

# 23 kV and 38 kV sidewall-mounted and 23 kV cover-mounted Bay-O-Net fuse assembly



## General

Eaton protects transformer and distribution systems with its Cooper Power™ series Bay-O-Net fuse assemblies. They are designed for use in pad-mounted or subsurface distribution transformers filled with Envirotemp™ FR3™ fluid, transformer oil or approved equivalent. The assemblies combine the ease of hotstick operation with the safety of deadfront construction.

Eaton offers its optional Cooper Power series Flapper™ valve Bay-O-Net fuse assemblies (available as sidewall-mounted only) with a flapper valve inside the housing which closes when the fuse holder is removed. (Refer to Figure 2.) This results in minimal oil spillage from the transformer tank which increases safety to line personnel during fuse changeouts, reduces potential of environmental concerns with oil spillage, reduces potential of oil contamination on the molded rubber elbow connections and reduces sensitivity to pad tilting.

Silver-plated Flapper valve Bay-O-Net assemblies are available and recommended for use with the high ampere overload links. (See Catalog CA132007EN.) Silver-plated contacts along with the high ampere overload link allow the fusing of larger kVA transformers.

For 38 kV Bay-O-Net fuse assemblies silver-plated terminals and Flapper valves are standard. (See Catalog CA132006EN for 38 kV Bay-O-Net Links.)

Removal of the fuse holder from the assembly indicates that the apparatus is electrically disconnected. It also allows convenient fuse element inspection and replacement. When typical safety practices are followed, the assemblies can be loadbreak-operated for working on the transformer secondary; changing distribution voltage with dual voltage switches or tap changers; or disconnecting the apparatus from the line.

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**Table 1. Ratings and Characteristics 23 kV Assembly**

<b>kV</b>	<b>Electrical Ratings</b>
150	BIL and Full Wave Crest
50	60 Hz, AC, 1 minute withstand
<b>kV</b>	<b>Maximum Single-Phase Interrupting Ratings in Mineral Oil*</b>
8.3	3,500 A rms symmetrical Cover Mount 3,500 A rms symmetrical Sidewall Mount
15.5	2,500 A rms symmetrical Cover Mount 2,500 A rms symmetrical Sidewall Mount**
23.0	1,000 A rms symmetrical Cover Mount 1,000 A rms symmetrical Sidewall Mount
<b>kV</b>	<b>Loadbreak Ratings (at 80% pf)</b>
10.0	160 A
15.5	150 A
26.7	80 A
34.5	50 A

\* With Eaton's Cooper Power series Bay-O-Net fuse links only. Check Bay-O-Net fuse catalog sections for ratings in Envirotemp™ FR3™ fluid.

\*\* Except with high ampere overload Bay-O-Net links, which is 2000 A rms symmetrical.

**Table 2. Ratings and Characteristics 38 kV Assembly**

<b>kV</b>	<b>Electrical Ratings</b>
200	BIL and Full Wave Crest
70	60 Hz, AC, 1 minute withstand
<b>kV</b>	<b>Maximum Single-Phase Interrupting Ratings</b>
38	900 A rms symmetrical for 10-40 A Integral Cartridge Link 1,000 A rms symmetrical for 65 A Integral Cartridge Link
<b>kV</b>	<b>Loadbreak Ratings (at 80% pf)</b>
38	50 A

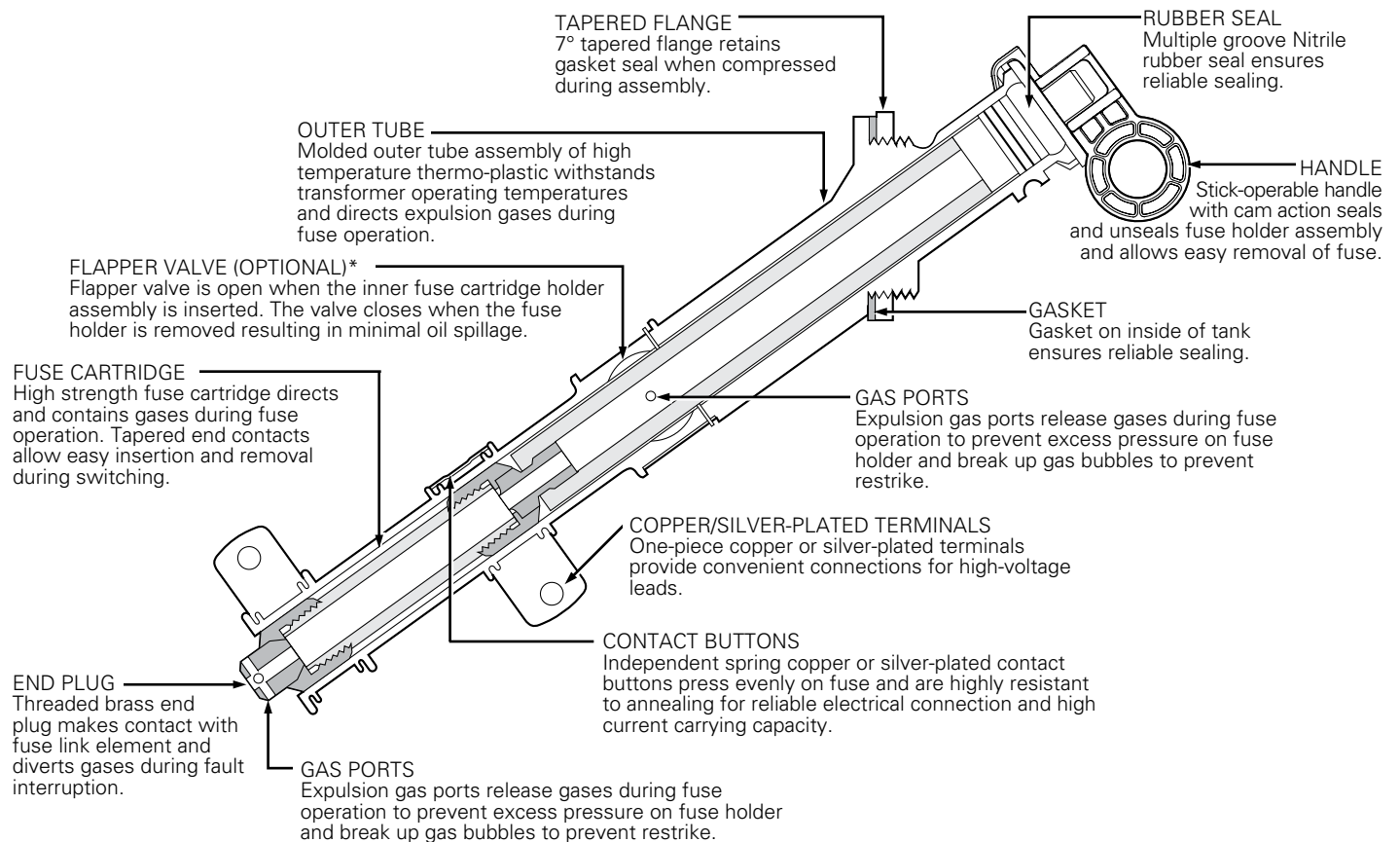
Eaton's Cooper Power series current sensing (Catalog CA132009EN), dual sensing (Catalog CA132010EN), dual element (Catalog CA132011EN) and high ampere overload (Catalog CA132007EN) fuse links are to be used in a Bay-O-Net fuse assembly. Eaton's Cooper Power series 38 kV fuse links are to be used in a 38 kV Bay-O-Net fuse assembly.

The assembly must be used in series with an isolation link (Catalog CA132012EN) or current-limiting fuse, such as Eaton's Cooper Power series ELSP (Catalog CA132013EN), to prevent the possibility of a high current fault close-in, even after the fuse link has been replaced. The 38 kV assembly must be used in series with a 38 kV current-limiting fuse.

Partial range current-limiting fuses use the low current clearing capabilities of the Bay-O-Net fuse assembly while protecting from high current internal faults that could cause disruptive equipment failure or upstream system damage.

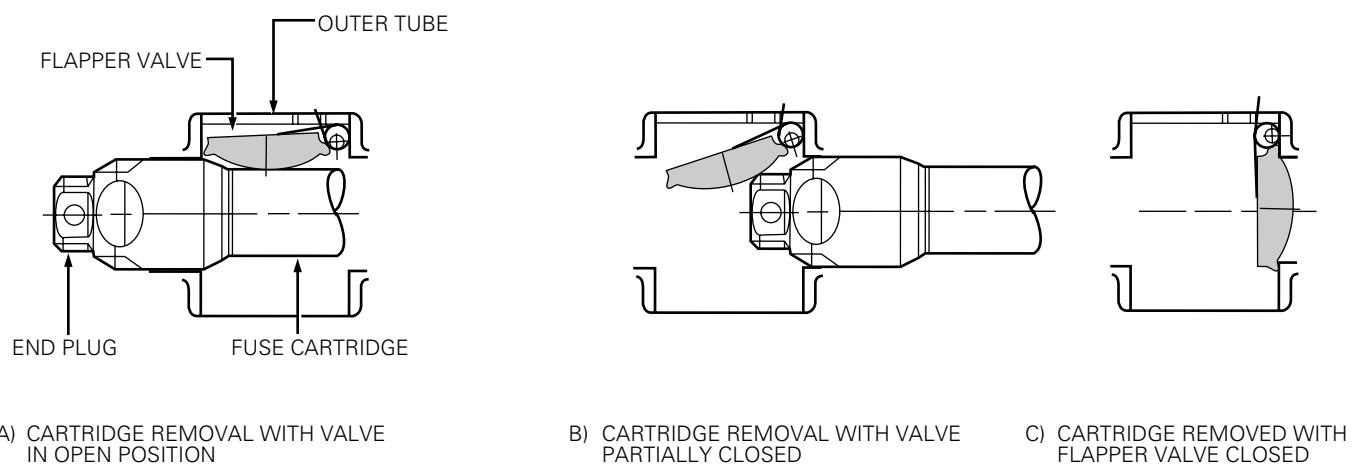
## Installation

No special tools are required. The fuse assembly is mounted through the transformer tank wall for sidewall-mount and through the tank cover for cover-mount. The incoming high-voltage lead is connected to the isolation link or current-limiting fuse. The isolation link or current-limiting fuse is connected to the lower contact of the fuse assembly; and the upper contact is connected to the transformer winding. Refer to Service Information Section MN132003EN for details.



**Figure 1. Cutaway Illustration of sidewall-mounted Bay-O-Net assembly with optional Flapper valve.**

\* Flapper valve is available on sidewall-mount assemblies only. For all Bay-O-Net assemblies with silver-plated terminals including 38 kV assemblies, the Flapper valve is standard.



**Figure 2. Flapper valve operation during removal of fuse holder.**

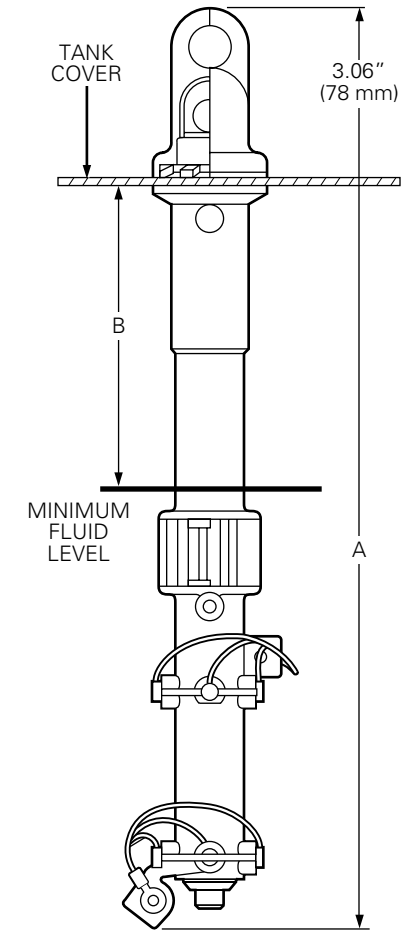


Figure 3. Cover-mounted assembly shows dimensions for long and short assemblies and minimum fluid level.

**Note:** Dimensions given are for reference only-  
Flapper valve is NOT available on the cover-mount  
assembly.

Table 3. Cover-Mount Assembly Dimensional Information

Type	Length in./(mm)	
	A	B
Short	13.62 (346)	4.19 (107)
Long	16.37 (416)	6.94 (177)

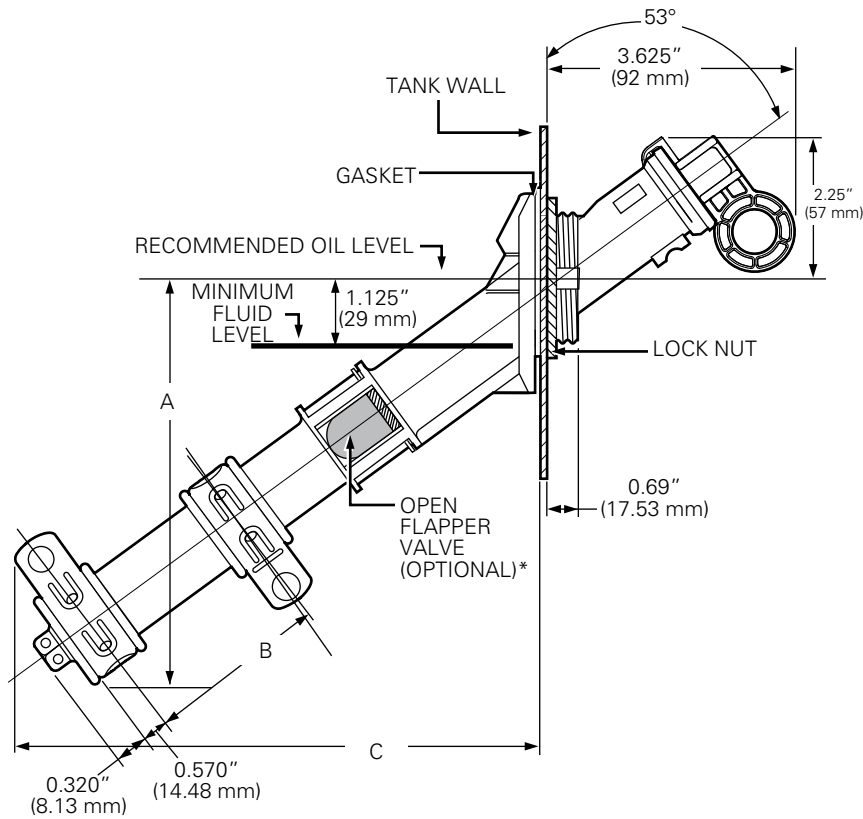


Figure 4. Sidewall-mounted assembly shows installation configuration and fluid level.

\* Flapper valve is available on sidewall-mount assemblies only.

Table 4. Sidewall Assembly Dimensional Information

kV Rated Assembly	Length in./(mm)		
	A	B	C
23	7.07 (180)	3.125 (80)	9.125 (232)
38	7.66 (195)	4.125 (105)	9.95 (253)

## Ordering information - 23 kV

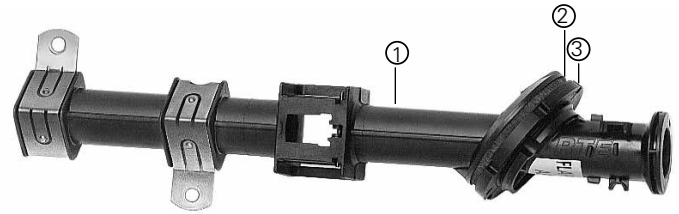
To order a Flapper valve Bay-O-Net fuse assembly, refer to Tables 3 and 4. See Table 5 for ordering silver-plated Flapper valve Bay-O-Net assembly.

**Table 5. Fuse Assemblies - 23 kV**

Description	Catalog Number
Flapper Sidewall-Mount	4000361C99FV
Sidewall-Mount w/o Flapper valve	4000361C99MC
Cover-Mount (short)	4001177B51MC
Cover-Mount (long)	4001177B53MC

**Table 6. Replacement Parts - 23 kV**

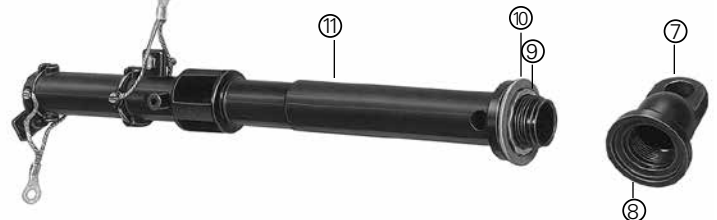
Description	Catalog Number	Figure Number	Item No.
Flapper Sidewall-Mount			
Outer Tube, with Contacts, Gasket and Nut	4037158C03M	5	1, 2 and 3
Tank Wall Gasket	0537980C19		2
Lock Nut	4038022A01		3
Housing with Inner Holder Only (no cartridge)	4038804B02M	5 and 6	1, 2, 3, and 4
Inner Fuse Cartridge Holder Assembly, with Fuse Cartridge and End Plug	4001030B52M	6	4, 5, and 6
Inner Holder Only	4000715B02M		4
Fuse Cartridge with End Plug	4001686A53M		5 and 6
Fuse Cartridge	3437922B02M		5
End Plug	4001685A01		6
Sidewall-Mount w/o Flapper Valve			
Outer Tube, with Contacts, Gasket and Nut	4037158C01M	5	1, 2, and 3
Tank Wall Gasket	0537980C19		2
Lock Nut	4038022A01		3
Housing with Inner Holder Only (no cartridge)	4038804B01M	5 and 6	1, 2, 3, and 4
Inner Fuse Cartridge Holder Assembly, with Fuse Cartridge and End Plug	4001030B52M	6	4, 5, and 6
Inner Holder Only	4000715B02M		4
Fuse Cartridge with End Plug	4001686A53M		5 and 6
Fuse Cartridge	3437922B02M		5
End Plug	4001685A01		6
Cover-Mount w/o Flapper Valve			
Tank Wall Gasket	0501517A11	7	10
Lock Nut	0803598A01		9
Sealing Cap Gasket	0501519A01		8
Sealing Cap	4006795A01		7
Short Inner Holder Assembly, with Fuse Cartridge and End Plug	4001464B54	8	12, 5, and 6
Short Inner Holder Only	4001180B01		12
Long Inner Holder Assembly, with Fuse Cartridge and End Plug	4001464B55		5 and 6
Long Inner Holder Only	4001180B02		12
Fuse Cartridge with End Plug	4001686A53M		5 and 6
Fuse Cartridge	3437922B02M		5
End Plug	4001685A01		6



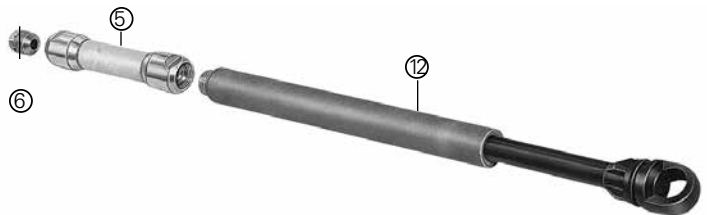
**Figure 5. Sidewall-mounted outer tube with contacts and gasket.**



**Figure 6. Sidewall-mounted inner fuse cartridge holder assembly with fuse cartridge and end plug.**



**Figure 7. Cover-mounted outer tube with contacts and gasket.**



**Figure 8. Cover-mounted inner holder assembly with fuse cartridge and end plug.**

Table 7. Silver-Plated Bay-O-Net Assembly Parts - 23 kV\*

Description	Catalog Number
**Silver-plated Bay-O-Net with inner fuse holder. (Figure 9)	4038804B03M
***Silver-plated Bay-O-Net with inner holder, fuse cartridge and end plug. (Figure 10)	4000361C89FV
Inner holder with silver-plated fuse cartridge and end plug. (Figure 11)	4001030B59
Silver-plated Bay-O-Net not including inner holder fuse cartridge and end plug. (Figure 12)	4037158C05M
Silver-plated fuse cartridge including end plug. (Figure 13)	4001686A54M
Silver-plated fuse cartridge without end plug. (Figure 14)	3437922B03M

\* This is the recommended holder for use with high ampere overload links (Catalog CA132007EN). These integral cartridge fuse links have been designed for high kVA transformer applications.

\*\* Should be specified when using integral cartridge fuse links 4000358C16CB, 4000358C18CB, 4038361C03CB, 4038361C04CB, and 4038361C05CB. It should also be specified along with solid link 4038361C10CB.

\*\*\* Should be used for all fuse links except the integral cartridge links 4000358C16CB, 4000358C18CB, 4038361C03CB, 4038361C04CB, 4038361C05CB and solid link 4038361C10CB.

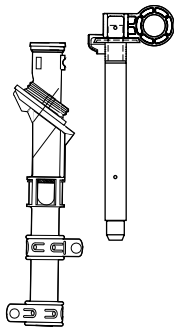


Figure 9. Silver-plated Bay-O-Net with inner fuse holder, Catalog No. 4038804B03M.

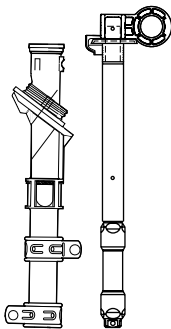


Figure 10. Silver-plated Bay-O-Net with inner fuse holder, fuse cartridge and end plug, Catalog No. 4000361C89FV.

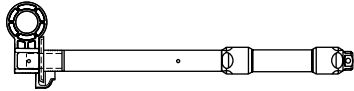


Figure 11. Inner holder with silver-plated fuse cartridge and end plug, Catalog No. 4001030B59.

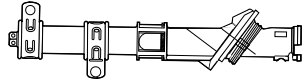


Figure 12. Silver-plated Bay-O-Net not including inner holder fuse cartridge and end plug, Catalog No. 4037158C05M.

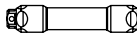


Figure 13. Silver-plated fuse cartridge including end plug, Catalog No. 4001686A54M.

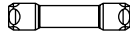


Figure 14. Silver-plated fuse cartridge without end plug, Catalog No. 3437922B03M.

Ordering information - 38 kV

To order a 38 kV Flapper valve Bay-O-Net fuse assembly, refer to Table 8.

Table 8. Silver-Plated Bay-O-Net Assembly Parts - 38 kV\*

Description	Catalog Number
*Silver-plated Bay-O-Net with inner fuse holder. (Figure 15)	4038380B03M
Inner holder without fuse cartridge and end plug. (Figure 16)	4000715B02M
Silver-plated Bay-O-Net not including inner holder fuse cartridge and end plug. (Figure 17)	4037158C11M
Tank wall gasket	0537980C19
Lock nut	4038022A01

\* When ordering P/N 4038380B03M (Figure 15), you must order a 38 kV Bay-O-Net integral fuse cartridge listed in Catalog CA132006EN.

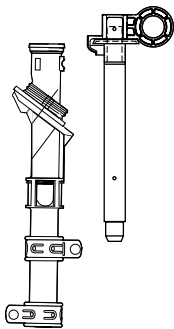


Figure 15. Silver-plated Bay-O-Net with inner fuse holder, Catalog No. 4038380B03M.

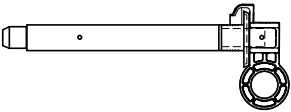


Figure 16. Inner holder without fuse cartridge and end plug, Catalog No. 4000715B02M.

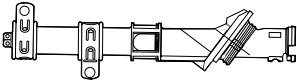


Figure 17. Silver-plated Bay-O-Net not including inner holder fuse cartridge and end plug, Catalog No. 4037158C11M.

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