

Architect and Engineering Specification

FM Approved 3008519

Clean Agent Suppression Systems with Solenoid Actuated Valve



DESCRIPTION

Fike Series S70 Clean Agent Containers are used in HFC-227ea fire extinguishing systems to store the Clean Agent until a fire develops and the HFC-227ea agent must be released. The Clean Agent is retained in the container by a valve assembly which contains a fast acting rupture disc. The disc will be ruptured, and the Clean Agent released, through three methods: (1) Operation of an actuator by an electric signal that is automatically or manually controlled; (2) Operation of a mechanical manual actuator; (3) When the contained Clean Agent reaches a high internal temperature it will create sufficient internal pressure to burst the rupture disc and release the Clean Agent. The valve, which contains the rupture disc, is available in two sizes: 25mm, and 80mm. The 25mm valve is used on the 4, 8, 15, 27, and 44 L; the 80mm valve is used on the 87, 153, 267, and 423 L DOT manufactured containers. After a discharge, the valve is field reconditioned by simply replacing three components on the valve.

Fike Series S70 Clean Agent Containers are used in installations where 3.0 to 474.0 kg of Clean Agent are required. To eliminate the need of multiple containers, or using more Clean Agent than necessary, these containers can be filled in 0.5 kg increments to their maximum capacity. The Clean Agent used in these containers has a natural vapor pressure of 458 kPa at 25°C and is super-pressurized with dry nitrogen to 25 barg, at 21°C, to provide a quick and effective discharge in 10 seconds, or less.

Fike Series S70 Clean Agent Containers are supplied with a pressure gauge that permits a quick, visual, inspection of container pressure. Optional items include a Liquid Level Indicator, and a Low Pressure Supervisory Switch for the series S70 containers. The Liquid Level indicator provides the convenience of determining the container's agent weight without removing it from its installed location. The Low Pressure Supervisory Switch provides constant monitoring of the container's internal pressure. It is available in two styles; normally opened and normally closed contacts.

April, 2002
Revised Issue

In the event of a decrease in container internal pressure from 25 barg to 19 barg, the Supervisory Switch normally opened/closed contacts will close/open. This will cause a supervisory trouble alarm at the system control panel.

Fike Series S70 Clean Agent Containers are available for installation in the upright positions. The mounting location of the container is quite flexible. It can be mounted at the exact point of discharge or at a remote location by adding distribution piping from the container to the nozzle system. (Refer to the Fike Design, Installation & Maintenance Manual - P/N 06-235). The operating temperature range is 0°C to 54.4°C in any installation.

The Fike Series S70 Clean Agent Containers can be used in a pre-engineered system, utilizing a balanced piping configuration(s); an engineered system, utilizing unbalanced piping configurations, or a combination of both designs. For assistance, consult your local Fike Distributor or Fike Protection Systems.

CONTAINER SPECIFICATION

Fike Clean Agent Containers are manufactured in compliance with strict pressurized cylinder governing agencies. The S70 Series are manufactured to DOT specification with a test pressure of 69 barg. Before leaving the factory, each container must pass extensive leakage testing, and pressure testing. The containers are constructed from carbon steel alloys and painted with a durable, baked enamel finish. The Series S70 are white (red to special order).

INSTALLATION

Fike Series S70 Clean Agent Containers are supplied with a mounting bracket that is designed to provide the most effective and versatile installation for that particular container. The containers are supplied with U-shaped mounting brackets for mounting to a wall or other secure surface.

ARCHITECT SPECIFICATIONS

The Clean Agent shall be stored in Fike Series S70 Clean Agent Storage Containers. The containers shall be capable of being filled in 0.5kg increments to their listed maximum capacity. The Clean Agent container shall be activated by a signal from the control panel. The valve shall contain a scored, non-fragmenting, rupture disc to provide an immediate total discharge of all the agent. The Clean Agent is stored in the container as a liquid, having a natural vapor pressure of 5 barg at 25°C. To aid in discharge, the container shall be super-pressurized to 25 barg at 21.1°C with dry nitrogen. Agent discharge shall be completed in 10 seconds, or less.

Clean Agent Storage Containers shall be actuated by either an electrical manual discharge station, an automatic detection device(s), mechanical manual actuators or an increase in internal pressure due to heating the Clean Agent. At elevated temperature, internal pressure will be adequate to burst the rupture disc, discharging the contents of the container. Normal operating temperature shall be 0°C to 54.4°C in any installation.

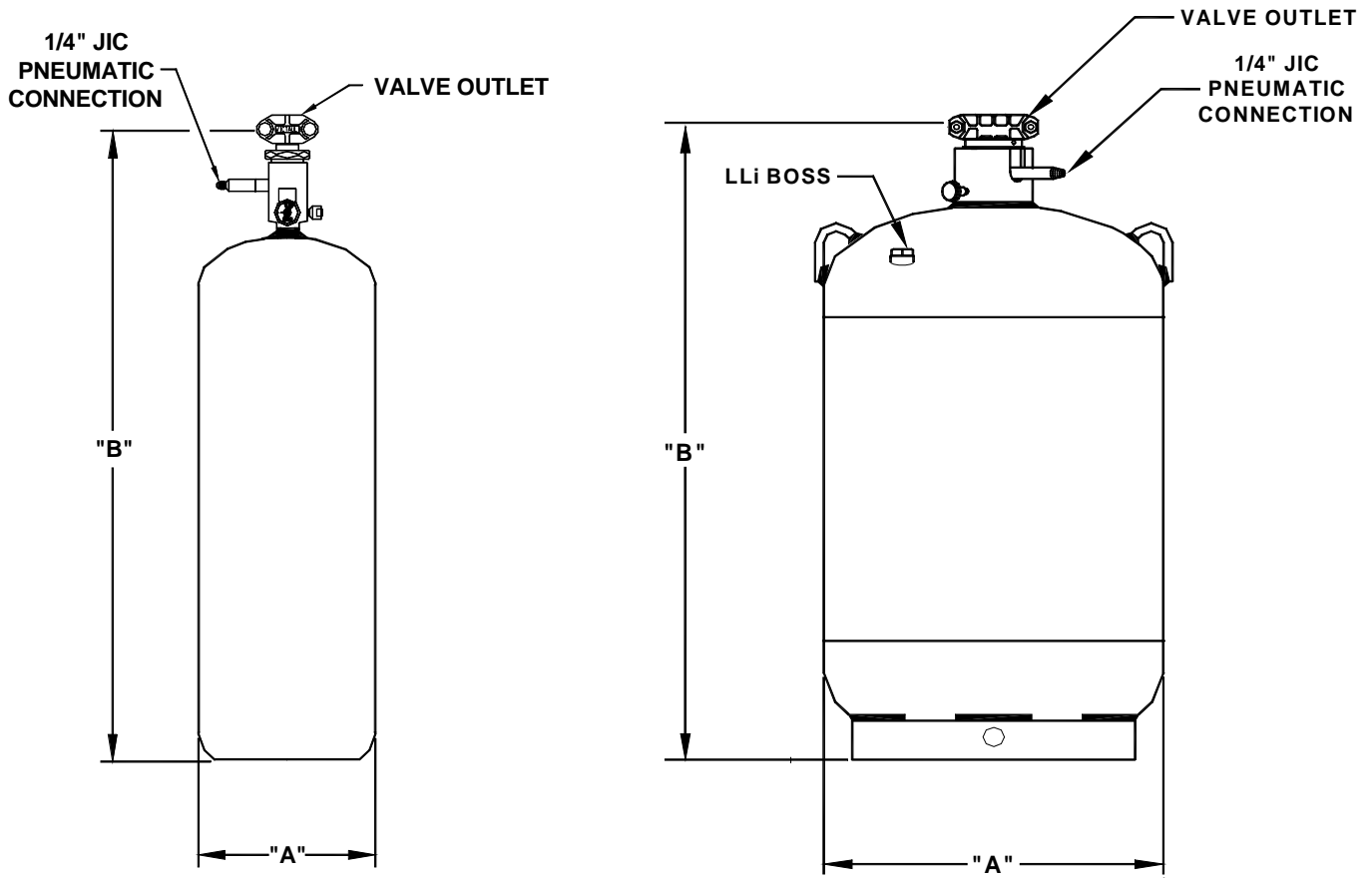
Clean Agent Storage Containers shall be equipped with a pressure gauge to display internal pressure. This gauge shall be an integral part of the container and color coded for fast referencing of pressure readings. A Low Pressure Supervisory Switch shall be made available, as an option. A decrease in internal container pressure from 25 barg to 19 barg (2480kPa to 1875kPa) shall cause the normally opened/closed Supervisory Switch contacts to close/open, indicating a trouble or supervisory condition, at the control panel.

Clean Agent Storage Containers shall be fastened to a wall, or other secure surface, using a one piece mounting bracket for the Series S70 containers.

U.S. D.O.T. CLEAN AGENT STORAGE CONTAINER DATA

FIKE P/N	SIZE (L)	VALVE (MM)	EMPTY WT (KG)	AGENT FILL RANGE (KG)	VALVE POSITION
S70-108	4	25	6.4	3.0 - 4.5	Horiz / Upright
S70-098	8	25	15.9	5.5 - 9.5	Horiz / Upright
S70-089	15	25	25.0	10.0 - 17.0	Horiz / Upright
S70-152	27	25	36.3	18.0 - 30.5	Horiz / Upright
S70-153	44	25	40.8	28.5 - 49.0	Horiz / Upright
S70-154	87	80	68.0	56.5 - 98.0	Upright
S70-155	153	80	98.9	98.5 - 171.5	Upright
S70-156	267	80	158.8	171.5 - 299.0	Upright
S70-157	423	80	233.6	271.5 - 474.0	Upright

CLEAN AGENT STORAGE CONTAINER DIMENSIONS



4 - 44 L CONTAINERS - 25mm VALVE OUTLET

87 - 423 L CONTAINERS - 80mm VALVE OUTLET

SERIES S70 U.S. D.O.T. CONTAINER

SIZE - L	4	8	15	27	44	87	153	267	423
A (mm)	140	184	184	273	273	508	508	610	610
B (mm)	562	613	895	781	1035	724	1070	1235	1778