosion Relief Valves are designed to relieve the build-up of pressure caused by an internal explosion without emitting the accompanying flame. This guide is intended to help you install and maintain these valves and advise you of their design limits.

Manufacturer:

Pyropress Engineering
Bell Close
Newnham Industrial Estate
Plympton
Plymouth
PL7 4JH
United Kingdom

Telephone: +44 (0)1752 333933
Fax: +44 (0)1752 336681
Website: www.pyropress.com
E-mail: sales@pyropress.com

Design Limits:

Explosion Relief Valves are to be fitted to enclosures where the internal pressure is nominally atmospheric. They must be mounted horizontally as shown (except in the case of compressors where they can be mounted vertically as well) and such that the Flame Arrestor sits inside the enclosure. The Arrestor itself comprises woven wire mesh layers which, when wetted with lubricating oil, serve to quench flame whilst at the same time allowing fluids to pass through. Being comparatively light and compact, this design, originally devised by the British Internal Combustion Engine Research Association (BICERA), constitutes an effective alternative to bulkier dry-type arrestors.

WARNING: The Flame Arrestor must remain wetted with oil at all times in order to prevent the emission of flame in the event of an explosion.

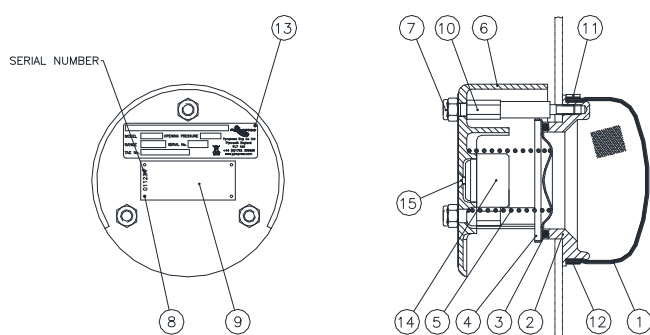
NOTE: It is incumbent upon the end-user to ensure that valves possess sufficient free area to vent the given volume that they are intended to protect.

Operational Hazard:

The Outer Cover incorporates an aperture which serves to focus the steam of fluids exiting the enclosure into a designated area. It can be positioned in 60° increments to best suit the end-user's particular requirements.

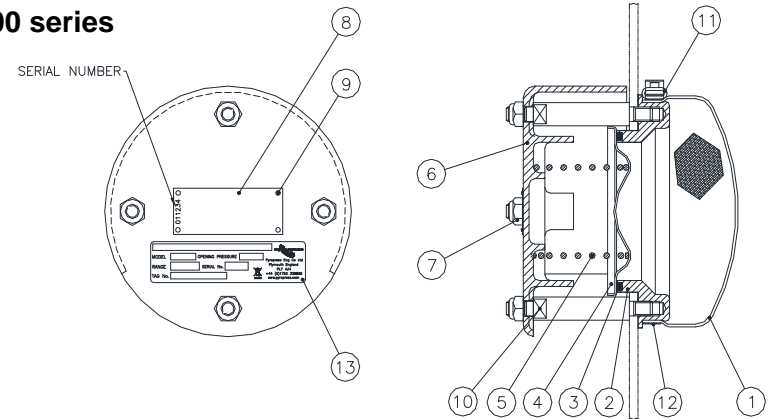
Sectional Arrangements:

MX80 series



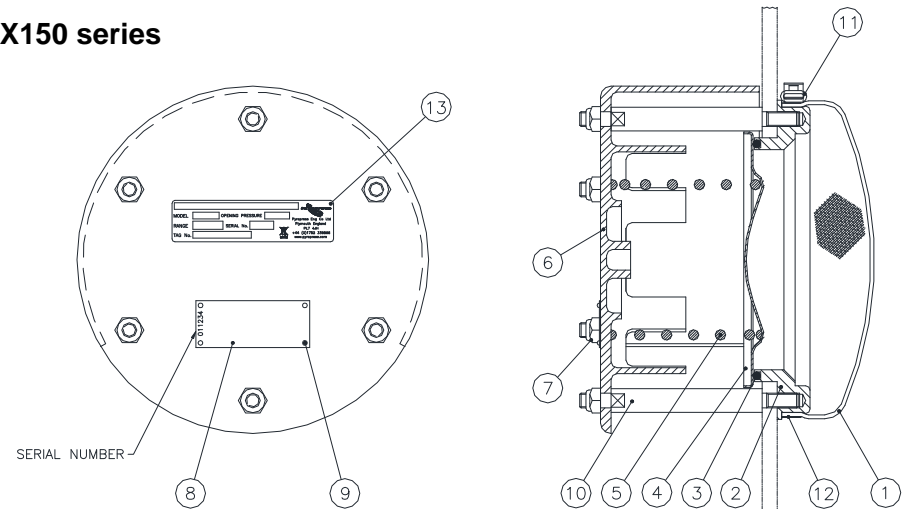
15	COUNTERSUNK SCREW	1
14	SPRING SUPPORT	1
13	LABEL	1
12	BANDING	1
11	CLIP	1
10	VALVE GUIDE	6
9	DRIVE SCREW	4
8	LABEL	1
7	NYLOC NUT	6
6	OUTER COVER	1
5	SPRING	1
4	VALVE DISC	1
3	'O' RING	1
2	VALVE SEAT	1
1	FLAME ARRESTOR	1
REF	DESCRIPTION	QTY

MX100 series



13	LABEL	1
12	BANDING	1
11	CLIP	1
10	VALVE GUIDE	6
9	DRIVE SCREW	4
8	LABEL	1
7	NYLOC NUT	6
6	OUTER COVER	1
5	SPRING	1
4	VALVE DISC	1
3	'O' RING	1
2	VALVE SEAT	1
1	FLAME ARRESTOR	1
REF	DESCRIPTION	QTY

MX150 series



13	LABEL	1
12	BANDING	1
11	CLIP	1
10	VALVE GUIDE	6
9	DRIVE SCREW	4
8	LABEL	1
7	NYLOC NUT	6
6	OUTER COVER	1
5	SPRING	1
4	VALVE DISC	1
3	'O' RING	1
2	VALVE SEAT	1
1	FLAME ARRESTOR	1
REF	DESCRIPTION	QTY

Installation Instructions:

The diagrams overleaf show both the arrangement and size of holes required for mounting and the contact area between the respective mating surfaces of the Valve Seat and the door/enclosure. An airtight seal must be incorporated at this interface in order to maintain the integrity of the enclosure to which the Explosion Relief Valve is fitted. The nature of this seal should be such that it is compatible with the media and temperatures likely to be encountered during operation.

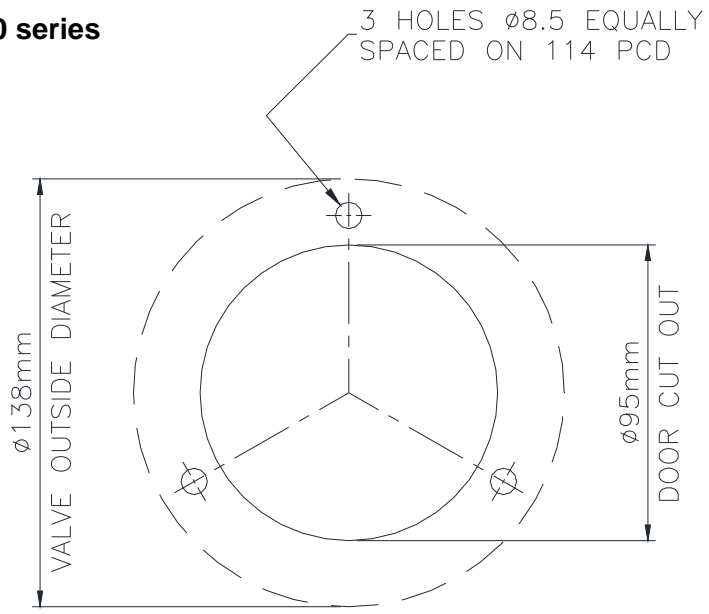
The manufacturer supplies valves fully assembled. To install them, follow the steps below:

Due to the presence of a compressed coil spring within the valve assembly, the cover should be adequately restrained prior to attempting disassembly.

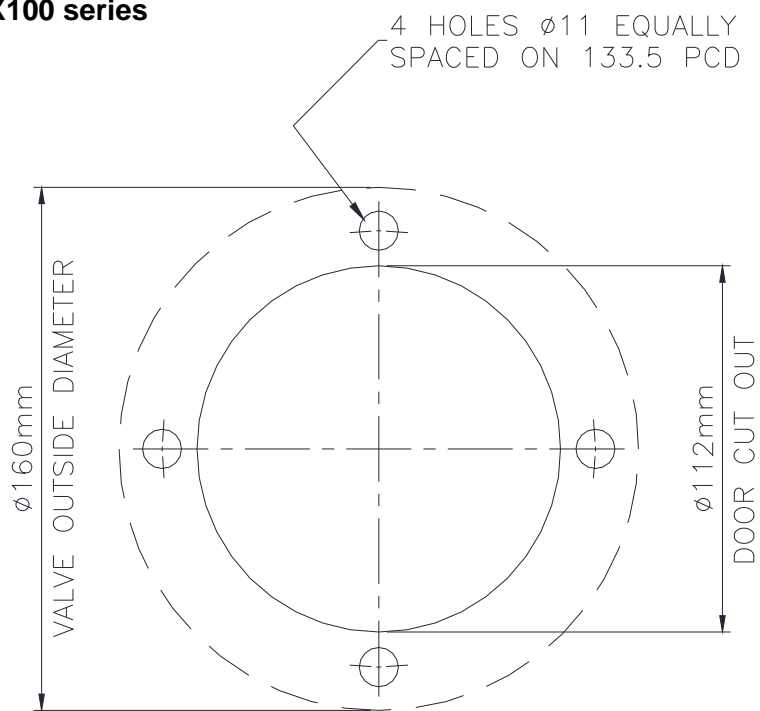
1. Unscrew the Nyloc® Nuts (item 7) and remove the Outer Cover (item 6), Spring (item 5) and Valve Disc (item 4).
2. Unscrew the Valve Guides (item 10) from the Valve Seat (item 2).
3. Position the gasket and Explosion Relief Valve against the door/enclosure, align the holes and secure with the Valve Guides (item 10). Ensure that the gasket is adequately and evenly compressed around its full circumference.
4. Refit the Valve Disc (item 4), Spring (item 5) and Outer Cover (item 6) and secure with the Nyloc® Nuts (item 7).

Care should be taken to ensure that the Flame Arrestor is not damaged during the installation process.

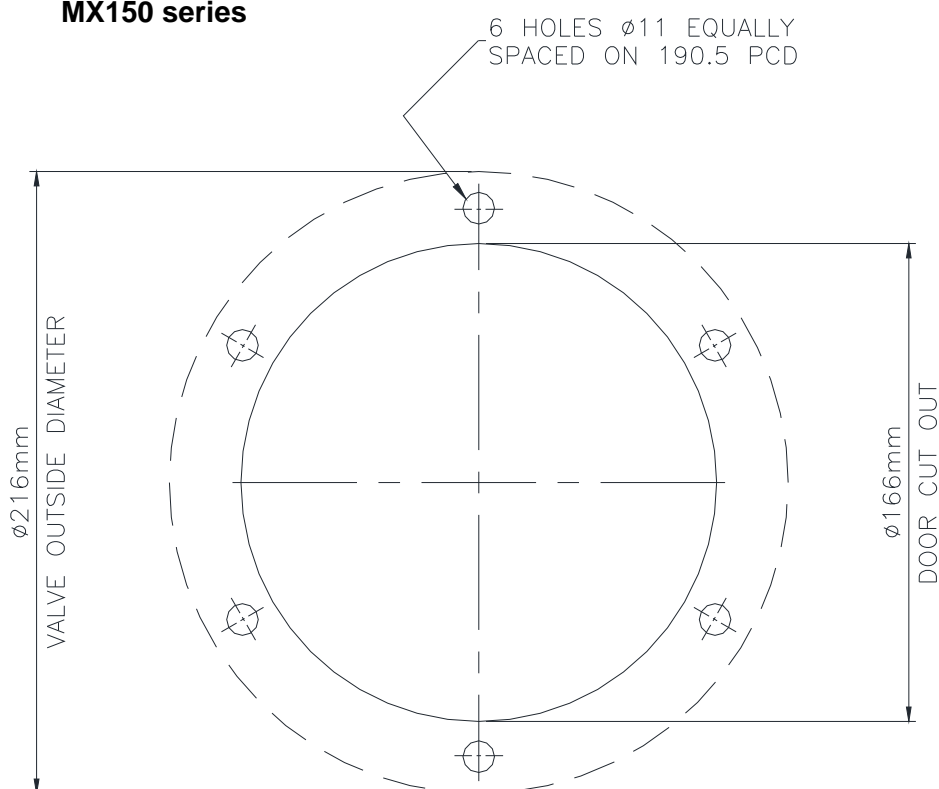
MX80 series



MX100 series



MX150 series



Maintenance Instructions:

Maintenance must only be undertaken by competent personnel. Explosion Relief Valves should be visually inspected at regular intervals to ensure that they are properly secured to the door/enclosure and that the airtight seals remain intact. The manufacturer further recommends that the end-user periodically verify the integrity of the seals through testing. This should confirm that the valve begins to open above atmospheric pressure and that a seal is then re-established below the given pressure at which leakage is first observed.

The 'O' ring (item 3) should be replaced at least once every 5 years. Before installing a new 'O' ring, ensure that the seating groove is clean.

Following an explosion, valves should be removed (when safe to do so) and inspected. Any parts that have sustained damage should be replaced.

Spares:

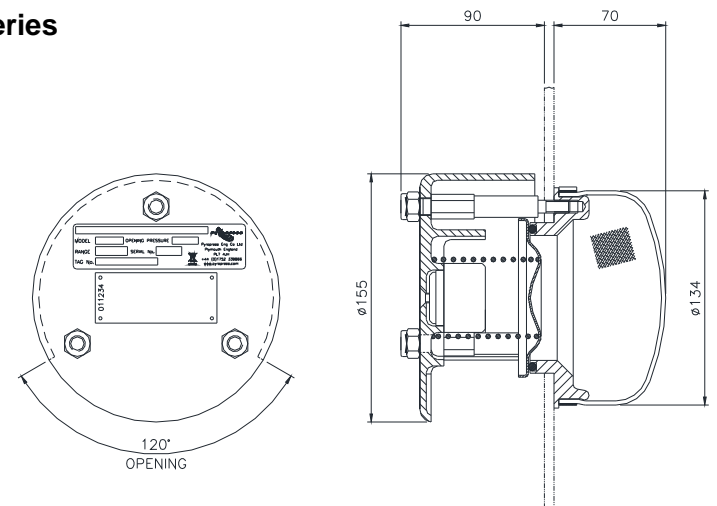
Replacement parts are available upon request. When contacting the Sales Department, please state the designation or serial number of the valve, the description of the item or items in question and the quantity required.

Replacing the Flame Arrestor:

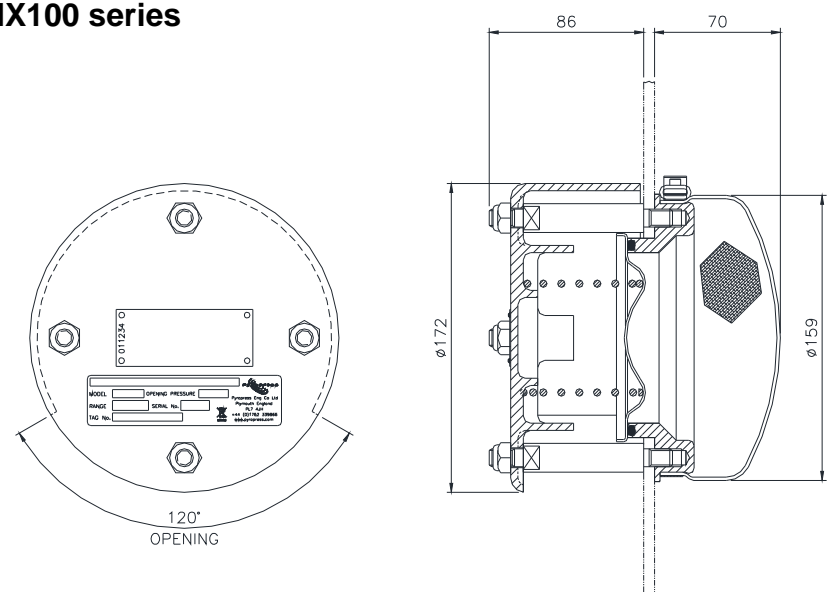
1. Remove the grub screw from the Clip (item 13) and discard both items together with the Banding (item 14).
2. Remove the Flame Arrestor (item 1) and discard (in accordance with relevant legislation).
3. Position the new Flame Arrestor in the correct location on the Valve Seat (item 2).
4. Position the new Banding with integral clip in place around the Flame Arrestor and clamp to the Valve Seat by tightening the lock screw.

General Arrangements:

MX80 series



MX100 series



MX150 series

