

Small Space Suppression System Direct DOT Cylinder Assemblies



The Small Space Suppression System cylinders are steel pressure vessels designed to hold the suppression agent under pressure until discharged. Cylinders are available in various sizes and are suitable for use at storage temperatures between -4°F to +140°F [-20°C to +60°C]. Each cylinder is manufactured in strict accordance with U.S. Department of Transportation (DOT) regulations and undergoes extensive pressure and leak testing before shipment to the field.

Each cylinder comes fitted with a stainless steel Direct valve with the following features:

- Pressure gauge to indicate the internal cylinder pressure.
- Quarter-turn ball valve to controls the agent communication with the detection tube.
- Low pressure switch designed to provide a signal if the cylinder pressure drops below the predetermined set point.

- Safety relief disc to protect the cylinder from overpressure. Burst disc is specifically designed to rupture when the cylinder becomes over-pressurized when subjected to temperatures that exceed the cylinder parameters.
- Single discharge port. The port is fitted with a safety shipping plug that must be installed in the discharge port whenever the cylinder is being transported or is out of service. The plug is intended to prevent the uncontrolled discharge of a cylinder in the event of accidental system activation.

DIRECT VALVE



Direct Valve Plan View



Direct Valve Front View



Direct Valve Rear View

DIRECT VALVE SPECIFICATIONS

Material:	Stainless Steel 303
Operating Pressure:	360psi @ 68°F [25 bar @ 20°C]
Operating Temperature:	-4°F to +140°F [-20°C to +60°C]
Burst Disc Rating:	652psi @ 140°F [45 bar @ 60°C ±5%]
Spare Port Thread:	1/8" BSPP (non-removable under pressure)
Neck Thread:	M30 x 1.5
Dip Tube Thread:	M16 x 1.5
Valve Outlet Thread:	1/8" BSPP
Gauge Thread:	M10 x 1 (non-removable under pressure)
Burst Disc Thread:	M12 x 1 (non-removable under pressure)
Pressure Gauge Range:	0 – 696 psi [0 – 48 bar]

CYLINDER DOT SPECIFICATIONS

Part Number:	F-CTDOT-014-010	F-CTDOT-026-020	F-CTDOT-054-030
Cylinder Volume:	85.43in ³ [1.40L]	158.66in ³ [2.60L]	329.53in ³ [5.40L]
Agent Quantity:	2.2lb [1.0kg]	4.4lb [2.0kg]	6.6lb [3.0kg]
Height:	12.40in [315.05mm]	15.01in [381.35mm]	14.59in [370.80mm]
Width:	3.54in [90.00mm]	4.33in [110.00mm]	6.30in [160.00mm]
Tare Weight:	3.44lb [1.56kg]	4.85lb [2.20kg]	8.02lb [3.64kg]
Gross Weight:	5.64lb [2.56kg]	9.25lb [4.20kg]	14.63lb [6.64kg]
Materials:	JIS G3116 grade SG255 low carbon steel		
Finish:	Powder-coated RAL 3000, shiny polyester 70µm		
Marking:	DOT-4BW360 (Standard and WP) XXXXXXXXXX (Serial Number) JP M0839 (Manufacturer ID) XXAXX (Test Date and Inspector Mark)		
Valve Connection:	M30 x 1.5 (Neck Thread)		
Charging Pressure:	360 psig @ 68°F [25 barg @ 20°C]		
Operating Temperature:	-4°F to +140°F [-20°C to +60°C]		
Operation Cycles:	Refer to DOT Regulatory Compliance Guide, 49 CFR 180.209 & NFPA 2001		
Life Cycle:	Refer to DOT Regulatory Compliance Guide, 49 CFR 180.209 & NFPA 2001		

PRINCIPLE OF OPERATION / PURPOSE OF USE



The DOT cylinders are designed specifically for the demanding applications associated with Fike's Small Space Suppression System product offering. For proper support of pressurized vessels, the cylinders must be strapped on a bracket and secured at all times.

The Direct cylinder valve is activated by the exposure of the detection tubing to the fire. When a fire occurs, the tubing will burst at the point of highest heat. As the cylinder's contents are directly in communication with the detection tube, immediate discharge of the extinguishing agent is started at the point of detection.

DESIGN CONSIDERATIONS

The following table lists the maximum enclosure volume that can be protected by each Direct cylinder size. The estimates are based on a 6.7% minimum design concentration being delivered to the hazard.

Cylinder Size	Maximum Enclosure Volume
2.2 lb. [1.0kg]	35.3 ft ³ [1.0 m ³]
4.4 lb. [2.0kg]	70.6 ft ³ [2.0 m ³]
6.6 lb. [3.0kg]	105.9 ft ³ [3.0 m ³]

Please refer to the Fike Small Space Suppression System product manual for further information.

Individual cylinder drawings are available.

COMPATIBILITY LIST

Fike Direct Small Space Suppression Systems.