



NOVENCO HI-PRES

Take A Step Ahead

XFlow[®] Local Protection System

XFlow[®]



LOCAL PROTECTION IN MACHINERY SPACES



XFlow[®] Local Protection System

DESCRIPTION OF SYSTEM AND COMPONENTS

In order to be able to meet the requirements in the new chapter 7 of **SOLAS Regulation II-2** with regards to fire fighting, Novenco Hi-Pres has developed a system for fire fighting on **Local Protection** using the new Hi-Pres NHP5 nozzle in machinery spaces shown schematically on the enclosed principle diagram

The system is approved according to **IMO/MSC/Circ. 913** by major classification societies.

As standard the system is an automatic operated dry system, i.e. there is no water in the system until the pump is started and the relevant section valve is opened.

Water supply

The water supply of the system may be obtained from 2 separate sources.

1. The system dedicated pump
2. The main fire pumps

Local protection nozzle

The Novenco Hi-Pres NHP5 nozzle is of the open deluge type

Sections

The system is divided into sections in accordance with **IMO guidelines in MSC/Circ. 913**. Each section has its own electronic controlled quick-opening valve. The valves are operated from a control panel in the engine control room



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Function

The control of the system is done from the dedicated alarm panel placed in the engine control room. The alarm panel is via a common bus cable connected to minimum 2 heat, smoke or flame detectors at each protected object.

The electric motor starter panel of the sprinkler pump and manual release points are also connected to the common bus cable. All items connected to the bus cable are addressable. The normal set-up is: Alarm when first detector is activated, sprinkler pump start up and section valve opened when second detector is activated. Each section is released either from the local call point or from the alarm panel.

The pump is usually connected to a fresh water tank with sufficient capacity to cover the largest section for **minimum 20 minutes**. As an option the pump inlet can be connected to a seawater inlet with automatic changeover e.g. activated by a flow switch. If required a pressurised tank can be connected to the system to enable the system to run for a certain time without any power supply. This option requires extra mechanical detector nozzles at each section.



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Nozzles (pos. no. 640)

The XFlow[®] nozzles NHP5 on board the ship are placed in order to supply a minimum of 1.4 l/min/m².

Further more the nozzles can be placed in a height from **min. 0,5 to max. 14,5 metres** above the protected object, as the nozzles are tested and approved for this purpose.

Section valves (pos. no. 480)

The section valve is a electronic solenoid valve which can be remote opened by several means, manually and automatically by detectors placed above the protected section as standard, electrically from mimic panel optional.

Pump (pos. no. 410)

The pump is sized to supply the section demanding the greatest volume of water. When the (Ip) system is connected to the accommodation sprinkler system the sprinkler pumps are sized to supply both the most demanding section of the accommodation and local protection at the same time.

Pressure gauge (pos. no. 460)

The pressure gauge indicates the water pressure at the water distribution manifold.

Suction filter (pos. no. 02)

The filter must have a maximum mesh size of 2 mm, and it has to be inspected and cleaned at regular intervals.

Shut-off valves and non-return valves

The valves to be used are standard marine type resistant to marine environment. The shut-off valves with sizes greater than or equal to 50 mm are butterfly valves, and smaller valves are ball valves.

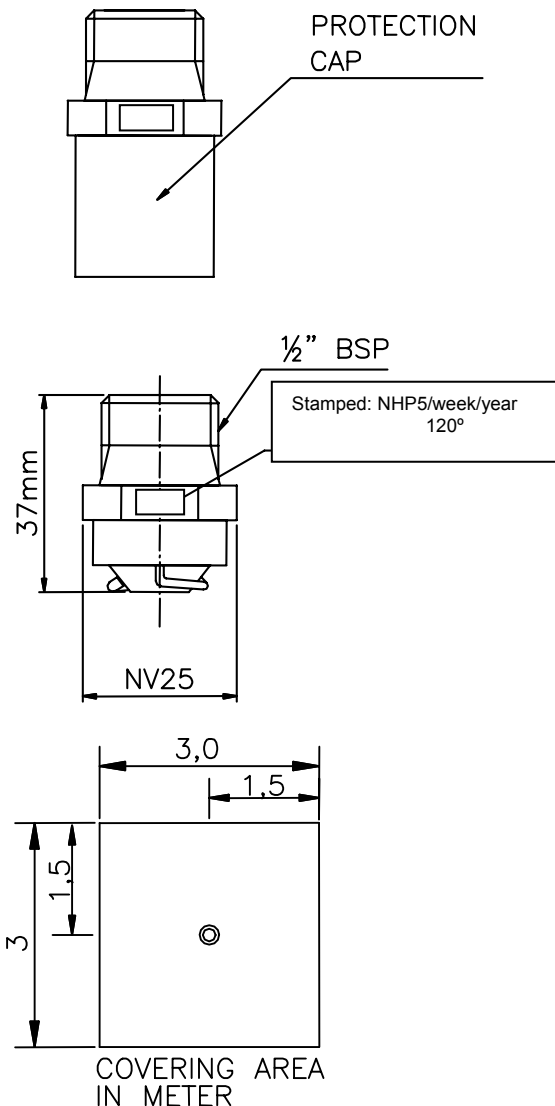
The Piping system

For the piping system hot dip galvanized pipes are used.



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XFlow™ Nozzle type: NHP5



TECHNICAL DATA:

Nozzle Materials:

Naval Brass w. NiSn Plating

Protection Cap: Stainless steel

K-factor: 5

Min. Pressure at Nozzle: 7 bar

Flow Calculation: $Q = K\sqrt{bar}$

Spray Angle: 120

Nozzle Spacing: Max. 3m X 3m

Nozzle Parameters:

Metres over protected item	bar	D _{V90} μm	D _{V50} μm	D _{V10} μm
0,5 → 8,0	7	250	151	55
8,0 → 14,5	9	247	138	50

DESCRIPTION:

The XFlow® NHP-series consists of low-pressure water mist nozzles designed for a large variety of applications and hazards.

The XFlow® NHP-Series are Water Mist Nozzles suitable for installation in dry pipe systems.

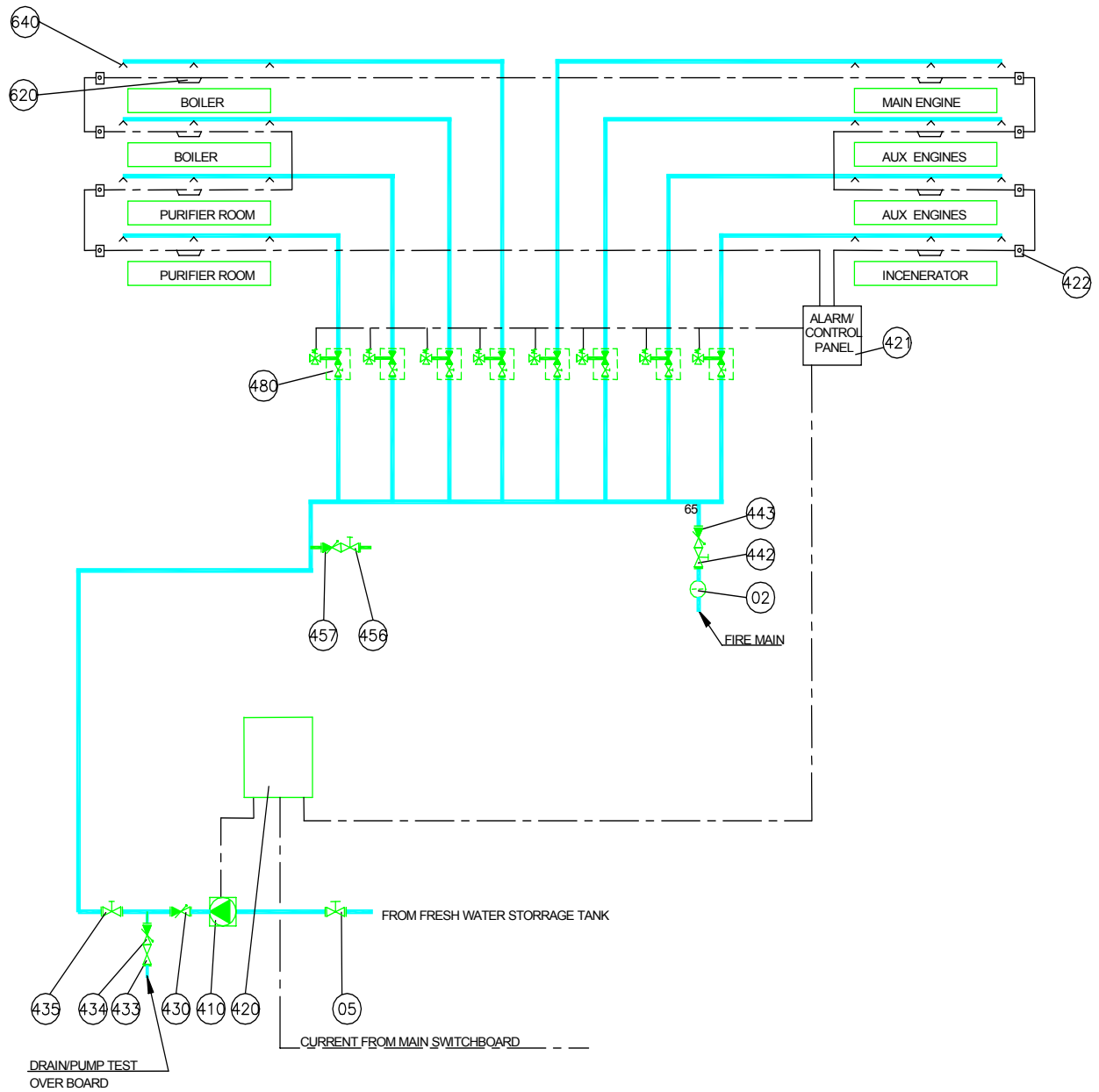
The Nozzles are designed to produce a fine mist of small water droplets. This makes the nozzles suitable for fire protection of occupancies such as engine rooms, turbine enclosures, paint booths, cable tunnels, switchboards installations, other enclosed occupancies with limited draft conditions, which are suitable for fire protection with water mist.

The XFlow® NHP-series Water Mist Nozzles are fitted with blow-off protection caps. The blow off caps protect the nozzle against impurities in the occupancies. The caps automatically blow off the nozzle due to pressure in the pipe work during discharge.



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Pos. no.	No.(s)	Size	Description	Remarks
640		DN15	Local protection nozzle NHP5	
620			Heat, smoke & flame detector	
480			Remote activated Section valve	
457	1	DN15	Check valve (air supply)	
456	1	DN15	Stop valve (air supply)	
443	1		Non return valve (fire main)	
442	1		Butterfly valve (fire main)	
435	1		Butterfly valve (pump)	
434	1	DN50	Non return valve (drain/test)	
433	1	DN50	drain/test valve (system)	
430	1		Non return valve (pump)	
422			Manuel release pushbutton	
421	1		Alarm panel mounted in engine control room	
420	1		Motor switchboard	
410	1		Local protection pump	
05	1		Butterfly valve (suction)	*
02	1		Strainer	*

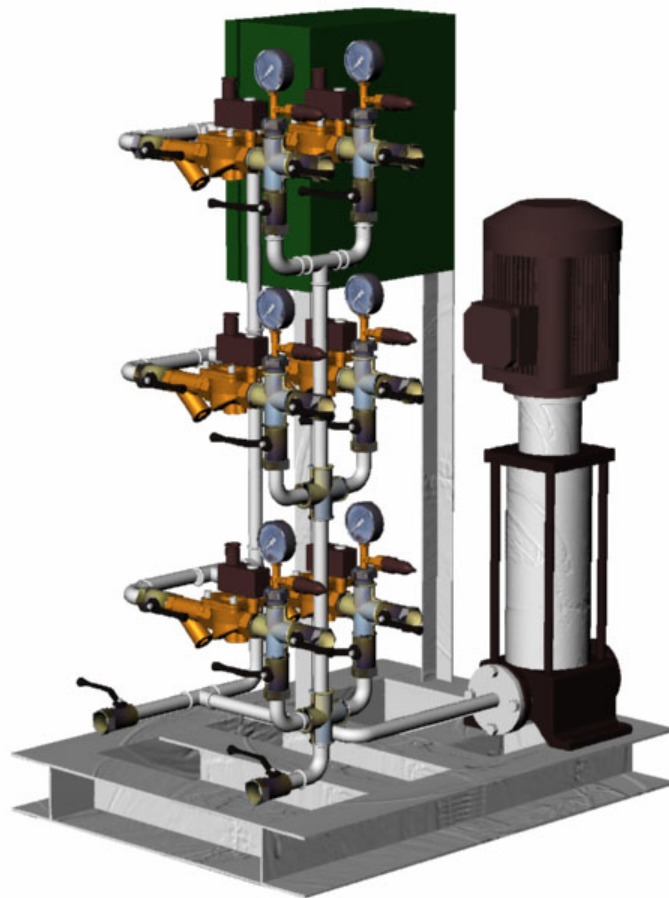
Components marked with (*) are customer delivery.



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Local Protection Pump Unit

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