



TECHNICAL DATA

OXEO INERT GAS EXTINGUISHING AGENT CYLINDER ASSEMBLY

The Viking Corporation | 210 N Industrial Park Drive | Hastings MI 49058

Viking Special Hazards | Technical Services: 877-384-5464 | Email: techsvcs@vikingcorp.com | www.vikinggroupinc.com

The technical data described herein is for components of the Viking Oxeo PR Fire Extinguishing Systems.

Visit the Viking website for the latest edition of the technical data and system manuals.

1. DESCRIPTION

The Oxeo inert gas fire extinguishing system uses either Argon (IG-01) or Nitrogen (IG-100) inert extinguishing gases that are stored in the system's extinguishing agent container(s) until system activation. The container assembly includes a seamless steel cylinder filled with either Argon (IG-01) or Nitrogen (IG-100) gas, assembled with the following components:

- Cylinder valve with burst disc, protective cylinder cap, and valve cap.
- The 80L cylinder is available for both a 2901 psi and a 4351 psi pressure rating.
- Cylinders are designed, manufactured, and labeled in accordance with the UN ISO-9809_2 USA for use in the United States and Canada.
- Cylinders can only be installed in the upright position.
- Each cylinder is equipped with a special pressure differential valve:
 - Valve operates according to the differential pressure principle and has a piston and a brass housing.
 - Includes a burst disc to protect from excessive pressure.

An optional manual release assembly with pneumatic discharge pressure switch can be ordered separately for installation in the piping:

- The pneumatic discharge pressure switch is required with manual release installation per NFPA 2001.
- The status of the pressure switch can be monitored by the fire agent release control panel.

A cylinder nameplate label is attached to the extinguishing agent container:

- Contains maintenance and filling information, as well as information about the filling quantity.
- A UL Listing label and FM Approval label are also attached to the cylinder.

Protective caps are used to protect sensitive components (e.g. valves) of the extinguishing agent containers:

- protects the valves from damage during transport.

NOTE: The protective valve caps must be attached before each transport.

Standing extinguishing agent cylinders are for use with unistrut cylinder racking. Racking assembly setup is required before cylinders may be installed. See Viking unistrut racking tech data sheet F_040821 for more information.

2. LISTINGS AND APPROVALS



cULus Listed - EX5248 (Oxeo PR LCP)



FM Approved: Oxeo PR LCP



Designation	Nominal Volume	Part no.
Oxeo Cylinder 2901 psi (Argon IG-01)	80.0 L	4001024
Oxeo Cylinder 2901 psi (Nitrogen IG-100)	80.0 L	4001044
Oxeo Cylinder 4351 psi (Argon IG-01)	80.0 L	4001030
Oxeo Cylinder 4351 psi (Nitrogen IG-100)	80.0 L	4001050

NOTE: To order cylinders in Canada, include the suffix "C" after any of the part numbers listed above (example: 4001024C)



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov



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3. TECHNICAL DATA

3.1 - Specifications and Ratings		
Parameter	Value	
	2901 psi (200 bar) Cylinder	4351 psi (300 bar) Cylinder
Extinguishing agents	Argon (IG-01) Nitrogen (IG-100)	
Agent purity	Minimum 99.9%	
Maximum permissible overfill pressure for quick opening valve type QRV-TD	2901 psi at 59 °F (200 bar at 15 °C)	4351 psi at 59 °F (300 bar at 15 °C)
Argon (IG-01) operating pressure at 70 °F (21 °C)	2988 psi (206 bar)	4511 psi (311 bar)
Nitrogen (IG-100) operating pressure at 70 °F (21 °C)	3002 psi (207 bar)	4496 psi (310 bar)
Operating temperature	-4 °F to 122 °F (-20 °C to +50 °C)	
Filling center	Purity cylinder gases	
Transport	See safety data sheets	
Valve Specifications*		
Pilot pressure of integrated pneumatic release device	Minimum: 116 psi (8 bar) Maximum: 5221 psi (360 bar)	
QRV-TD minimum flow cross-sectional area	0.1589 in ² (102.5 mm ²)	

*Valve type in accordance with EN12094-4: type 2 and ATR D2/11: type C (valve for multiple uses, maximum 100 releases)

3.2 - Material standards	
Description	Material
Cylinder	Seamless steel, powder coated red RAL 3000
Valve housing, caps, plugs, misc. parts	Brass
Pilot valve, screws, closing piston, seal holder	Stainless steel
Seating seal, damper	PA6
Elastomer seal	EPDM
Springs	Stainless steel
Bust disk device	Nickel, copper alloy
Protective cap	DIN EN ISO 11117, large version
Thread	DIN EN ISO 11117, W80
Thread, cylinder valve	ISO 11363-1, 25E
Tested overpressure	6526 psi (450 bar)



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Marking

See Figure 2 for nameplate example.

Steel Cylinder Marking

- UN Model regulations for use and transport in the USA and Canada
- ISO 13769

Additional marking

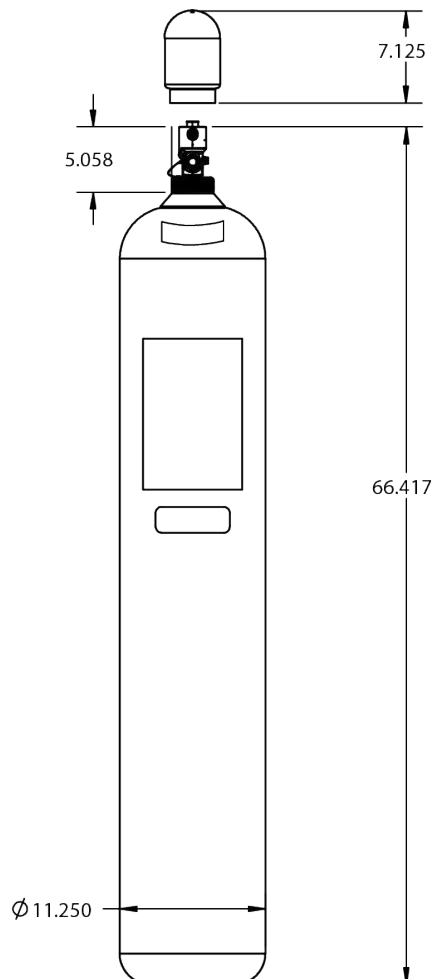
Owner embossing

Ownership no. (as per order): xxxxxx

Ordering Information

The cylinders are filled according to the ordering designations. Extinguishant cylinders are completely assembled and filled. For a complete single container system, the following must be ordered separately: release devices, optional manual release assembly with pneumatic discharge pressure switch, discharge nozzles, hose or NPT connections, contact gauges, and warning signs. An approved release control panel with compatible detection system is also required.

Figure 1: Dimension Drawing








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Figure 2: Cylinder Nameplate

  	
CLEAN AGENT EXTINGUISHING SYSTEM UNIT 34YN	
Type of agent	IG-01 (Argon) IG-100 (Nitrogen)
Operating pressure at 70°F (21°C)	<input type="checkbox"/> 206 bar (2988 psi) <input type="checkbox"/> 207 bar (3002 psi) <input type="checkbox"/> 311 bar (4511 psi) <input type="checkbox"/> 310 bar (4496 psi)
Model number (order number)	
Weight of agent charge	kg
Gross weight of charged cylinder and valve assembly	kg
Maintenance Manual	F_101921
Operation Manual	F_101821
Fill station	Purity Cylinder Gases, 2940 Clydon Ave. SW, Wyoming MI 49519 (VKC016)
System operation temperature range 0°C to 55°C (32°F to 131°F) Cylinder tested to marked service pressure, see cylinder marking for manufacturing date System to be installed and maintained in accordance with the National Fire Protection Association Standard for Clean Agent Extinguishing Systems, NFPA 2001	
INSPECTION AND MAINTENANCE: <ul style="list-style-type: none"> • Check agent quantity or pressure at least semiannually. • Refill or replace container when it shows a loss in agent quantity (indicated at the weighing device) of more than 5%. • For detailed instructions for correct system handling usage and maintenance see: Installation, Maintenance Manual • If the system fails above inspections use only a qualified service agency to safely restore system to operation condition. 	
WARNING: Avoid exposure to vapors, fumes, and products of combustion. MISE EN GARDE: Éviter toute exposition aux vapeurs, aux fumées et aux produits de combustion.	
SAFETY INSTRUCTIONS: <ul style="list-style-type: none"> • READ AND UNDERSTAND ALL INFORMATION CONTAINED ON THIS CYLINDER • Pressure vessel - Do not incinerate or expose to temperatures above 55°C (131°F). • For safety information on agent types see Material Safety Data Sheet (MSDS) • Hazardous properties: Asphyxiant in high concentrations, heavier than air, compressed gas. 	
<div style="border: 1px solid black; padding: 2px;"> HIGH PRESSURE CYLINDER, CAPABLE OF VIOLENT DISCHARGE EXTREMELY HAZARDOUS - CAN CAUSE SEVERE INJURY OR DEATH </div>	
IF CONTAINER CONTENTS MUST BE REMOVED FOR SERVICE, MAINTENANCE OR DISMANTLING OF THE CLEAN AGENT SYSTEM - PRIOR TO REMOVAL, CONTACT YOUR LOCAL INSTALLER OR MANUFACTURER FOR INSTRUCTIONS CONCERNING THE EQUIPMENT AND CLEAN AGENT.	
<div style="border: 1px solid black; padding: 2px;"> DO NOT COVER, REMOVE OR DEFACE THIS LABEL </div>	
VIKING CORPORATION, 210 N. INDUSTRIAL PARK DRIVE, HASTINGS MI, 49058	



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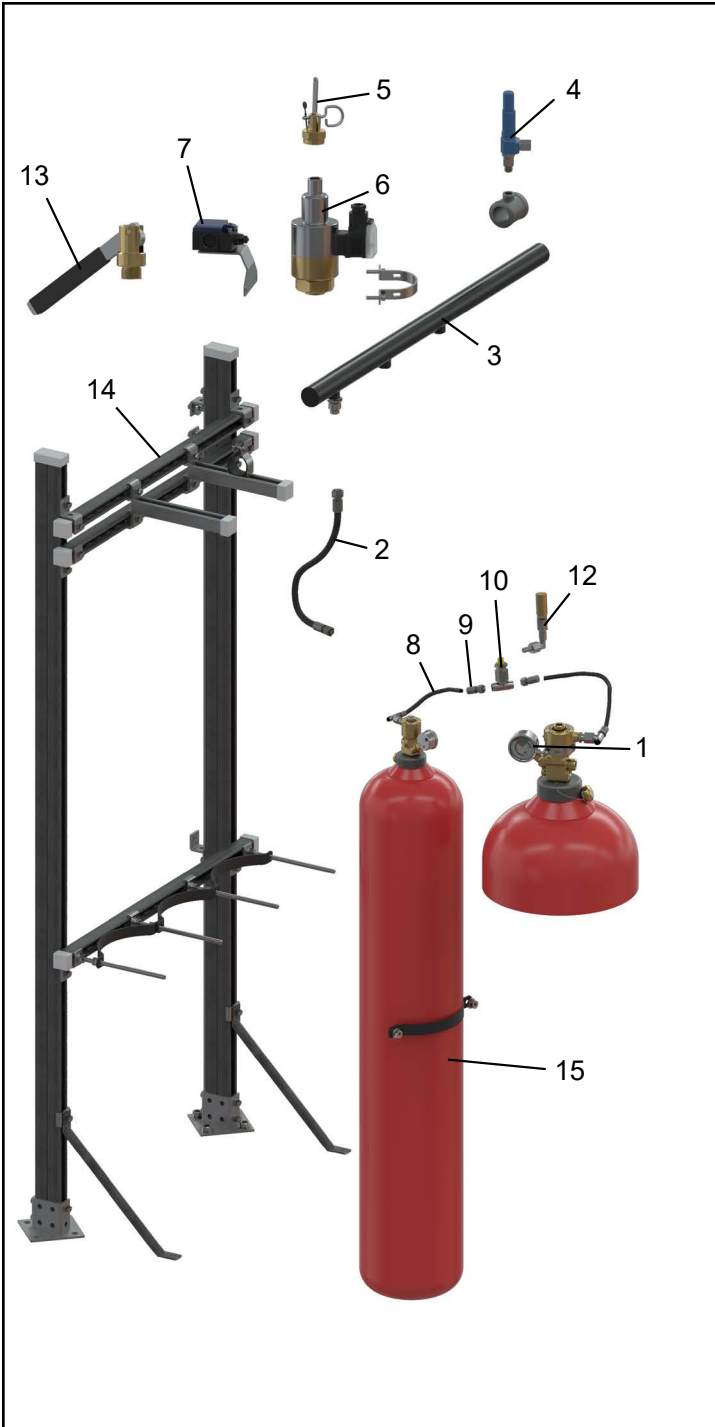


TABLE 1: OXEO EXTINGUISHING SYSTEM COMPONENTS

Item No.	Description	Part No.	
1	Contact Pressure Gauge / Low Pressure Switch (N.O. under pressure)	2901 psi (200 bar)	927615
		4351 psi (300 bar)	927617
	Contact Pressure Gauge / Low Pressure Switch (N.C. under pressure)	2901 psi (200 bar)	927612
		4351 psi (300 bar)	927616
2	Hose	14.8 in. (375 mm)	934921D
		23.6 in. (600 mm)	921922D*
3	Manifold Assemblies 2" NPT	2 out	25053
		3 out	25054
4	Manifold Pressure Relief Device	2901 psi (200 bar)	885136D
		4351 psi (300 bar)	886281D
5	Manual Release Device	914028	
6	Electrical Release Device	914027D	
7	Electrical Release Device Monitor	930865D	
8	Pilot Hose (Kit available with fittings included)	24" (600 mm)	24467 (25132)
		39" (1,000 mm)	24468 (25133)
		59" (1,500 mm)	24469 (25134)
9	Pilot Hose Adapter	125566	
10	Pilot Tee	912487	
11	Pilot Coupler	175920	
12	Pressure Malfunction Safety Assembly	24498	
	Pressure Malfunction Safety Assembly with manual release	24499	
13	Reset Tool	934652	
14	Unistrut Racking Assembly	Varies	
15	Extinguishing Agent Cylinder	Varies	

*Special order; contact sales team for lead time



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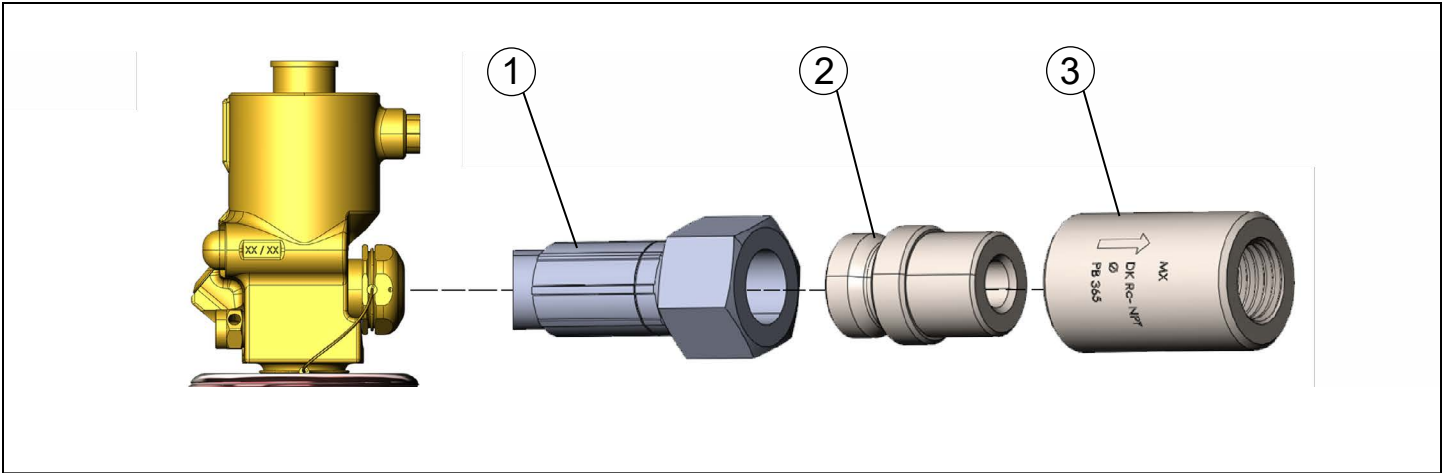


TABLE 3: SYSTEM COMPONENTS REQUIRED FOR AN OXEO SINGLE CONTAINER SYSTEM

Item No.	Description	Part numbers
1	Discharge hose	934921D or 934922D
2	Adapter	887730
3	Pressure Reducer	95011* or 95012*

*Base part numbers shown. For complete part numbers, refer to the Viking pressure reducer technical data sheet.

NOTE: Single tank components are sold separate.



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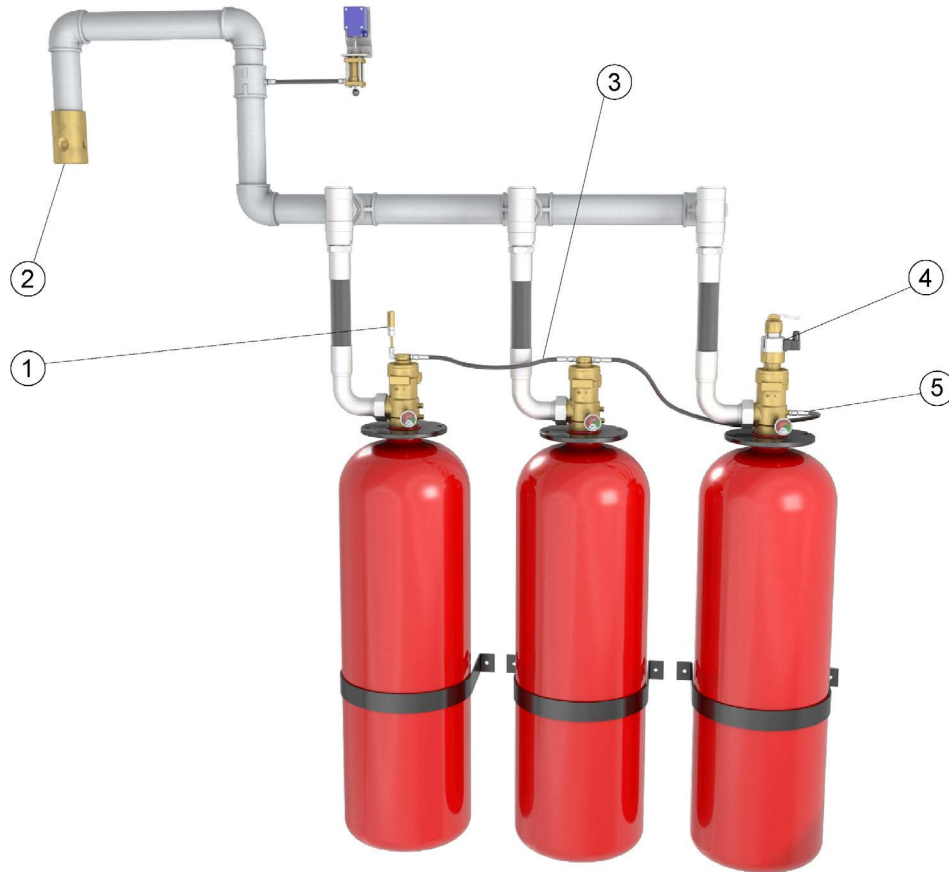


TABLE 4: ADDITIONAL SYSTEM COMPONENTS REQUIRED FOR AN OXEXO MULTIPLE CONTAINER SYSTEM

Item No.	Description
1	Pressure Malfunction Safety Assembly
2	Pressure reducer
3	Pilot Line
4	Pneumatic Release Device
5	Pilot Line Adapter (one required for connecting each pilot line end and for connecting each pilot line safety valve)