

IFP
**Industrial
Fryer
Protection**

IFP: Industrial Fryer Protection



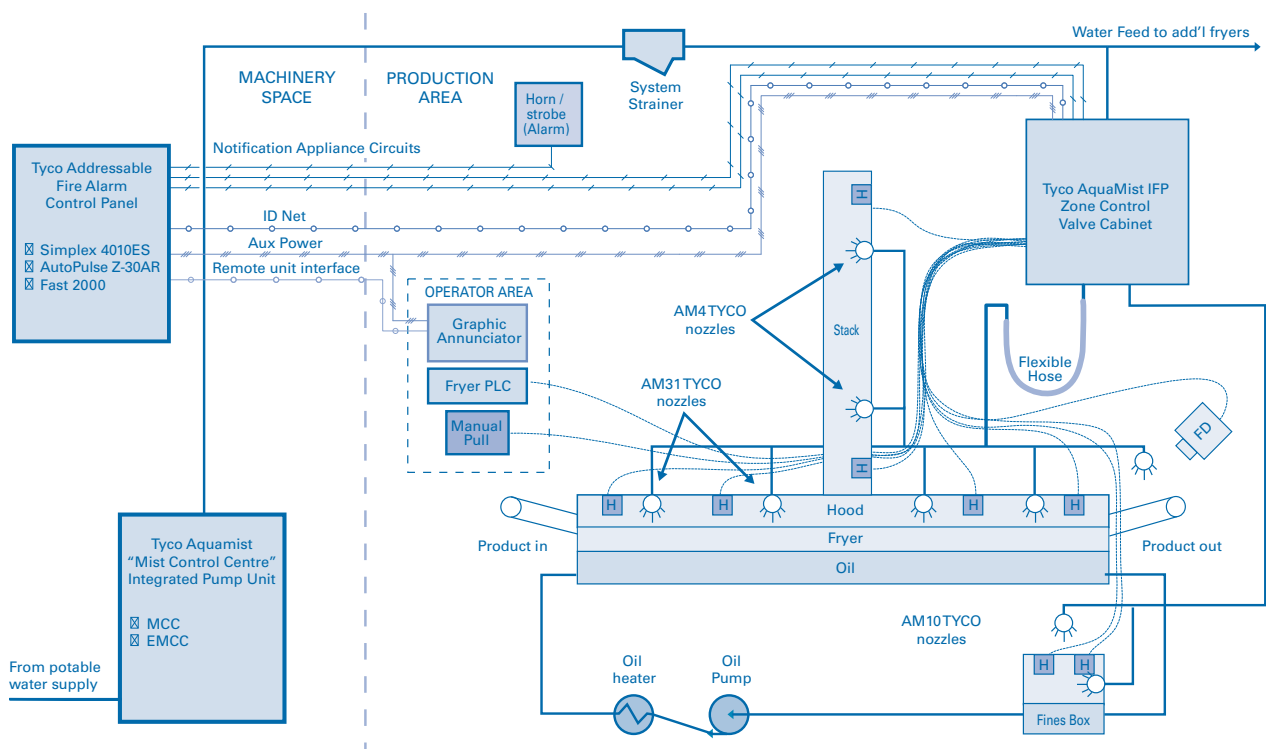
Industrial fryers are cookers commonly used in the food industry, containing large amounts of oil (up to 19000 litres or 5000 US gallons) and operating at high temperatures. The combination of extreme heat and fuel source creates a potential fire risk. Fire occurs if oil reaches its auto ignition temperature (AIT), therefore cooling the oil after extinguishing a fire is critical to avoid re-ignition. Strict sanitary regulations and the risk of the exposure of employees to fire and/or system discharge increases the challenges for the selection of the most appropriate fire protection technology. A fire incident presents major risk to business affecting operations across the entire plant, potential loss of equipment assets and production.

The Tyco AquaMist Industrial Fryer Protection (IFP) is a new oil cooker fire suppression solution. The

system includes water mist nozzles, combined with fire detection to provide the best integrated solution to protect the hood area, fine box and stacks. Of all the fire protection options available specific to this challenge, only water mist is fully tested by third party testing agencies like Factory Mutual (FM) with exhaust hoods both raised and lowered.

To obtain FM approvals, water mist must provide both full extinguishment in various dimensioned fryers and rapidly cool oil temperatures below the AIT, minimizing the chance for fire re-ignition after discharge. AquaMist IFP offers savings to both owners (less downtime) and insurance companies (less downtime and lower clean-up costs). The following blueprint gives a quick overview of the system, although every solution will be tailor-made by our engineering specialists.

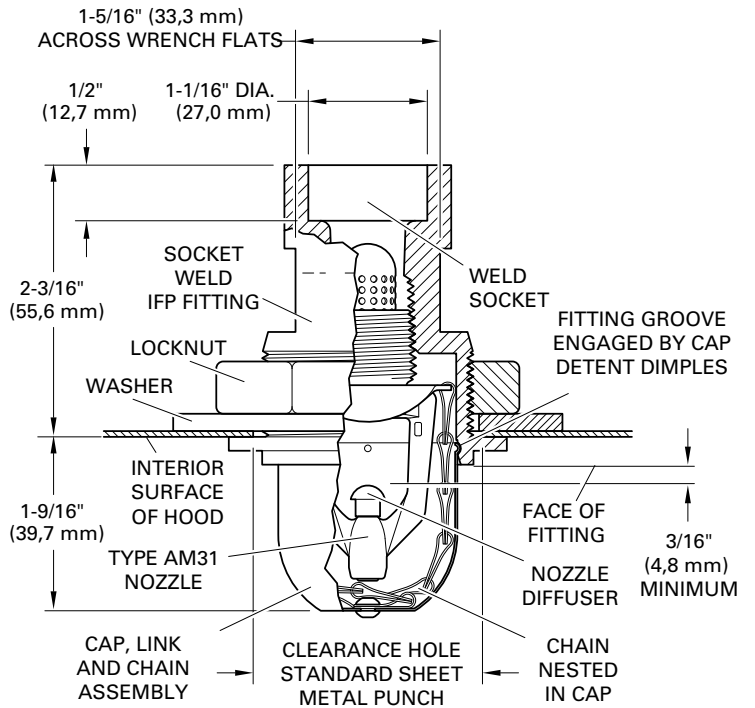
Blueprint of a Typical System:



The IFP system consists of multiple components selected and designed by the industry-leading engineers from Tyco Fire Protection Products.

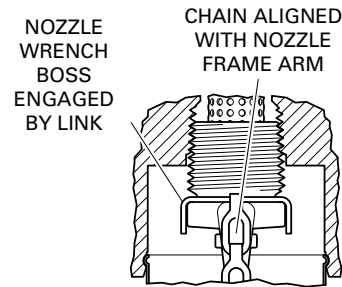
A complete package solution consists of:

- // Specially designed IFP nozzles
- // Specially designed valve assembly
- // AquaMist pump skid system
- // Fully integrated fire detection



Technical Specifications IFP Nozzles:

Approval:	Factory Mutual
Discharge Coefficient:	$k = 4.3 \text{ lpm} / \text{bar}^{1/2}$ $k = 0.3 \text{ gpm} / \text{psi}^{1/2}$
Pressure:	11.7 bar 170 psi
Water Density:	$8 \text{ lpm} / \text{m}^2$ $0.2 \text{ gpm} / \text{ft}^2$



The advantages of the AquaMist IFP system:

- // Flexible nozzle placement: reducing installation cost and applicable to various hood configurations.
- // Low/Intermediate system pressures per NFPA750: creates system simplicity.
- // Specialised nozzle design to protect from oil vapor infiltration.
- // Unlimited system discharge duration capability with use of a pump skid unit.
- // No refill required: fast resetting of system.
- // Extensive fire test program: guarantees performance in actual multiple possible scenarios.
- // Fully integrated solution to guarantee compatibility between detection and suppression systems.



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