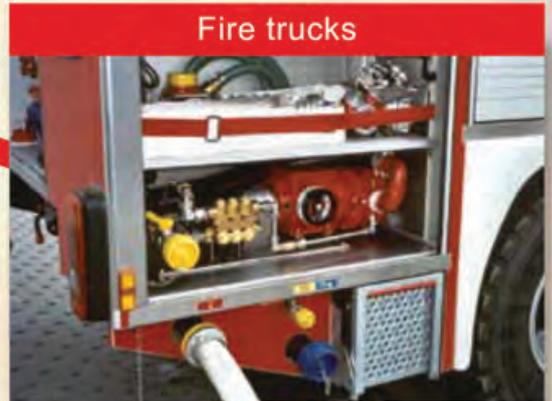


FireDos® admixing systems for fire-fighters

Mobile units



Fire trucks



Roll-on/roll-off containers



Special applications



The company

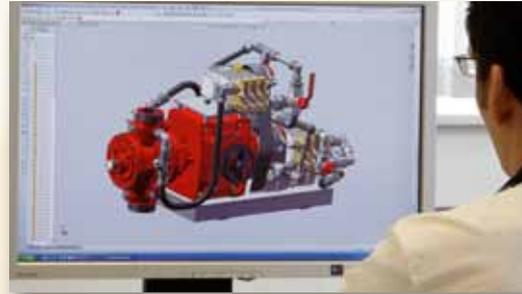
FireDos® GmbH

We are a dynamic, medium-sized company, and have been engaged for over 25 years in the special field of dosing technology which works without external energy.

For around 15 years, we have been supplying specially developed product variants under the brand name **FireDos** for fire-fighting applications. Because of its special advantages, **FireDos** quickly aroused great interest, with the result that today, several thousand admixing systems are in service throughout the world to the satisfaction of our customers. Due to this outstanding success, this area of business has developed into a separate company with the name of **FireDos** GmbH.

We place great value on providing all services to do with our product ourselves: Design and development, handling of approval procedures, production including comprehensive parts manufacture, sales, service, quality and environmental management all remain in our hands.

We will be happy to work with you!



Satisfied customers throughout the world

The power lies in the water

FireDos admixing systems work without external energy, and even under changing pressure conditions reliably and at a constant admixture rate. They are suitable for the admixture of fluids.

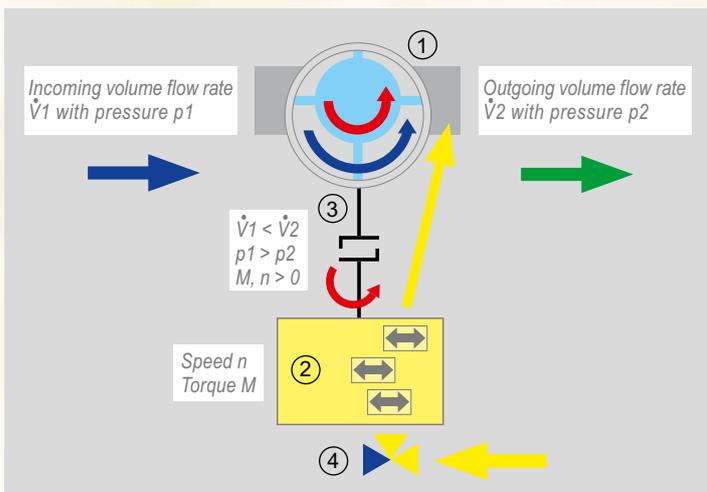
Water motor (1): The drive is provided completely by the extinguishing water flow. The water flows through the water motor (1), which is installed direct in the extinguishing water line. The speed of the water motor therefore is proportional to the volume flow rate of the extinguishing water.

Admixture pump (2): The water motor (1) and admixture pump (2) are connected with each other via a coupling (3), and therefore operate at the same speed. A purely mechanical system, which regulates itself automatically: The more extinguishing water that flows through the water motor, the more extinguishing agent is added, and vice versa. The admixture rate selected by the user always remains constant.

Ball valve Flushing/ Suction (4): The ball valve can be used to change from admixture to flushing operation. This directs water from the extinguishing water line at over-pressure through the admixture pump, and switches off the admixture.

FireDos admixing systems draw the energy required for the admixture process from the extinguishing water. This results in a low pressure loss, which can be minimised by the optimum dimensioning of the **FireDos** admixing system.

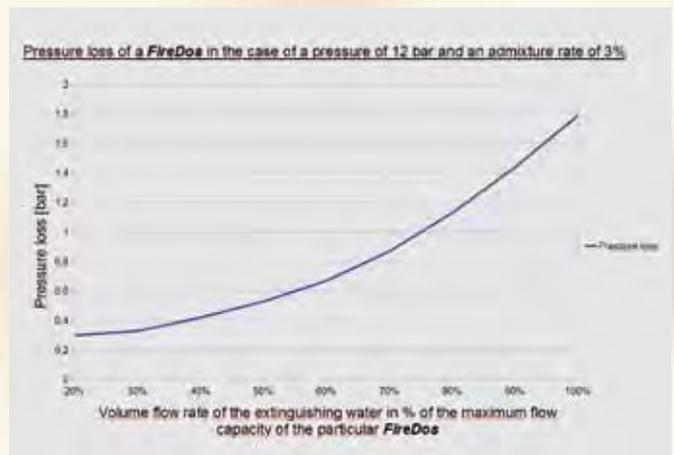
All components of the **FireDos** admixing system are assembled as a fixed unit, and tested in the factory for function and leaks. Commissioning can take place directly following the installation. Adjustment or setting is neither necessary nor possible.



Intelligent admixing with **FireDos**[®]

The simple mechanical system operates without any additional equipment on a flow-proportional basis with a working range of around 1:10 in relation to the maximum volume flow rate of the extinguishing water. With an optional reduction of the minimum volume flow rate the working range can be extended to about 1:30. The admixture rate will always be maintained even if the volume flow rate of the extinguishing water fluctuates or with changes in pressure or back-pressure.

Pressure loss



FireDos draws the energy needed for the admixture process from the flow of extinguishing water. This results in a pressure loss of around 1.8 bar maximum.

This figure only applies if the **FireDos** is working with the maximum volume flow rate allowed and thus at maximum speed. If the volume flow rate is at 75% of the maximum flow capacity the particular **FireDos** allows, the pressure loss is already less than 1 bar.

FireDos® in fire trucks

FireDos is used by fire brigades all over the world. They particularly value the simple mechanical system, because personnel require little training in their use and the units are extremely reliable in operation.

Another advantage: **FireDos** works without an external power supply and does not use the vehicles' electrical systems. Their simple, rugged design limits the amount of maintenance required, thus keeping costs to an absolute minimum.



FireDos admixing systems are often installed in aerial ladder platforms since back-pressure is unimportant



Delivering AFFF foam using a cannon at a working height of 54 m – without any influence on the foam quality

Fluctuating back-pressures caused by different working heights or hose lengths have no effect on admixture rates or the quality of the admixture.



FireDos installed in the compartment „G6“, rear right

This means foam or wetting agent of the same consistent quality is supplied to the jetting devices under all operating conditions. Best pre-conditions for a successful mission!

A wide range of **FireDos** admixing systems and installation variants is used in fire fighting vehicles. If required, the system can be switched to draw from different extinguishing agent tanks. The many variants and the broad operating range of the **FireDos** admixing systems mean that they can also work with quick-intervention or high-pressure devices. Appropriately installed, **FireDos** can be used to feed water or premix individually to each outlet.

If high-pressure, quick-intervention and premix outlets are all used when fighting a fire, it is easy to change between water and another fire-fighting liquid without time-consuming hose changing. Fire-fighters can switch between different extinguishing agents without interrupting the flow of extinguishing water. The unit can also be switched for use with a tank outside the vehicle through a connection for external priming.



FireDos can also be switched for use with an extinguishing agent tank outside the vehicle through a connection for external priming

FireDos® in fire trucks

The use of **FireDos** admixing systems is particularly valuable in large fire trucks and airport fire trucks. Since **FireDos** is driven exclusively by the flow of extinguishing water, there is no need for expensive and complex electrical drives and installation work.

Large ranges of volume flow rates of the extinguishing water can be covered by the working range. **FireDos** admixing systems can be retrofitted to existing vehicles without a great deal of effort and at comparably low costs.

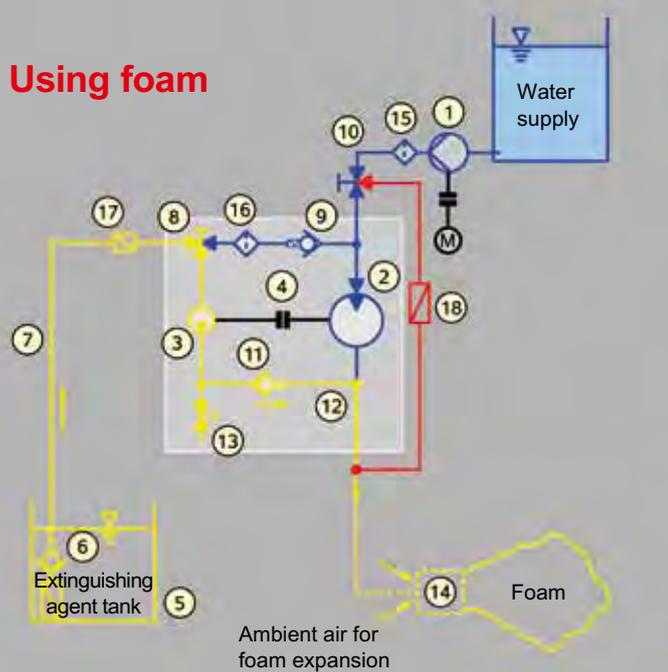


The **FireDos** admixing system is installed above the pump at the rear, behind a panel.



Large vehicles, great potential savings through the use of **FireDos** admixing systems

Using foam



- ① Water supply
- ② Water motor
- ③ Admixture pump
- ④ Coupling or control gear
- ⑤ Extinguishing agent tank
- ⑥ Foot valve
- ⑦ Suction line
- ⑧ 3-way ball valve *flushing/suction*
- ⑨ Flushing line
- ⑩ Main water supply line
- ⑪ Non-return valve
- ⑫ Admixing line
- ⑬ Air bleeding
- ⑭ Foam generator
- ⑮ Filter for water supply
- ⑯ Filter for flushing line
- ⑰ Non-return flap
- ⑱ Bypass with non-return flap

FireDos® in roll-on/roll-off containers

Roll-on/roll-off containers for foam agent or special extinguishing agents are usually used in the case of larger-scale incidents. But it is especially important in just such situations that everything is on hand for the fire-fighters.

Thanks to their very simple operation, **FireDos** admixing systems meet this requirement. Only a minimum amount of training is required.



FD2500/0,3–3% in a „foam“ container



FD4000/0,3–3% in a „water/foam“ container

In certain circumstances, mobile **FireDos** admixing systems can be used in place of a fixed version. In these cases the mobile **FireDos** is screwed to a carrier frame and can be supplemented by a trolley if required. This makes an even more flexible range of applications possible. The use of a **FireDos** then does not necessarily have to bind the whole roll-on/roll-off container.

Roll-on/roll-off containers with diesel powered pumps are often equipped with **FireDos** admixing systems as well. For installations of this kind we can supply versions for volume flow rates of the extinguishing water of up to 20,000 l/min. If necessary, several **FireDos** admixing systems can be installed in parallel to cover even higher volume flow rates.

If several different extinguishing agents are to be admixed in a roll-on/roll-off container, the **FireDos** admixing system can be installed in such a way that switchover can take place without the water flow having to be interrupted.



FD2500/0,3–3% in a „special extinguishing agents“ container

FireDos® in roll-on/roll-off containers

Different working heights, fluctuating back-pressures, manifolds or the lengths of hoses present no problems to the safe operation of a **FireDos** admixing system.

Hoses can be attached and removed during the fire-fighting operation. Almost all types of jetting devices can be used and combined (hollow jet nozzles, cannons, etc).



FD2500/0,6–6% installed in a carrying frame, removable from the container if required



FD20000/3(1)% in a container with a diesel powered pump



FD4000/0,3–3% in a „special extinguishing agents“ container



FD4000/0,3–3% in a „special extinguishing agents“ container

Mobile pressure proportioner systems

Mobile versions of the **FireDos** admixing systems provide fire-fighters with maximum flexibility because they can be used at any point in the hose layout.

Fluctuating pressures or back-pressures or changing volume flow rates of the extinguishing water – all these factors have no effect. The same applies for different viscosities of the extinguishing agents. This means that even some alcohol-resistant foaming agents can be admixed precisely without difficulty.

The innovative alternative to conventional foam inductors



No installation required for inclusion in vehicle equipment

Mobile **FireDos** pressure proportioner systems can be set to work and operated by one person. Water is supplied by a fire truck, portable water supply or a hydrant. Mobile **FireDos** pressure proportioners are the convincing alternative to replace conventional foam inductors and can be included in the fire truck standard equipment without any installation being required.



Little training required and easy to use



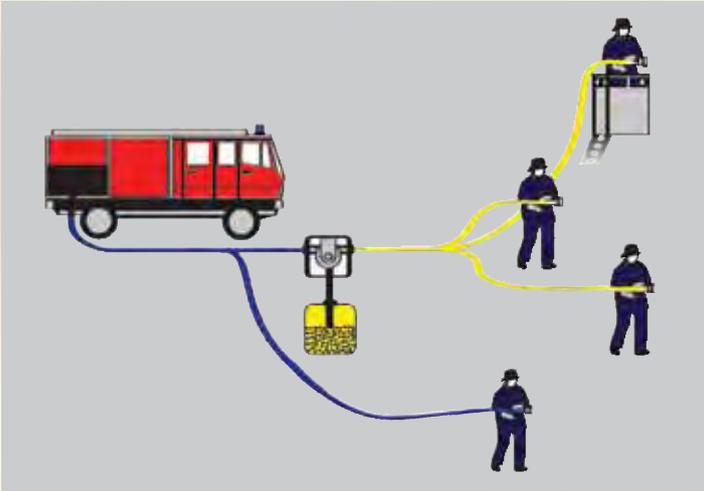
FireDos pressure proportioners FD-DZ require only little space and they can be used directly from the pull-out tray

Mobile pressure proportioner systems

Practice makes perfect!

We are dedicated to supporting fire-fighting training institutions. We are always happy to demonstrate our experience in seminars, practical exercises or by lending out **FireDos** admixing systems.

We are also available for tests and practical demonstrations. Please contact us and arrange an appointment.



Possible uses for mobile **FireDos** admixing systems

The mobile **FireDos** FD-DZ pressure proportioner systems allow to add or remove hoses during operation. Different hose lengths or working heights have no effect on the quality of the admixture.



Mobile **FireDos** admixing system on a trolley



Practical demonstration of foam production

Special applications

Special applications demand special admixing systems with powerful performance. **FireDos** admixing systems are also used for a wide range of special applications. In the suitable version they can also admix:

- Decontamination additives
- Liquid oil binding additives
- Disinfection and cleaning additives
- Gel-forming additives for fire fighting



Carried by fire-fighting aircraft or helicopters, the gel guarantees minimum evaporation rates above the heart of the blaze

Gel-forming additives are mainly used for fighting Class A fires. Houses and woods can be protected from flames by the gel. Before use, gel concentrate, colorant and extinguishing water are mixed to the prescribed ratio. The special version of a **FireDos** admixing system does this in one action. The colorant allows the pilot to see easily which areas have already been covered with gel.



Coloured gel is discharged

Optional extras for your **FireDos**[®]

- Reduction of the minimum volume flow rate of the extinguishing water
- Water drain valves for water motor, admixture pump and pipework
- Motorised, stepless adjustment of the admixture rates
- Electro-pneumatic actuation for all ball valves
- Connection for a second extinguishing agent tank
- Strainer for the extinguishing water supply

Various other options are available. Please ask us, we will be happy to advise you.

FireDos® mobile pressure proportioner systems

Water motor	Volume flow rates	Operating pressure	Admixture rates
FD DZ 5	ca. 60–500 l/min	up to 16 bar	0,3% / 0,7% / 1% 1% / 2% / 3%
FD DZ 10	ca. 100–1,000 l/min	up to 16 bar	0,3% / 0,7% / 1% 1% / 2% / 3% 0,3% / 0,7% / 1% / 2% / 3%
FD500	ca. 80–500 l/min	up to 16 bar	Fixed admixture rates: 1% / 3% / 6%
FD1000	ca. 100–1,000 l/min	up to 16 bar	stepwise adjustable admixture rates: 0,3% / 0,7% / 1% 1% / 2% / 3%
FD1600	ca. 200–1,600 l/min	up to 16 bar	Continuously adjustable admixture rates:
FD2500	ca. 250–2,500 l/min	up to 16 bar	0,1–1% 0,3–3% 0,6–6%

Stepwise adjustable admixture rates e.g. from 3% to 1%. Please contact us for information.

FireDos® admixing systems for fire trucks and roll-on/roll-off containers

Water motor	Volume flow rates*	Operating pressure	Admixture rates
FD130	ca. 10–130 l/min	up to 10 / 16 bar	Fixed admixture rates: 1% / 3% / 6%
FD200	ca. 15–200 l/min		
FD500	ca. 80–500 l/min	up to 16 / 25 / 40 bar	stepwise adjustable admixture rates: 0,3% / 0,7% / 1% 1% / 2% / 3%
FD1000	ca. 100–1,000 l/min		
FD1600	ca. 200–1,600 l/min		
FD2500	ca. 250–2,500 l/min	up to 16 / 25 bar	Continuously adjustable admixture rates: 0,1–1% up to FD10000 0,3–3% up to FD4000 0,6–6% up to FD2500
FD4000	ca. 400–4,000 l/min		
FD6000	ca. 500–6,000 l/min	up to 16 bar	
FD8000	ca. 500–8,000 l/min		
FD10000	ca. 500–10,000 l/min		
FD15000	ca. 600–15,000 l/min		
FD20000	ca. 800–20,000 l/min		

* Without reduction of the minimum volume flow rate.

Further admixture rates and ranges on request.

The most important FireDos® advantages for your successful application:

- **FireDos** is only driven by the extinguishing water.
- **FireDos** works on a flow-proportional basis.
- **FireDos** works independently of fluctuations in pressure or back-pressure. Lengths and diameters of hoses and the jetting devices used have no effect.
- **FireDos** is a modular admixing system with fixed or adjustable admixture rates (stepwise or continuously adjustable).
- **FireDos** is an almost maintenance-free system. Installation and operation are simple.
- **FireDos** admixes all common foaming agents and other additives over a wide range of viscosities.
- **FireDos** covers wide ranges of volume flow rates of the extinguishing water and admixture rates with its various equipment variants; volume flow rates of 10–20,000 l/min and admixture rates of 0.1–6%.
- **FireDos** is available for maximum operating pressures of 10 bar, 16 bar, 25 bar or 40 bar and for maximum operating temperatures of 50 °C or 80 °C.
- **FireDos** enables to replace an empty additive tank without interrupting the flow of extinguishing water.
- **FireDos** enables to change from one type of additive to another or even to admix two different additives simultaneously (special variant).
- **FireDos** enables the admixing point to be located at a great distance from the admixing system (remote admixture).
- **FireDos** is used in stationary extinguishing systems, fire trucks, roll-on / roll-off containers and as mobile admixing systems.
- **FireDos** with special materials can also be used with seawater in offshore applications.
- **FireDos** is in successful service in thousands of extinguishing systems throughout the world. For many years now, users have placed their confidence in the quality and durability of our products.