

# Transformer Components Sidewall Mounted & Cover Mounted Bayonet Fuse Holder

**CHBON** Series



#### 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 charger 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 pated contacts, along with high ampere fue links, allow the fusing or lager 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 use 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

#### **RATINGS AND CHARACTERISTICS**

# kV Electrical Ratings BIL and Full Wave Crest 60Hz, AC, 1minute withstand Maximum Single-Phase Interrupting Ratings in Mineral Oil 3500A rms asymmetrical Cover Mount ; 3500A rms symmetrical Si 2500A rms asymmetrical Cover Mount ; 2500A rms symmetrical Si 1000A rms asymmetrical Cover Mount ; 1000A rms symmetrical Si Loadbreak Ratings (at 80% pf) 160A

150A 80A 50A

current limiting fuse is then connected to the lowercontact 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.



	kV
	150
	50
	kV
Sidewall Mount	8.3
Sidewall Mount	15.5
Sidewall Mount	23.0
	kV
	10.0
	15.5
	26.7
	34.5

### **DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER**

#### **I** RUBBER SEAL

Multiple groove Nitrile rubber seal ensures reliable sealing.

#### **TAPERED FLANGE**

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

#### **I** 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 hign current carrying capacity.

#### **/** END PLUG

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

#### **I** 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.

#### **I** 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 highvoltage leads.

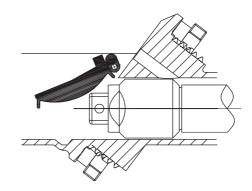
#### **I** FUSE CARTRIDGE

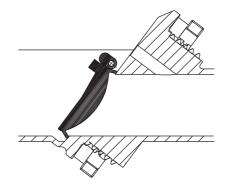
High strength fuse cartridge directs and contains gases during fuse operation. Tapered end contacts allow easy insertion and removal during switching.

#### **I** 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.

# FLAPER VALVE





#### **Figure 1** Cutaway illustration of Bayonet Holder with Optional Flapper Valve.

**Figure 2** Illustration of Flapper Valve Operation during removal of Inner Fuse Holder.

#### DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER

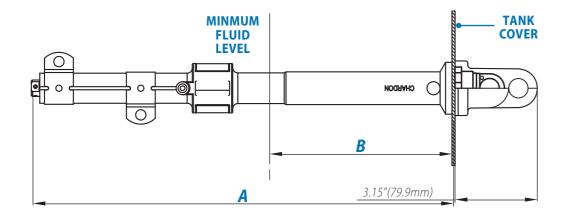
#### **(A)**

Cartridge removal with valve in open position.

#### **(B)**

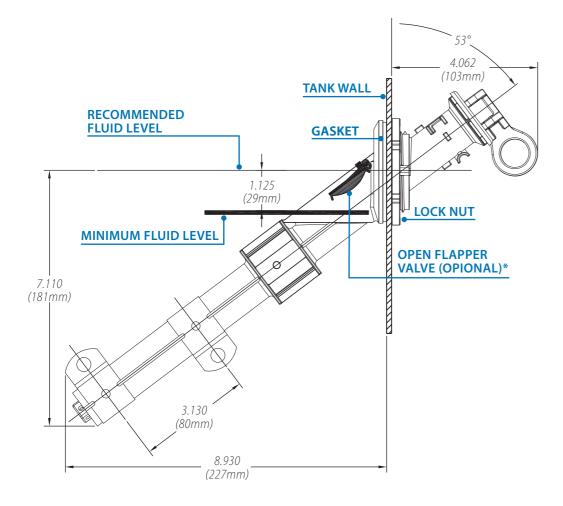
Cartridge removal with valve partially closed.

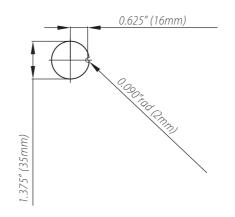
(C) Cartridge removal with valve closed.



#### Figure 3

Installation view of the Cover Mount Bayonet Fuse Holder.





#### Figure 5

Cover Mounted Bayonet Fuse Holder Mounting Hole Dimensions.

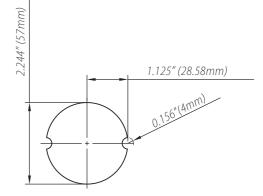
#### **Cover Mounted Bayonet Fuse Holder Dimensional Information**

	Length in. / (mm)		
Туре	А	В	
Short	13.32" (338.4)	4.21" (107)	
Long	16.08" (408.4)	6.97" (177)	

#### Figure 4

Installation view of the Sidewall Mount Bayonet Fuse Holder.

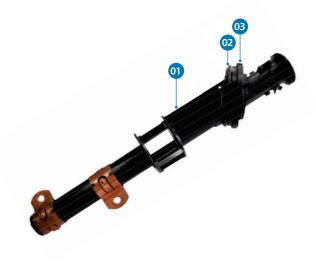
#### DETAILED COMPOSITION OF THE CHARDON BAYONET FUSE HOLDER



#### Figure 6

Sidewall Mount Bayonet Fuse Holder Mounting Hole Dimensions.

## **ORDERING INFORMATION**





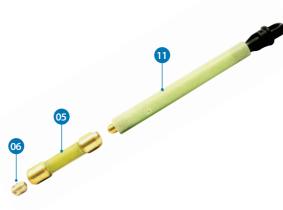
#### Figure 7

Outer Tube with Contacts Gasket and Tightening Nut.





**Figure 9** Outer Tube Nut , Gasket and Cap.



**Figure 10** Inner Fuse Cartridge Holder Assembly.

#### Sidewall Mounted Bayonet Fuse Holder

	Description	
	Sidewall Mounted Bayonet Fuse Holder	
	(Bay-O-Net Fuse Holder Assembly w/o Flapper Valve)	
	Outer Tube (with Flapper Valve) (with Contacts, Gasket and Nut)	
	Outer Tube (w/o Flapper Valve) (with Contacts, Gasket and Nut)	
	Lock Nut	
	Tank Wall Gasket	
	Inner Fuse Cartridge Holder Assembly (with Fuse Cartridge and End Plug)	
	Inner Holder Only	
	Fuse Cartridge	
	End Plug	
(	Cover Mounted Bayonet Fuse Holder w/o Fl	арр
	Cover Mounted Bayonet Fuse Holder w/o Fl Description	app
		арр
	Description	арр
	Description Cover Mounted Bayonet Fuse Holder (short)	app
	Description         Cover Mounted Bayonet Fuse Holder (short)         Cover Mounted Bayonet Fuse Holder (long)         Outer Tube (short)	app
	Description         Cover Mounted Bayonet Fuse Holder (short)         Cover Mounted Bayonet Fuse Holder (long)         Outer Tube (short) (with Nut , Gasket and Cap)         Outer Tube (long)	app
	Description         Cover Mounted Bayonet Fuse Holder (short)         Cover Mounted Bayonet Fuse Holder (long)         Outer Tube (short) (with Nut , Gasket and Cap)         Outer Tube (long) (with Nut , Gasket and Cap)	app
	Description         Cover Mounted Bayonet Fuse Holder (short)         Cover Mounted Bayonet Fuse Holder (long)         Outer Tube (short) (with Nut , Gasket and Cap)         Outer Tube (long) (with Nut , Gasket and Cap)         Sealing Cap	app
	Description         Cover Mounted Bayonet Fuse Holder (short)         Cover Mounted Bayonet Fuse Holder (long)         Outer Tube (short) (with Nut , Gasket and Cap)         Outer Tube (long) (with Nut , Gasket and Cap)         Sealing Cap         Lock Nut	app
	Description         Cover Mounted Bayonet Fuse Holder (short)         Cover Mounted Bayonet Fuse Holder (long)         Outer Tube (short) (with Nut , Gasket and Cap)         Outer Tube (long) (with Nut , Gasket and Cap)         Sealing Cap         Lock Nut         Sealing Gasket	app

Inner Holder Only (long)

**Fuse Cartridge** 

End Plug

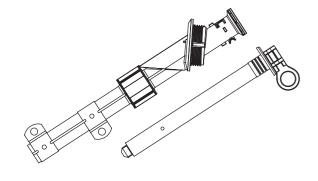
#### **ORDERING INFORMATION**

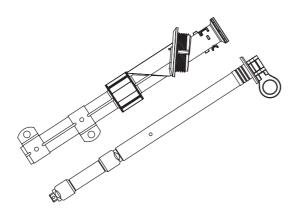
Catlog no.	Figures no.	
CHBONFV	Figure 7+8	
CHBON	Figure 7+8	
CHBONFVOT	Figure 7 1+2+3	
CHBONOT	Figure 7 1+2+3	
CHBONLN	Figure 7 3	
CHBONG	Figure 7 2	
CHBONIHFC	Figure 8 4+5+6	
CHBONIH	Figure 8 4	
CHBONFC	Figure 8 5	
CHBONEP	Figure 8 6	

#### oer Valve

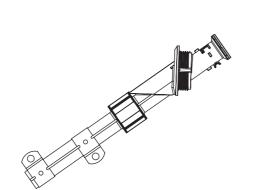
Catlog no.	Figures no.	
CHBONCM-S	Figure 9+10	
CHBONCM-L	Figure 9+10	
CHBONCMOT-S	Figure 9 7+8+9+10	
CHBONCMOT-L	Figure 9 7+8+9+10	
CHBONCMSC	Figure 9 7	
CHBONCMLN	Figure 9 8	
CHBONCMG	Figure 9 9	
CHBONCMIHFC-S	Figure 10 11+5+6	
CHBONCMIHFC-L	Figure 10 11+5+6	
CHBONCMIH-S	Figure 10 11	
CHBONCMIH-L	Figure 10 11	
CHBONFC	Figure 10 5	
CHBONEP	Figure 10 6	

# **ORDERING INFORMATION**





#### Figure 11



#### Silver Plated Bayonet Holder Assembly Parts\*

Description	Catlog no.	Figures no.
Silver Plated Bayonet with Inner Fuse Holder (with Flapper Valve)	CHBONNFCAG CHBONNFCFVAG	Figure 11
Silver Plated Bayonet with Inner Holder, Fuse Cartridge and End Plug (with Flapper Valve)	CHBONAG CHBONFVAG	Figure 12
Inner Holder with Silver Plated Fuse Cartridge and End Plug	CHBONIHFCAG	Figure 13
Silver Plated Bayonet not including Inner Holder, Fuse Cartridge and End Plug (with Flapper Valve)	CHBONNIHFCAG CHBONNIHFCFVAG	Figure 14
Silver Plated Fuse Cartridge including End Plug	CHBONFCAG	Figure 15
Silver Plated Fuse Cartridge without End Plug	CHBONFCNEPAG	Figure 16

\* This is the recommended holder for use with high Ampere Overload links. These integral cartridge fuse links have been designed for high kVA transformer application.

Figure 13

Figure 14

Figure 12



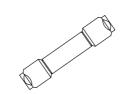


Figure 15



#### **ORDERING INFORMATION**



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