

COMPANY PRESENTATION



MARSIS

www.marsis.com.tr

MARSIS IS ESTABLISHED AT JANUARY 2005 IN TUZLA / ISTANBUL / TURKIYE 2000 m² CLOSED WORKING AREA AND OFFICES

- › RESEARCH AND DEVELOPMENT
- › UNIQUE PRODUCTS WHICH OUR DEVELOPED BY MARSIS
- › PROJECT BASED SOLUTIONS



OUR TEAM;

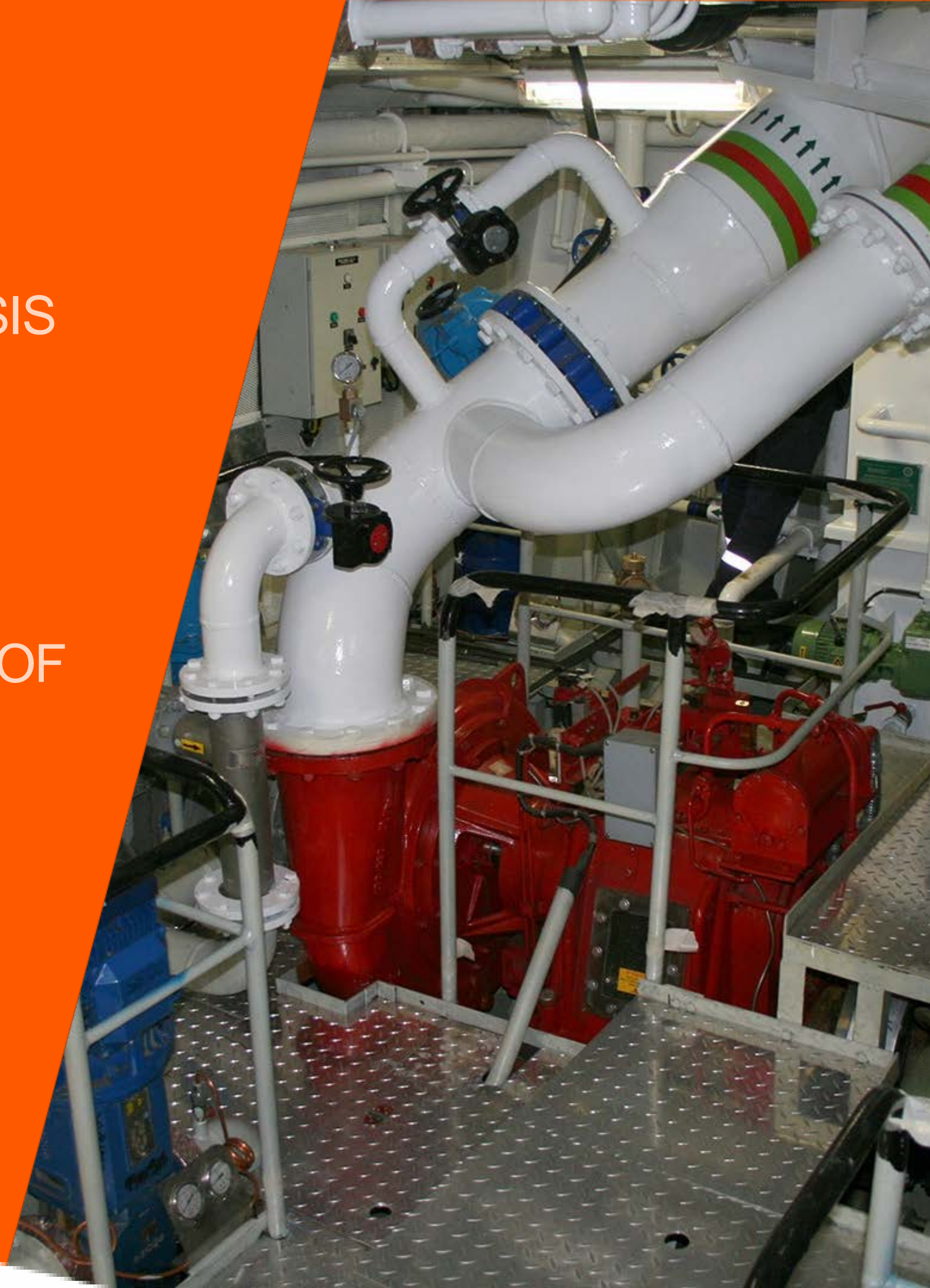
- › 5 ENGINEERS
- › 4 TECHNICIAN
- › 9 WORKERS
- › 6 ADMINISTRATIVE

- › 24 IN TOTAL



ENGINEERING

- ▶ 3D DESIGN, FINITE ELEMENT & VOLUME ANALYSIS
- ▶ GENERAL SYSTEM DESIGN AND CONSULTING, COMPONENT AND SYSTEM INTEGRATION AND INTERFACING, GENERAL ARRANGEMENT DRAWINGS
- ▶ PIPING ARRANGEMENT, ASSEMBLY DRAWINGS OF THE EQUIPMENTS, ITEM DRAWINGS AND ITEM DATA SHEETS
- ▶ NPSH CALCULATION, PRESSURE LOSS CALCULATION AND FLOW CALCULATIONS



ENGINEERING

- ▶ DESIGN AND CALCULATION OF THE WATER SPRAY SYSTEM FOR SELF PROTECTION OF THE VESSEL
- ▶ WATER SPRAY NOZZLE ARRANGEMENTS
- ▶ CONTROL SYSTEM DESIGN AND ENGINEERING AND WIRING DIAGRAMS
- ▶ MARINE CLASSIFICATION APPROVALS



PRODUCTS

- ▶ EXTERNAL FIRE FIGHTING SYSTEMS
- ▶ HELIDECK FOAM SYSTEMS
- ▶ FIXED FIRE EXTINGUISHING SYSTEMS
 - ✓ FIXED GAS FIRE SUPPRESSION SYSTEM
 - ✓ WATER BASED FIRE SUPPRESSION SYSTEM
 - ✓ FOAM FIRE SUPPRESSION SYSTEM
 - ✓ FIRE SUPPRESSION SYSTEM FOR KITCHEN EQUIPMENTS



PRODUCTS

EXTERNAL FIRE FIGHTING
SYSTEMS

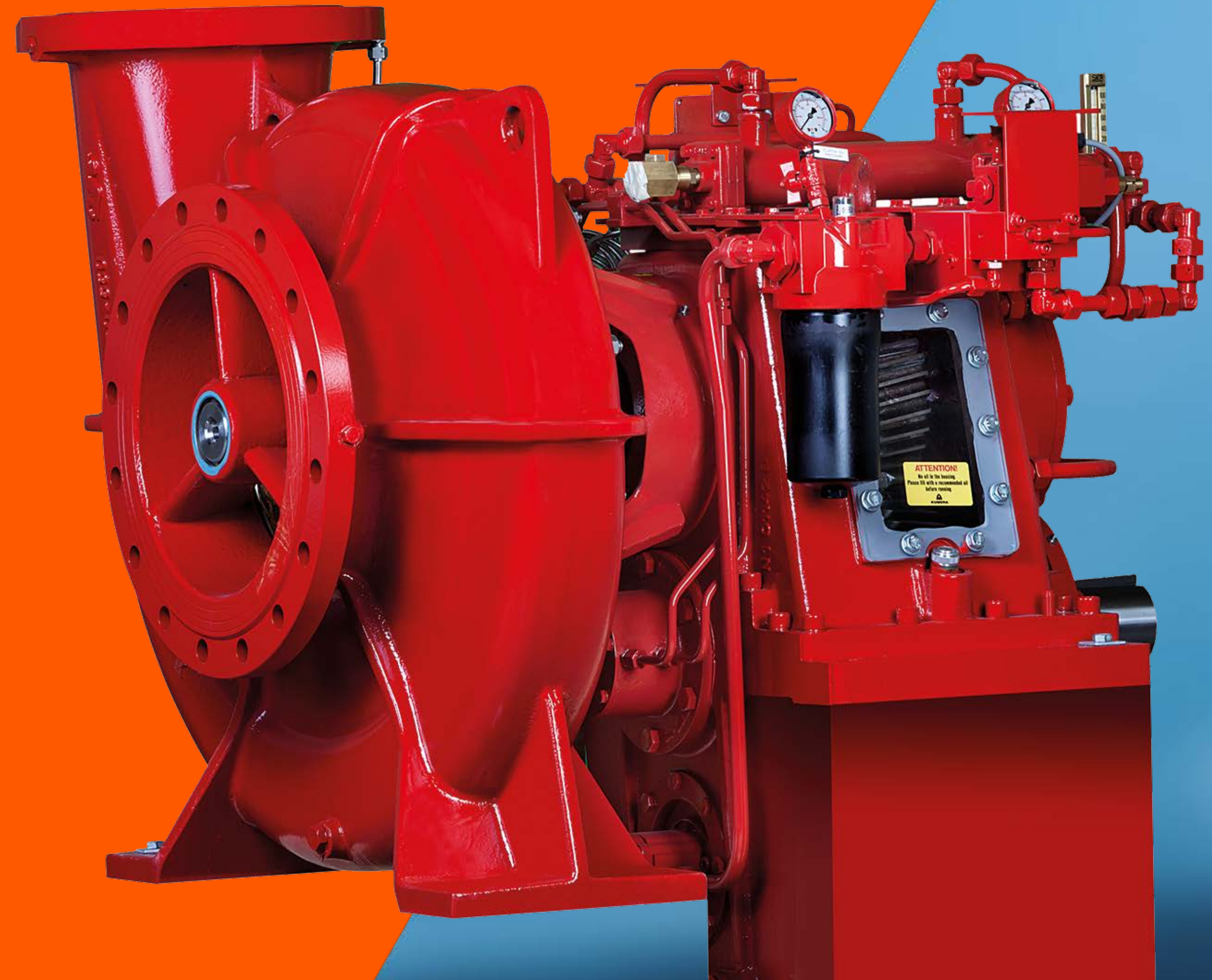
PUMPS
EFF PUMP AND HYDRAULIC
ACTUATED CLUTCH



PRODUCTS

EXTERNAL FIRE FIGHTING
SYSTEMS

STEP-UP GEAR BOXES
EFF PUMP AND STEP-UP
GEAR BOX



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

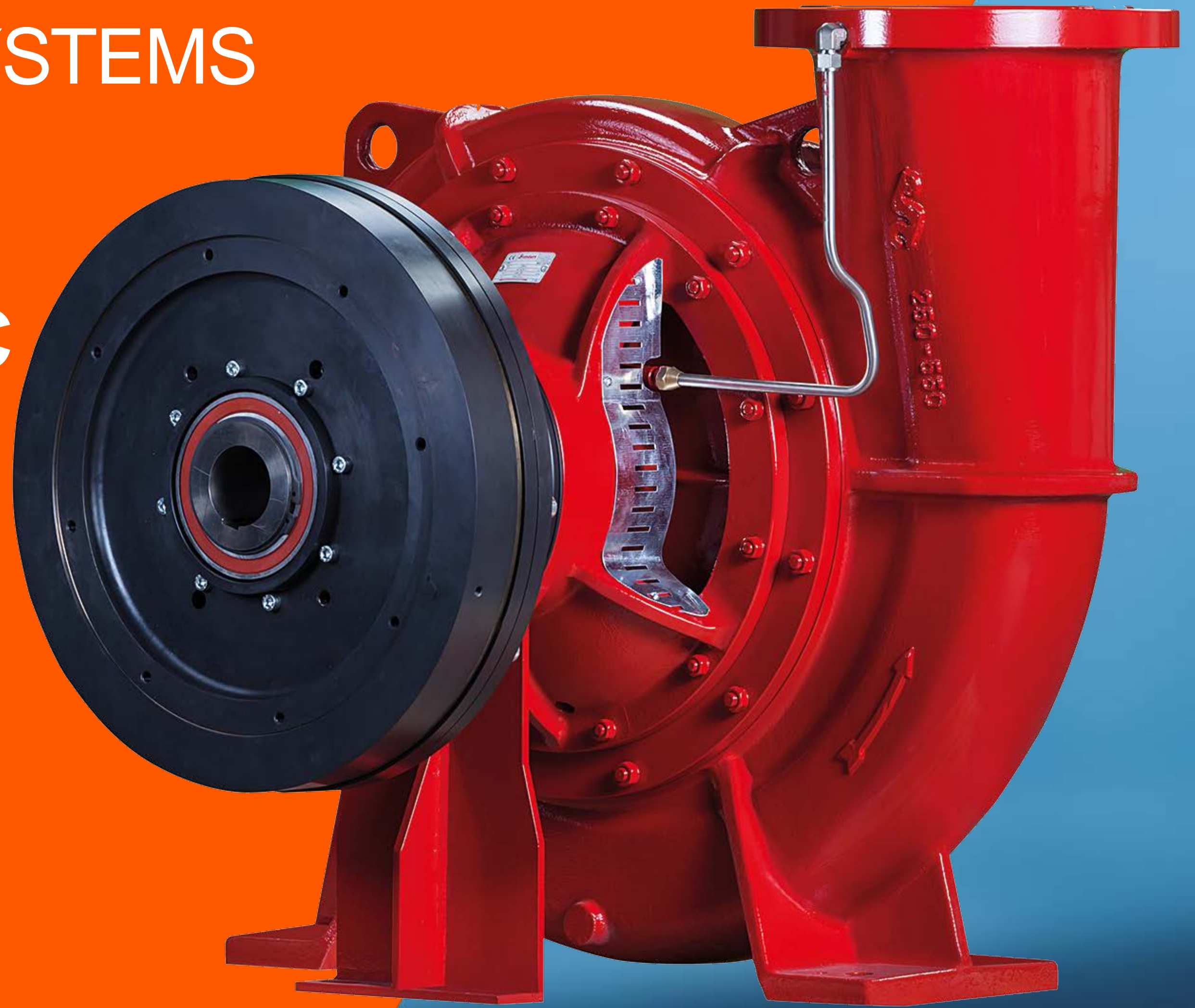
EFF PUMP & MOTOR



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

HYDRAULIC CLUTCHES
WITH HPU DRIVES
EFF PUMP AND HYDRAULIC
ACTUATED CLUTCH



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

HYDRAULIC CLUTCHES
WITH HPU DRIVES
HYDRAULIC POWER UNIT
FOR CLUTCH



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

FIRE MONITOR



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

FIRE MONITOR



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

FIRE MONITOR



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

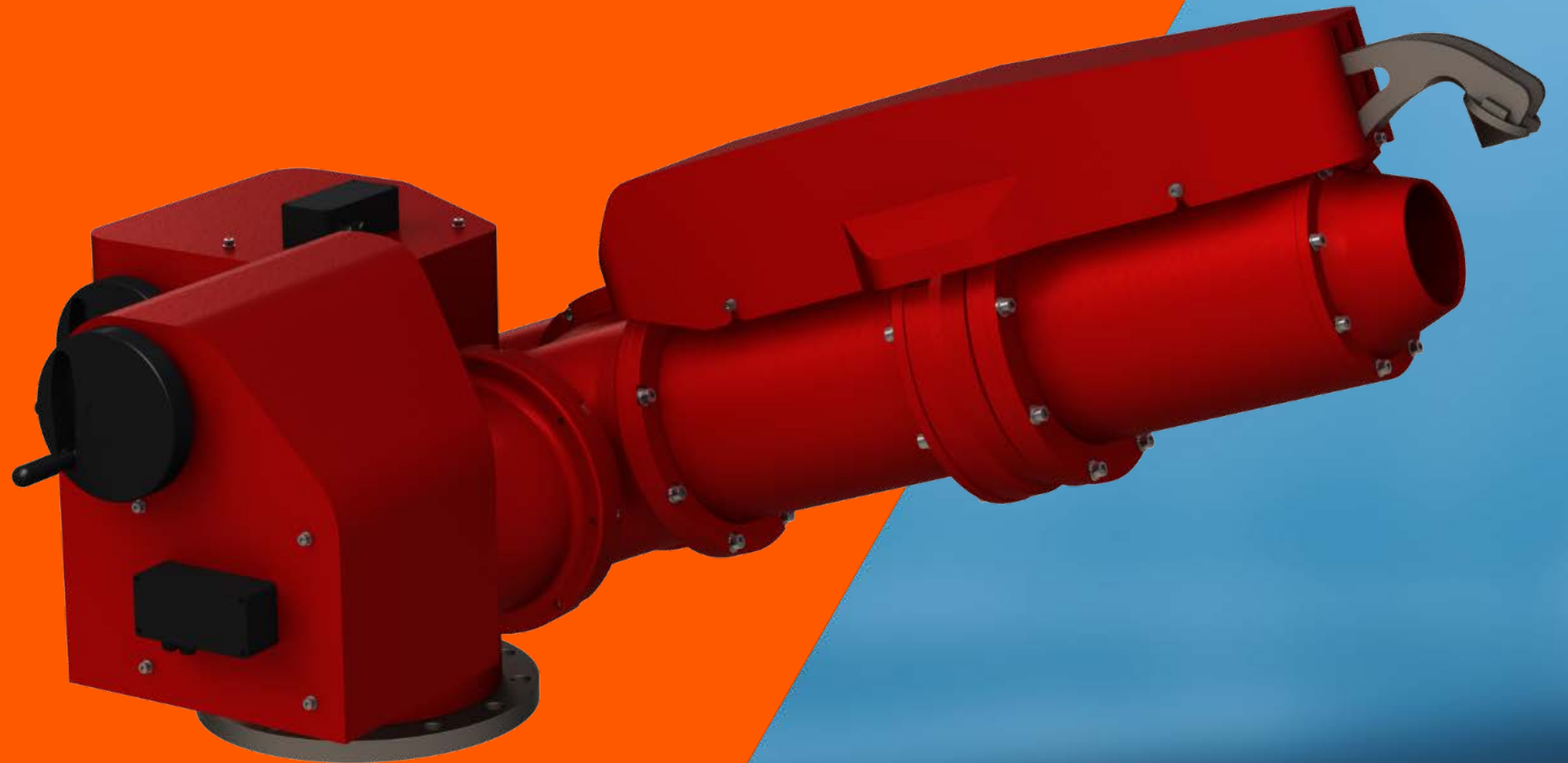
FIRE MONITOR



PRODUCTS (NEW)

EXTERNAL FIRE FIGHTING SYSTEMS

FIRE MONITOR
FI-FI-2 & FI-FI-3
40.000 LPM
+150 METER



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

CONTROL SYSTEM
MAIN CONTROL CABINET



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

CONTROL SYSTEM REMOTE CONTROL PANEL



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

CONTROL SYSTEM
PORTABLE REMOTE
CONTROL PANEL



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

FOAM SYSTEMS
BALANCED PRESSURE
PROPORTIONER
EFF SYSTEM
FOAM PROPORTIONER



PRODUCTS

EXTERNAL FIRE FIGHTING SYSTEMS

Water Spray Systems



PRODUCTS

HELIDECK FOAM SYSTEM

HDF – HELIDECK FOAM SYSTEMS



PRODUCTS

HPU WITH ELECTRIC TERMINAL BOXES

22 kW HYDRAULIC POWER UNIT



PRODUCTS

HPU WITH ELECTRIC
TERMINAL BOXES

DECK CRANE CONTROL
CABINET



FIXED FIRE EXTINGUISHING SYSTEMS

FIXED GAS FIRE SUPPRESSION SYSTEM

- FM200
- NOVEC1230)

WATER BASED FIRE SUPPRESSION SYSTEM

- WATER MIST TOTAL FLOODING
- WATER MIST LOCAL APPLICATION
- AUTOMATIC SPRINKLER
- OPEN DELUGE SYSTEM

FOAM FIRE SUPPRESSION SYSTEM

FIRE SUPPRESSION SYSTEM FOR KITCHEN EQUIPMENT

FIXED GAS FIRE SUPPRESSION SYSTEM (FM200 AND NOVEC1230)

- ▶ **FM-200 AND NOVEC1230 SYSTEMS ARE INTERNATIONALLY ACCEPTED AS PROVIDING RELIABLE AND EFFECTIVE FIRE PROTECTION SOLUTIONS**
- ▶ **AFTER PROHIBITION OF USE OF HALON GAS, FM200 AND NOVEC1230 ARE THE MOST WIDELY USED CLEAN AGENT AS AN ALTERNATIVE.**



FIXED GAS FIRE SUPPRESSION SYSTEM (FM200 AND NOVEC1230)

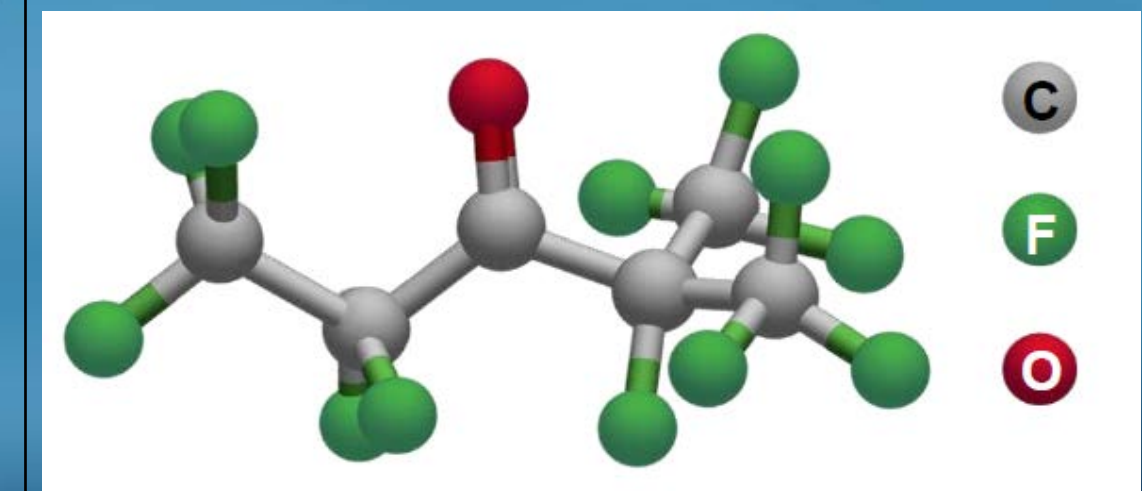
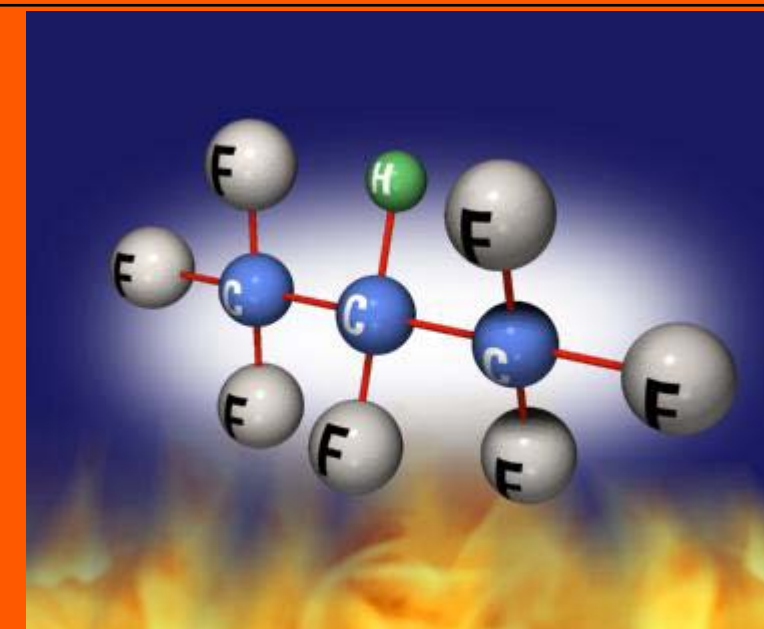
APPLICATIONS

- ✓ MARINE
- ✓ COMPUTER SUITES AND DATA CENTRES
- ✓ OFFSHORE OIL/GAS EXPLORATION & PRODUCTION FACILITIES
- ✓ GAS TURBINE ENCLOSURES
- ✓ POWER GENERATION



FIXED GAS FIRE SUPPRESSION SYSTEM (FM200 AND NOVEC1230)

	FM200	NOVEC1230
Name	HFC-227ea	FK-5-1-12
Chemical Formula	$\text{CF}_3\text{CHF}\text{CF}_3$	$\text{CF}_3\text{CF}_2\text{C}(\text{O})\text{CF}(\text{CF}_3)_2$
Chemical Name	Heptafluoropropane	
Boiling Point @ 1 atm	-16°C	49°C
Vapour Pressure @ 20°C	3,9 bar	0,4 bar
Liquid Density @ 20°C	1,4 kg/l	1,61 kg/l
Gas Density @ 20°C, 1 atm	7,3 kg/m ³	13,6 kg/m ³



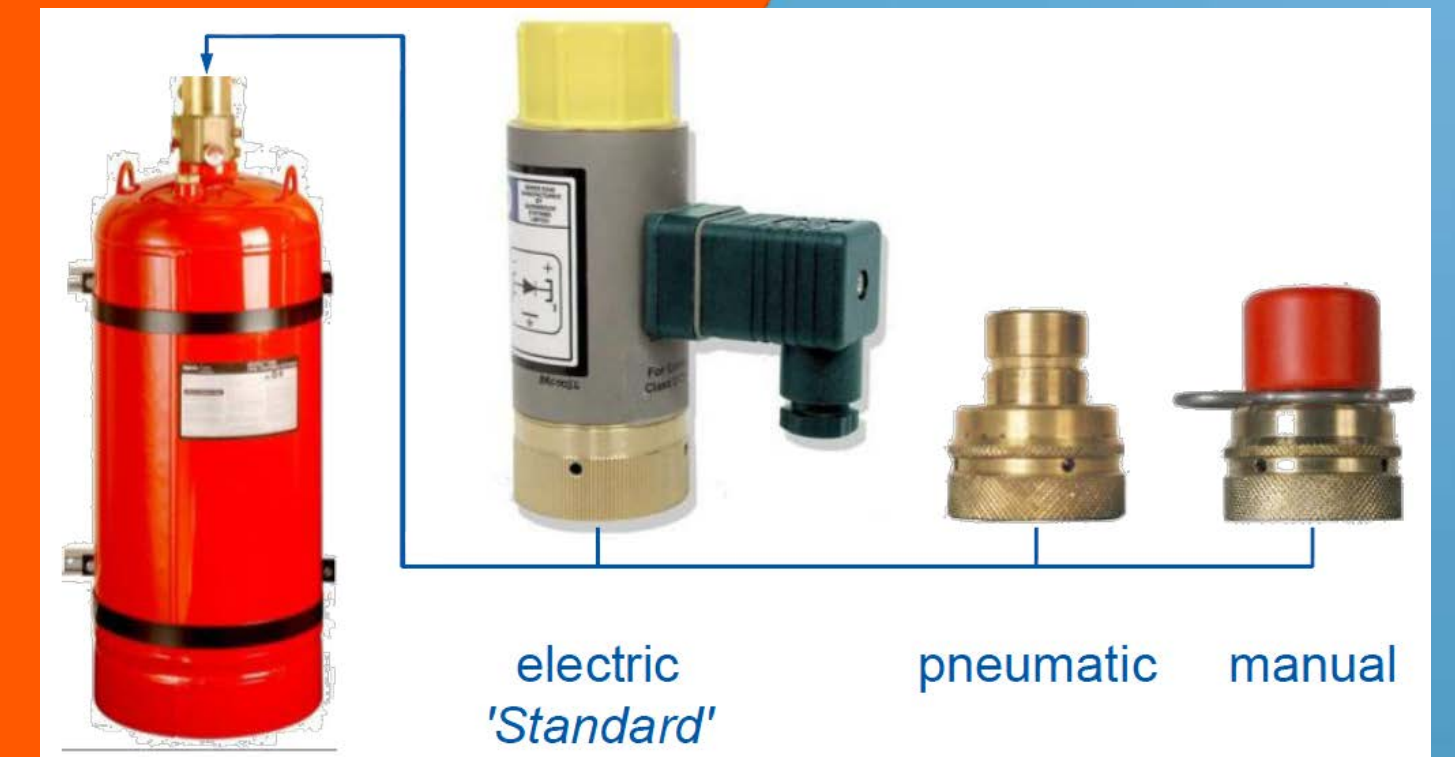
FIXED GAS FIRE SUPPRESSION SYSTEM (FM200 AND NOVEC1230)

- ▶ **COLOURLESS, ODOURLESS, NON-CONTAMINATING GASEOUS FIRE PROTECTION, NO RESIDUE**
- ▶ **ELECTRICALLY NON-CONDUCTIVE**
- ▶ **SAFE TO USE IN OCCUPIED AREAS**
- ▶ **NOT THERMALLY SHOCK**
- ▶ **NO BROMINE OR CHLORINE
(ZERO ODP = OZONE DEPLETION POTENTIAL)**



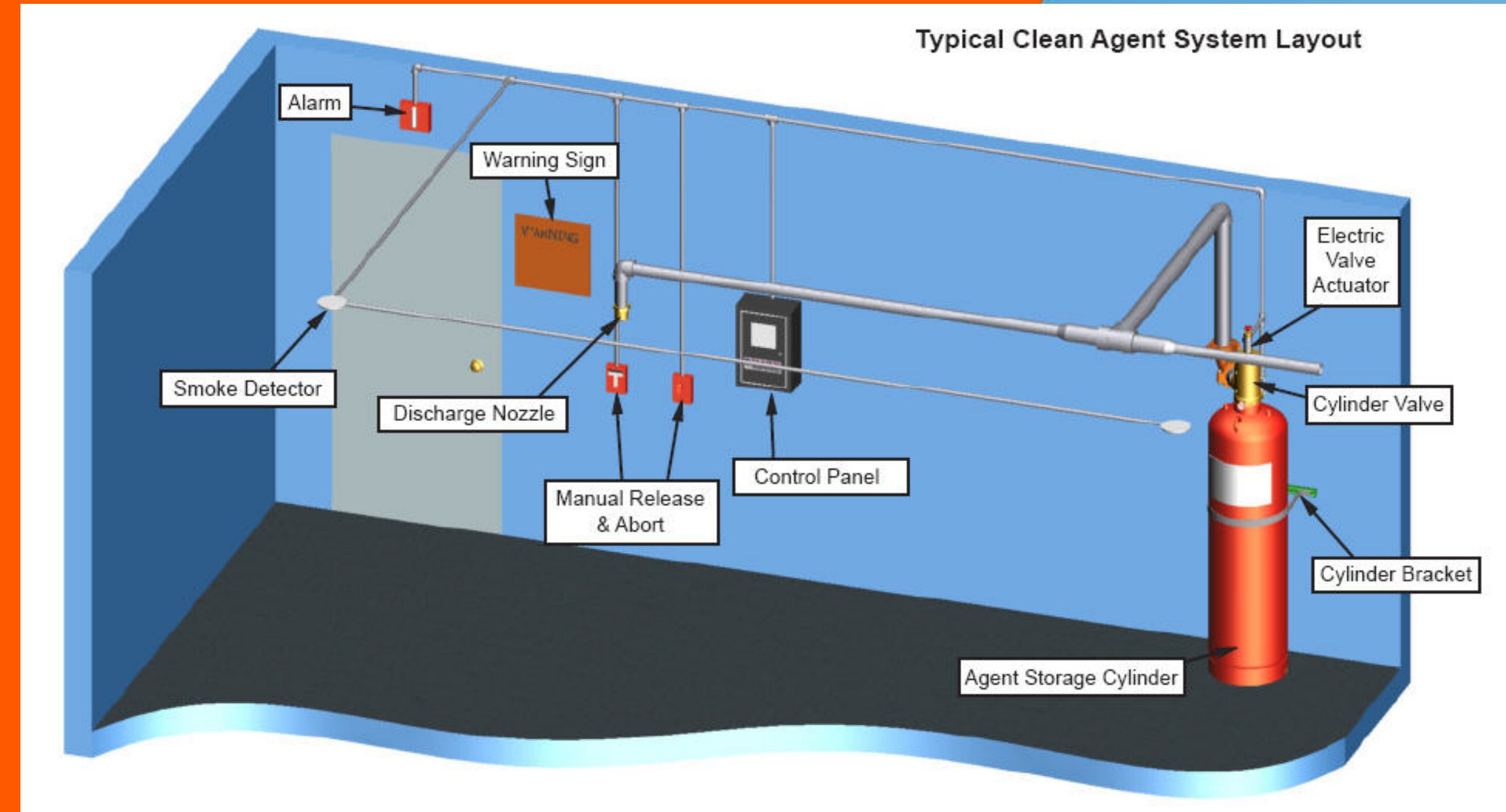
FIXED GAS FIRE SUPPRESSION SYSTEM (FM200 AND NOVEC1230)

- STORAGED CONTAINERS AS LIQUID FORM
- SUPER-PRESSURIZE THE CONTAINER TO 24.8 BAR (360 PSI) AT 20°C WITH NITROGEN
- ACTUATORS
- DISCHARGE NOZZLE
- CONTROL SYSTEM



FIXED GAS FIRE SUPPRESSION SYSTEM (FM200 AND NOVEC1230)

- ▶ MANUAL OPERATION FROM GAS DISCHARGE PANNEL AND INTEGRATED AUTOMATION SYSTEM
- ▶ MANUAL OPERATION FROM CYLINDER HEAD
- ▶ AUTOMATIC OPERATIONS FROM DETECTION SYSTEM

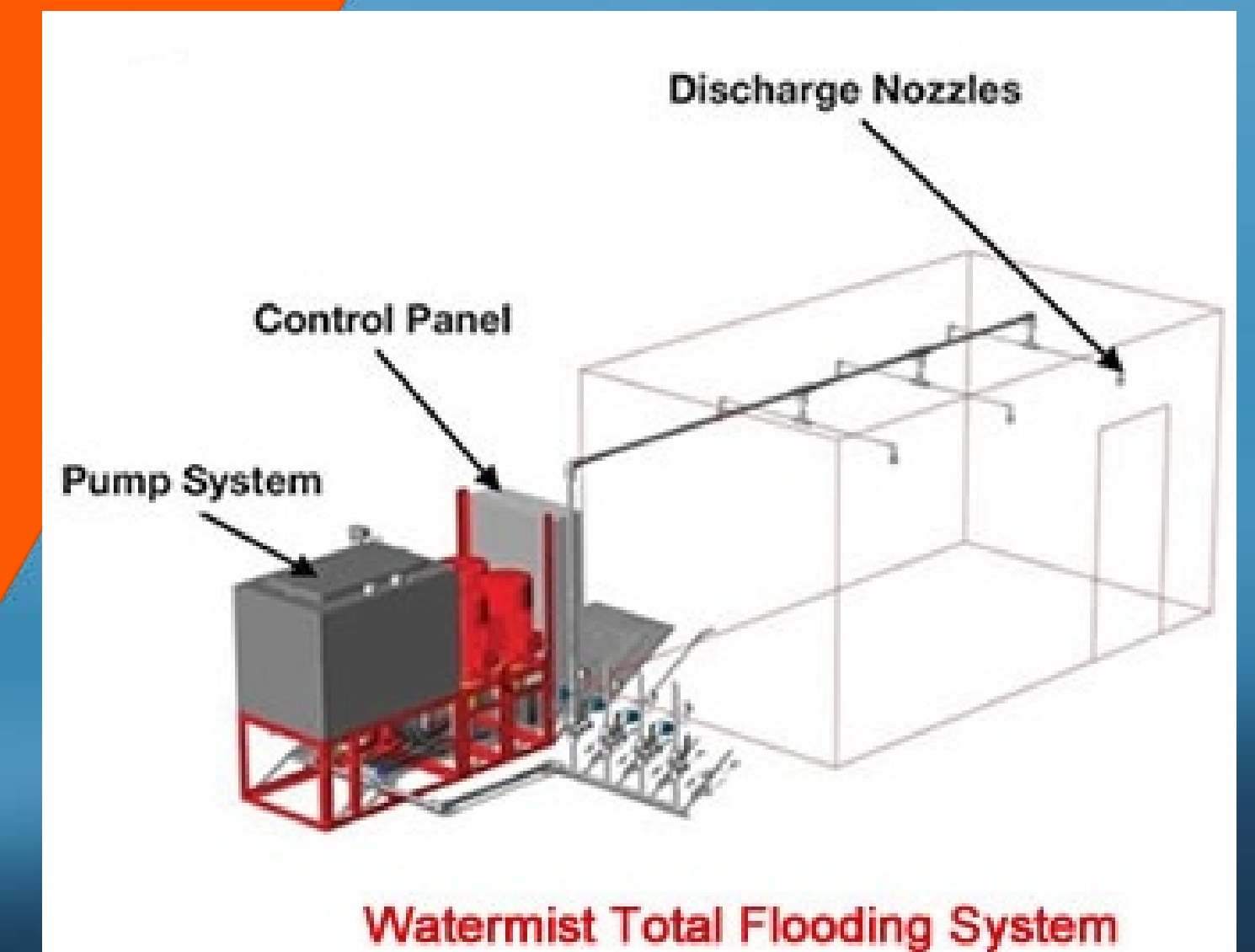


FIXED WATER FIRE EXTINGUISHING SYSTEMS (WATER MIST TOTAL FLOODING)

- ▶ **MANUAL OPERATED SYSTEM**
- ▶ “OPEN” TYPE SYSTEMS

▶ **APPLICATIONS**

- ✓ MACHINERY SPACES
- ✓ PUMP ROOMS
- ✓ ACCOMMODATION AND SERVICE SPACES

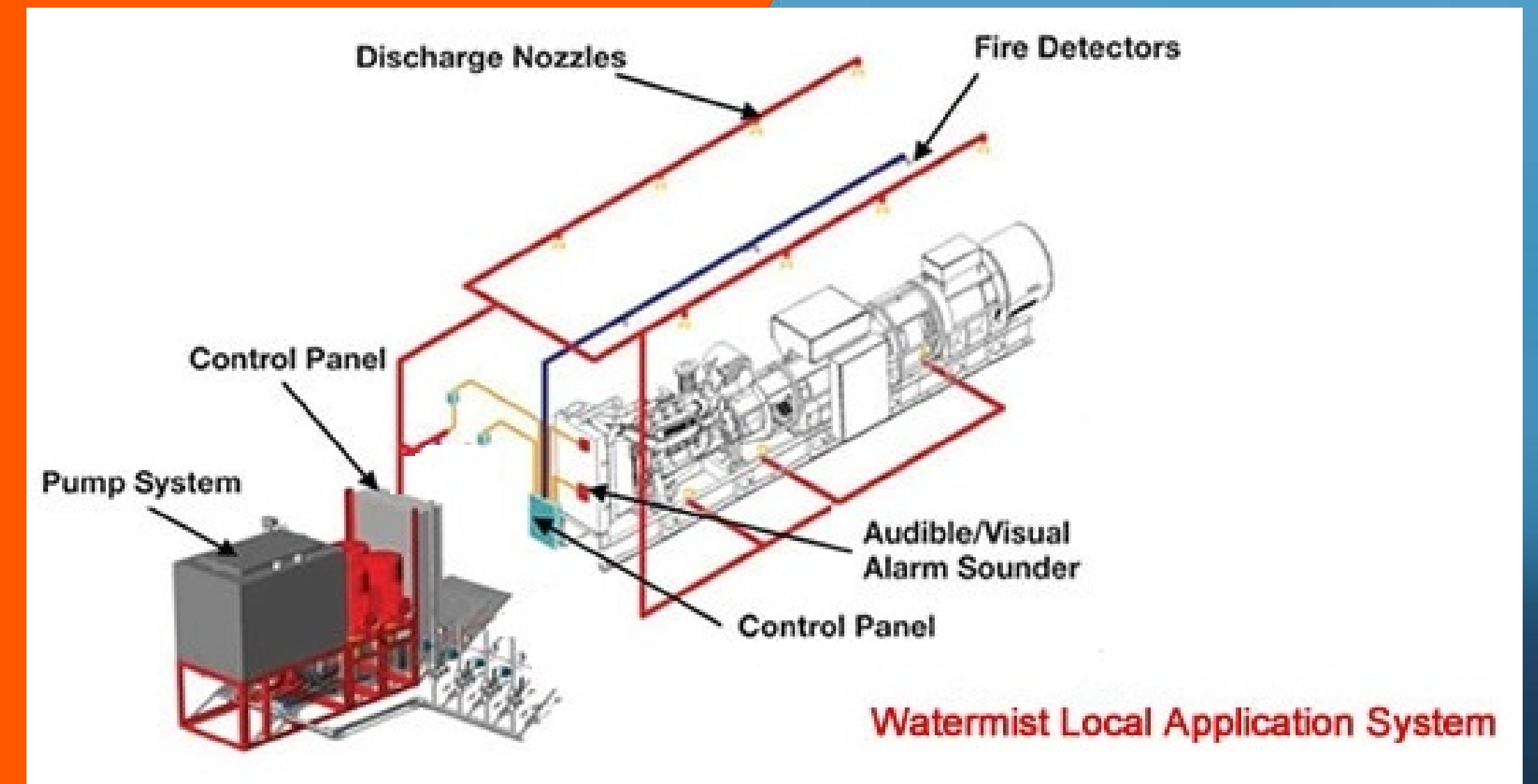


FIXED WATER FIRE EXTINGUISHING SYSTEMS (WATER MIST LOCAL APPLICATION)

- ▶ **AUTOMATIC AND MANUAL OPERATED SYSTEM**
- ▶ “OPEN” TYPE SYSTEMS

▶ **APPLICATIONS**

- ✓ FIRE HAZARD PORTIONS OF INTERNAL COMBUSTION MACHINERY
- ✓ INCINERATORS, BOILERS
- ✓ PURIFIERS



FIXED WATER FIRE EXTINGUISHING SYSTEMS (WATER MIST SYSTEMS)

ADVANTAGES

- ✓ LOW WATER NEEDS
- ✓ REQUIRES SMALL PIPE DIAMETERS
- ✓ CREATES LESS WATER DAMAGE
IN CASE OF DISCHARGE
- ✓ HIGH EFFICIENCY
FOR CLASS A AND B FIRE.

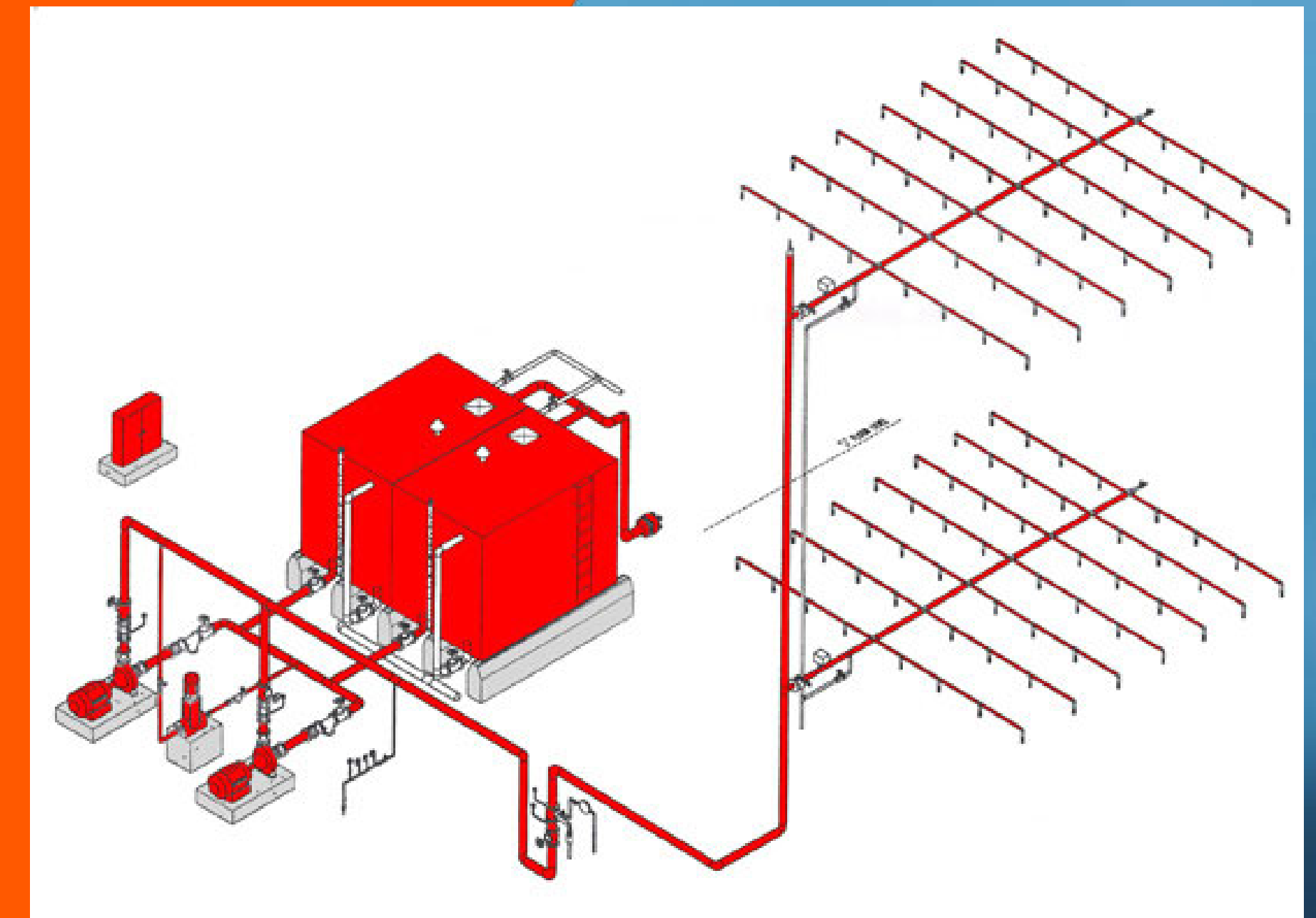


WATER BASED FIRE SUPPRESSION SYSTEM (AUTOMATIC SPRINKLER SYSTEM)

- ▶ **AUTOMATIC OPERATED SYSTEM**
- ▶ **CLOSED “DELUGE” TYPE SYSTEMS**

▶ **APPLICATIONS**

- ✓ **ACCOMMODATION SPACES**
- ✓ **SERVICE SPACES**



WATER BASED FIRE SUPPRESSION SYSTEM (OPEN DELUGE SYSTEM)

- ▶ **MANUAL OPERATED SYSTEM**
- ▶ OPEN “DELUGE” TYPE SYSTEMS

▶ **APPLICATIONS**

- ✓ OPEN RO-RO SPACES
- ✓ “SPECIAL CATEGORY” SPACES
- ✓ CARGO PUMP ROOMS



FOAM FIRE SUPPRESSION SYSTEM (DECK FOAM AND FOAM SPRINKLER SYSTEM)

- ▶ **MANUAL OPERATED SYSTEM**
- ▶ OPEN "DELUGE" TYPE SYSTEMS

▶ **APPLICATIONS**

- ✓ DECK
- ✓ MACHINERY SPACES,
CARGO PUMP ROOMS,
VEHICLE AND RO-RO SPACES

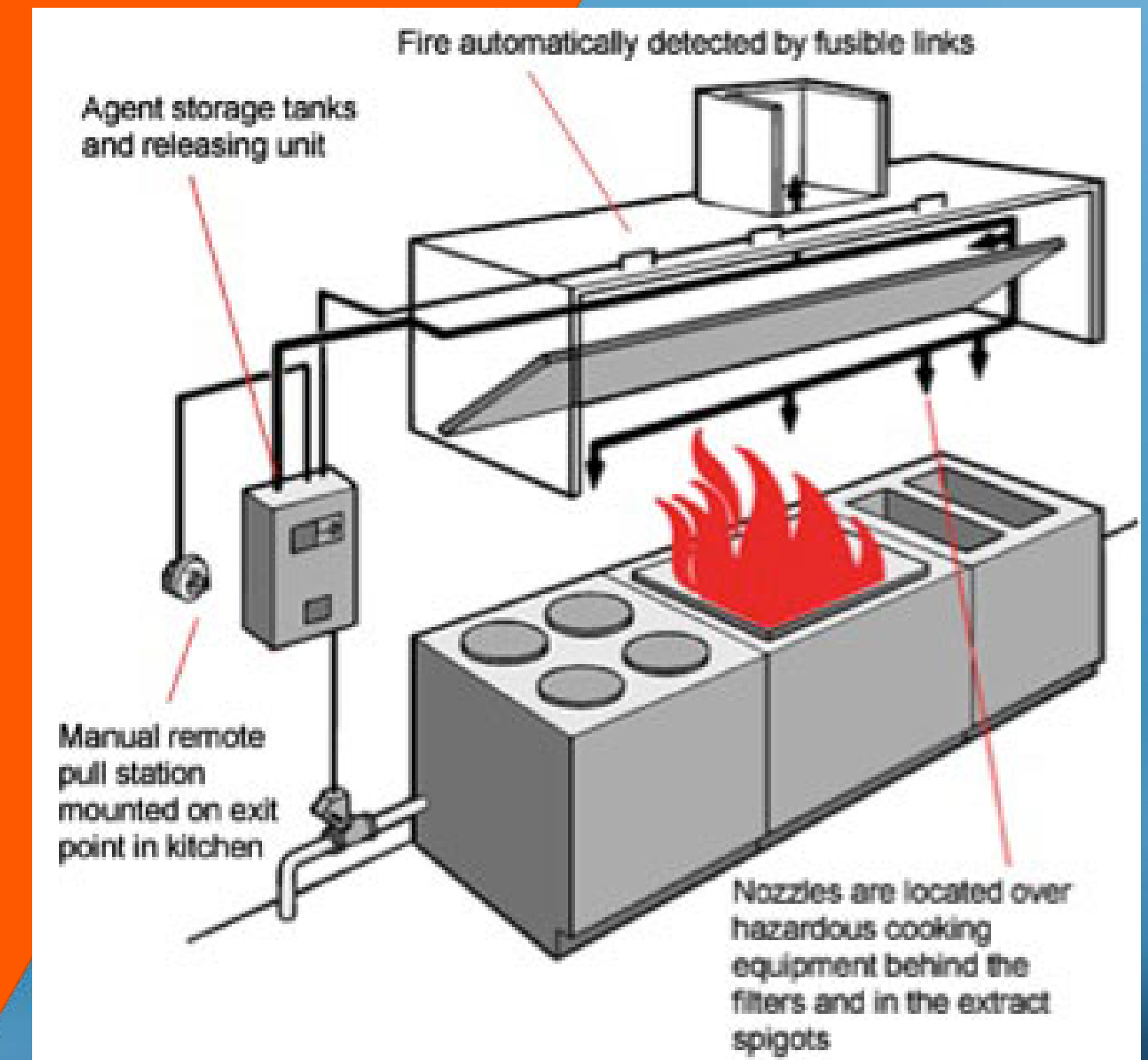


FIRE SUPPRESSION SYSTEM FOR KITCHEN EQUIPMENT

- ▶ **AUTOMATIC RELEASE BY FUSIBLE LINKS**
- ▶ **MANUAL RELEASE BY REMOTE PULL STATION**

▶ **APPLICATIONS**

- ✓ DEEP-FAT COOKING EQUIPMENT
- ✓ EXHAUST DUCTS
- ✓ PLENUM



REFERENCES



REFERENCES



GELIBOLU



REFERENCES



**THANK YOU
FOR YOUR ATTENTION**



MARSIS