



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 Oxexo PR Fire Extinguishing Systems.

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

1. DESCRIPTION

The Oxexo 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 valve cap, and outlet venting safety plug.
- The 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 label is attached to the extinguishing agent container:

- Contains maintenance and filling information, as well as information about the filling quantity.

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 (Oxexo PR CF)



FM Approved: Oxexo PR CF



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



Designation	Nominal Volume	Part no.
Oxexo Cylinder 2901 psi (Argon IG-01)	80 L	4001024
Oxexo Cylinder 2901 psi (Nitrogen IG-100)	80 L	4001044
Oxexo Cylinder 4351 psi (Argon IG-01)	80 L	4001030
Oxexo Cylinder 4351 psi (Nitrogen IG-100)	80 L	4001050
Oxexo Cylinder 2901 psi (Argon IG-01)	30 L	4006190
Oxexo Cylinder 2901 psi (Nitrogen IG-100)	30 L	4006191
Oxexo Cylinder 4351 psi (Argon IG-01)	30 L	4006192
Oxexo Cylinder 4351 psi (Nitrogen IG-100)	30 L	4006193

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



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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 label example.

Steel Cylinder Marking

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

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.

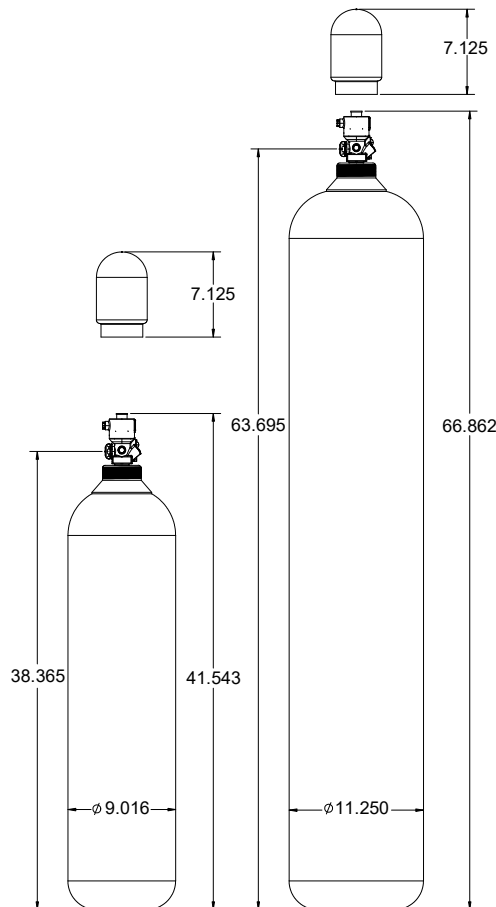


Figure 1: Dimension Drawing (Inches)



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NOTICE: ALL DIMENSIONS SHOWN IN THIS FIGURE ARE APPROXIMATE. VARIATIONS DUE TO MANUFACTURING AND INSTALLATION TOLERANCES ARE POSSIBLE.

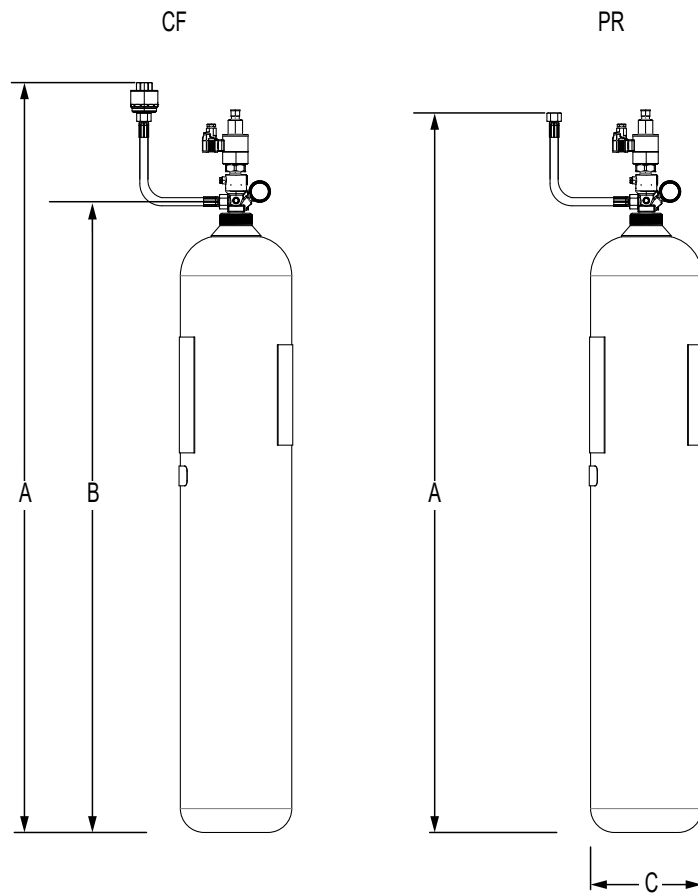


Figure 2: Installation Dimension Guide


System Type	Cylinder Size	Dimensions (Inches)		
		A	B	C
Pressure Reduced (PR)	30 L	46.9	38.4	9.02
	80 L	72.2	63.7	11.25
Constant Flow (CF)	30L	49.7	38.4	9.02
	80L	75.0	63.7	11.25





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	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	
Design, Installation, Operation, and Maintenance Manual (DIOM)	F_021023	
Fill station	Purity Cylinder Gases, 2940 Clydon Ave. SW, Wyoming MI 49519 (VKC016)	

- System operation temperature range Oxexo PR LCP 0°C to +55°C (32°F to 131°F)
- System operation temperature range Oxexo CF LCP -11°C to +55°C (12,2°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:

- 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 operating 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:

- 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

HIGH PRESSURE CYLINDER, CAPABLE OF VIOLENT DISCHARGE
EXTREMELY HAZARDOUS - CAN CAUSE SEVERE INJURY OR DEATH

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.

DO NOT COVER, REMOVE OR DEFACE THIS LABEL

VIKING CORPORATION, 210 N. INDUSTRIAL PARK DRIVE, HASTINGS MI 49058

Figure 3: Cylinder Label



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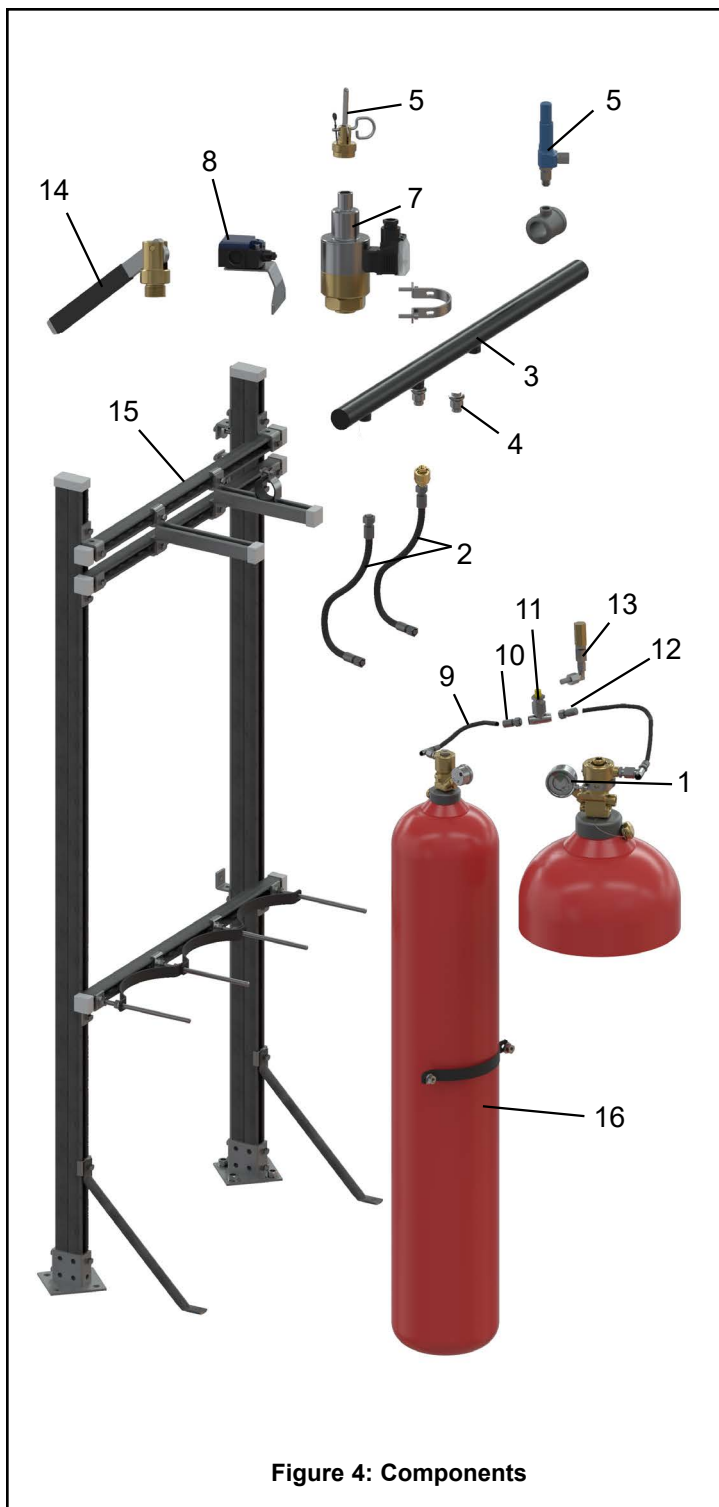


Figure 4: Components

TABLE 1: OXEXO EXTINGUISHING SYSTEM COMPONENTS			
Ref.	Description		Part No.
1	Contact Pressure Gauge / Low Pressure Switch (N.C. under pressure)	2901 psi (200 bar)	927615
		4351 psi (300 bar)	927617
	Contact Pressure Gauge / Low Pressure Switch (N.O. 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*
	CF Hose Kit	14.8 in. (375 mm)	25763
		23.6 in. (600 mm)	25764*
3	PR Manifold Assemblies 2" NPT	2 out	25528
		3 out	25054
	CF Manifold Assemblies 2" NPT	2 out	25759
		3 out	25760
4	Check valve (CF only)		886030
	Check valve plug (not shown)		886402D
5	Manifold Pressure Relief Device	2901 psi (200 bar)	885136D
		4351 psi (300 bar)	886281D
		957 psi (65 bar) (CF only)	888007D
6	Manual Release Device		914028
7	Electrical Release Device		914027D
8	Electrical Release Device Monitor		930865D
9	Pilot Hose (Kit available with fittings included)	20" (500 mm)	24467 (25132)
		39" (1,000 mm)	24468 (25133)
		59" (1,500 mm)	24469 (25134)
10	Pilot Hose Adapter		125566
11	Pilot Tee		912487
12	Pilot Coupler		125920
13	Pressure Relief Safety Assembly		24498
	Pressure Relief Safety Assembly with manual release		24499
14	Reset Tool		934652
15	Unistrut Racking Assembly		Varies
16	Extinguishing Agent Cylinder		Varies

*Special order; contact sales team for lead time



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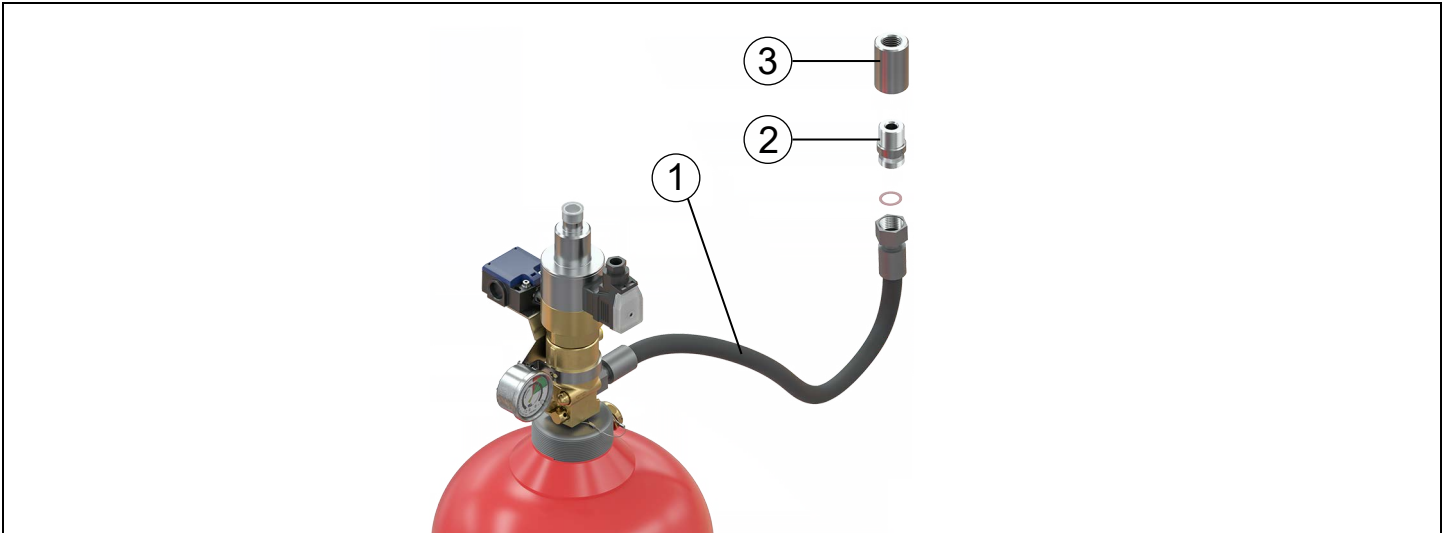


Figure 5: Cylinder Connection Components (PR)

TABLE 3: SYSTEM COMPONENTS REQUIRED FOR AN OXEO SINGLE CONTAINER SYSTEM - PR ONLY		
Item No.	Description	Part numbers
1	Discharge hose	934921D or 934922D
2	Adapter	887706
3	Pressure Reducer	25011* or 25012*

*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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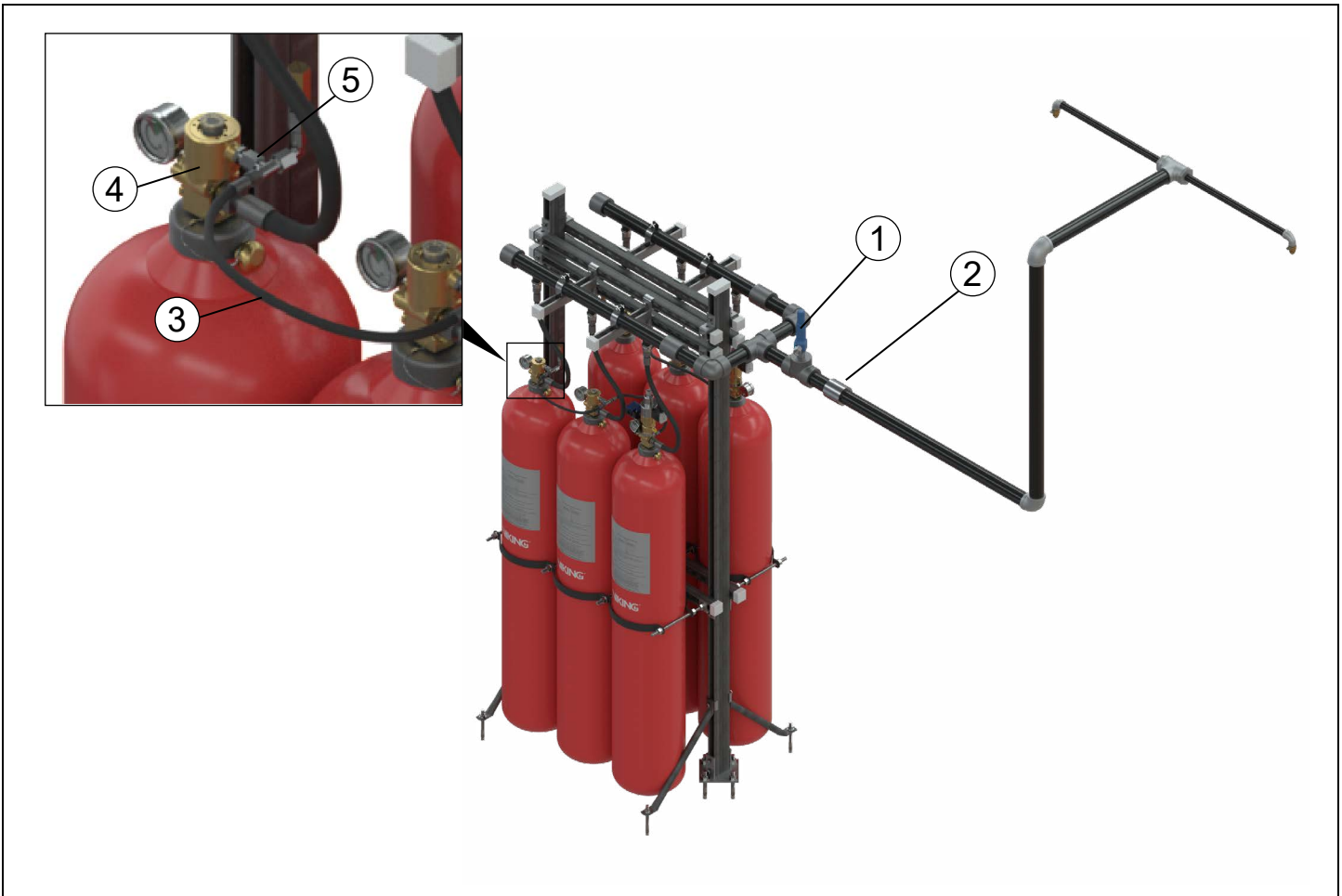


Figure 6: Additional Connection Components for Multiple Container System (PR)

TABLE 4: ADDITIONAL SYSTEM COMPONENTS REQUIRED FOR AN OXEO PR MULTIPLE CONTAINER SYSTEM	
Item No.	Description
1	Manifold pressure relief
2	Pressure reducer
3	Pilot line
4	Valve with integrated pneumatic release device
5	Pilot line kit*

*A pilot line kit is needed to connect each pilot cylinder. One (1) kit is required for each pneumatic pilot system.



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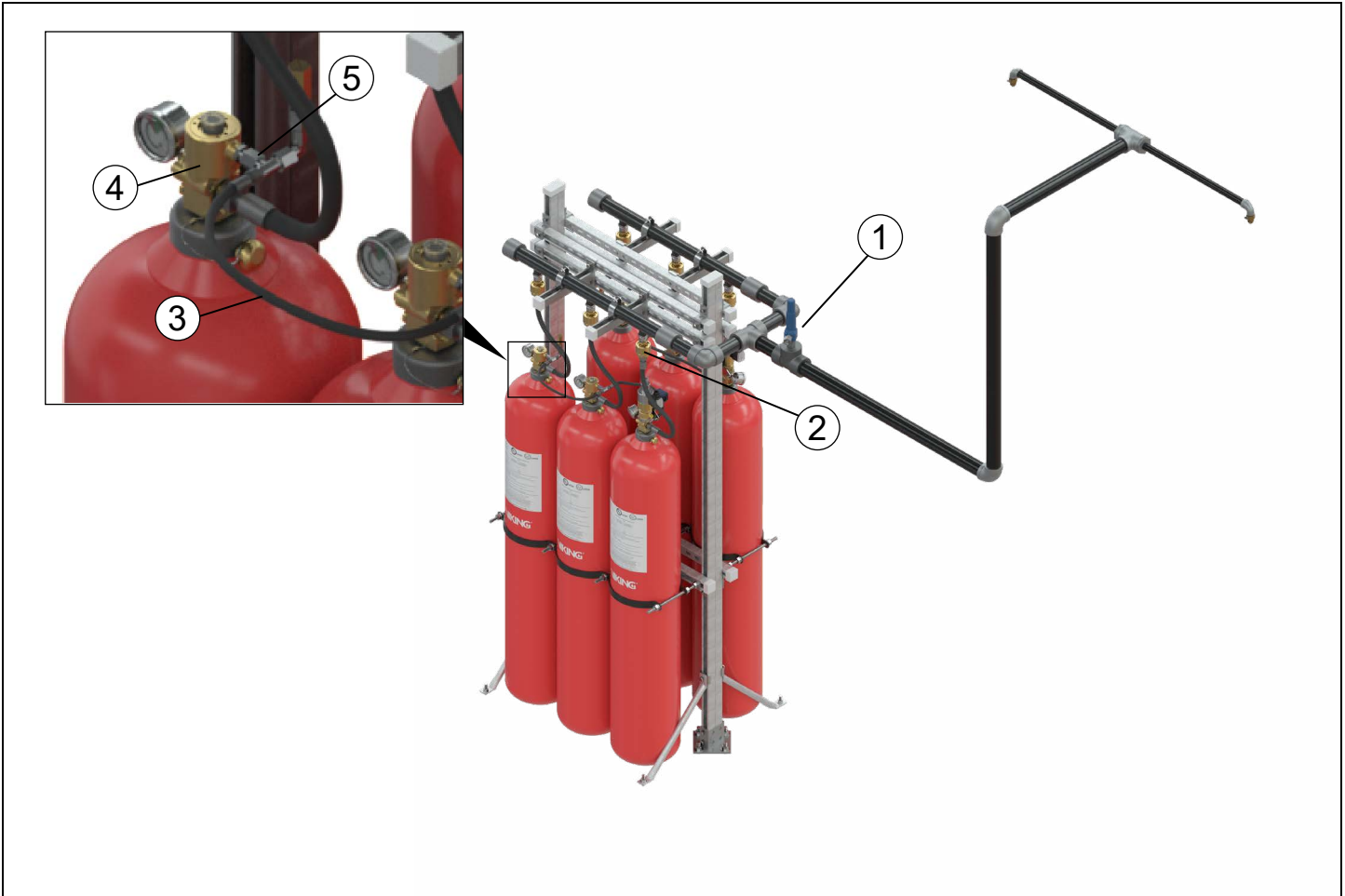


Figure 7: Additional Connection Components for Multiple Container System (CF)

TABLE 4: ADDITIONAL SYSTEM COMPONENTS REQUIRED FOR AN OXEXO CF MULTIPLE CONTAINER SYSTEM	
Item No.	Description
1	Manifold pressure relief
2	Pressure regulator
3	Pilot line
4	Valve with integrated pneumatic release device
5	Pilot line kit*

*A pilot line kit is needed to connect each pilot cylinder. One (1) kit is required for each pneumatic pilot system.