

Fusing Equipment

Electrical Apparatus
240-40

Sidewall-Mounted and Cover-Mounted Bay-O-Net Fuse Assembly

GENERAL

Cooper Power Systems Bay-O-Net Fuse Assemblies are used to protect transformers and distribution systems. 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.

The optional Flapper Bay-O-Net fuse assemblies (available as sidewall-mounted only) include a flapper valve inside the housing which closes when the fuse holder is removed. (Refer to Figure 3.) 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 Bay-O-Net assemblies are also available and recommended for use with the high ampere overload Bay-O-Net links. (See Catalog Section 240-49.) Silver-plated contacts along with the high ampere overload link allow the fusing of larger kVA transformers.

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.

Current sensing (Section 240-45), dual sensing (Section 240-46), dual element (Section 240-48) and high ampere overload (Section 240-49) fuse links can be used in a Bay-O-Net fuse assembly.

The assembly must be used in series with an isolation link (Section 240-47) or current-limiting fuse, such as the Cooper Power Systems ELSP (Section 240-50), to prevent the possibility of a



Figure 1. Bay-O-Net Fuse Assembly for sidewall mounting with optional Flapper valve.

high current fault close-in, even after the fuse link has been replaced.

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 S240-40-2 for details.

TABLE 1
Ratings and Characteristics

kV	Electrical Ratings
150	BIL and Full Wave Crest
50	60 Hz, AC, 1 minute withstand
kV	Maximum Single-Phase Interrupting Ratings in Mineral Oil*
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
kV	Loadbreak Ratings (at 80% pf)
10.0	160 A
15.5	150 A
26.7	80 A
34.5	50 A

* With Cooper Power Systems 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.

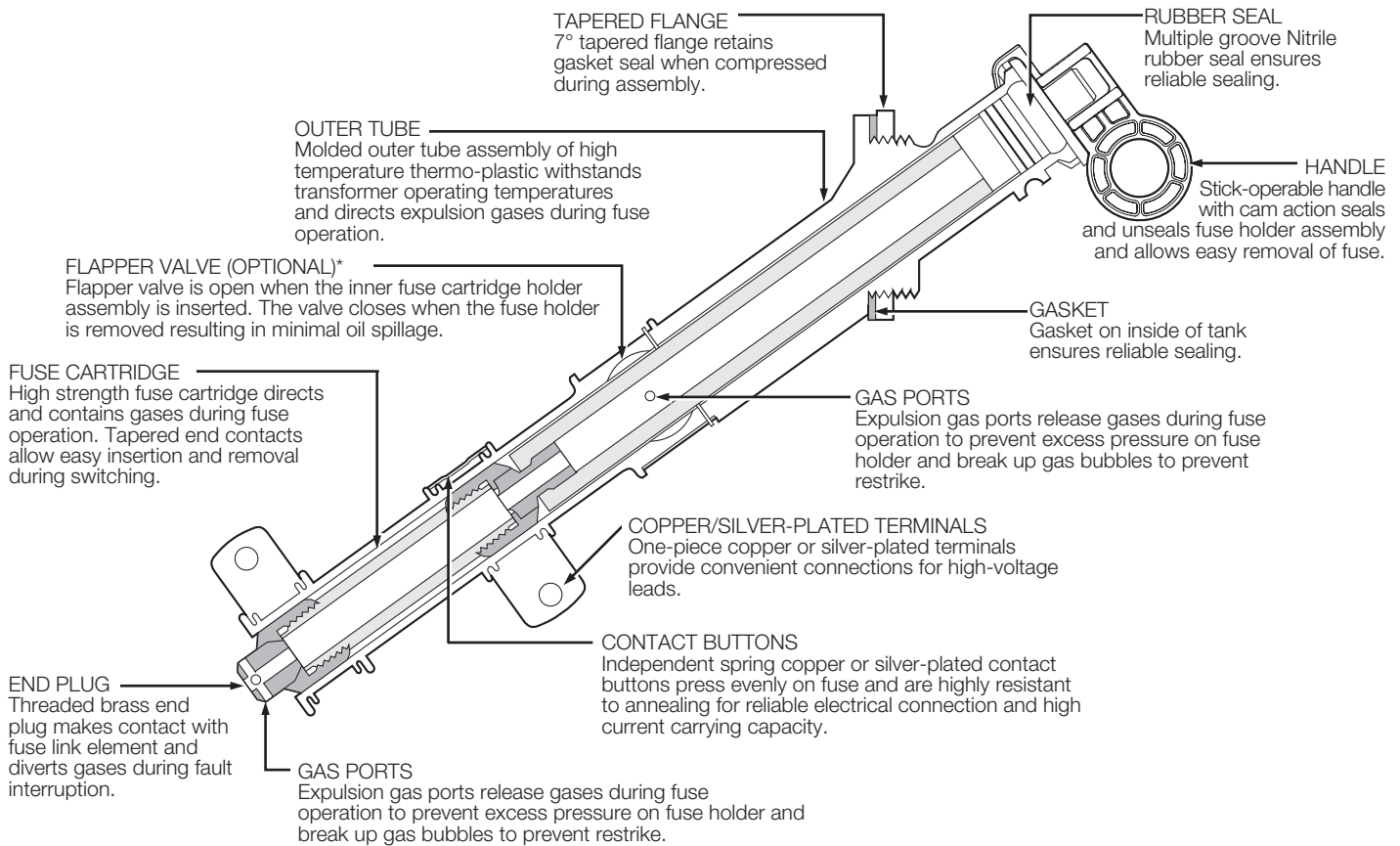


Figure 2.
Cutaway Illustration of Sidewall-Mount Bay-O-Net Assembly with optional flapper valve.

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

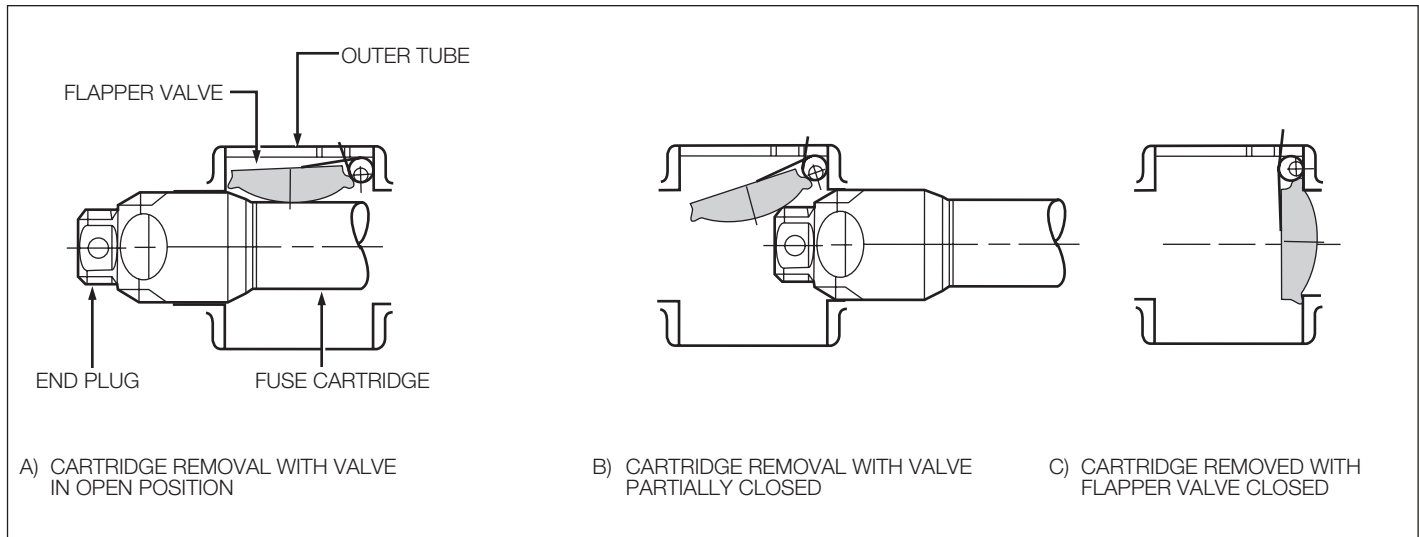


Figure 3.
Flapper Valve operation during removal of fuse holder.

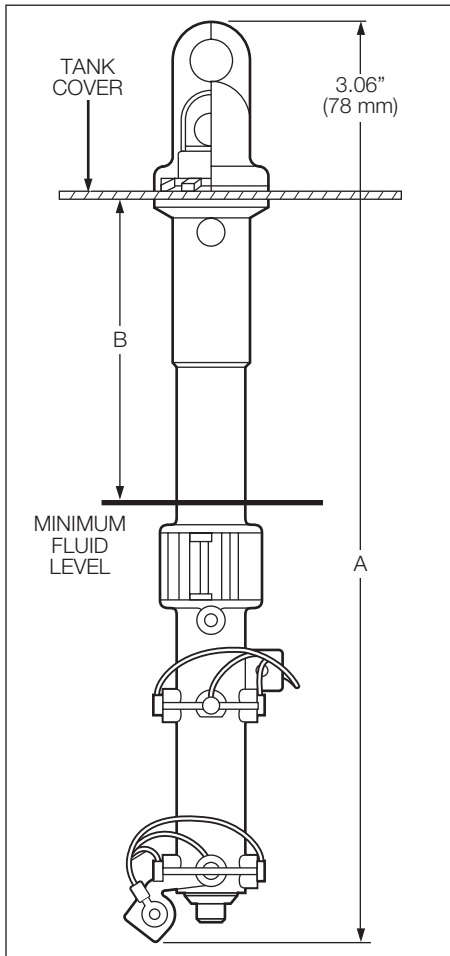


Figure 4.
Cover-Mount Assembly shows dimensions for long and short assemblies and minimum fluid level.

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

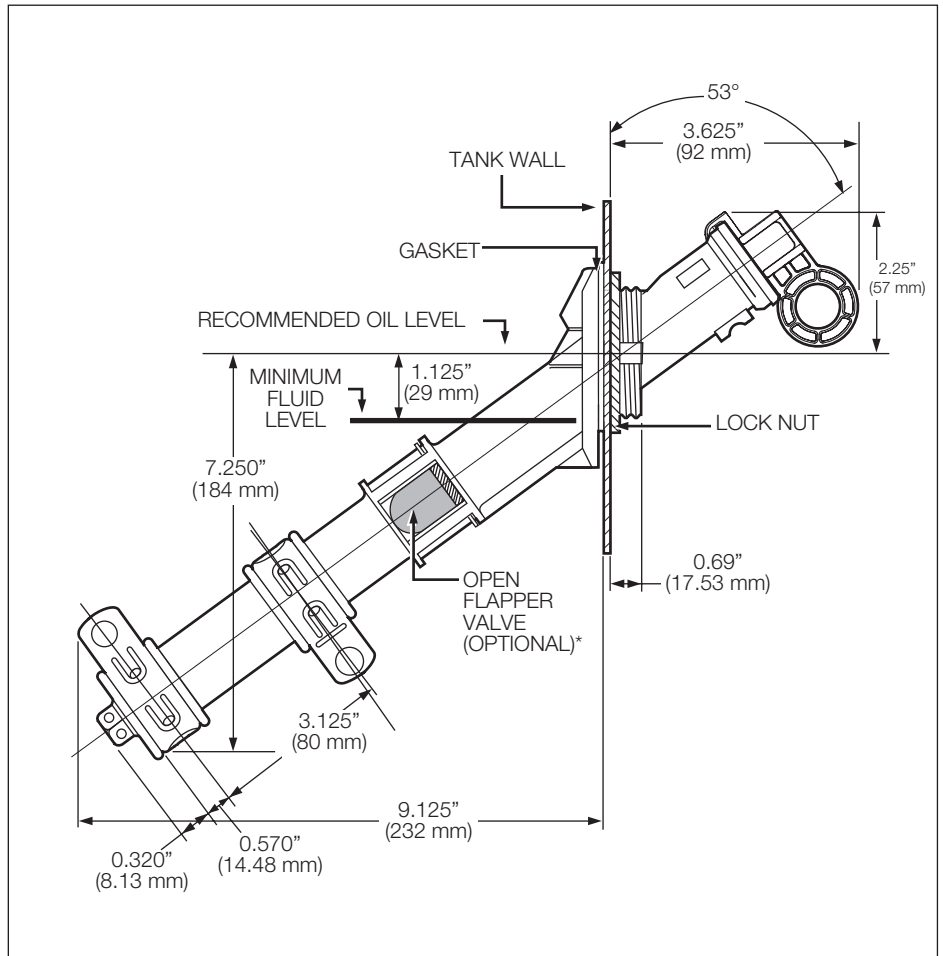


Figure 5.
Sidewall-Mount Assembly shows installation configuration and fluid level.

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

TABLE 2
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)

ORDERING INFORMATION

To order a Cooper Power Systems Flapper Bay-O-Net fuse assembly, refer to Tables 3 and 4. See Table 5 for ordering Silver Plated Flapper Bay-O-Net Assembly.

TABLE 3
Fuse Assemblies

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

TABLE 4
Replacement Parts

Description	Catalog Number	Figure Number	Item No.
Flapper Sidewall-Mount			
Outer Tube, with Contacts, Gasket and Nut	4037158C03M	6	1, 2 and 3
Tank Wall Gasket	0537980C19		2
Lock Nut	4038022A01		3
Housing with Inner Holder Only (no cartridge)	4038804B02M	6 and 7	1, 2, 3, and 4
Inner Fuse Cartridge Holder Assembly, with Fuse Cartridge and End Plug	4001030B52M	7	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	6	1, 2, and 3
Tank Wall Gasket	0537980C19		2
Lock Nut	4038022A01		3
Housing with Inner Holder Only (no cartridge)	4038804B01M	6 and 7	1, 2, 3, and 4
Inner Fuse Cartridge Holder Assembly, with Fuse Cartridge and End Plug	4001030B52M	7	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	8	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	9	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	

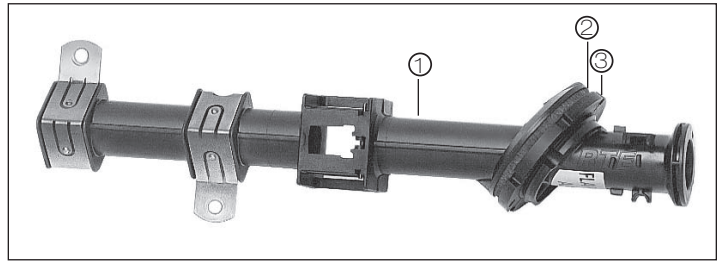


Figure 6.
Sidewall-Mount Outer Tube with contacts and gasket.

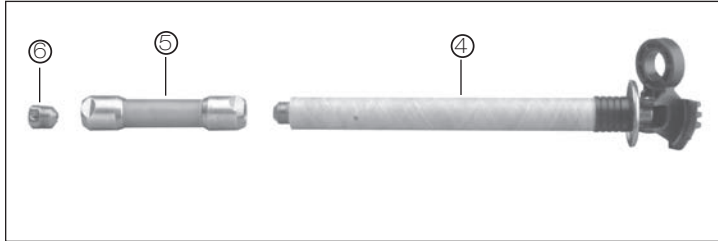


Figure 7.
Sidewall-Mount Inner Fuse Cartridge Holder Assembly with fuse cartridge and end plug.

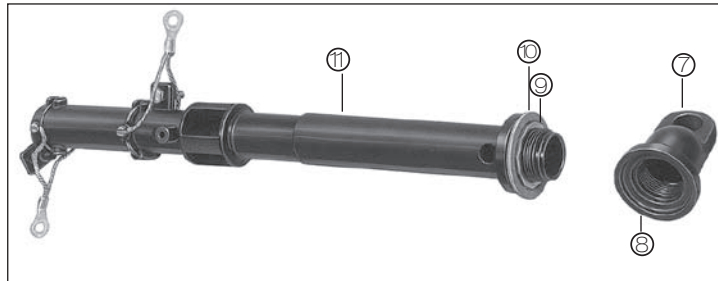


Figure 8.
Cover-Mount Outer Tube with contacts and gasket.

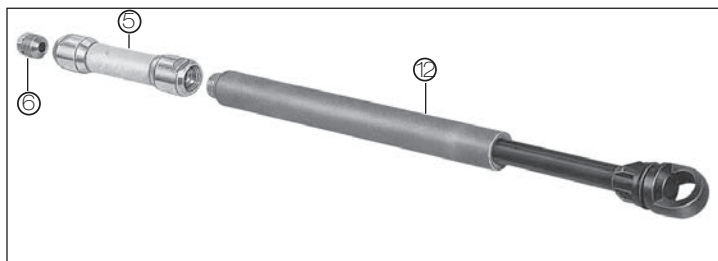


Figure 9.
Cover-Mount Inner Holder Assembly with fuse cartridge and end plug.

ORDERING INFORMATION

TABLE 5
Silver Plated Bay-O-Net Assembly Parts*

Description	Catalog Number
**Silver Plated Bay-O-Net with inner fuse holder. (Figure 10)	4038804B03M
***Silver Plated Bay-O-Net with inner holder, fuse cartridge and end plug. (Figure 11)	4000361C89FV
Inner holder with silver plated fuse cartridge and end plug. (Figure 12)	4001030B59
Silver Plated Bay-O-Net not including inner holder fuse cartridge and end plug. (Figure 13)	4037158C05M
Silver plated fuse cartridge including end plug. (Figure 14)	4001686A54M
Silver plated fuse cartridge without end plug. (Figure 15)	3437922B03M

* This is the recommended holder for use with High Ampere Overload Links (Section 240-49). 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.

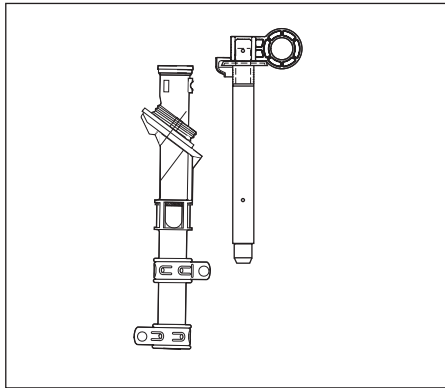


Figure 10.
Silver Plated Bay-O-Net with inner fuse holder, Catalog No. 4038804B03M.

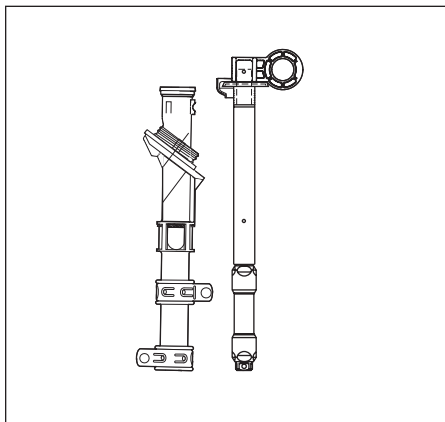


Figure 11.
Silver Plated Bay-O-Net with inner fuse holder, fuse cartridge and end plug, Catalog No. 4000361C89FV.

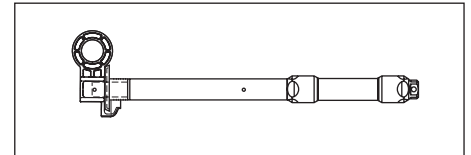


Figure 12.
Inner holder with silver plated fuse cartridge and end plug, Catalog No. 4001030B59.

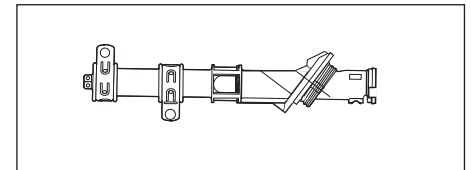


Figure 13.
Silver Plated Bay-O-Net not including inner holder fuse cartridge and end plug, Catalog No. 4037158C05M.

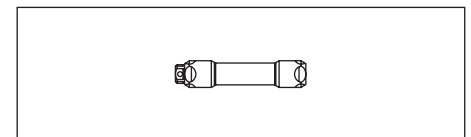


Figure 14.
Silver plated fuse cartridge including end plug, Catalog No. 4001686A54M.

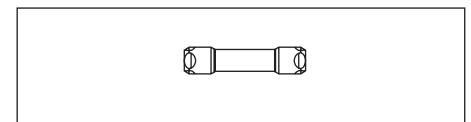


Figure 15.
Silver plated fuse cartridge without end plug, Catalog No. 3437922B03M.