

# *CCS Circular*

China Classification Society  
(2010) Circular No.13, Total No.13  
April 1,2010

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TO: Relevant Dept.of CCS Headquarters, CCS Branches,CCS Surveyor  
for Newbuilding,CCS Surveyor for Plan Approval

## **About Pressure/Vacuum Valves and Flame Arrester Approval and Certificate**

According to the technical management department (2002), circular No.010, Total No.060 Notice of Amendment to IMO "Amended Standards of Design, Test and Installation of Appliances to Prevent Fire into Liquefied Cargo Tanks of Oil" and MSC/circ 1009 require that PREVENT THE PASSAGE OF FLAME INTO CARGO TANKS IN TANKERS shall conform to the MSC/circ 677 and ISO15364 (2000) standards, to ensure the effective implementation of circulars, clear as follows:

Pressure/vacuum valve keep air pressure stable in the cargo tank, pressure/vacuum valve is mainly include high velocity valves and the breathing valve in liquid cargo system.

For liquid cargo system and through directly outside atmosphere from

high velocity valves, type approval should satisfy MSC/circ. 677, MSC/circ 1009 and ISO15364-2000 (figure 1) (note: high velocity valves belongs to the high velocity vent flame arrester).

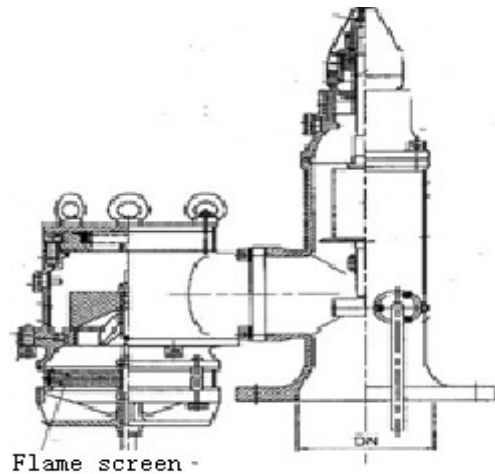


Figure 1

For the breathing valve pressure and vacuum ends through directly outside atmosphere, the body should design flame arrester, the type approval should satisfy MSC/circ.677, MSC/circ 1009 and ISO15364-2000 (figure 2) (note: belong to flame arrester located at openings to the atmosphere).

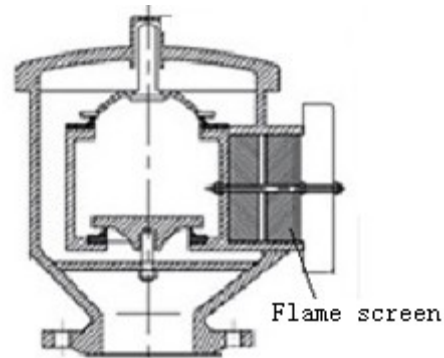


Figure 2

When the ship cargo vent system flame arresters are installed on the pipe of other position, the breathing

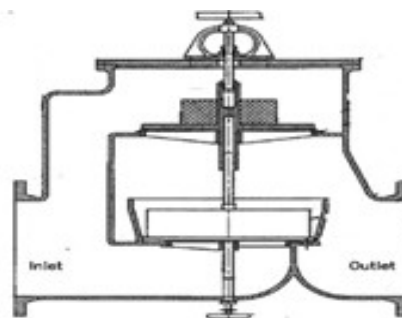
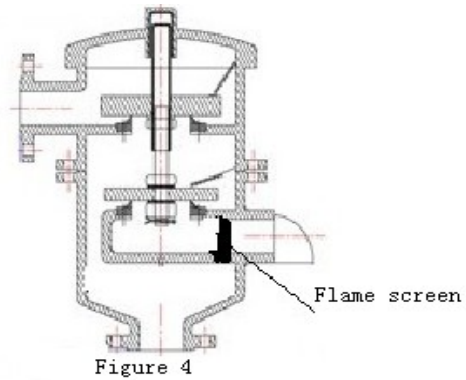


Figure 3

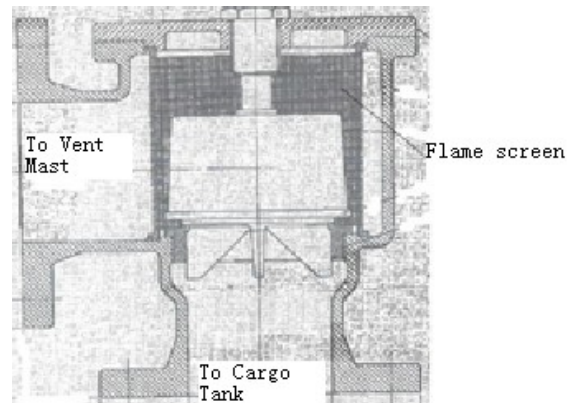
valve itself has no flame arrester, the breathing valve can only be approved in accordance with ISO15364-2000 (figure 3). Certificate shall be noticed that the valve body has no flame arresters.

For the pressure/ vacuum ends of any side with flame arresters, the flame

arrester type approval test should satisfy MSC/circ.677, MSC/circ1009, valve body itself should satisfy ISO15364-2000 (figure 4). The breathing valve install onboard ship, at the end of no flame arresters should be installed independently flame arresters, it should satisfy MSC/circ. 677.



Breathing valve has the external flange, valve itself has flame arresters, the valve installed in cargo vent piping system, type approval should satisfy MSC/circ.677, MSC/circ 1009 and ISO15364 (figure 5) (note: belong to flame arrester located in-line).



According to the MSC/circ. 677 article 3 ships with equivalent device (such as inert gas system), CCS may accept such pressure/vacuum valves or flame arresters, their approval test can exempt some test items. but on the approval certificate, product certificate and permanent nameplate on the body of product indicating only used in inert gas system on board ship.

Pressure/vacuum valve itself with flame arresters ,certificate shall record the installation position (such as in the body of the vacuum end, the

pressure end , pressure and vacuum ends installed the flame arrester)  
When the valve is open , airflow how to passage the flame arrester , the permanent nameplate on body of the products have words or schematic diagram to description. The pressure/vacuum valve with flame arrester, product certificate and approval certificate notice valve properties , should specify flame arrester of materials, flame screen mesh/wire diameter 、 maximum experimental safe gap (MESG) or explosion level of test medium. When ship plan approval should be paid attention to the ship is different carriage of cargoes , it need requirements of appropriate MESG and explosion level.

For cargo tank venting system installed general vent mast, flame arrester should inatall on vent mast , it satisfy MSC/circ. 677 (figure 6). From 2011 on January 1<sup>st</sup> flame arrester installed on board ship,it should have CCS approval certificate.

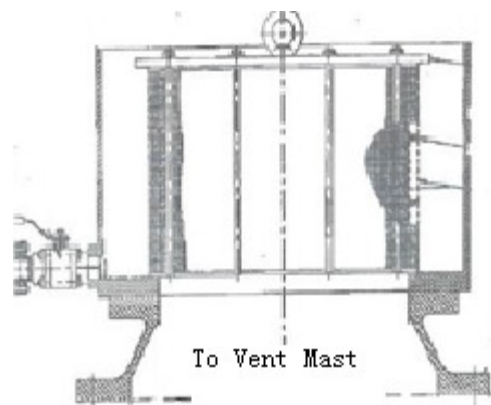


Figure 6

The circular promulgated by force from April 1, 2010

Classed Newbuilding Dept.

On April 1, 2010

Attachments:

- 1、 MSC/circ. 677 Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo

## Tanks in Tankers

2、MSC/circ 1009 Amendments to the Revised Standards for the Design,  
Testing and Locating of Devices to Prevent the Passage of Flame into  
Cargo Tanks in Tankers (MSC /circ.677)