



### POP-UP SYSTEM FOR HELIDECK

#### STANDARD DESIGN



#### GENERAL DESCRIPTION

The system is a compact DIFFS with pop-up nozzles and skid designed to mix foam concentrate type AFFF in to fire water carrying foam tank and proportioner.

The system proportions an exact rate of foam concentrate directly to the fire water line close to the nozzles only using some of the energy in the water. Only to be hooked up to the water line and control signal from the control panel.

Special designed for systems using Matre pop-up nozzles, but also suitable to be installed in other applications.

#### DESIGN DESCRIPTION

The system can carry tanks from 200l to 1450l.

Calibrated to 1% or 3% insertion rate.

Inductor proportioner capacity  $K = 280 - 3050$  using inductor size DN100 or DN150 to be calculated according to deck size, coverage requirements and pressure.

Nozzles according to deck size each covering a diameter of 7 metre and with exact K-factor calculated according to proportioner performance.

#### SYSTEM DESCRIPTION

Main components are tank for foam concentrate, inductor and nozzles.

The inductor will when the water flow is activated create a vacuum which sucks foam from the tank in to the water flow at a preset calibrated rate, normally 1% or 3% using 30% of the water pressure. The inductor is also calibrated to a specific flow when the water inlet pressure is at rated level.



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An actuator valve will activate the system down during continues running of fire pumps. Foam insertion can be shut of for test run.

One operation panel and one or more remote control panels can be placed indoor or outdoor according to applicable rules and requirements.

Nozzles are exactly calculated according to pressure and flow to give the correct coverage.

#### MAIN COMPONENTS

- Skid for installation to the deck carrying all components.
- Ventilated tank with dip stick and drain valve for foam concentrate.
- Manual pump for foam concentrate refilling (on SKD10 and SKD11).
- Strainer at water inlet to prevent particles to clog nozzles (on SKD10 and SKD11).
- Actuator valve to start or shut down system.
- Pressure indicators at inlet and outlet of inductor to monitor pressure and pressure loss.
- Inductor size DN100 or DN150 designed and calibrated to any flow- and insertion rate.
- Ball vales to shut of filling pump and foam insertion.
- Nozzles for installing in helideck. DY16 nozzles with cartridge pop-up unit for cleaning and pressure testing.

#### STANDARD REQUIREMENTS FOR CALCULATION

- Flow requirements are 6 l/min per m<sup>3</sup> on the area of the D-value of the helideck.
- The foam capacity is 1% (or 3% due to some national regulations) of the flow range for 5 minutes application. For NORSOK and NMD mobile offshore units it will be 1% for 10 minutes.
- Capacities and regulations prevailing will also be given as notes in P&ID specific for each deck supply.
- System pressure is minimum 7 bar on inductor inlet.
- Inductor pressure loss is 30%: pressure out of inductor is consequently 4,9 bar
- Pressure height due to elevation is 0,4 bar. That is skid pipe line placed 4 meter beneath the deck.
- Pressure loss through pipes is maximum 0,4 bar using 4" pipe for flow up to 2450 l/min.
- Branch pipes to nozzle to be 1 ½" if it is for a single nozzle. For 2 and 3 nozzles 2" pipe is to be used.
- Ending up with minimum pressure at nozzle inlet of 4,1 bar.
- Nozzle calculation will be the total flow divided at number of nozzles at nozzle inlet pressure.

**POP-UP SYSTEM FOR HELIDECK****SPECIFICATION CHART**

<b>D-value (m)</b>	<b>Area (m<sup>2</sup>)</b>	<b>Flow (l/min)</b>	<b>Insertion rate (%)</b>	<b>Required foam quantity 5 min (l)</b>	<b>Foam tank (l)</b>	<b>Skid drawing</b>	<b>Number of nozzles</b>	<b>Nozzle K=factor</b>	<b>Nozzle drawing</b>
20,9	350	2100	1%	116	200	M-SKD01-02588 M-SKD01-02882	16	64	S-DY15-01717 M-DY16- (TBA)
20,9	350	2100	3%	116	500	M-SKD01-03036	16	64	S-DY15-01717 M-DY16- (TBA)
22,2	387	2325	1%	151	200	M-SKD01-03318 M-SKD10-03404	16	72,5	S-DY15-01719 M-DY16-03916
22,2	387	2325	3%	452	600	M-SKD05-02937	16	72,5	S-DY15-01719 M-DY16-03916
26,1	535	3252	1%	211	680 <sup>1</sup>	M-SKD11-03938	19	84,5	S-DY15-01725 M-DY15-03933
27,75	605	3630	3%	707	1450 <sup>1</sup>	M-SKD11-03968	19	94	S-DY15-01729 M-DY16-03974

1) Tank for 10 minutes foam application.



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## DATA SHEET

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