NAFFCO
PASSION TO PROTECT

NAFFCOInert®
Fire Suppression System

(IG01, IG100, IG55, IG541)

IG01 EXTINGUISHANT AGENT

IG01 Inert Gas is a colorless, odorless, electrically non-conductive gas with a density approximately the same as air. (See Physical Properties for additional information).

IG01 is stored as pressurized gas within the cylinder assembly. It is available at storage pressures of 200 Bar and 300 Bar.

When discharged into a protected space, it is clear and does not obscure vision. It leaves no residue and has zero ozone depleting potential and zero global warming potential.

FEATURES & BENEFITS

- Natural gas present in the atmosphere
- Suitable for occupied areas
- Non Toxic and Non Corrosive
- Colorless, odourless and compressed gas
- Stored and discharge as gas
- Fogging does not occur when agent is discharged
- Electrically non – conductive
- Leaves no residue
- Zero Ozone Depletion
- Zero Global warming
- Zero Atmospheric Life Time
- Included on the U.S. EPA Significant New Alternative Policy (SNAP) rules

EXTINGUISHING METHOD IG01

IG01 extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

USE AND LIMITATIONS

Inert Gas extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

System shall be used on the following Class of Hazards:

Class A & C : Electrical and Electronic Hazards, Telecommunication Facilities. High Value assets where the associated down time be costly

Class B : Flammable liquid and Gases

System shall "**NOT**" be used on fires involving the following materials:

- Chemical or mixtures of chemical that are capable of rapid oxidation in the absence of air. (Example include: Cellulose Nitrate and Gunpowder)
- Reactive metal such as lithium, sodium, potassium, magnesium, Titanium, Zirconium, Uranium and plutonium.
- Metal Hydrides such as sodium hydride and lithium aluminum hydride.
- Chemical capable of undergoing auto-thermal decomposition (Example: Organic Peroxide and Hydrazine).

EXPOSURE LIMITATION

Hazard Type	Design Concentration/Oxygen Levels	Maximum Human Expose time
Normally Occupied Space	Up to 43% / 12% minimum	5 Min
	43% to 52% / 12% to 10%	3 Min
Normally Un-Occupied Space	52% to 62% / Minimum 8%	30 Sec
	Above 62% / 8% or lower	0 Sec (Personal CANNOT be exposed)

NOTES: EN 15005, ISO 14520 & NFPA 2001 does not allow Clean Agent Systems to be used in any occupiable spaces where the design concentration required is above 52% unless provided with supervised system lockout valve, pneumatic pre-discharge alarm, pneumatic time delay and warning signs. NAFFCO does not recommend **NAFFCOInert®** systems to be used in normally occupied spaces where the design concentration required is above 52%.

WARNING: The discharge of clean agent systems to extinguish a fire can result in potential hazard to personnel from the natural form of the clean agent or from the products of combustion that result from exposure of the agent to the fire or hot surfaces. Unnecessary exposure of personnel either to the natural agent or to the products of decomposition shall be avoided.

PHYSICAL PROPERTIES OF IG-01

Chemical Name	Ar
Molecular Weight	39.9
Boiling Point at 1.013 Bar	-185.9°C
Critical Pressure	49 Bar
Critical Temperature	-122.3°C
Design Concentration for Class A Fire (NFPA)	38.7%
Flooding Factor for Class A Fire (NFPA)	0.481 m^3/ m^3
NOAEL	43%
LOAEL	53%

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IG100 EXTINGUISHANT AGENT

IG100 Inert Gas is a colorless, odorless, electrically non-conductive gas with a density approximately the same as air. (See Physical Properties for additional information).

IG100 is stored as pressurized gas within the cylinder assembly. It is available at storage pressures of 200 Bar and 300 Bar.

When discharged into a protected space, it is clear and does not obscure vision. It leaves no residue and has zero ozone depleting potential and zero global warming potential.

FEATURES & BENEFITS

- Natural gas present in the atmosphere
- Suitable for occupied areas
- Non Toxic and Non Corrosive
- Colorless, odourless and compressed gas
- Stored and discharge as gas
- Fogging does not occur when agent is discharged
- Electrically non – conductive
- Leaves no residue
- Zero Ozone Depletion
- Zero Global warming
- Zero Atmospheric Life Time
- Included on the U.S. EPA Significant New Alternative Policy (SNAP) rules

EXTINGUISHING METHOD IG100

IG100 extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

USE AND LIMITATIONS

Inert Gas extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

System shall be used on the following Class of Hazards:

Class A & C : Electrical and Electronic Hazards, Telecommunication Facilities. High Value assets where the associated down time be costly

Class B : Flammable liquid and Gases

System shall "**NOT**" be used on fires involving the following materials:

- Chemical or mixtures of chemical that are capable of rapid oxidation in the absence of air. (Example include: Cellulose Nitrate and Gunpowder)
- Reactive metal such as lithium, sodium, potassium, magnesium, Titanium, Zirconium, Uranium and plutonium.
- Metal Hydrides such as sodium hydride and lithium aluminum hydride.
- Chemical capable of undergoing auto-thermal decomposition (Example: Organic Peroxide and Hydrazine).

EXPOSURE LIMITATION

Hazard Type	Design Concentration/Oxygen Levels	Maximum Human Expose time
Normally Occupied Space	Up to 43% / 12% minimum	5 Min
	43% to 52% / 12% to 10%	3 Min
Normally Un-Occupied Space	52% to 62% / Minimum 8%	30 Sec
	Above 62% / 8% or lower	0 Sec (Personal CANNOT be exposed)

NOTES: EN 15005, ISO 14520 & NFPA 2001 does not allow Clean Agent Systems to be used in any occupiable spaces where the design concentration required is above 52% unless provided with supervised system lockout valve, pneumatic pre-discharge alarm, pneumatic time delay and warning signs. NAFFCO does not recommend **NAFFCOInert®** systems to be used in normally occupied spaces where the design concentration required is above 52%.

WARNING: The discharge of clean agent systems to extinguish a fire can result in potential hazard to personnel from the natural form of the clean agent or from the products of combustion that result from exposure of the agent to the fire or hot surfaces. Unnecessary exposure of personnel either to the natural agent or to the products of decomposition shall be avoided.

PHYSICAL PROPERTIES OF IG - 100

Chemical Name	N_2
Molecular Weight	28
Boiling Point at 1 ATM (1.013 Bar)	-196°C
Critical Pressure	40 Bar
Critical Temperature	-146.9°C
Design Concentration for Class A Fire (NFPA)	37.2%
Flooding Factor for Class A Fire (NFPA)	0.457 m^3/ m^3
NOAEL	43%
LOAEL	53%

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IG55 EXTINGUISHANT AGENT

IG55 Inert Gas is a colorless, odorless, electrically non-conductive gas with a density approximately the same as air. (See Physical Properties for additional information).

IG55 is stored as pressurized gas within the cylinder assembly. It is available at storage pressures of 200 Bar and 300 Bar.

When discharged into a protected space, it is clear and does not obscure vision. It leaves no residue and has zero ozone depleting potential and zero global warming potential.

FEATURES & BENEFITS

- Natural gas present in the atmosphere
- Suitable for occupied areas
- Non Toxic and Non Corrosive
- Colorless, odourless and compressed gas
- Stored and discharge as gas
- Fogging does not occur when agent is discharged
- Electrically non – conductive
- Leaves no residue
- Zero Ozone Depletion
- Zero Global warming
- Zero Atmospheric Life Time
- Included on the U.S. EPA Significant New Alternative Policy (SNAP) rules

EXTINGUISHING METHOD IG55

IG55 extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

USE AND LIMITATIONS

Inert Gas extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

System shall be used on the following Class of Hazards:

Class A & C : Electrical and Electronic Hazards, Telecommunication Facilities. High Value assets where the associated down time be costly

Class B : Flammable liquid and Gases

System shall "**NOT**" be used on fires involving the following materials:

- Chemical or mixtures of chemical that are capable of rapid oxidation in the absence of air. (Example include: Cellulose Nitrate and Gunpowder)
- Reactive metal such as lithium, sodium, potassium, magnesium, Titanium, Zirconium, Uranium and plutonium.
- Metal Hydrides such as sodium hydride and lithium aluminum hydride.
- Chemical capable of undergoing auto-thermal decomposition (Example: Organic Peroxide and Hydrazine).

EXPOSURE LIMITATION

Hazard Type	Design Concentration/Oxygen Levels	Maximum Human Expose time
Normally Occupied Space	Up to 43% / 12% minimum	5 Min
	43% to 52% / 12% to 10%	3 Min
Normally Un-Occupied Space	52% to 62% / Minimum 8%	30 Sec
	Above 62% / 8% or lower	0 Sec (Personal CANNOT be exposed)

NOTES: EN 15005, ISO 14520 & NFPA 2001 does not allow Clean Agent Systems to be used in any occupiable spaces where the design concentration required is above 52% unless provided with supervised system lockout valve, pneumatic pre-discharge alarm, pneumatic time delay and warning signs. NAFFCO does not recommend **NAFFCOInert®** systems to be used in normally occupied spaces where the design concentration required is above 52%.

WARNING: The discharge of clean agent systems to extinguish a fire can result in potential hazard to personnel from the natural form of the clean agent or from the products of combustion that result from exposure of the agent to the fire or hot surfaces. Unnecessary exposure of personnel either to the natural agent or to the products of decomposition shall be avoided.

PHYSICAL PROPERTIES OF IG - 55

Chemical Name	N_2/Ar
Molecular Weight	33.95
Boiling Point at 760 mm Hg	-190.1°C
Critical Pressure	602 psia
Critical Temperature	-134.7°C
Design Concentration for Class A Fire (NFPA)	37.2%
Flooding Factor for Class A Fire (NFPA)	0.457 m^3/ m^3
NOAEL	43%
LOAEL	52%

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IG541 EXTINGUISHANT AGENT

IG541 Inert Gas is a colorless, odorless, electrically non-conductive gas with a density approximately the same as air. (See Physical Properties for additional information).

IG541 is stored as pressurized gas within the cylinder assembly. It is available at storage pressures of 200 Bar and 300 Bar.

When discharged into a protected space, it is clear and does not obscure vision. It leaves no residue and has zero ozone depleting potential and zero global warming potential.

FEATURES & BENEFITS

- Natural gas present in the atmosphere
- Suitable for occupied areas
- Non Toxic and Non Corrosive
- Colorless, odourless and compressed gas
- Stored and discharge as gas
- Fogging does not occur when agent is discharged
- Electrically non – conductive
- Leaves no residue
- Zero Ozone Depletion
- Zero Global warming
- Zero Atmospheric Life Time
- Included on the U.S. EPA Significant New Alternative Policy (SNAP) rules

EXTINGUISHING METHOD IG541

IG541 extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

USE AND LIMITATIONS

Inert Gas extinguishes a fire by reducing the residual oxygen concentration to a level that will no longer support combustion.

System shall be used on the following Class of Hazards:

Class A & C : Electrical and Electronic Hazards, Telecommunication Facilities. High Value assets where the associated down time be costly

Class B : Flammable liquid and Gases

System shall "**NOT**" be used on fires involving the following materials:

- Chemical or mixtures of chemical that are capable of rapid oxidation in the absence of air. (Example include: Cellulose Nitrate and Gunpowder)
- Reactive metal such as lithium, sodium, potassium, magnesium, Titanium, Zirconium, Uranium and plutonium.
- Metal Hydrides such as sodium hydride and lithium aluminum hydride.
- Chemical capable of undergoing auto-thermal decomposition (Example: Organic Peroxide and Hydrazine).

EXPOSURE LIMITATION

Hazard Type	Design Concentration/Oxygen Levels	Maximum Human Expose time
Normally Occupied Space	Up to 43% / 12% minimum	5 Min
	43% to 52% / 12% to 10%	3 Min
Normally Un-Occupied Space	52% to 62% / Minimum 8%	30 Sec
	Above 62% / 8% or lower	0 Sec (Personal CANNOT be exposed)

NOTES: EN 15005, ISO 14520 & NFPA 2001 does not allow Clean Agent Systems to be used in any occupiable spaces where the design concentration required is above 52% unless provided with supervised system lockout valve, pneumatic pre-discharge alarm, pneumatic time delay and warning signs. NAFFCO does not recommend **NAFFCOInert®** systems to be used in normally occupied spaces where the design concentration required is above 52%.

WARNING: The discharge of clean agent systems to extinguish a fire can result in potential hazard to personnel from the natural form of the clean agent or from the products of combustion that result from exposure of the agent to the fire or hot surfaces. Unnecessary exposure of personnel either to the natural agent or to the products of decomposition shall be avoided.

PHYSICAL PROPERTIES OF IG - 541

Chemical Name	$N_2/Ar/CO_2$
Molecular Weight	34
Boiling Point at 1 ATM (1.013 Bar)	-196°C
Critical Pressure	N/A
Critical Temperature	N/A
Design Concentration for Class A Fire (NFPA)	37.2%
Flooding Factor for Class A Fire (NFPA)	0.457 m^3/ m^3
NOAEL	43%
LOAEL	52%

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CYLINDER /VALVE ASSEMBLY

NAFFCOInert® cylinders shall be High Pressure Seamless Cylinder available in different capacities (i.e. 67, 80 & 140 Ltrs).

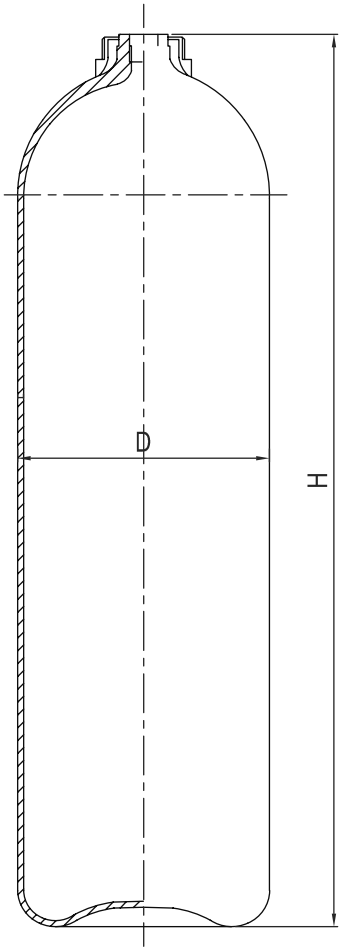
The Cylinder filling pressure shall be either 200 Bar or 300 Bar to meet suitable system requirement. Cylinders arrives with valves pre-assembled.

SPECIFICATION

Working Pressure	200 Bar	300 Bar
Test Pressure	300 Bar	450 Bar
Material	34CrMO4 EN 10 083	
Colour	RAL 3000	
Thread Connection	W28.8 x 1/14" - EN 629-1	
Conformity	ISO 9809 Part 1&2/ TUV+UN	
Mounting	Vertical	
Cylinder Actuation	Electric/Pneumatic - Input from Control Panel Manual/ Pneumatic - Input from Push Knob	
Cylinder Storage Temperature	-20°C to 50°C	

EXTINGUISHING AGENT FILLING MASS

Cylinder Capacity	IG 01	IG 100	IG 55	IG 541
67 Liters, 200 Bar	24.1	15.1	19.3	20.2
67 Liters, 300 Bar	33.4	19.5	26.8	27.7
80 Liters, 200 Bar	28.5	17.9	22.9	24.2
80 Liters, 300 Bar	40.8	24.7	31.2	33.2
140 Liters, 200 Bar	49.9	31.3	40.1	42.0
140 Liters, 300 Bar	71.4	43.2	56.3	58.2



CYLINDER DIMENSIONS

67 Litres				
Working Pressure	200 Bar	200 Bar	300 Bar	300 Bar
Diameter	267 mm	360 mm	267mm	360 mm
Height	1470 mm	900 mm	1526 mm	900 mm
Model Number(IG01)	NFIG01-200-067A	NFIG01-200-067B	NFIG01-300-067A	NFIG01-300-067B
Model Number(IG100)	NFIG100-200-067A	NFIG100-200-067A	NFIG100-300-067A	NFIG100-300-067B
Model Number(IG55)	NFIG55-200-067A	NFIG55-200-067B	NFIG55-300-067A	NFIG55-300-067B
Model Number(IG541)	NFIG541-200-067A	NFIG541-200-067B	NFIG541-300-067A	NFIG541-300-067B

80 Litres				
Working Pressure	200 Bar	200 Bar	300 Bar	300 Bar
Diameter	267 mm	360 mm	267mm	360 mm
Height	1710 mm	1025 mm	1780 mm	1090 mm
Model Number(IG01)	NFIG01-200-080A	NFIG01-200-080B	NFIG01-300-080A	NFIG01-300-080B
Model Number(IG100)	NFIG100-200-080A	NFIG100-200-080A	NFIG100-300-080A	NFIG100-300-080B
Model Number(IG55)	NFIG55-200-080A	NFIG55-200-080B	NFIG55-300-080A	NFIG55-300-080B
Model Number(IG541)	NFIG541-200-080A	NFIG541-200-080B	NFIG541-300-080A	NFIG541-300-080B

CYLINDER DIMENSIONS

140 Litres		
Working Pressure	200 Bar	300 Bar
Diameter	360 mm	360 mm
Height	1690 mm	1760 mm
Model Number(IG01)	NFIG01-200-140	NFIG01-300-140
Model Number(IG100)	NFIG100-200-140	NFIG100-300-140
Model Number(IG55)	NFIG55-200-140	NFIG55-300-140
Model Number(IG541)	NFIG541-200-140	NFIG541-300-140

INSTALLATION

The system installation must comply with the requirements of this manual; ISO 14520 or EN 15004 or NFPA 2001 and all applicable local codes, regulations, and standards; and the authority having jurisdiction (AHJ).

WARNING: "DO NOT" start system installation until the final design of the total system has been verified using Engineered Flow Calculation.

SAFETY: The system involves handling high pressure equipment. All installers must be fully trained by NAFFCO and conversant with this manual.

Attention is drawn to the European Pressure Equipment Directive 97/23/EC. All pipe-work must be made using certified materials.

Do not locate any system components where they would be subject to physical damage, exposure to corrosive chemicals, or harsh weather conditions or fire.

AGENT STORAGE CYLINDERS

Make certain that each cylinder has been installed in the correct location. Each cylinder has a nameplate with an identifying part number. Check the cylinder part number against those listed on the system plans to verify their locations.

Cylinders should be located in clean, dry, and relatively vibration-free areas. Avoid aisles and other high traffic areas where physical damage or tampering is more likely. Cylinders should never be mounted where the cylinder could potentially be splashed with, or submerged in any liquid.

Cylinder brackets must be mounted securely to solid load-bearing surfaces that will support the cylinder load. Some installations may require additional mounting support not supplied by NAFFCO.

Cylinders should be located to allow easy accessibility to the actuation package for manual release of the system. Manual release is achieved by removing the locking pin and pressing the red manual activation strike knob adjacent to the electric solenoid. This will pneumatically initiate the discharge sequence.

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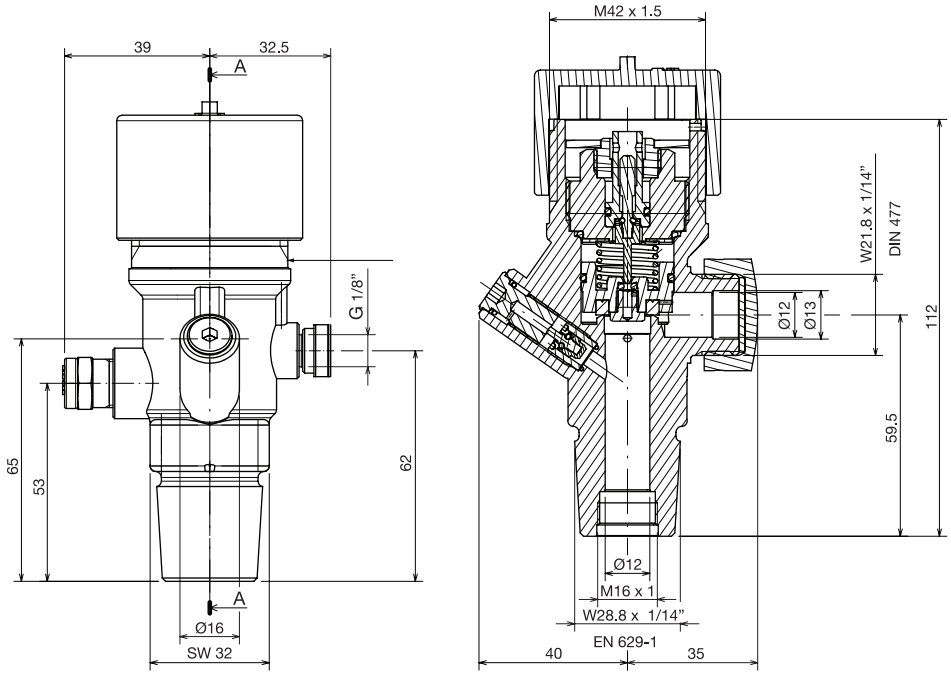
VALVES FOR INERT GAS CYLINDERS

NAFFCOInert® cylinder head valve shall be pressure seat type valve. The head valve is available in two different working pressure 200 Bar / 300 Bar to meet the suitable system requirement.

The head valve can be operated by electric actuator, pneumatic actuator or pneumatic / manual actuator. The head valve is equipped with pressure gauge / pressure switch to monitor the cylinder pressure.



SPECIFICATION

Model No.	B04801218-NF	B04802020-NF
Operating Pressure @ 15°	200 Bar	300 Bar
Test Pressure	300 Bar	450 Bar
Material	Brass	
Discharge Port	W21.8 x 1/14"	
Connection for Release Device	M42 x 1.5	
Port for Pilot Hose	G 1/8"	
Monitoring Port	M10 x 1	
Orifice Size	Ø12mm	
Temperature	-20°C to 50°C	
Flow Rate	Kv= 2.66; Cv= 3.09	

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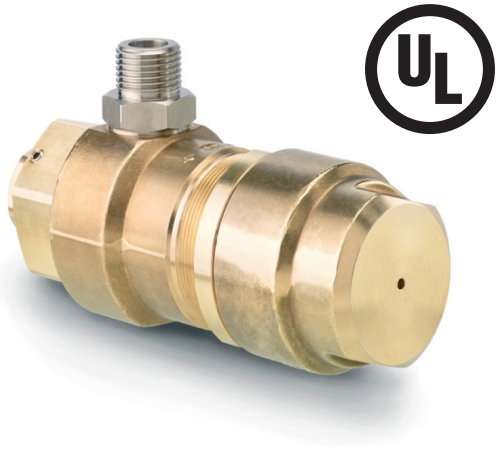
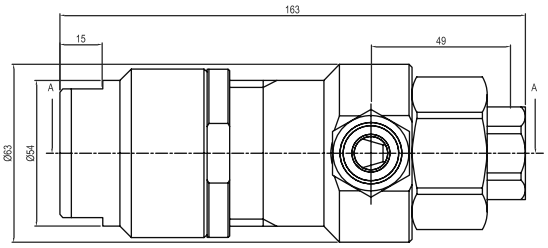
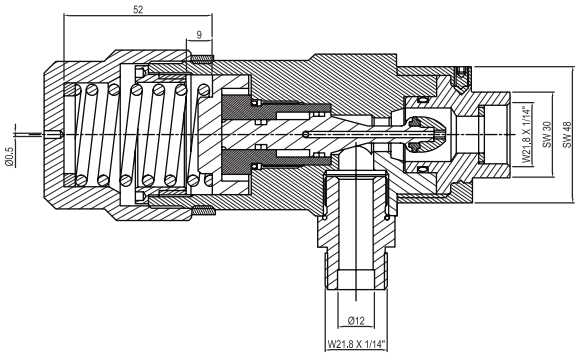
PRESSURE REGULATOR

The pressure regulator modulates the discharge pressure to a constant pressure, which still delivers the extinguishing agent within 60 seconds, but with significant performance and cost benefits. It prevents discharge freeze-up and explosive force of discharge. Low-pressure manifolds and pipework can be used - that means lower costs.

After a system discharge, no reconditioning of the pressure regulator is necessary. Functional tests are possible even while the system is armed. The pressure regulator is screwed with a gasket on the discharge port of the valve.







SPECIFICATION

Model No	B08400003-NF
Material	Brass
Inlet Pressure	200 / 300 Bar
Maximum Inlet Pressure	360 Bar
Orifice diameter	12 mm
Inlet Connection	W21.8 x 1/14” DIN 477
Outlet Connection	W21.8 x 1/14” DIN 477
Static outlet pressure	60 Bar

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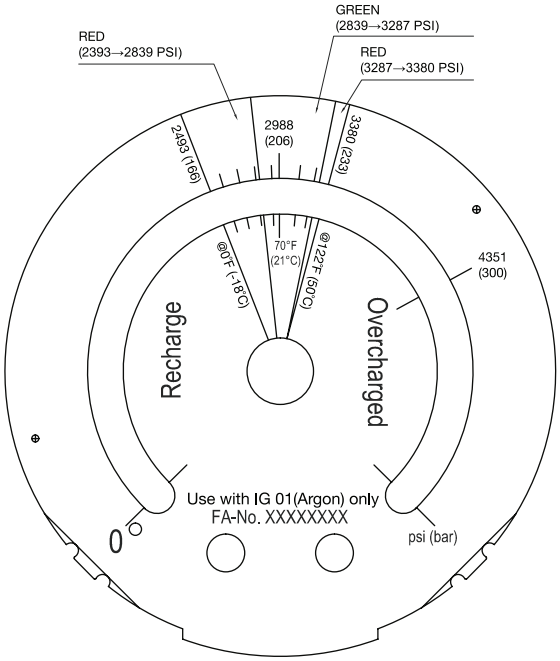
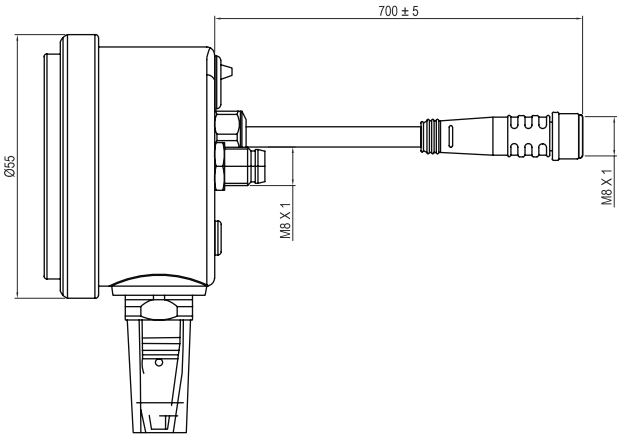
PRESSURE GAUGES FOR IG01

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720221-NF
Working Pressure	200 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	2839 PSI
Range	0 to 4351 PSI
Red Sector	2393-2839 & 3287-3380 PSI
Green Sector	2839-3287 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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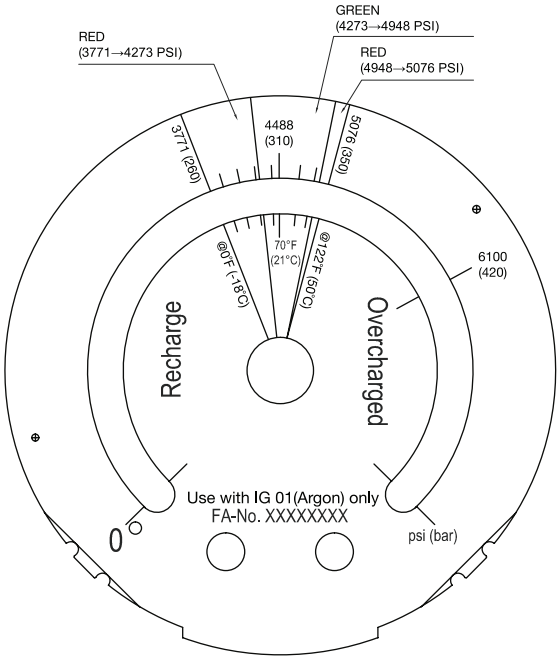
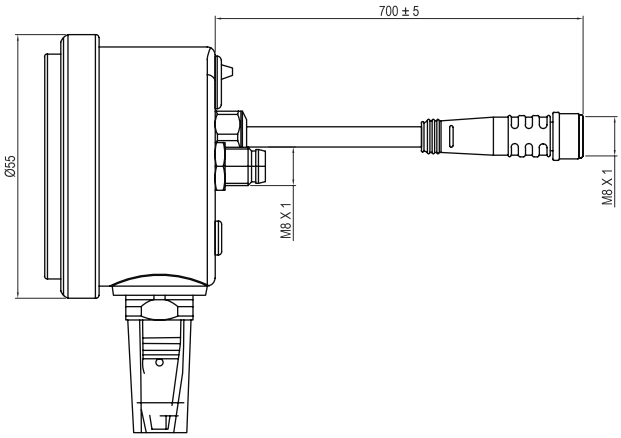
PRESSURE GAUGES FOR IG01

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720217-NF
Working Pressure	200 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	4273 PSI
Range	0 to 6100 PSI
Red Sector	3771-4273 & 4948-5076 PSI
Green Sector	4273-4948 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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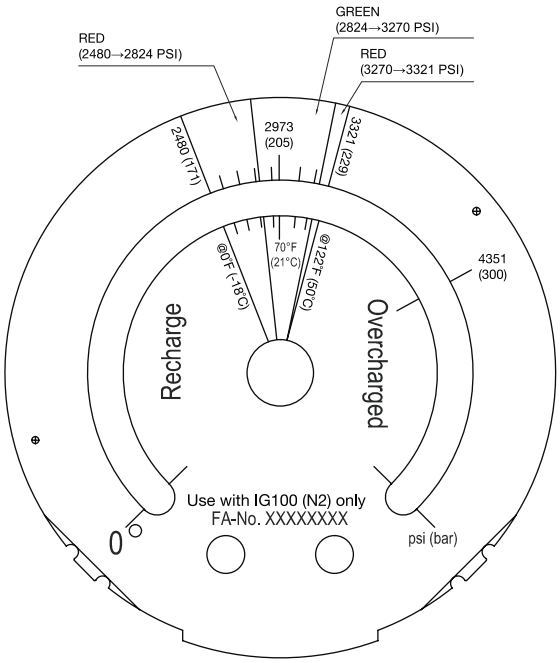
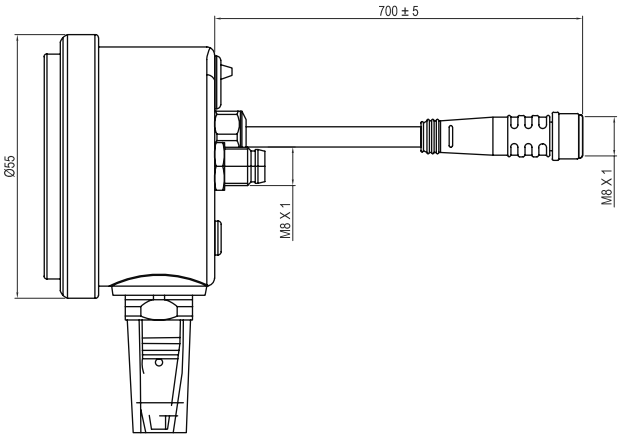
PRESSURE GAUGES FOR IG100

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720219-NF
Working Pressure	200 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	2824 PSI
Range	0 to 4351 PSI
Red Sector	2480-2824 & 3270-3321 PSI
Green Sector	2824-3270 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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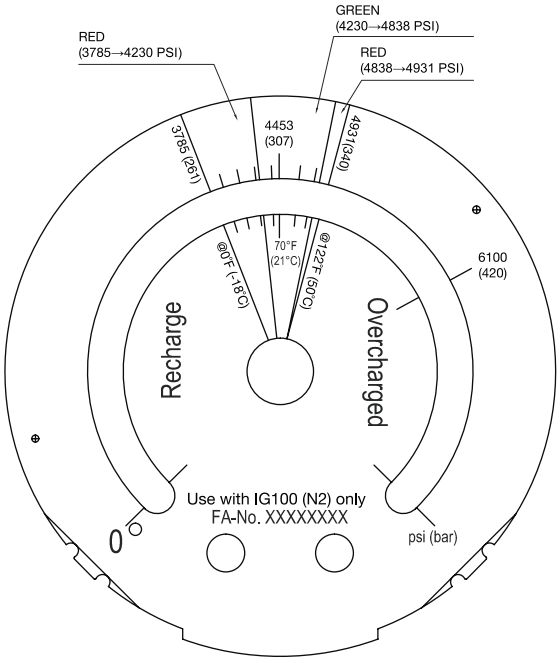
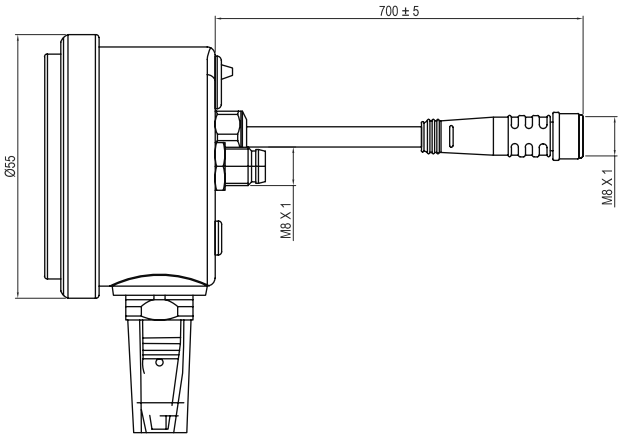
PRESSURE GAUGES FOR IG100

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720215-NF
Working Pressure	200 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	4230 PSI
Range	0 to 6100 PSI
Red Sector	3785-4230 & 4838-4931 PSI
Green Sector	4230-4831 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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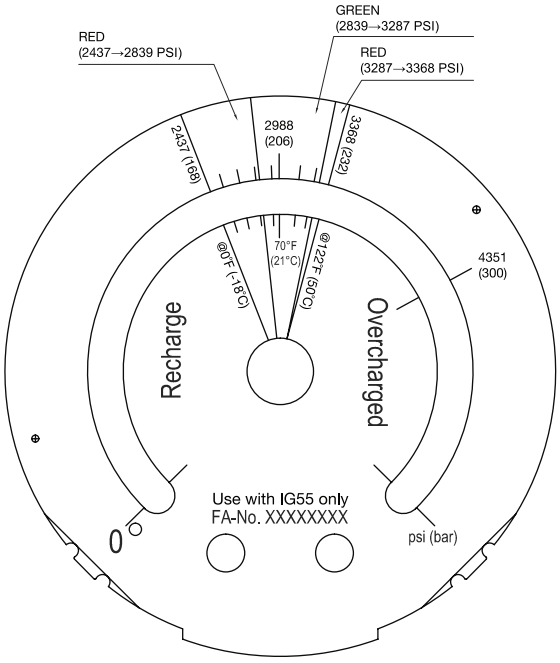
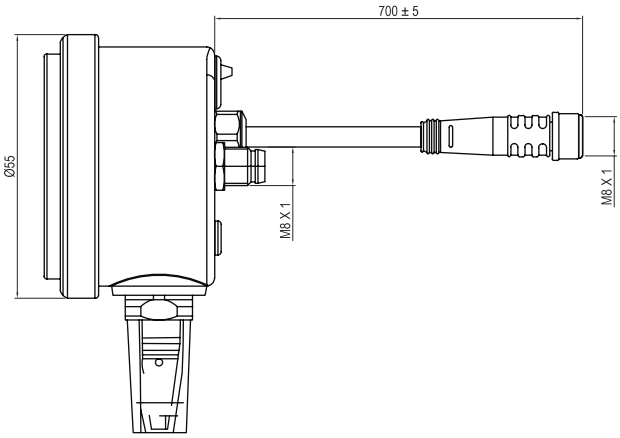
PRESSURE GAUGES FOR IG55

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720220 -NF
Working Pressure	300 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	2839 PSI
Range	0 to 4351 PSI
Red Sector	2437-2839 & 3287-3368 PSI
Green Sector	2839-3287 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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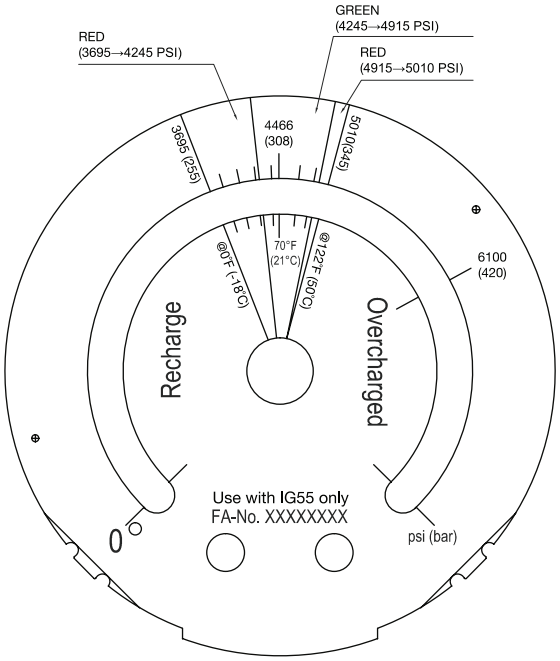
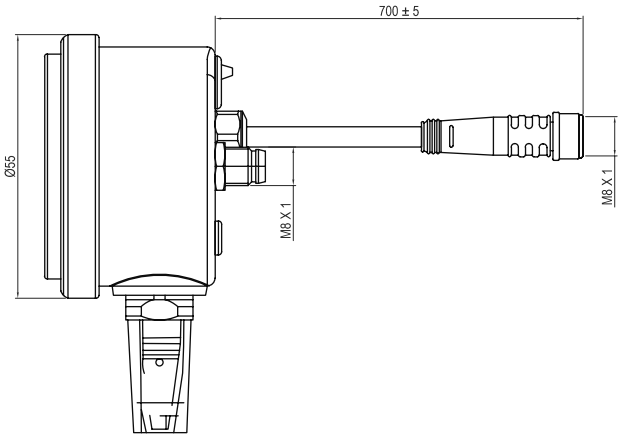
PRESSURE GAUGES FOR IG55

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720216 -NF
Working Pressure	300 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	4245 PSI
Range	0 to 6100 PSI
Red Sector	3695-4245 & 4915-5010 PSI
Green Sector	4245-4915 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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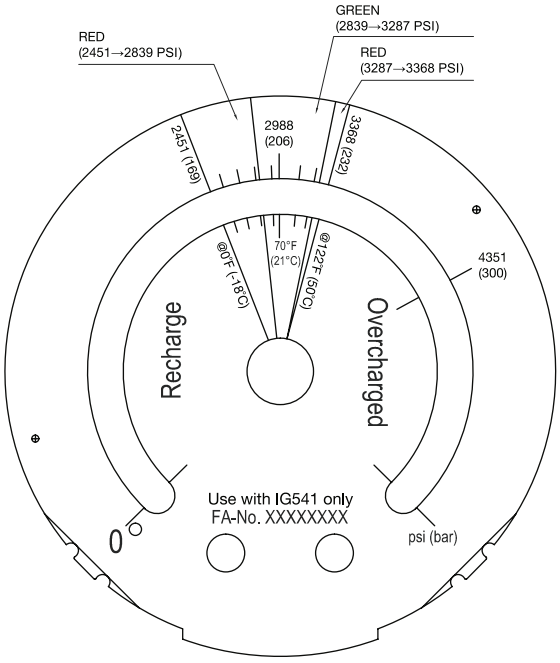
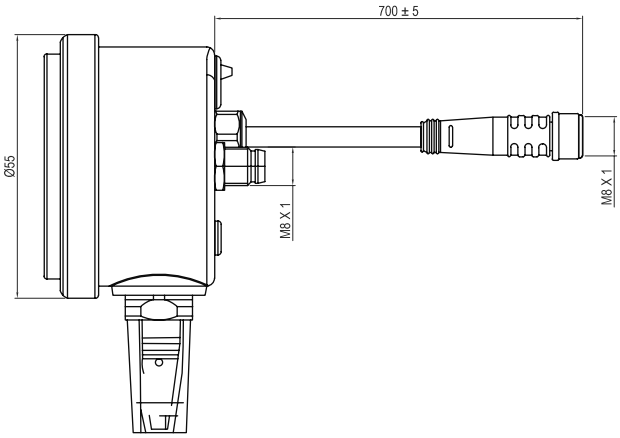
PRESSURE GAUGES FOR IG541

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720222 -NF
Working Pressure	300 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	2839 PSI
Range	0 to 4351 PSI
Red Sector	2451-2839 & 3287-3368 PSI
Green Sector	2839-3287 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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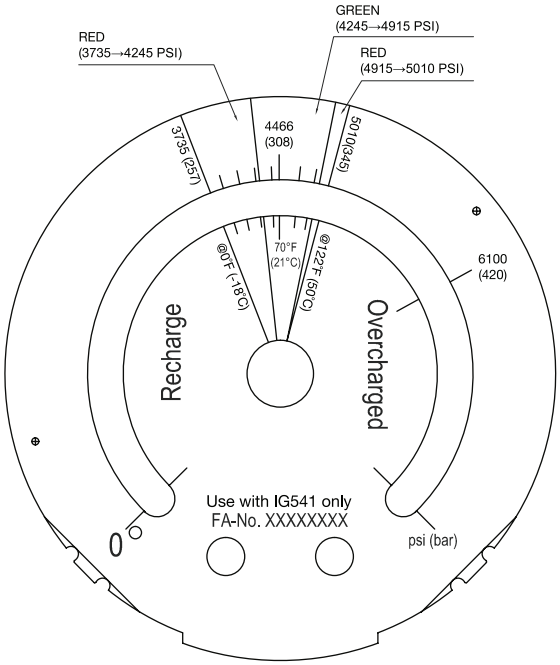
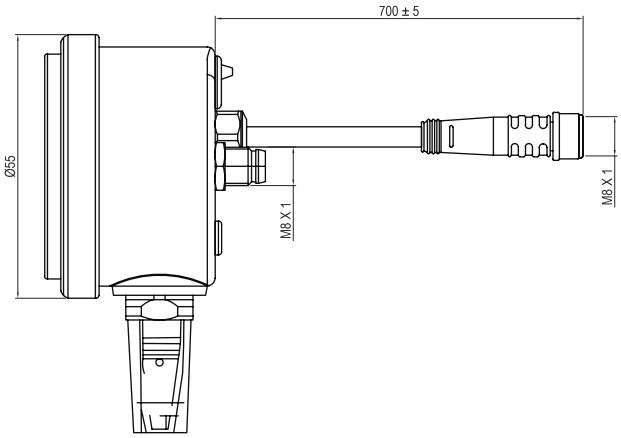
PRESSURE GAUGES FOR IG541

The pressure gauge measures the pressure in the cylinder. It is equipped with an integrated pressure switch to supervise the loss of pressure in the cylinder.

Each valve must be equipped with a pressure gauge. The pressure gauge is connected to the monitoring port of the valve.





SPECIFICATION

Model No.	029720218 -NF
Working Pressure	300 Bar
Connection	M10 x 1
Temperature Range	-20°C to 60°C
Accuracy Class	1.6
Switching Point	4245 PSI
Range	0 to 6100 PSI
Red Sector	3735-4245 & 4915-5010 PSI
Green Sector	4245-4915 PSI
Switching Voltage	24 VDC/AC
Switching Current	5mA-100mA
Contact Rating	Max. 3 Watts

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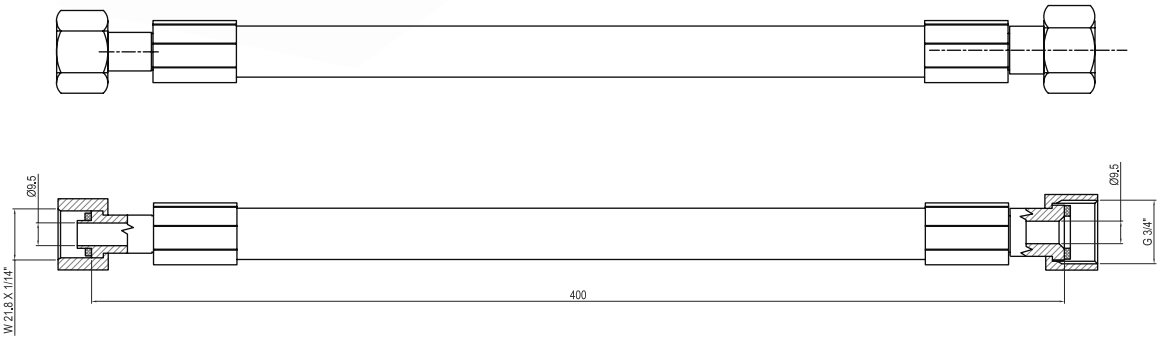
DISCHARGE HOSE

The discharge hose is used for the connection of the pressure regulator to the check valve. The W21.8 x 1/14“ nut with the inserted gasket is installed on the pressure regulator. The G3/4“ nut with the inserted gasket is connected to a check valve.



Model No.	B06920224-NF	B06920225-NF
Length	400 mm	400 mm
Connection	W21.8 x 1/14” • G3/4”	W21.8 x 1/14” • G3/4”
Bending Radius	130 mm	180 mm
Nominal Diameter	DN 12	DN 16
Max. Working Pressure	380 Bar	350 Bar
Burst Pressure	1400 Bar	1520 Bar
Material	• Connection - Galvanised steel • Hose inner layer - Oil resistant synthetic rubber • Hose insert - Two high tensile steel wire braided inserts • Hose outer layer - Oil resistant and weatherproof synthetic rubber	

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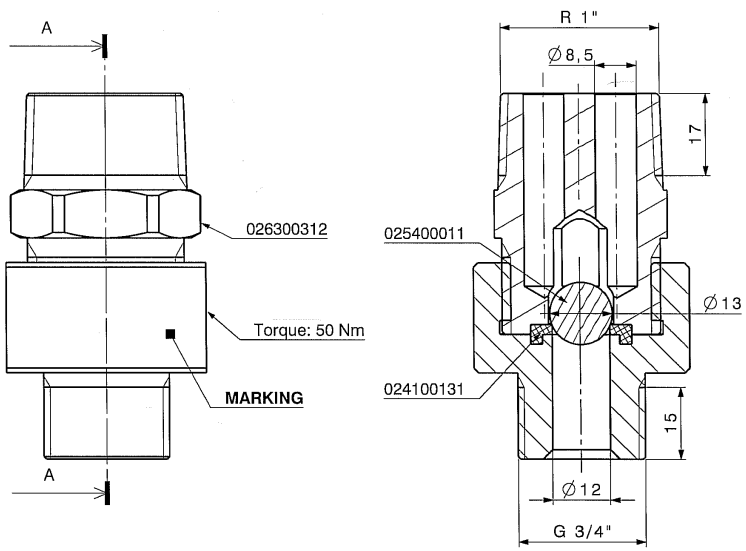
CHECK VALVE

The check valve prevents a back-flow of the extinguishing agent into the cylinder. The check valve is provided with a connection thread R1“ DIN EN 10226-1 for the connection to the manifold and a connection thread G3/4“ DIN ISO 228-1 for the connection to the discharge hose.



SPECIFICATION

Model No	B04600008-NF
Material	• Housing - Brass • Ball - Stainless Steel • Sealing - Thermoplastic
Connection Thread Inlet	G3/4" DIN ISO 228-1
Connection Thread Outlet	R1” DIN EN 10226-1
Nominal Diameter	DN 12
Working Pressure	300 Bar
Pressure to Open	<0.1 Bar

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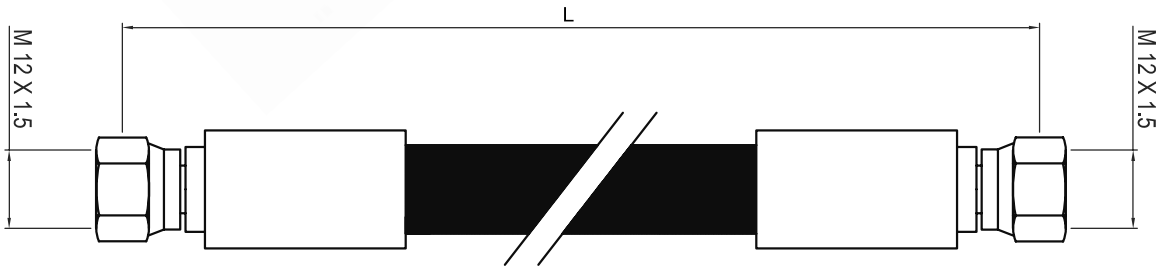
PILOT HOSE

The pilot hose is used to build up the pilot line, e.g. for the connection of several release devices and/or for the connection of the valve to the release device.

The pilot hose may only be used in accordance with component approval in stationary inert gases fire extinguishing systems. Several cylinders, equipped with valves, can be connected with pilot hoses.



SPECIFICATION

Model No.	B06920211-NF	B06920212-NF	B06920213-NF
Length	400 mm	700 mm	500 mm
Connection	2 x M12 x 1.5		
Bending Radius	75 mm		
Nominal Diameter	DN 6		
Working Pressure	400 Bar		
Burst Pressure	1600 Bar		
Material	• Connection - Galvanised steel • Hose inner layer - Oil resistant synthetic rubber • Hose insert - Two high tensile steel wire braided inserts • Hose outer layer - Oil resistant and weatherproof synthetic rubber		

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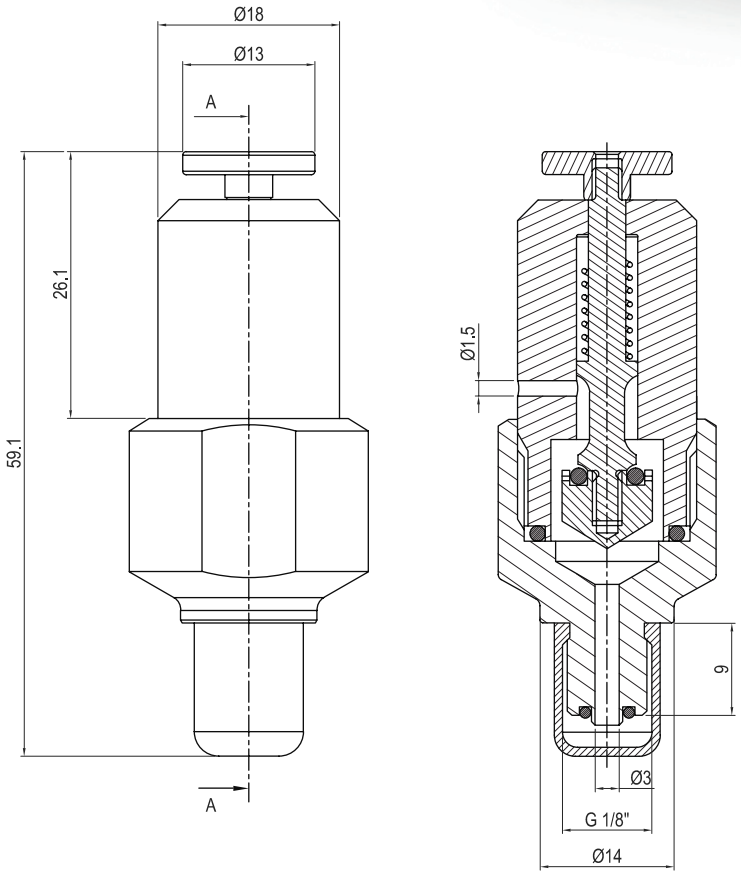
BLEED VALVE

The bleed valve is a part of the pilot line. The device must be mounted at the end of each pilot line at the last pneumatic release device. This device is a security part, which protects the system from unwanted tripping when a cylinder has a leak and the pressure would increase in the pilot line. It allows a bleeding till the pressure in the pilot line is under 0.7 Bar. The bleed valve prevents an accidental system release.



SPECIFICATION

Model No	029730040-NF
Material	Brass
Working Pressure	360 Bar
Connection Thread	G1/8" DIN ISO 228-1
Nominal Diameter	DN 1.5
Closing Pressure	0.7 - 1.5 Bar

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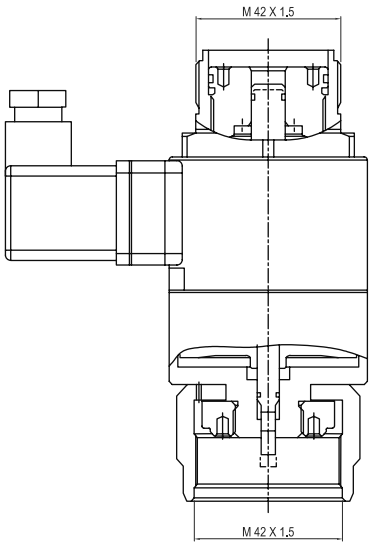
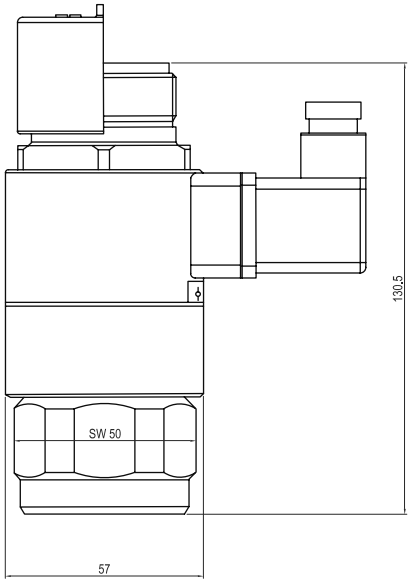
ELECTROMAGNETIC RELEASE DEVICES

The electromagnetic release device is used to actuate the system electrically. It is mounted on top of the master valve and is operated by an electrical signal from a fire detection system. In order to actuate the electromagnetic release device a constant DC voltage of 24V is required.

The electromagnetic release device can be combined with the manual/pneumatic release device or the pneumatic release device.





SPECIFICATION

Model No	04425148-NF	B04425149-NF
	with Diode	without Diode
Nominal Voltage	24 VDC	
Material	Brass and stainless steel Plastic protection cap	
Nominal Current	0.5A	
Protection class	IP 65	
Valve Connection	M42 x 1.5	

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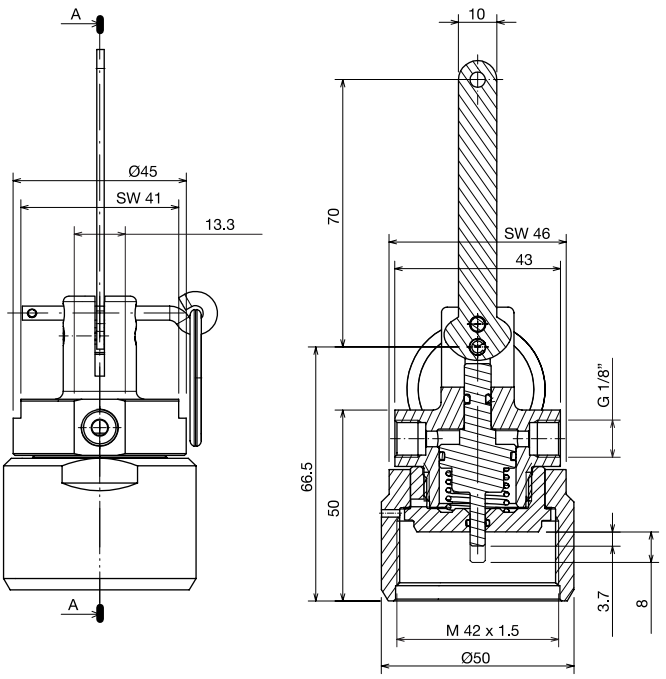
MANUAL/PNEUMATIC RELEASE DEVICE

The manual/pneumatic release device allows manual or pneumatic actuation of several system components. This release device is used for pneumatic actuation of multiple cylinders in series, which are connected to the master cylinder by a pilot hose. Manual actuation is accomplished by pulling the hand lever on the manual/pneumatic release device. In the closed position the manual/pneumatic release device is secured with a safety pin. By removing the safety pin, the hand lever can be manually pressed down to activate the valve so that inert gas is released



SPECIFICATION

Model No	B04420065-NF
Material	Brass & Stainless Steel
Working Pressure	300 Bar
Valve Connection	M 42 x 1.5
Pneumatic Connection	G 1/8"
Actuation Force	<150N
Actuation Force/Pressure	**200 Bar System:** P Min = 15 Bar; P Max = 240 Bar **300 Bar System:** P Min = 21 Bar; P Max = 360 Bar

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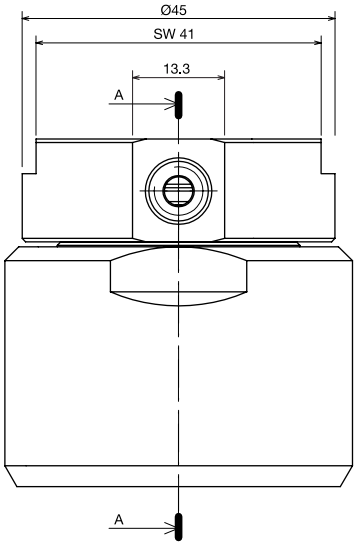
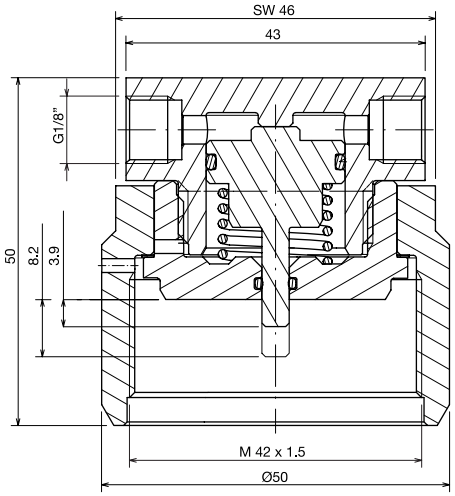
PNEUMATIC RELEASE DEVICE

This release device is used for pneumatic actuation of multiple cylinders in series, which are connected to the master cylinder by a pilot hose. Cylinders equipped with the pneumatic release device serve as slave cylinders.





SPECIFICATION

Model No	B04420066-NF
Material	Brass
Working Pressure	300 Bar
Valve Connection	M 42 x 1.5
Pneumatic Connection	G 1/8"
Actuation Force/Pressure	**200 Bar System:** P Min = 15 Bar; P Max = 240 Bar **300 Bar System:** P Min = 21 Bar; P Max = 360 Bar

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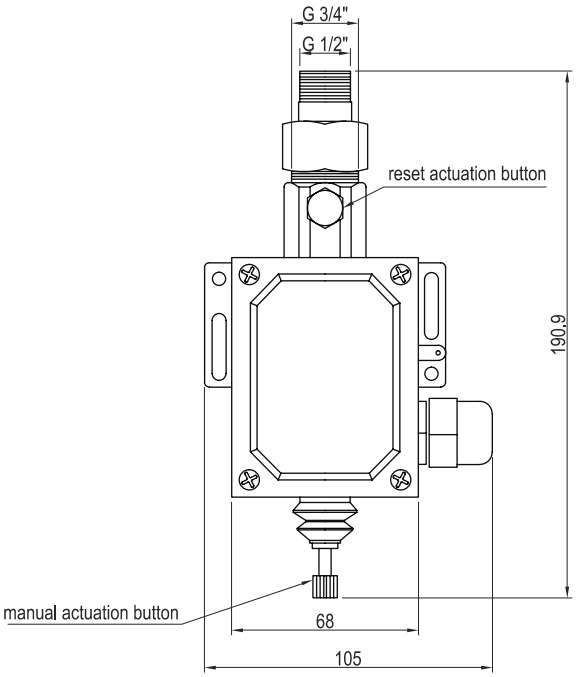
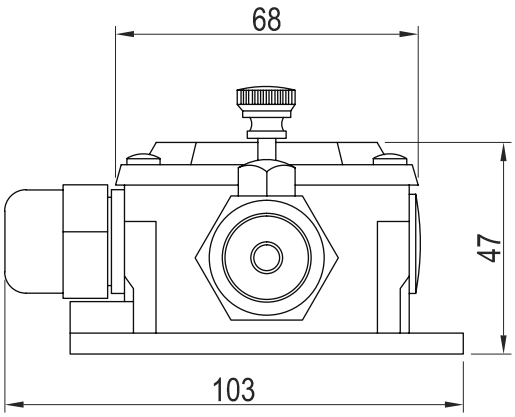
PRESSURE & FLOW DETECTOR SWITCH

Used to send a signal that the system is discharging. Sends a signal to a control panel or alarm box at the earliest phase of discharge.

The pressure and flow detector switch is connected to the manifold and to a power supply. It reacts in the earliest stage of extinguishing agent discharge at 2 Bar pressure and energises or de-energises electrically operated equipment.





SPECIFICATION

Model No	0282550050-NF
Operating Pressure	2 Bar
Connection	G½" or G¾"
Power Source	400 VAC/3A or 24 VAC/10A
IP Rating	IP65

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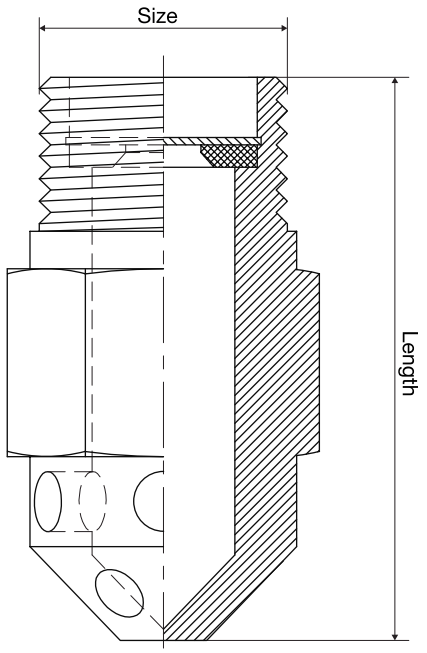
DISCHARGE NOZZLE

Discharge nozzles are made of brass in four different sizes, for different application. Nozzles are available with a connection thread R1½“, R1“, R½“ and R¾“ and can be screwed into every fitting corresponding to the pressure stage and the thread. Orifice design to particular requirement with computer aided calculation to assure the effectiveness of extinguishing agent and reliable system design.

The nozzle is used to discharge the agent from the cylinder through piping network to the enclosed hazard volume. The nozzle selection depends on the hazard and location to be protected. The nozzle has to be mounted at the ceiling level with the orifice tip pointed vertically down. The nozzle outlet must point downwards to distribute the extinguishing agent effectively and to prevent pollution. The discharge pattern of the nozzle shall be 360°.

The nozzle distributes the extinguishing agent evenly in the extinguishing zone in the calculated flooding time. Nozzles are designed to direct the discharge of inert gas using the stored pressure from the cylinders.



SPECIFICATION				
Size	R½"	R¾"	R1"	R1½"
Thread	EN 10226-1			
Orifice Diameter	Ø3-Ø9.5 mm	Ø7-Ø13.5 mm	Ø10-Ø17.5 mm	Ø15-Ø25.5 mm
Material	Brass			
Working Pressure	60 Bar			
The orifice diameter is defined with flow calculation software				

ORDERING INFORMATION

Connection Thread	Model Number	Orifice Diameter	Model Number	Orifice Diameter
R½" DIN EN 10226-1	B04611100-NF	3 mm	B04611107-NF	3.5 mm
	B04611101-NF	4 mm	B04611109-NF	4.5 mm
	B04611102-NF	5 mm	B04611110-NF	5.5 mm
	B04611103-NF	6 mm	B04611111-NF	6.5 mm
	B04611104-NF	7 mm	B04611112-NF	7.5 mm
	B04611105-NF	8 mm	B04611113-NF	8.5 mm
	B04611106-NF	9 mm	B04611114-NF	9.5 mm
R¾" DIN EN 10226-1	B04611200-NF	7 mm	B04611208-NF	7.5 mm
	B04611201-NF	8 mm	B04611209-NF	8.5 mm
	B04611202-NF	9 mm	B04611210-NF	9.5 mm
	B04611203-NF	10 mm	B04611211-NF	10.5 mm
	B04611204-NF	11 mm	B04611212-NF	11.5 mm
	B04611205-NF	12 mm	B04611213-NF	12.5 mm
	B04611206-NF	13 mm	B04611214-NF	13.5 mm
R1" DIN EN 10226-1	B04611300-NF	10 mm	B04611309-NF	10.5 mm
	B04611301-NF	11 mm	B04611310-NF	11.5 mm
	B04611302-NF	12 mm	B04611311-NF	12.5 mm
	B04611303-NF	13 mm	B04611312-NF	13.5 mm
	B04611304-NF	14 mm	B04611313-NF	14.5 mm
	B04611305-NF	15 mm	B04611314-NF	15.5 mm
	B04611306-NF	16 mm	B04611315-NF	16.5 mm
	B04611307-NF	17 mm	B04611316-NF	17.5 mm
R1 ½" DIN EN 10226-1	B04611400-NF	15 mm	B04611412-NF	15.5 mm
	B04611401-NF	16 mm	B04611413-NF	16.5 mm
	B04611402-NF	17 mm	B04611414-NF	17.5 mm
	B04611403-NF	18 mm	B04611415-NF	18.5 mm
	B04611404-NF	19 mm	B04611416-NF	19.5 mm
	B04611405-NF	20 mm	B04611417-NF	20.5 mm
	B04611406-NF	21 mm	B04611418-NF	21.5 mm
	B04611407-NF	22 mm	B04611419-NF	22.5 mm
	B04611408-NF	23 mm	B04611420-NF	23.5 mm
	B04611409-NF	24 mm	B04611421-NF	24.5 mm
	B04611410-NF	25 mm	B04611422-NF	25.5 mm

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