



## BAVARIA High Pressure Carbon Dioxide Extinguishing Systems Gas Suppression Systems



### Application:

BAVARIA High Pressure Carbon Dioxide Extinguishing Systems are used for total flooding application to extinguish Class A,B and C fires in accordance with NFPA 12, Standard on Carbon Dioxide Extinguishing Systems and engineering, installation and operation manual.

**BAVARIA** Alarm (S.A.E.)

50, El Gomhoria St. cross Alfy St.,down town  
Cairo - Egypt  
PO Box: 2016/11111 Cairo-Egypt

Tel. : +20 (2) 259 177 58  
Fax : +20 (2) 258 829 42  
Website : [www.bavaria.com.eg](http://www.bavaria.com.eg)  
Email : [info@bavaria-alarm.com.eg](mailto:info@bavaria-alarm.com.eg)





## **BAVARIA** High Pressure Carbon Dioxide Extinguishing Systems Gas Suppression Systems

### Fire Classes:

1. Class A: Surface fires involving ordinary combustible materials such as wood, cloth, paper, rubber and many plastics
2. Class B: Fires involving flammable liquids and gases, oils, greases, tars, oil-based paints and lacquers.
3. Class C: Fires involving energized electrical equipment

### Typical Examples:

1. Cable Trenches and Shafts
2. Engine Compartments and Test Benches
3. Flammable liquids and gases storage areas
4. Generator Room
5. Paint and Varnish Manufacturing and Processing Area
6. Powder Coating and Painting Booths
7. Printing Machines
8. Rolling Mills and Turbines
9. Transformers and Substations



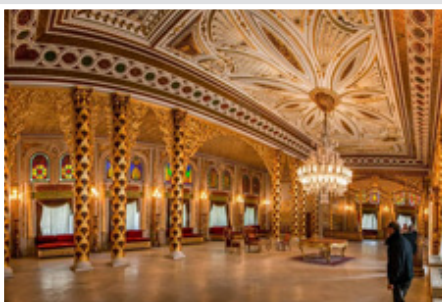
Pic. No. 1: Nissan Factory - Egypt



Pic. No. 2: Nestlé Factory - Egypt



Pic. No. 3: German University in Cairo



Pic. No. 4: Prince Mohamed Ali  
Royal Palace - Egypt



Pic. No. 5: Sheraton Hotel  
Sharm-El Sheikh Egypt



Pic. No. 6: Exxon Mobil Egypt

Pictures 1 – 6 show multiple occupancies containing hazards protected by BAVARIA High Pressure Carbon Dioxide Extinguishing Systems

### Listings and Approvals:

The BAVARIA High Pressure Carbon Dioxide Extinguishing Systems are listed and approved by the following agencies:

1. Underwriters Laboratories, Inc. (Listed to the requirements of ANSI/NFPA 12) UL-EX 27497



## **BAVARIA** High Pressure Carbon Dioxide Extinguishing Systems Gas Suppression Systems

### Features:

1. Non-corrosive, non-conductive, clean extinguishing agent that leaves no residue
2. Suitable for Class A, B, and C hazards
3. UL listed and designed according to NFPA12, Standard on Carbon Dioxide Extinguishing Systems
4. Wide selection of cylinder sizes of different nominal charging capacities ranging from 2.0 – 100 Kg (4.4 – 220 lbs)
5. High pressure systems {Operating pressure: 58 bar (850 psi) @ 21°C (70°F)} easily accommodate remote cylinder installation, freeing up valuable space inside the protected enclosure
6. Wide operating temperature range -18°C to 54.4°C (0°F to 130°F)
7. Piping network sized using a hydraulic calculations computer software resulting in reliable results.

### Specifications:

#### System Temperature Limitations

The operating temperature range of BAVARIA High Pressure Carbon Dioxide Extinguishing Systems is -18°C (0°F) minimum to 54.4°C (130°F) maximum.

### Use and Limitations

BAVARIA High Pressure Carbon Dioxide Extinguishing Systems may be used whenever an enclosure exists about the hazard. The enclosure must be adequate to contain the discharge of agent to achieve the required carbon dioxide concentration. This system can extinguish surface fires involving flammable liquids, gases and solids as well as deep seated fires involving solids subject to smoldering.

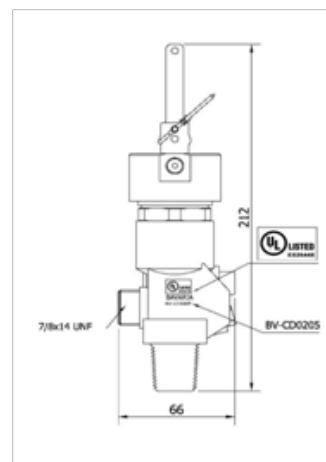
### System Components

#### Cylinders

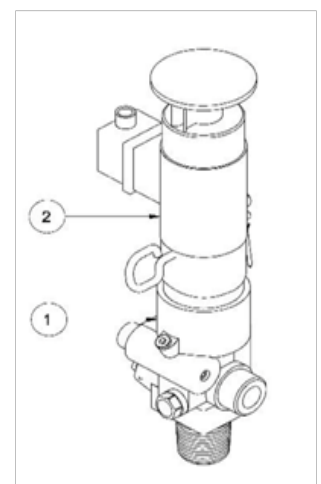
A basic cylinder assembly consists of a pressure vessel, a valve and siphon tube assembly, and a charge of carbon dioxide. A variety of cylinder sizes are available. They are all designed to hold pressurized carbon dioxide in liquid form at atmospheric temperatures, corresponding to a normal pressure of 58 bar (850 psi) @ 21°C (70°F).

#### Discharge Valves

Two types of valves are available for either electric actuation or pneumatic actuation. The electric actuator valve assembly is used for electric actuation using a solenoid valve kit. The solenoid valve is normally closed device, closed when de-energized and open when energized. The solenoid should be connected to a control panel that is powered through a separately fused circuit, and that also incorporates battery backup power. The pneumatic valve assembly is used for pneumatic actuation by supplying a pressure greater than 5 kg/cm<sup>2</sup> to the pneumatic port of the valve. On pressuring the pneumatic port, the piston of the pneumatic actuator releases out in turn mechanically operates the manual lever there by the main valve piston lifts up and the gas is released from the discharge port.



Pic. No. 7: Pneumatic Valve  
(Slave Valve)

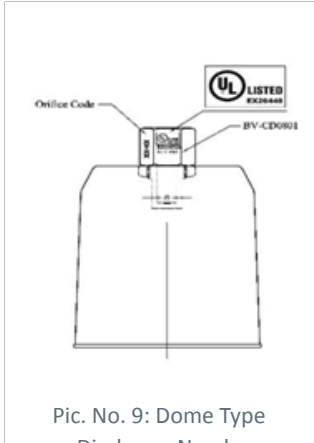


Pic. No. 8: Electric Actuator  
(Master Valve)

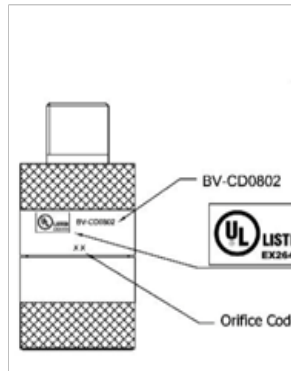


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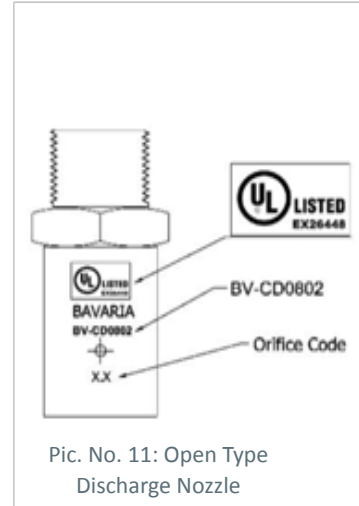
### Gas Suppression Systems



Pic. No. 9: Dome Type Discharge Nozzle



Pic. No. 10: Reset Type Discharge Nozzle



Pic. No. 11: Open Type Discharge Nozzle

#### Discharge Nozzles

Three types of discharge nozzles are available: dome, open and reset. All nozzles have a drilled orifice. The nozzle orifice size will vary depending on the flow and the location of the nozzle in the system. It is important that nozzles are installed exactly as specified on the project drawings, otherwise system performance will be jeopardized.

#### Piping Network

This network is sized using hydraulic calculations computer software and designed in accordance with NFPA 12, Standard on Carbon Dioxide Extinguishing Systems and engineering, installation and operation manual.

#### Warranty:

Period of Warranty	1 Year
Coverage of the Warranty	Against material failure and production defects
Method of Warranty Coverage	Limited to the replacement of the defected part or product after verification that the failure is covered by the scope of the warranty
Warranty Exclusions	Failures due to misuse, mishandling, or inspection or repair by an unauthorized dealer or entity

\* The illustrations may show optional extras only available at extra charge. BAVARIA retains the right to alter specifications and illustrations given herein without prior notice. Specifications will only be considered communicated at placing of order.