

**Date:** November 6, 2018  
**To:** All Kidde Fire Systems Engineered Distributors  
**From:** Product Management  
**Subject:** High-Pressure Carbon Dioxide Discharge Hose Installation Guidance

#### PRODUCT UPDATE

Please share with your Design, Installation and Service personnel

A recent investigation into the leakage of CO<sub>2</sub> at a particular site showed the cause as improper installation of the flexible discharge hoses connecting the cylinders to the manifold. In order to remind your site crew(s) of the proper installation practices, we are now including a guidance sheet with each shipment of the following hoses:

Part Number	Price List Description
WK-251821-000	Flexible Hose, 3/4" Outlet (UL, ULC, FM & USCG Approved Only)
81-252184-000	Flexible Hose, 1/2" Outlet (UL, ULC, FM & USCG Approved Only)

A copy of this guidance sheet is enclosed for your reference. Please share with your relevant teams with instructions to incorporate the guidance sheet details on all future HPCO<sub>2</sub> design, installation, construction drawings, training materials and service protocols.

We are also in the process of updating our Industrial and Marine HPCO<sub>2</sub> manuals with this guidance and will advise you of their availability on our website once all the required agency approvals are received.

#### Questions or Concerns:

If you have any questions or concerns, please contact us at:

Sales [Domestic, International](#)  
Product Management: (508) 881-2000  
Customer Service: (508) 881-2000  
[Domestic\\_CS@kidde-fenwal.com](mailto:Domestic_CS@kidde-fenwal.com)  
[International\\_CS@kidde-fenwal.com](mailto:International_CS@kidde-fenwal.com)  
Applications Engineering: (866) 287-2531  
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# PLEASE READ CAREFULLY BEFORE DISCARDING – IMPORTANT SAFETY INSTRUCTIONS THAT SUPPLEMENT THE CURRENT MANUAL

See Figure 1 and Figure 2 for proper installation of the system rack, cylinders and piping manifold.

**WARNING** Failure to properly install racking, cylinders and manifold may impair connecting the flex hose to the discharge head and risk exposing people to unsafe concentrations of carbon dioxide (CO<sub>2</sub>) due to leakage during commissioning testing and actual discharge. Exposure to unsafe CO<sub>2</sub> concentrations may result in serious bodily injury or death.

1. Apply pipe tape or dope to the hose's male NPT outlet connection, excluding the first two threads.
2. Affix hose outlet NPT connection to the system manifold.
3. Attach hose inlet swivel connection to the discharge head outlet until end of thread engagement.

**WARNING** Flexible hoses must always be connected to the system piping and to the discharge heads before attaching the discharge heads to the cylinder valves, in order to prevent injury in the event of inadvertent carbon dioxide discharge. Do not assemble the discharge head to the cylinder valve until the cylinder is secured in the cylinder bracketing.

4. Attach discharge head to cylinder valve as follows:
  - a. Wipe clean cylinder valve sealing surface.
  - b. Verify that both O-rings within the discharge head are installed in the mating surface grooves at the bottom of the swivel nut cavity. O-rings must be free of dirt or other contaminants. The O-rings have been lightly greased at the factory and should not require further greasing.
  - c. Make certain the pilot orifice located between the inner and outer O-ring is unobstructed.
  - d. Make certain the discharge port is clean and unobstructed.
  - e. Using a smooth jaw wrench, tighten discharge head onto cylinder valve until head is snug.
5. Confirm hose properly aligned:
  - a. Using a 15-in or longer smooth jaw wrench, tighten hose inlet swivel connection to the discharge head outlet approximately 1/8 turn past Step 3.
  - b. The hose may be installed horizontally or in a single continuous bend up to a 90 degree position.
  - c. Verify that the discharge hose does not flatten when installed and does not kink.
  - d. Ensure that the hose has no more than one bend.

**WARNING** The discharge head must be securely connected into the system piping. Never attach the discharge heads to the cylinder valves until the cylinders are secured in brackets or racking. Under no circumstances is the discharge head to remain attached to the cylinder valve after removal from service, handling, storage, or during shipment. Failure to follow these instructions could result in serious bodily injury, death, or property damage.

**WARNING** Do not commission the system or conduct commissioning tests unless the hose is fully, firmly and completely connected at both ends and is without kinks and multiple bends. Failure to do so may result in CO<sub>2</sub> leakage and injury or death.

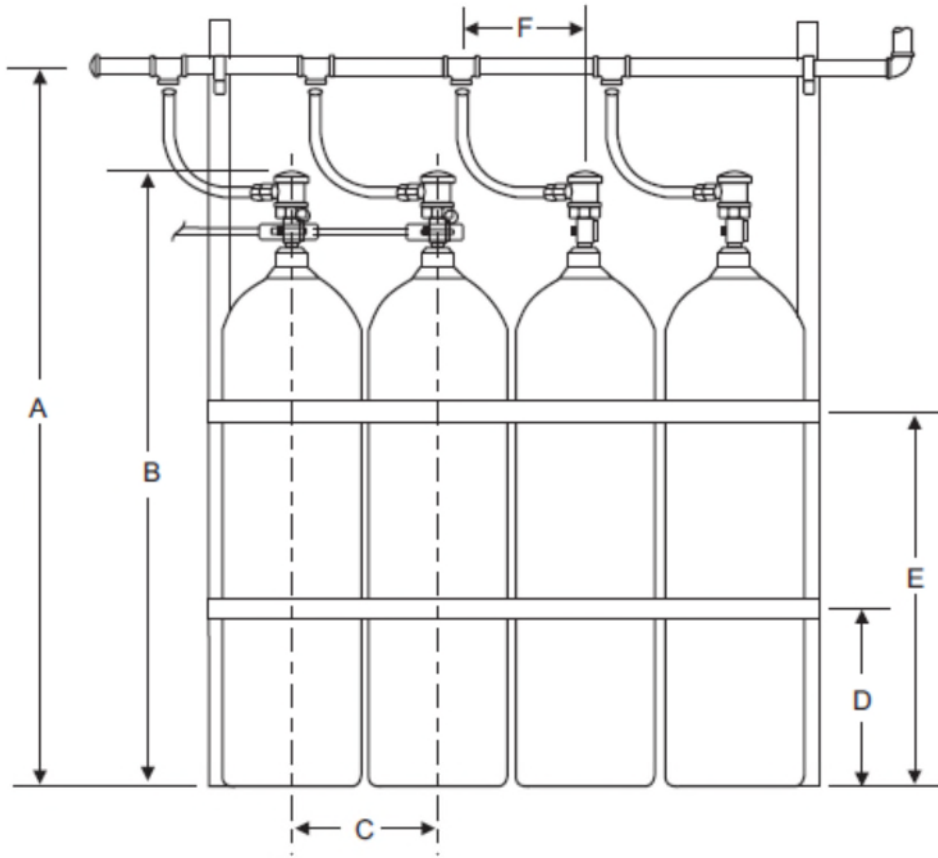
Should you have any questions about this guidance or an existing installation, please contact our Technical Services team:

866-287-2531 (Toll Free US/CAN)

508-881-2000 (International)

[kidde\\_techsupport@fs.utc.com](mailto:kidde_techsupport@fs.utc.com)

**Figure 1 - Metal Frame Kit Installation Requirements**



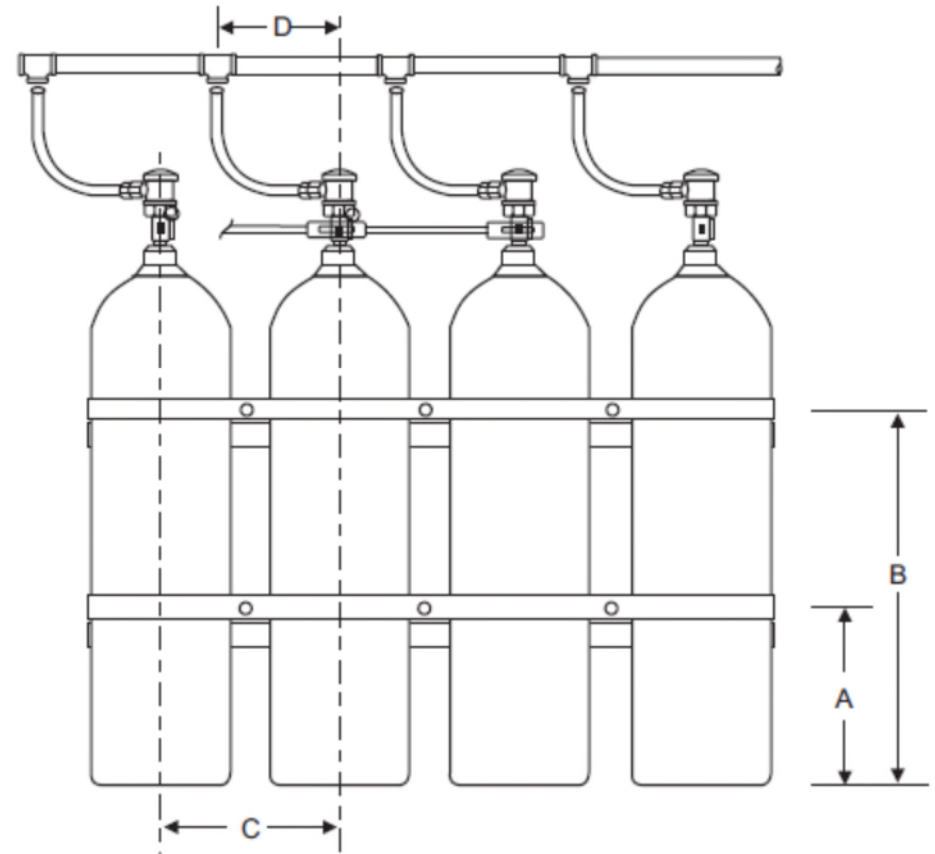
Cylinder Size	A*	B*	C	D*	E*	F
50 Lbs.	66	57	10.0	12	36	8-3/4
75 Lbs.	71	62	10.0	12	40	11-3/8
100 Lbs.	73	64	11.5	12	42	11-3/8

NOTE: All dimensions are in inches.

\* =  $\pm 1/2"$

Kidde Fire Systems offers metal frame racks as turnkey kits for ease of installation with our 50, 75 and 100-lb capacity cylinders. Please see our Engineered Systems Price List.

**Figure 2 – Oak Rack Kit Installation Requirements**



Cylinder Size	A*	B*	C	D
50 Lbs.	12	36	9.5	8.75
75 Lbs.	12	42	10.0	11.37
100 Lbs.	12	44	11.5	11.37

NOTE: All dimensions are in inches.

\* =  $\pm 1/2"$

Kidde Fire Systems offers oak racks as turnkey kits for ease of installation with our 50, 75 and 100-lb capacity cylinders. Please see our Marine Price List.