

Transformer Components Sidewall Mounted & Cover Mounted Bayonet Fuse Holder



GENERAL

Chardon Bayonet Fuse Holders are used to protect transformers, switchgear, and distribution systems. They are designed for use in oil filled (or approved equivalents) single phase and three phase padmount transformers, switchgear, and submersible transformers. The assemblies combine the ease of hotstick operation with the safety of deadfront construction.

When the inner fuse cartridge holder assembly is removed from a Chardon Bayonet Fuse Holder installed on a padmounted transformer (or other apparatus), the transformer is electrically disconnected. This also allows for convenient fuse element and cartridge inspection and replacement. When using appropriate safety procedures, the Chardon Bayonet Fuse Holder can be loadbreak operated for disconnecting the transformer from the energized line, making changes to dual voltage or tap changer switches, or working on the transformer's secondary connections.

Two options are available on the sidewall mounted Bayonet Fuse Holder.

(1)

A flapper valve is available inside the upper portion of the outer tube (see Figure 2). This flapper valve closes when the inner fuse cartridge assembly is removed. This results in minimal oil leakage from the transformer tank during fuse link replacements, especially when the pressure relief valve fails to remove all built up pressure inside the transformer tank. This reduces potential risk of environmental damage due to oil escaping from the transformer. It also reduces potential oil contamination to the rubber cable accessories mounted on the transformer. The flapper valve also reduces potential spillage due

to pad tilting, or during installation and/or replacement of the transformer, when tilting of the transformer is likely to occur.

(2)

The standard Chardon Bayonet Fuse Holder includes copper contacts for connection to the transformer. Optional silver plated contacts are available (and recommended) with high ampere bayonet fuse links. Silver plated contacts, along with high ampere fuse links, allow the fusing of larger kVA transformers.

Chardon Bayonet Fuse Holders are designed to be used with Current Sensing, Dual Sensing, and Dual Element fuse links. The Chardon Bayonet Fuse Holder must be used in series with a current limiting fuse, or isolation link, to prevent the possibility of a high current fault – even after replacement of a fuse link. Partial range current limiting uses the low current clearing capabilities of the Chardon Bayonet Fuse Holder while protecting the transformer or apparatus from high current internal faults that could cause failure to the specific piece of equipment, as well as other system damage.

INSTALLATION

The Chardon Bayonet Fuse Holder is mounted through transformer tank wall, and is interchangeable with products manufactured by Cooper (RTE) and ABB. The incoming high voltage lead is connected to the isolation link or current limiting fuse. The isolation link or

current limiting fuse is then connected to the lower contact of the Chardon Bayonet Fuse Holder. The transformer winding is connected to the upper contact on the Chardon Bayonet Fuse Holder to complete the circuit.

RATINGS AND CHARACTERISTICS

kV Electrical Ratings	kV
BIL and Full Wave Crest	150
60Hz, AC, 1minute withstand	50

Maximum Single-Phase Interrupting Ratings in Mineral Oil	kV
3500A rms asymmetrical Cover Mount ; 3500A rms symmetrical Sidewall Mount	8.3
2500A rms asymmetrical Cover Mount ; 2500A rms symmetrical Sidewall Mount	15.5
1000A rms asymmetrical Cover Mount ; 1000A rms symmetrical Sidewall Mount	23.0

Loadbreak Ratings (at 80% pf)	kV
160A	10.0
150A	15.5
80A	26.7
50A	34.5

DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER

/ RUBBER SEAL

Multiple groove Nitrile rubber seal ensures reliable sealing.

/ TAPERED FLANGE

7° tapered flange retains gasket seal when compressed during assembly.

/ FLAPPER VALVE (OPTIONAL)

Flapper valve is open when the inner fuse cartridge holder assembly is inserted. The valve closes when the fuse holder is removed resulting in minimal oil spillage.

/ OUTER TUBE

Molded outer tube assembly of high temperature thermo-plastic withstands transformer operating temperatures and directs expulsion gases during fuse operation.

/ CONTACT BUTTONS

Independent spring copper contact buttons press evenly on fuse and are highly resistant to annealing for reliable electrical connectiong and high current carrying capacity.

/ END PLUG

Threaded brass end plug makes contact with fuse link element and diverts gases during fault.

/ HANDLE

Stick-operable handle with cam action seals and unseals fuse holder assembly and allows easy removal of fuse.

/ GASKET

Gasket on inside of tank ensures reliable sealing.

/ GAS PORTS

Expulsion gas ports release gases during fuse operation to prevent excess pressure on fuse holder and break up gas bubbles to prevent restrike.

/ COPPER TERMINALS

One-piece copper terminals provide convenient connections for high-voltage leads.

/ FUSE CARTRIDGE

High strength fuse cartridge directs and contains gases during fuse operation. Tapered end contacts allow easy insertion and removal during switching.

/ GAS PORTS

Expulsion gas ports release gases during fuse operation to prevent excess pressure on fuse holder and break up gas bubbles to prevent restrike.

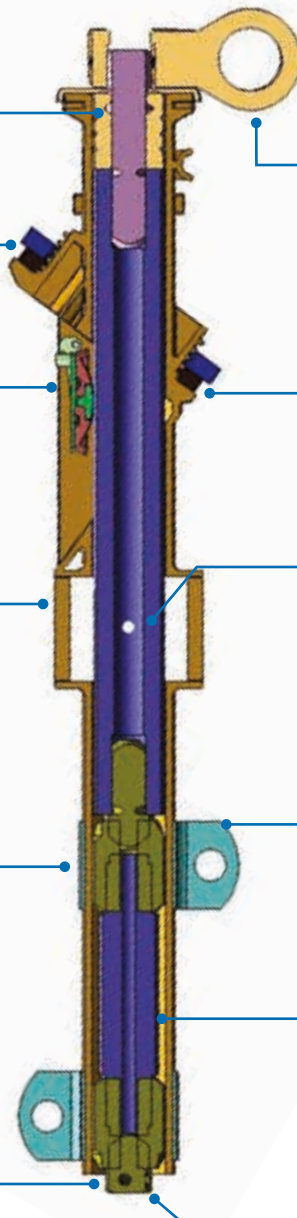
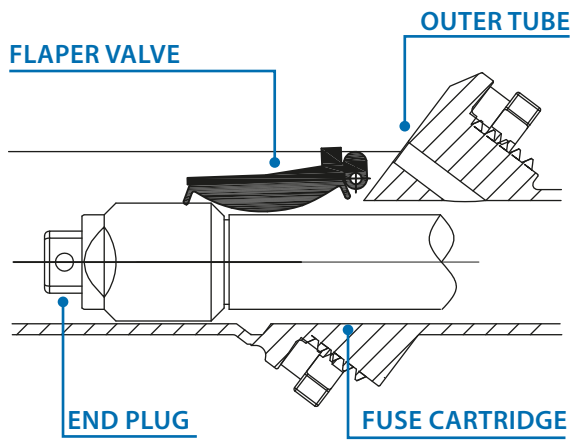


Figure 1

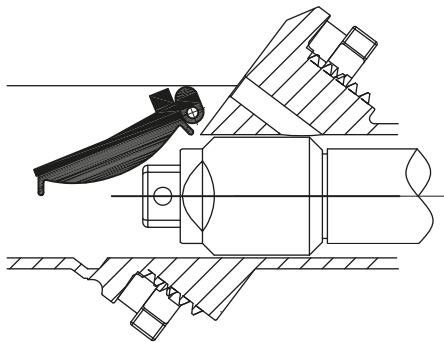
Cutaway illustration of Bayonet Holder with Optional Flapper Valve.

DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER



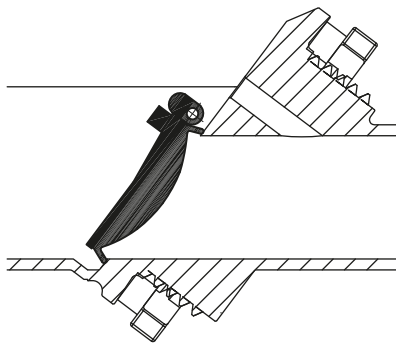
(A)

Cartridge removal with valve in open position.



(B)

Cartridge removal with valve partially closed.



(C)

Cartridge removal with valve closed.

Figure 2

Illustration of Flapper Valve Operation during removal of Inner Fuse Holder.

DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER

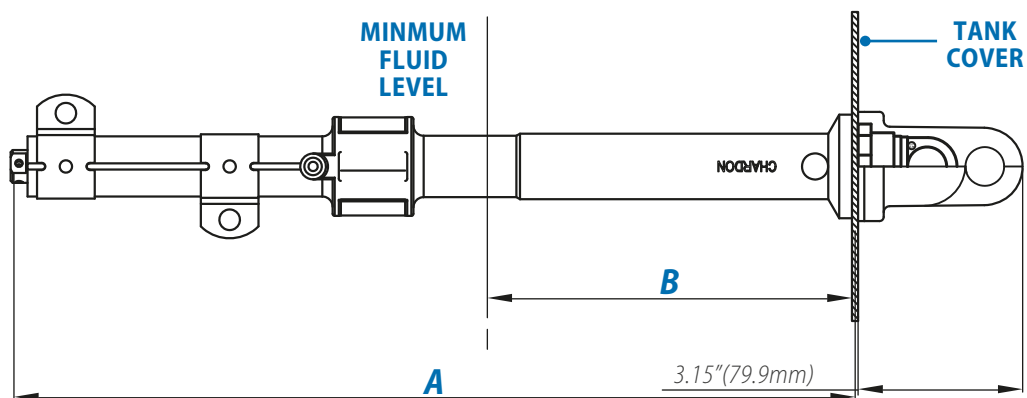


Figure 3
Installation view of the Cover Mount Bayonet Fuse Holder.

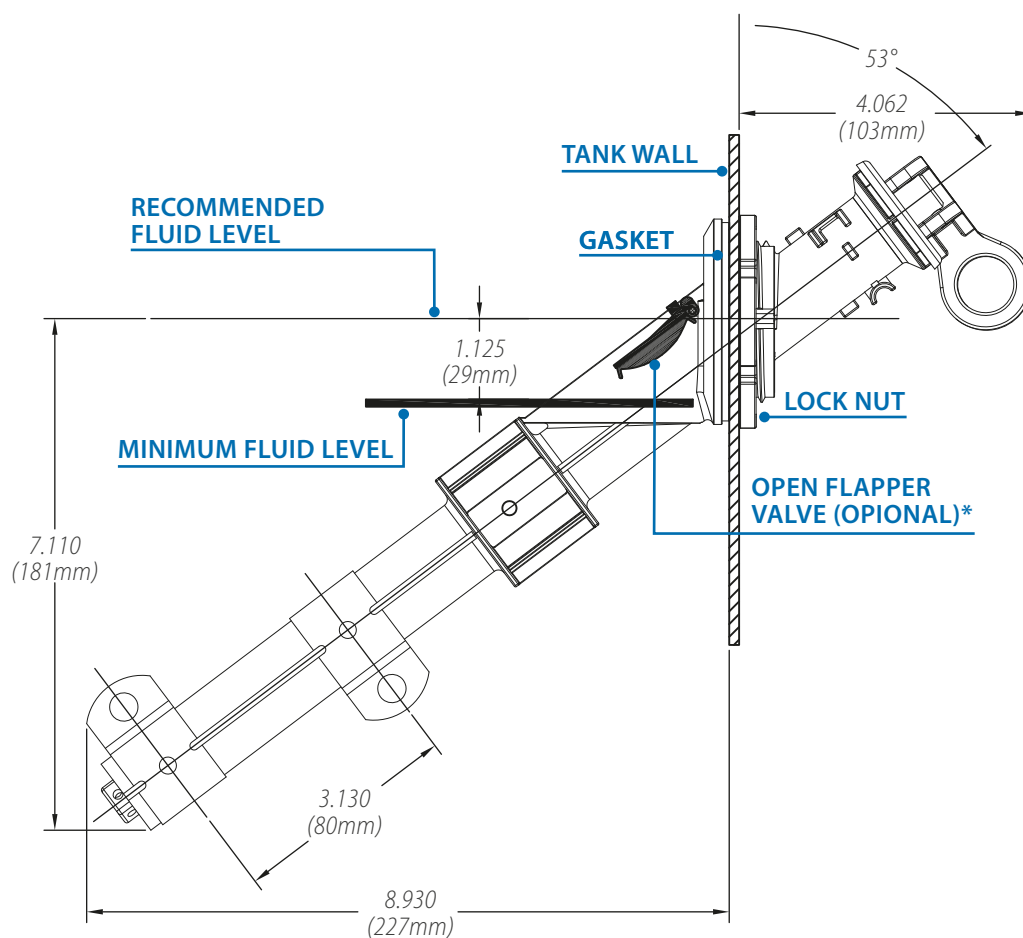


Figure 4
Installation view of the Sidewall Mount Bayonet Fuse Holder.

DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER

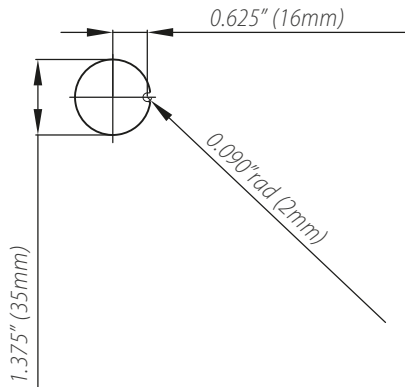


Figure 5
Cover Mounted Bayonet Fuse Holder
Mounting Hole Dimensions.

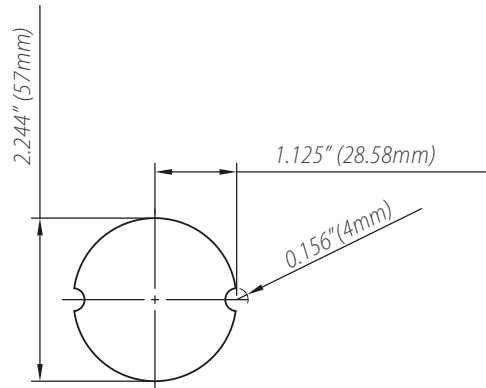


Figure 6
Sidewall Mount Bayonet Fuse Holder
Mounting Hole Dimensions.

Cover Mounted Bayonet Fuse Holder Dimensional Information

Type	Length in. / (mm)	
	A	B
Short	13.32" (338.4)	4.21" (107)
Long	16.08" (408.4)	6.97" (177)



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