



NARGOTECH[®]

**IG55 INERT GAS SUPPRESSION
SYSTEMS SUITABLE FOR
EXTINGUISHING FIRES OF
ALL FIRE CLASSES.**

www.temasistemi.eu



ABOUT NARGOTECH®

Nargotech® is our fire protection solution that uses a mixture of inert gases composed of 50% Argon and 50% Nitrogen. This mixture is pressurized at **200 or 300 bar** and has a density approximately equal to that of air.

Nargotech® is odourless, colourless, non-corrosive, and non-electrically conductive.

Thanks to the innovative silenced nozzle, the Nargotech® system **eliminates the risk associated with high noise during gas discharge.**

Nargotech® can be used to extinguish fires of **all fire classes.**

With more than 30 year of experience, we are able to offer a **punctual design service**, a crucial phase for the good performance of these systems.

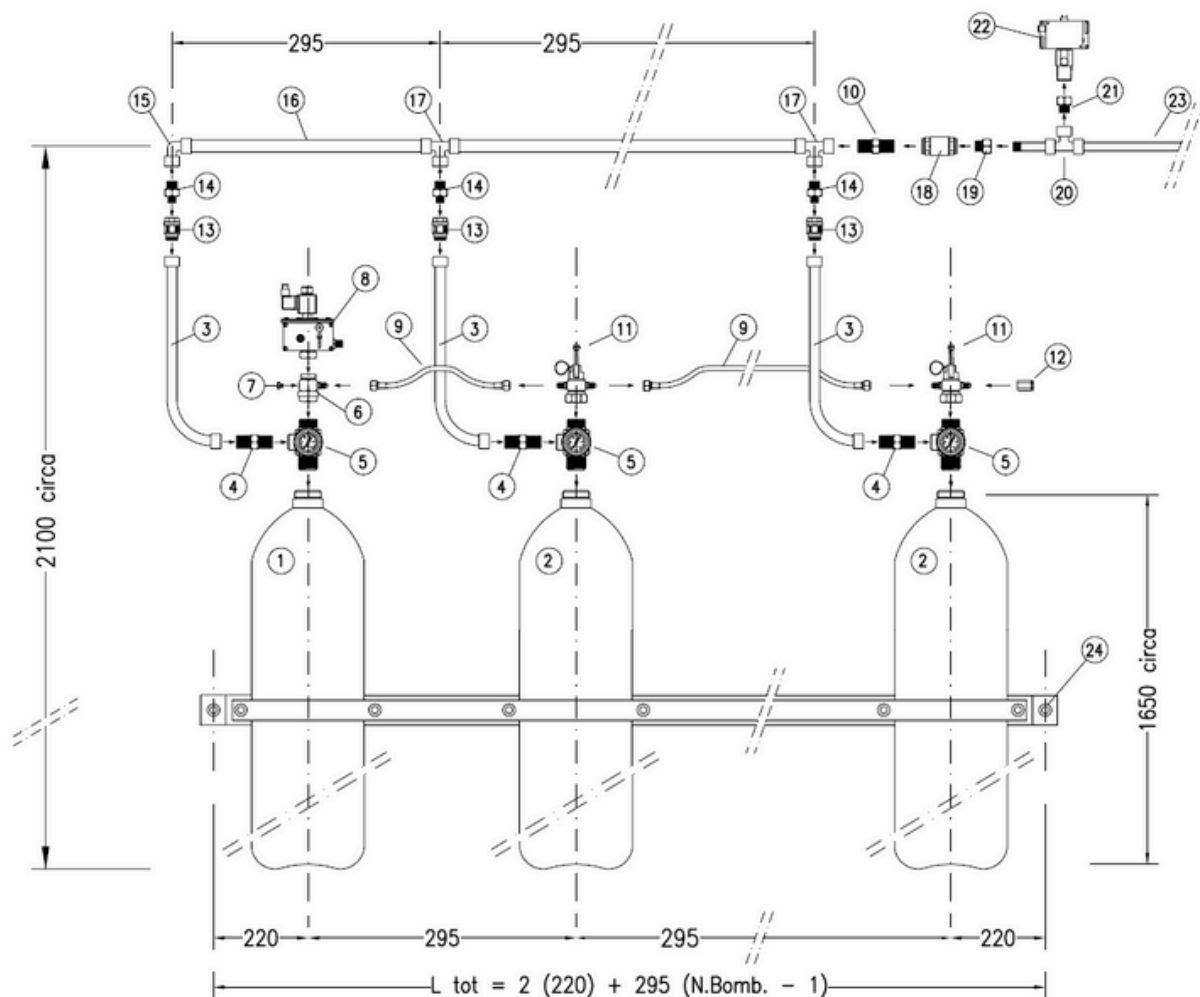
Nargotech® SYSTEM ENGINEERING



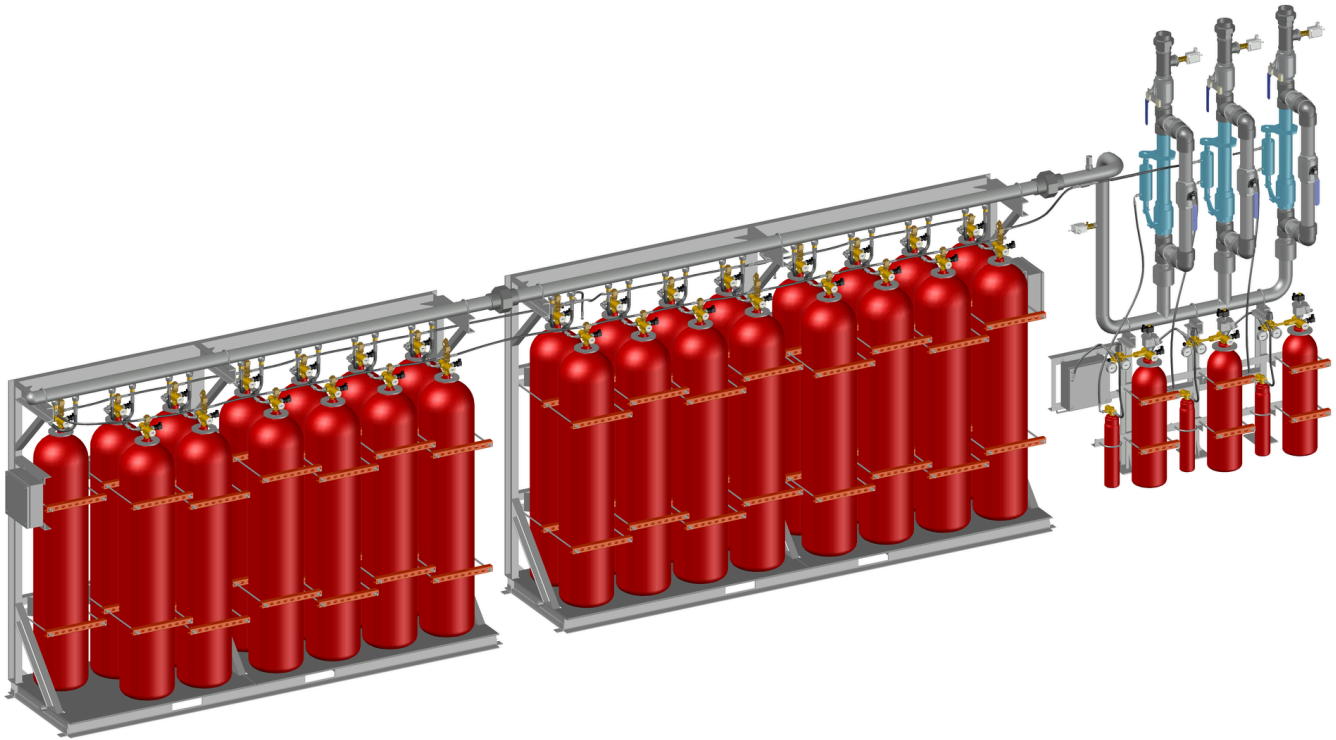
For a proper engineering of NargoTech® system it is necessary to perform a risk analysis in order to determine the type of combustible, the related project concentration and the amount of the substance to be used.

The suppression concentration is the lowest extinguishing concentration of a material according with previous suppression tests, it is important to establish the design concentration.

TYPICAL ASSEMBLY DIAGRAM



DESIGN EXAMPLE



SYSTEM COMPONENTS

- BATTERY OF PRESSURIZED CYLINDERS AT 200 OR 300 BAR
- QUICK FLOW VALVE (EN 12094-4 AND TPED CERTIFIED, FM APPROVAL ONGOING)
- OPENING CONTROL, PRESSURE GAUGE AND PRESSURE SWITCH
- NARGOTECH® CYLINDER
- PILOT CYLINDER
- DELIVERY MANIFOLD FROM WHICH THE DISTRIBUTION NETWORK OF THE EXTINGUISHING PRODUCT STARTS
- DISPENSING NOZZLES
- ELECTRIC-MANUAL ACTUATOR
- MANIFOLDS
- NOZZLES
- DETECTORS AND DETECTION UNIT
- BUTTONS
- OPTICAL-ACOUSTIC PLATE
- PRESSURE SWITCH



CALCULATION SOFTWARE

For the NargoTech® system engineering, Tema Sistemi S.p.A., uses an **hydraulic calculation software VdS** able to provide the following results:

- ① **Calculation of the suppression concentration value**
- ① **Calculation of the amount in Kg of the product to be stored**
- ① **Calculation of the pipes section, of the nozzles orifices and of the restrictor.**
- ① **Calculation of the discharge time with related simulation**
- ① **Calculation of the required opening according the overpressure volume.**
- ① **Calculation of residual oxygen after discharge.**

SYSTEM OPERATION



NargoTech® system consists of a battery of high capacity cylinders, pressurized at 200 or 300 bar, provided with high rate discharge valve complete with opening control, manometer and pressure switch, manifold connected to the extinguishing products supply and connected to the nozzles.

In addition, the System consists of a pilot cylinder, provided with electrical/manual actuator, that activates the system piloted cylinders.

ACTIVATION METHODS

1. **Automatic Activation:** through the detection system present in the protected area. When the fire takes place, the fire detection system activates the solenoid valve on the pilot cylinder, activating consequently the whole cylinders battery, through the pneumatic line;
2. **Electrical/manual activation:** the operation is the same as the automatic one, the solely difference is that the activation is generated by a control button put outside the protected area;
3. **Manual Emergency Activation:** in case of power energy absence, a manual pull release will allow the system activation.

There are different system configurations that can consider one or more cylinders to protect different type of spaces.

In case of the system protects **more than one space**, the manifold is provided with **direction valves with electro-pneumatic activation**.

The manifold is provided with **overpressure valve** in case of malfunction of the system.

Nargotech[®] Advantages

- ✓ **No toxic**
- ✓ **No damages to structure and furniture**
- ✓ **High visibility during discharging**
- ✓ **Odourless and colourless**
- ✓ **Reduced discharging time**
- ✓ **No agent residues**
- ✓ **Compatible with any kind of detection system**
- ✓ **Not electrical conductive**
- ✓ **High availability of the extinguishing agent**
Cost saving
- ✓ **Efficacy on every class of fire**

Applications



REGULATIONS

UNI EN 15004-1 Fixed firefighting systems - Gaseous extinguishing agent systems - Part 1: Design, installation and maintenance

NFPA 2001:2008 Standard on Clean Agent Fire Extinguishing System

Project Examples

TOTAL ITALIA SPA | ITALY

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR THE PROTECTION OF CED PREMISES

HEINEKEN | ITALY

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR THE PROTECTION OF SERVER ROOM

MILANI | ITALY

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR THE PROTECTION OF TURIN STATE PROPERTY AGENCY ARCHIVES (AGENZIA DEL DEMANIO DI TORINO)

OROFINO COSTRUZIONI | ITALY

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR THE PROTECTION OF ELECTRICAL CABINS AND SERVER ROOMS OF TERNI TRAIN STATION

YILPORT | ITALY

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR THE PROTECTION OF SERVER ROOM OF TARANTO PORT

EDILCASA | ITALY

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR THE PROTECTION OF MARTINA HOSPITAL ARCHIVE

NAOC – (NIGERIAN AGIP OIL COMPANY) – REFINERY - ENI GROUP | NIGERIA

DESIGN, MANUFACTURE, SUPPLY OF PUMPING UNITS, FIRE AND GAS DETECTION SYSTEMS, IG55 NARGOTECH® FIRE EXTINGUISHING SYSTEM. UPGRADE OF THE FIRE EXTINGUISHING SYSTEM AT THE BRASS TERMINAL

ROJIN PARTS | IRAN

DESIGN, MANUFACTURE AND SUPPLY OF NARGOTECH® SYSTEMS FOR REFINERY FIRE PROTECTION

NARGAN ENGINEERS AND CONSTRUCTORS FOR LORESTAN PETROCHEMICAL CO. | REFINERY | IRAN

ENGINEERING, MANUFACTURING, SUPPLY, COMMISSIONING AND START-UP OF IG55 FIRE SUPPRESSION NARGOTECH® SYSTEM AND FIRE AND GAS DETECTION SYSTEM.



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