

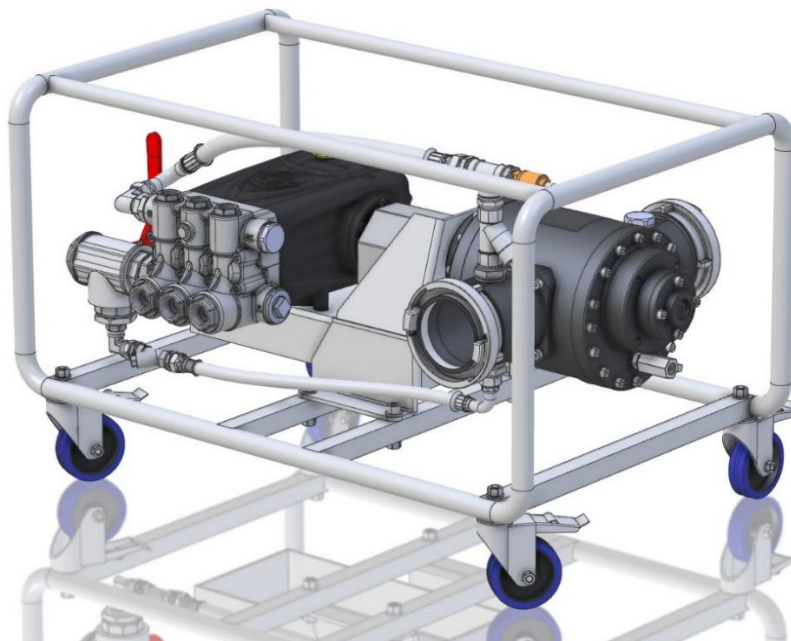
DATA SHEET | FIREMIKS[®] 2400-3-PP-M

MOBILE PROPORTIONING SYSTEM FOR 3% DOSING

Robust, mobile and easy proportioning system for firefighting with working pressure up to 16 bar and flow range 260* – 2400 lpm. Extinguishing water drives the volumetric water motor, which in its turn drives the positive displacement concentrates piston pump, that doses the correct amount of foam concentrate in the extinguishing water. No additional energy is needed, and the dosing is automatic - no requirement for calibration or pressure balancing. Dosing is also immediate which allows quickly opening and closing the nozzles (pulsing). Lower pressure losses compared with inductors giving longer throw length.

FIREMIKS is equipped with an Automatic air relief to speed up priming of foam pump (alternatively Manual air relief valve). Flushing of dosing pump is done automatically when the concentrate inlet is closed with Selector valve Dosing/Flushing (no 4 on Flow chart).

Complete with sturdy Stainless-steel frame equipped with lockable wheels and a separate Suction pipe. Strainer is supplied for use with water contaminated with solid particles.



TECHNICAL DATA

Max water flow rate @rpm:	2400 lpm (635 US gpm) @1180 rpm
Min water flow rate @ 8 bar 1-20 cP*:	310 lpm (82 US gpm)
Min water flow rate @ 4 bar 1-20 cP*:	260 lpm (69 US gpm)
Viscosity range:**	1-1800/3600 cP (Brookfield #4 60/30rpm)
Dosing rate***:	3%
Max inlet operating pressure:	16 bar (232 psi)
Factory tested pressure:	24 bar (350 psi)
Suction height****:	0 - 1 meters (0 – 3,5 ft), gravity feed preferred.
Operation temperature:	1°C to 55 °C (34°F to 131°F)
Storage temperature, dry condition:	-30°C to 55°C (-22° to 131°F)
Connections water motor G (ISO 228-1) male:	G 4" DN 100 - Couplings in customers choice available
Connection pump:	G 1 ½" – DN 40 - Delivered with suction pipe and quick coupling

* Notes on minimum flow:

- Minimum flow rate is the flow where dosing reaches 3%.
- Minimum flow changes depending on system pressure and viscosity properties of the concentrate and design of the suction line. See Instruction Manual.
- Below min flow, there is still dosing if the unit is rotating.
- Once min flow is reached in a typical application, usually dosing is no longer pressure sensitive at higher flows.

**Consult with Firemiks AB for higher viscosities.

*** Dosing tolerance 3% to 3,9% according EN 13565, NFPA 11 and FM 5130

****Note: Suction height varies depending on properties of concentrate, water flow rate and suction pipe parameters.

MATERIALS

FIREMIKS Aluminium – For fresh water/salt water occasional use		FIREMIKS Bronze – For salt water/offshore	
Water motor:	Alu AA 6082/7075, (housing / rotor) Hard-anodized and PTFE-coated, Stainless steel AISI 316 (fasteners), PET (vanes), NBR (O-rings).	Water motor:	Ni-Al-Bronze JM7 (C95500) (housing / rotor), Stainless Steel AISI 316 (fasteners), PET (vanes), NBR (O-rings)
Dosing pump:	Wetted: Brass (head), ceramics, NBR (seals), stainless steel. Other: aluminium (body), hardened steel with corrosion protection (crankshaft), AISI 316 Fasteners	Dosing pump:	Wetted: Brass (head), ceramics, NBR (seals), stainless steel. Other: aluminium (body), hardened steel with corrosion protection (crankshaft), AISI 316 Fasteners
Flexible hoses:	High grade Stainless Steel + PTFE	Flexible hoses:	High grade Stainless Steel + PTFE
Fittings:	Stainless steel AISI 316L	Fittings:	Stainless Steel AISI 316L
Ball valves:	Nickel-plated brass, brass, PTFE, SS	Ball valves:	Stainless Steel AISI 316, PTFE
Frame	Stainless Steel	Frame	Stainless Steel

Note: water motor made from Stainless Steel AISI 316L (housing/rotor) also available, remaining spec same as bronze.

APPROXIMATE DIMENSIONS AND WEIGHT

Overall dim. L x W x H mm:	960 x 615 x 600
Weight Aluminium:	100kg
Weight Bronze or Stainless Steel:	152 kg

Actual dimensions and weight depending on optional equipment.

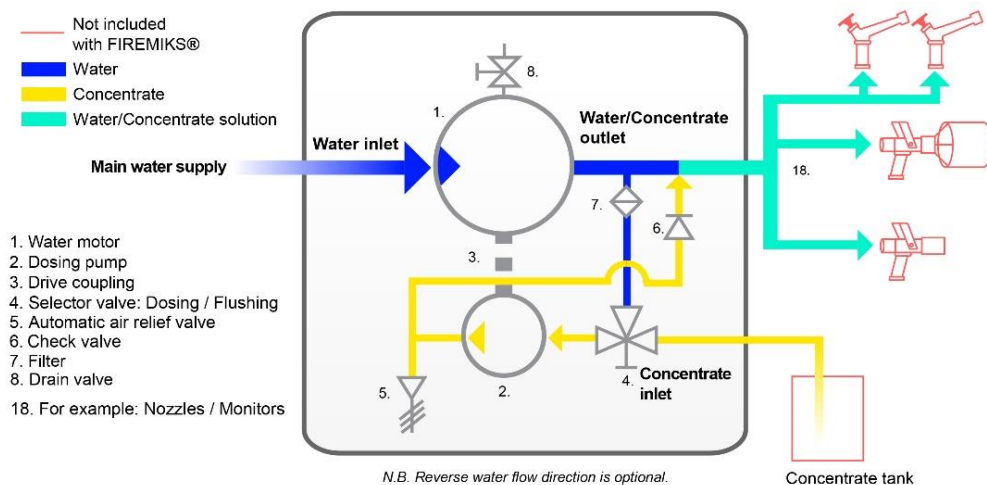
PRESSURE LOSS TABLE (@ 8 bar system)

Water flow rate	Pressure loss
300 lpm	0,7 bar
800 lpm	0,8 bar
1200 lpm	1,05 bar
1600 lpm	1,3 bar
2000 lpm	1,75 bar
2400 lpm	2,2 bar

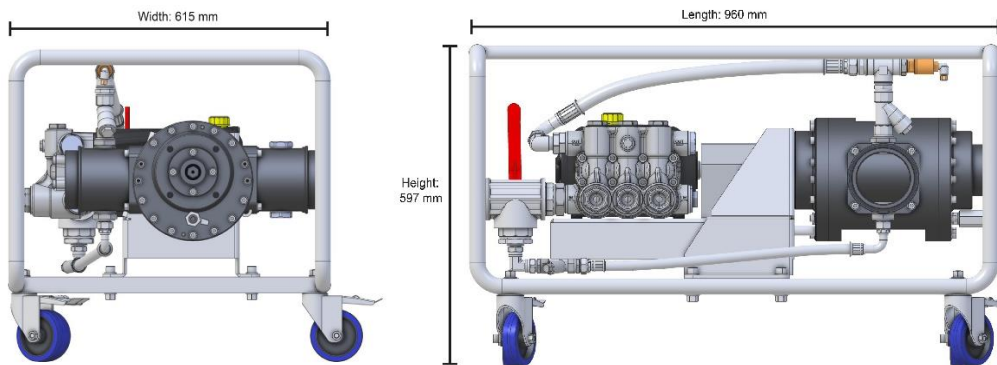
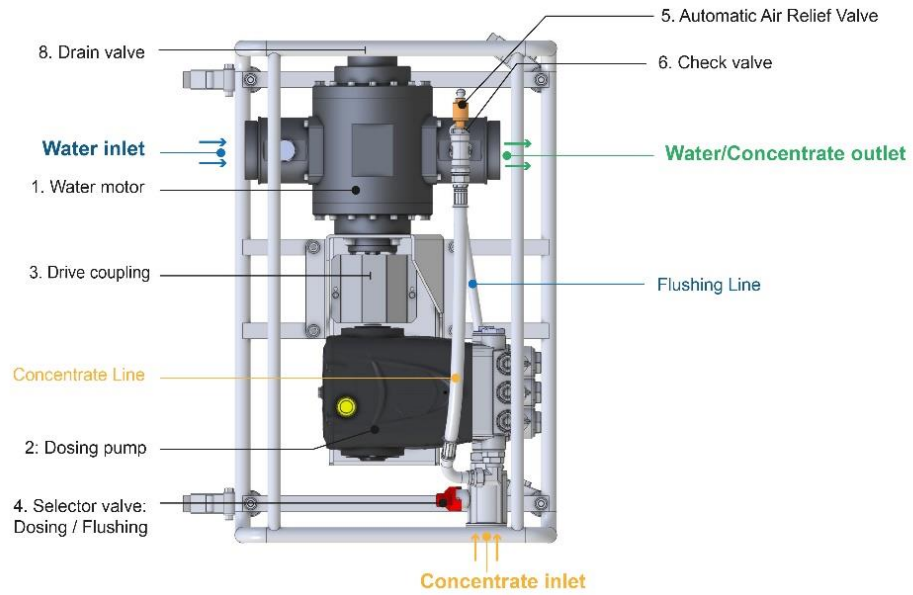
Pressure loss will vary slightly (up to ± 0,3 bar) depending on system pressure and concentrate used.

FIREMIKS PRODUCT NO

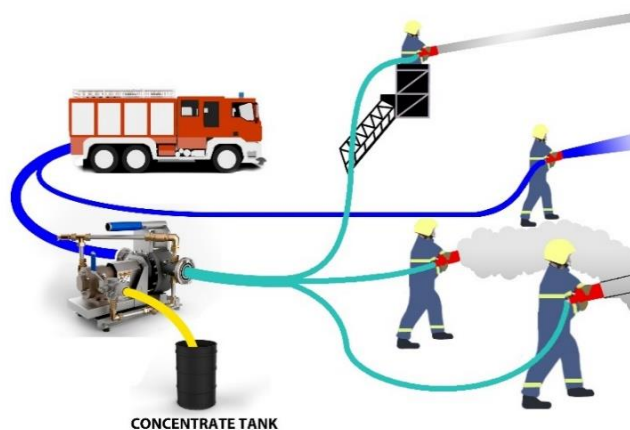
Material water motor	Product No
Aluminium:	2400-3-PP-M-ALU
Bronze:	2400-3-PP-M-BRZ
Stainless Steel:	2400-3-PP-M-SS

PRINCIPLE FLOW CHART


MAIN PARTS OVERVIEW / OVERALL DIMENSIONS



ONE FIREMIKS – SEVERAL NOZZLES



FIREMIKS enables central mixing of extinguishing agents to several nozzles placed at different lengths and heights from FIREMIKS, handled independently from each other. *Dosing is immediate which allows quickly opening and closing the nozzles (pulsing).*

RECOMMENDED SPARE PARTS FOR 2 – 5 YEARS

<u>Water motor parts</u>	<u>Dosing pump parts</u>	<u>Complete unit parts</u>
1.10 Set of vane plates (4 pcs)	2.10 Water seals and plunger kit	3.10 Automatic Air relief valve
1.20 Set of Mechanical Seals (2 pcs)	2.20 In/Out valve kit	(3.11 Manual Air relief valve)
1.30 Set of Ball Bearings (2 pcs)		3.20 Check valve
1.40 Set of O-rings (8 pcs)		3.40 Filter flushing line
1.45 Set of Gable inserts (2 pcs)		

Always mention the serial number of the units concerned when ordering spare parts.

OPTIONAL FEATURES / ITEMS

<u>Features / Items</u>	<u>Description</u>
Reversed water flow direction (right to left)	Standard flow direction is from left to right seen from pump side.
High-grade stainless-steel ball valves	Replacing brass valves (Already standard on Bronze and SS water motor version and valves with iso 5211 interface)
Alternative couplings for water motor	The unit can be delivered with 4" hose couplings in customers choice. Flanges (ANSI, DIN), Storz couplings, etc.
Certifications / Factory Acceptance tested (FAT)	Each unit can be type tested according to applicable parts of NFPA 11 or EN 13565, Factory Acceptance tested (FAT) or delivery inspected by <i>DNV-GL</i> or <i>Bureau Veritas</i> .
Flap check valve on concentrate inlet	To avoid water overflow of the concentrate tank if wrong handling of the Selector valve Dosing / Flushing occurs in flooded wet pipe systems.
Check valve on internal flushing line	To avoid leakage of concentrate in dry pipe or non-pressurised water pipe systems if wrong handling of the Dosing / Flushing valve occurs. (If unit is installed semi-fixed).
Higher spring rate in check valve in internal dosing line	To avoid leakage of concentrate in dry pipe or non-pressurised water pipe systems in combination with gravity feed. (If unit is installed semi-fixed).
Material certificates EN 10204	Depending on availability, material certificates for the water motor materials and some other parts can be provided if specified when ordered.

APPROXIMATE GROSS WEIGHT AND DIMENSIONS OF GOODS

The unit is delivered on a closed EUR pallet, with Instruction manual in printed form and Wrench to rotate the unit by hand for maintenance.

Overall dim of packaging. L x W x H cm:	120 x 80 x 75
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Weight of packaged goods:	Aluminium	152 kg
	Bronze and Stainless steel	207 kg


Note! Weight and dimensions specified here serves only as a guideline, and may vary depending on if you choose different optional equipment. Correct weight and dimension of the goods are given before delivery.

FIREMIKS® is a registered trademark owned by Firemiks AB in Sweden.

Firemiks AB is SS-EN ISO-9001:2015 certified by Bureau Veritas, cert.no SE006796-1.

Scope of supply: Development, production and sales of water motor driven dosing systems for firefighting.

CE FIREMIKS® is CE-marked and production is made according to European Directive 2006/42/EC.

Conforms to applicable parts of NFPA 11 and NFPA 1901. 

We reserve the right to make changes in the specifications without prior notice.

