



# Truck-mounted fire pumps

Normal Pressure Fire Pumps  
Combined Normal and High Pressure Fire Pumps  
High Pressure Pumps

 **rosenbauer**



# Truck-mounted fire pumps.

**Rosenbauer pumps are in service and trusted word wide.**

Truck-mounted fire pumps by Rosenbauer are used in fire fighting trucks around the world to guarantee your safety. Whether in airport, industrial or municipal fire trucks or in stationary units.



## **Pumps for every application.**

The construction of the Rosenbauer normal and high pressure fire pumps as centrifugal pumps offer the best efficiency and the lowest water hammers through flat pump characteristics - this releases especially the branchman.

The discharge range of the normal pressure pumps during suction operation lies between 750 lpm (200 USgpm) and 10,000 lpm (2,640 USgpm). The high pressure

pumps reach up to 400 lpm (105 USgpm) at 40 bar (600 psi).

The wide variety of options and the best available integration of foam proportioning systems offer the most efficient solution for the corresponding requirements of the operational units on scene.

Low maintenance costs through the implementation of wear and tear resistant piston priming pumps, mechanical seals on the shaft, and the long maintenance intervals ensure a permanent readiness for use.

## **Well prepared for the scene.**

The simple operation of the pumps through the self-explanatory Rosenbauer LCS (Logic Control System) guarantees a relief of the work load for the operator.

Therefore the pumps are suitable for hard continuous operation with all water and foam concentrate qualities under all different climatic conditions.

**Experience in research and development as well as in production.**

During the engineering and production particular emphasis is placed on the compliance with the standards and safety regulations.

To be prepared for the fire fighting operation through the customer the pumps are tested several times by Rosenbauer.

Therefore the component parts as well as the finished pumps will be pressure tested after assembly.

Afterwards every pump will be submitted to a broad test run on the test-bench of Rosenbauer and a test protocol will be issued.

After the installation into the fire truck a further test run will be implemented to be prepared for the case of emergency.



**Firemen all over the world trust in the robustness, operational safety, and the high ease of use of the fire fighting centrifugal pumps by Rosenbauer.**



# The compact all-round pump package.

## Normal Pressure Fire Pump N10.

The compact dimensions and the low weight are unmatched characteristics for the N10 as rear-mounted pump. This creates additional compartment space for equipment - an unbeatable benefit for small-size vehicles.

The unit is a cost efficient and space-saving solution for small-size vehicles. The operation is done from the rear via the Rosenbauer LCS control panel.

Pump capacities of up to 1,700 lpm (450 USgpm) pump performance at 10 bar (150 psi) pressure can be realized on small-size vehicles with the lowest space requirements.



### Performance

Pump	Flow rate	Pressure	Drive	Suction height
N10	1,000 lpm	10 bar	28 kW	3 m
N10	1,500 lpm	10 bar	38 kW	3 m
N10	1,700 lpm	10 bar	42 kW	3 m

### Benefits of the N10 pump.

- Compact dimensions
- High pump capacities of up to 1,700 lpm (450 USgpm) at 10 bar (150 psi)
- Low power requirement between 30 and 42 kW
- Compact unit with all inputs and outputs on the pump
- Simple use through Rosenbauer LCS



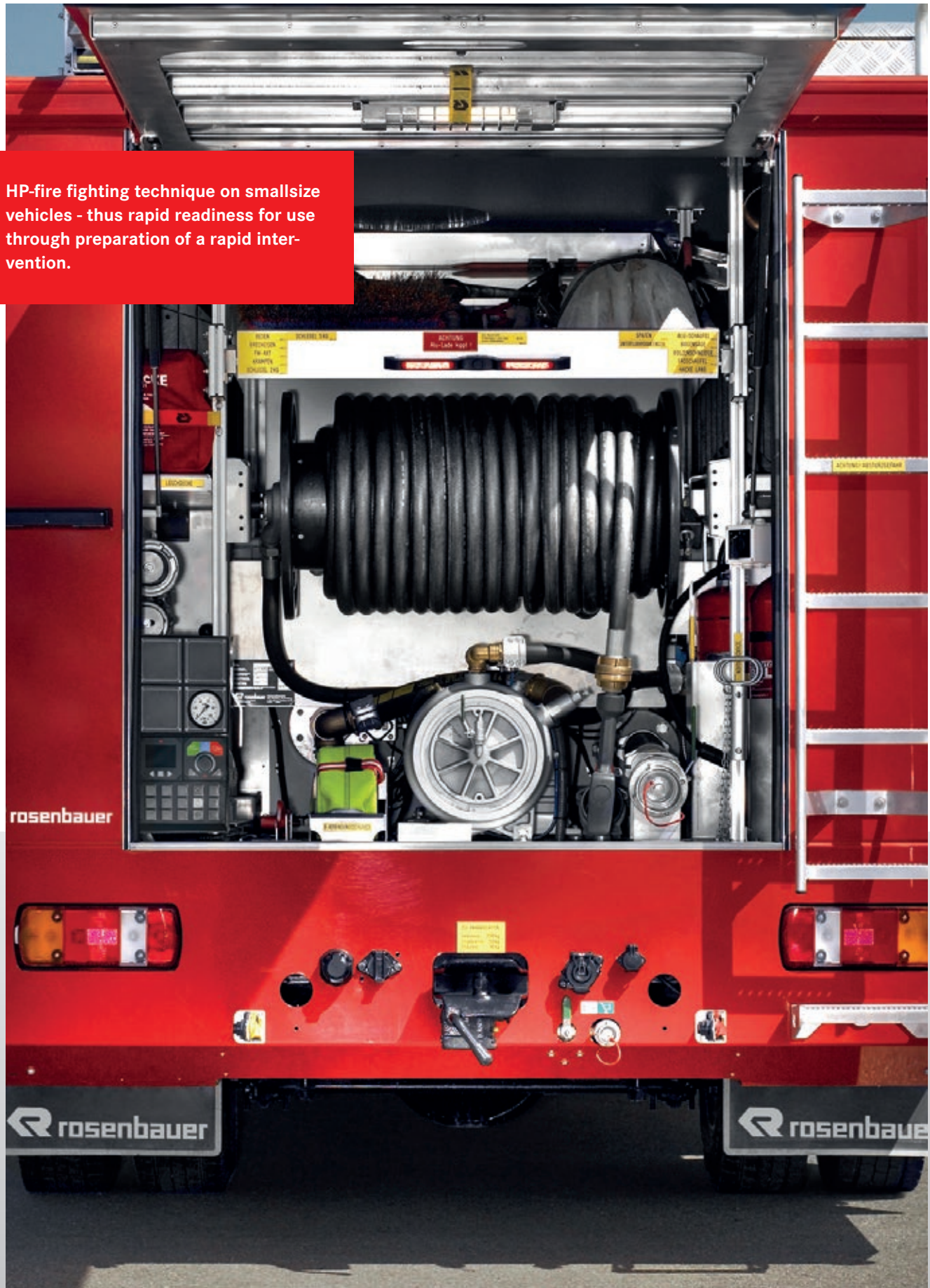


The unit is a cost efficient and space-saving solution for small-size vehicles.



Rear mounting:  
Saves space in the rear - small compact unit. All necessary functions are directly mounted to the pump.





HP-fire fighting technique on smallsize vehicles - thus rapid readiness for use through preparation of a rapid intervention.

# Extinguishing with maximum efficiency.

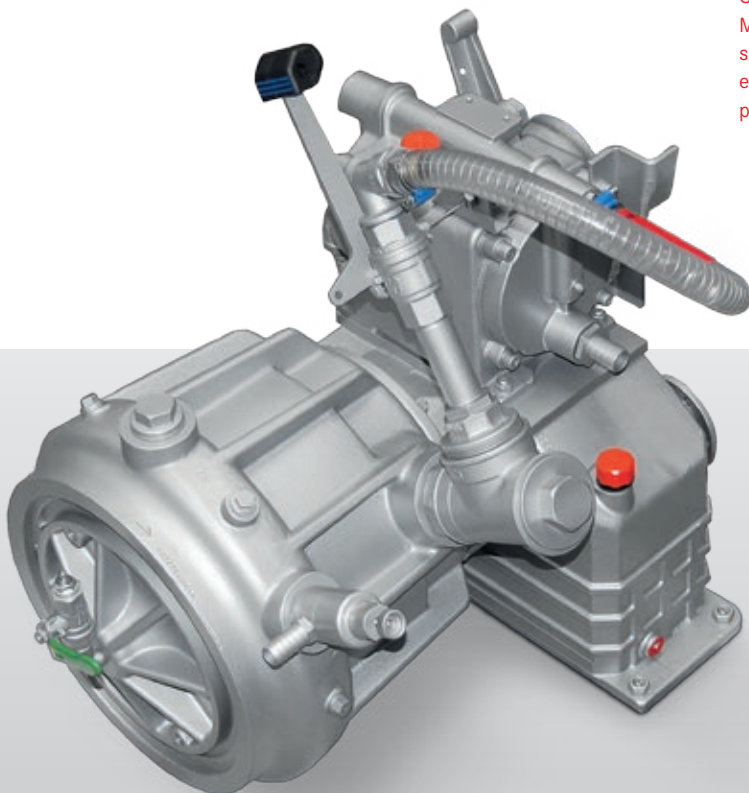
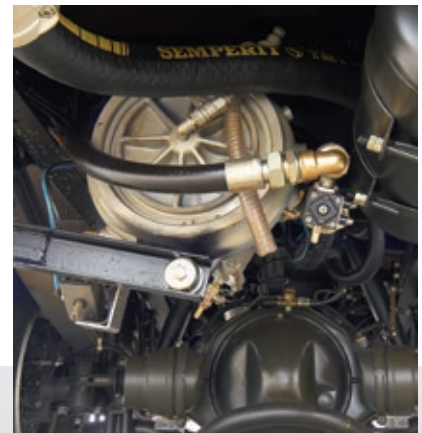
## High Pressure Fire Pump H5.

The compact dimensions and the low weight are unmatched characteristics for the H5, both as underfloor mounted pump or as rear-mounted pump. This creates additional space for equipment rooms - an unbeatable benefit for small-size vehicles.

Uncompromising and equipped with all benefits of Rosenbauer pumps - this power pack is the first choice for small-size vehicles. The 4-stage high pressure pump is resistant against contamination and hence requires only low maintenance effort. There the rapid intervention can be quickly installed on with small fire trucks. Especially in combination with Rosenbauer hose reel and NEPIRO it is fastest ready for use. This represents a good supplement to fire trucks with portable pump.



Underfloor mounting:  
More compartment space for additional equipment, e.g. for portable pumps



### Performance

Pump	Flow rate	Pressure	Drive	Suction height
H5	500 lpm	40 bar	85 kW	3 m
H5	250 lpm	40 bar	55 kW	3 m

### Benefits of the H5 pump.

- Compact dimensions
- HP-fire fighting technique on small-size vehicles - thus rapid readiness for use through preparation of a rapid intervention
- High pump capacities of up to 500 lpm (130 USgpm) at 40 bar (600 psi)
- Low power required to drive the pump
- Resistant against contamination - low maintenance effort
- Low water hammers through flat pump characteristics



# Designed and ready for every situation.

## Normal Pressure Fire Pump type „N“ and Combined Normal and High Pressure Fire Pump type „NH“.

The normal pressure pump „N“ and the combined normal and high pressure pump „NH“ provide innovative technology, ergonomically operation and reduced noise emission.

The single stage normal pressure centrifugal pump reaches the best efficiency through its spiral housing and water stripper edges in the volute. It catches the eye through flat pump characteristics. Water hammers through the opening and closing of discharges are reduced to a minimum.

The drive speed of the pump is designed for power take-offs (PTOs) of standard trucks.

The pumps of the NH-series combine on one single pump shaft all the benefits of the N-pump with those of the 4-stage high pressure pump.

Through the opposed arrangement of the normal pressure impeller and the high pressure impellers on a single shaft the high pressure pump does not require an own drive - the water supply of the high pressure pump can be switched on or off at any speed.

Normal pressure and high pressure stages on one common shaft together with ergonomic operation.



### Optimized pump operation.

The controls (both mechanical control parts and electronic operation panel) are optimally integrated into the instrument panel and thus offer perfect ergonomics. The gauges are above the control parts and thus in the field of view of the pump operator.

### Performance normal pressure

Pump	Flow rate	Pressure	Drive	Suction height
N25 / NH25	2,500 lpm	10 bar	70 kW	3 m
N35 / NH35	3,500 lpm	10 bar	95 kW	3 m
N45 / NH45	4,250 lpm	10 bar	118 kW	3 m
N55 / NH55	5,500 lpm	10 bar	135 kW	3 m





Pumps with innovative technics, ergonomic operation and low noise emission.

### Performance high pressure

Pump	Flow rate	Pressure	Drive
NH25 / NH35	250 lpm	40 bar	83 kW
NH25 / NH35	400 lpm	40 bar	98 kW
NH45	250 lpm	40 bar	112 kW
NH45	400 lpm	40 bar	132 kW
NH55	250 lpm	40 bar	122 kW
NH55	400 lpm	40 bar	150 kW

### Benefits of the N/NH series.

- User-friendly due to
- Noise reduction due to low pump speed
- Easy operation due to LCS (Logic Control System)
- Low arrangement of the screw down valves
- High operational safety and low maintenance expenses through mechanical seals
- Resistant against contaminated water due to wide impeller section
- High corrosion resistance of the pump materials
- Normal- and high pressure part on one shaft (no additional drive necessary)

# Compact pumps for highest performance.

## Normal Pressure Fire Pump N65/ N80.



The universal truck-mounted pump for airport-, industry- and largetank trucks and stationary pump units.

### Benefits of the N65/ N80 pump.

- High pump capacity at flat characteristics – thus reduces the water hammers on the discharges to a minimum
- An additional high pressure pump with up to 500 lpm (130 USgpm) at 40 bar (600 psi) is optional
- Mechanically steered around-the-pump foam proportioning system FIXMIX 2.0 with 3 adjustable proportioning rates
- Electronically regulated around-the-pump foam proportioning system FIXMIX 2.0 E with stepless proportioning rate adjustment and the possibility to display the water and foam concentrate consumption
- Robust and failsafe piston priming pump
- Automatic priming for easy operation
- Pump pressure governor maintains the pressure on the discharges in all operating conditions
- Mechanical overheating protection prevents the overheating of the pump and thus damages to the same
- Flexibility in the drive – the correct pump for your demands



The robust construction and flat characteristics at a high efficiency level are the defining feature of the N65/ N80 pumps.

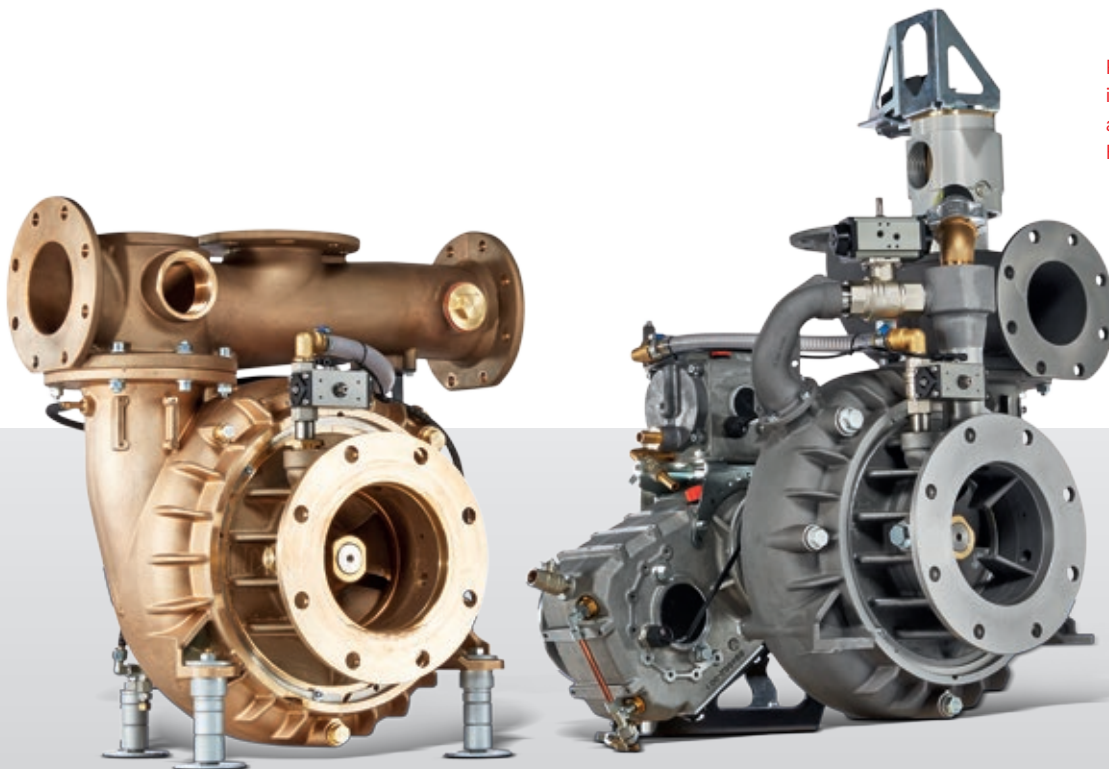
The compact size of the pumps up to 8,000 lpm are very important for the installation on airport and industrial fire trucks as well as for target tank trucks and stationary units.

A H5 high pressure pump can also be added to these pumps to supply one or two high pressure hose reels. The 1-stage normal pressure pump convinces - like the other Rosenbauer pumps - through a very flat pump characteristic. So the pump pressure does not change a lot when changing the flow. Therefore almost no pressure fluctuations occur on the nozzle.

**Foam proportioning systems easy to integrate.**

Both the mechanically controlled around-the-pump foam proportioning system FIXMIX 2.0 and the mechanically pre-controlled and electronically regulated around-the-pump foam proportioning system FIXMIX 2.0 E are available for the N65 /N80 pumps. All balanced pressure foam proportioning systems for industrial application like the MIXMATIC and the HYDROMATIC can also be combined with this pump.

Pump is available in gunmetal or light alloy without or with FIXMIX 2.0



**Performance**

Pump	Flow rate	Pressure	Drive	Suction height
N65	6,500 lpm	10 bar	150 kW	3 m
N80	8,000 lpm	10 bar	190 kW	3 m
H5	500 lpm	40 bar	180 kW	
H5	250 lpm	40 bar	140 kW	

# Highest performance for highest demands.

## Truck-mounted Fire Pump N100.

The elaborated arrangement of all components and the unique drive concept let to a pump system with smallest dimensions that is unbeaten in its performance and functionality.

**The N100 - as a central unit - has to fulfill 3 tasks.**

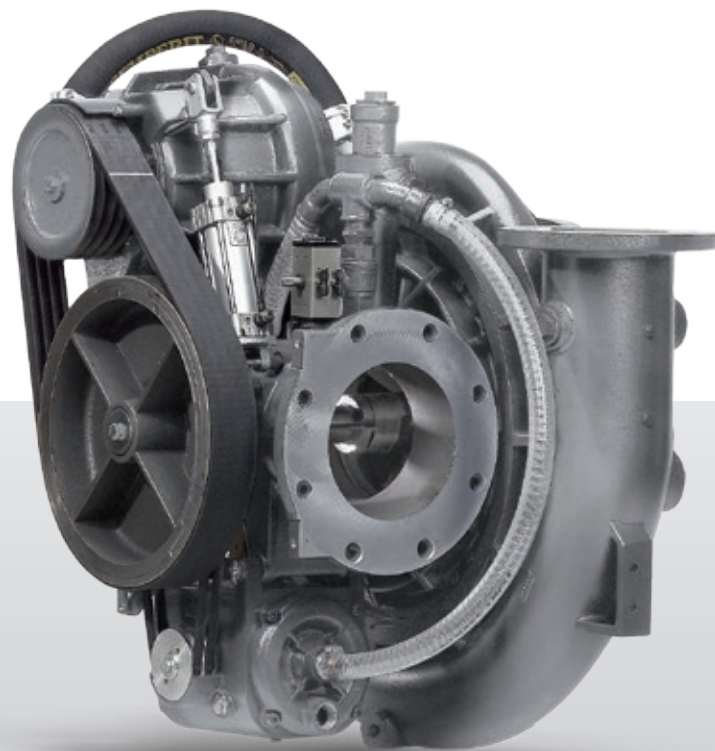
- Supporting unit of the priming pump, high pressure pump and around-the-pump foam proportioning system
- Central drive unit of all auxiliary units
- Water delivery on the highest level of performance

The single stage normal pressure pump convinces through low noise emission and extremely low rotational speed and supplies up to 10,000 lpm (2,640 US gpm) at 10 bar (150 psi).

**Most powerful attack due to high pressure.**

Through the expansion of the N100 with the 4-stage high pressure pump H5 the efficiency of the pump system can be increased multiple. Thus at the same time the entire normal- and high-pressure pump performance can be used.

The field of application of the N100 reaches from airport and industrial fire trucks to stationary pump systems for the hydrant network supply.



### Performance

Pump	Flow rate	Pressure	Drive	Suction height
N100	8,500 lpm	10 bar	175 kW	3 m
N100	10,000 lpm	10 bar	220 kW	Tank suction
H5	500 lpm	40 bar	135 kW	
H5	250 lpm	40 bar	105 kW	



The field of application of the N 100 reaches from airport and industrial fire trucks to stationary pump systems for the hydrant network supply.



### Benefits of the N 100 pump.

- Highest pump performance in normal (up to 10,000 lpm at 10 bar) and/or high pressure area (up to 500 lpm at 40 bar)
- Pump performance up to 14,000 lpm (3,700 USgpm) at 5 bar (72,5 psi) inlet pressure
- Low water hammers through very flat pump characteristics
- Maximum operational safety and low maintenance
- Low noise emission through low rotational speed
- Free combination option with
  - › High Pressure Pump H5
  - › Priming Pump KAP600
  - › Foam Proportioning System FOAMATIC E
- All accessories directly mounted on the pump
- Accessories directly driven from the pump shaft on the suction side
- Robust and user-friendly
- Resistant against dirt
- Highest priming performance through piston priming pump with 600 ccm piston displacement

# Priming performance guaranteed.

## Piston Priming Pump.

The piston priming pump offers the fireman a very efficient and highly robust priming pump. The design as a double action pump guarantees the largest possible failure safety.

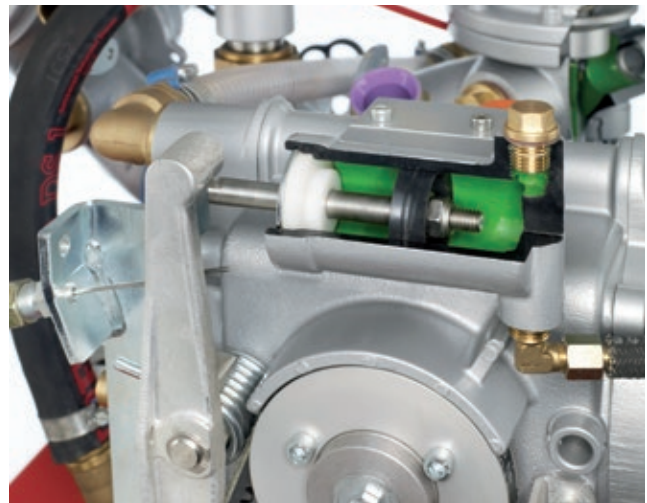


Due to its simplicity and high efficiency the system is used thousands of times all over the world.

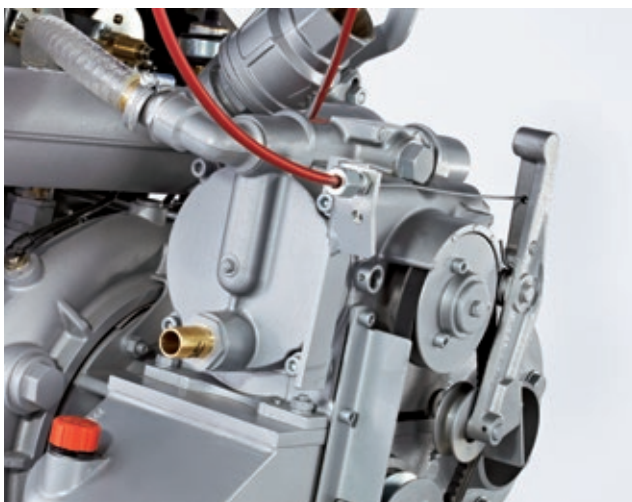


The piston priming pump is mounted on top of the pedestal at direct drive or on the gear box. The drive is implemented over a belt. The piston priming pump can be switched on as needed. It catches the eye through its high priming performance.

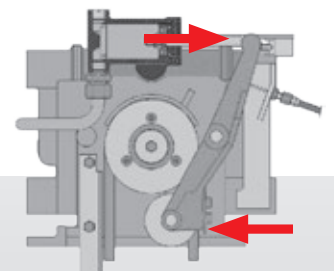
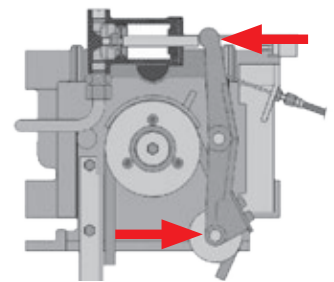
The oil bath lubrication, inlet and outlet valve out of extremely resistant plastic and the design as a double action pump provide a very high operational safety.



Automatic priming on the example of the N/NH series as well as N10 and H5



No water pressure; driving belt under pressure:  
Priming pump in operation



Water pressure over 1.5 bar, driving belt loose:  
Priming pump does not move

### Operation of the automatic priming.

- For the N/NH series as well as N10 and H5: Driving belt of the priming pump is tensioned through a spring
- At R600 and drive over SAE3 gear-box: Electromagnetic clutch switches the piston priming pump over a belt on
- For the N100: Driving belt of the priming pump is tensioned through a cylinder

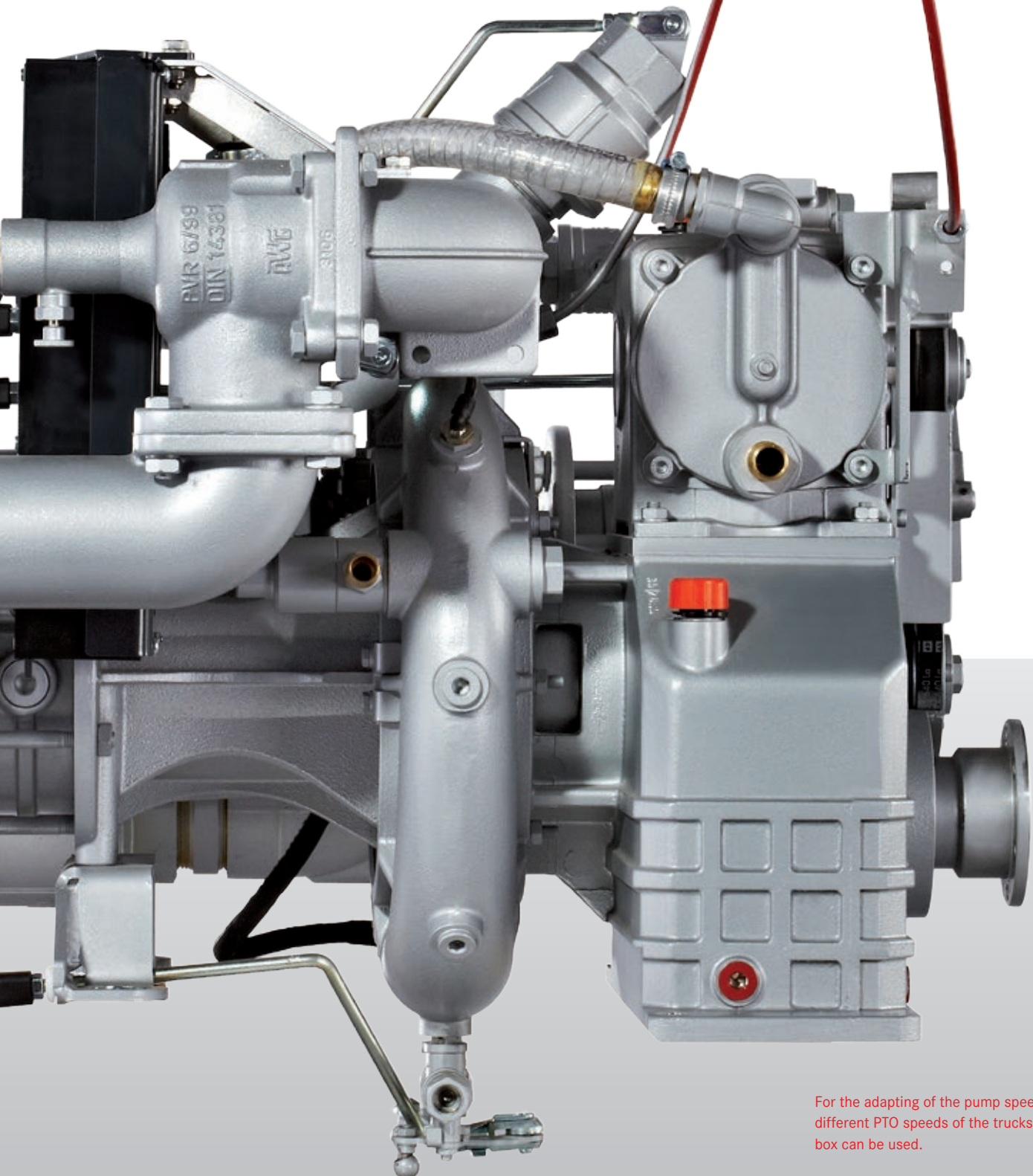
The control of the priming pump depends on the pump pressure. When reaching the priming pressure, the priming pump is disengaged – the priming process is disabled.

### Benefits of the piston priming pump.

- The priming pump is located on the water pump and thus does not always run together with the pump shaft
- Extremely failure safe
- Resistant to contaminated water
- Can be switched on as needed
- Safety through design as double acting piston pump

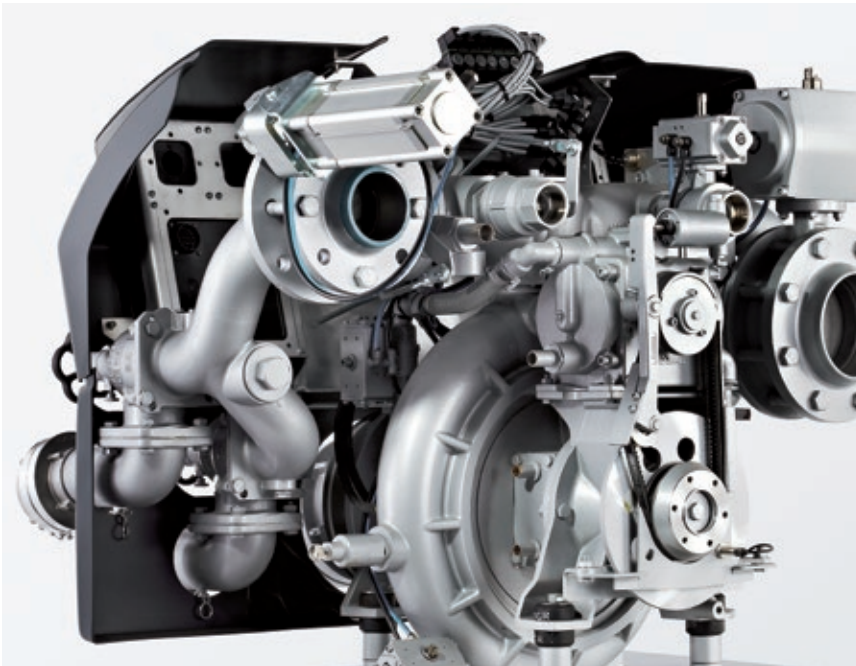
## Flexible drive.

Drive concepts of Rosenbauer pumps.



For the adapting of the pump speed to different PTO speeds of the trucks a gear box can be used.





Direct drive of the pump from the power take-off via pedestal.



Drive of the pump direct from the main drive shaft of the truck via Split-Shaft gear box.

**Drive over pedestal or gear boxes.**

As a standard all pumps are driven by the power take-off (PTO) of the fire truck. Here the pump will be directly driven to achieve the highest possible efficiency and guarantee the lowest noise emission.

For the adapting to different speeds of the PTO a gear box can be used as well. 16 different gear ratios are available.

For the N100 a gear box with 2 gear ratios is available. Thus both rotational directions can be presented.



Surpass larger offsets in the pump drive shaft via offset gear box.

**Drive by separate pump engine.**

Every Rosenbauer pump can be driven by a SAE connection (Standard SAE3, N100 with SAE1). This enables an pump drive independent of the truck engine - important mainly for the pump & roll operation. Furthermore this represents a possibility to realize stationary units.

**Hydraulic drive.**

Every Rosenbauer pump can be driven by a SAE connection through a hydraulic motor. This also enables an pump drive independent of the vehicle – for a pump & roll operation.

**Split Shaft Gear box.**

If no proper power take-off (PTO) is available a split shaft gear box can be used instead. Here the pump is driven by the main drive shaft of the fire truck. This split shaft gear box is available for all pumps (except N100 and R600).

**Offset Gear Box**

If larger distances between the PTO and the pump drive need to be surpassed, the offset gear box is the ideal solution. Distances of 500 mm (19.7”) or 335 mm (13.2”) can be overcome. This offset gear box is available for all pumps (except N100).

# The correct proportioning for every demand.

## Around-the-pump foam proportioning systems.

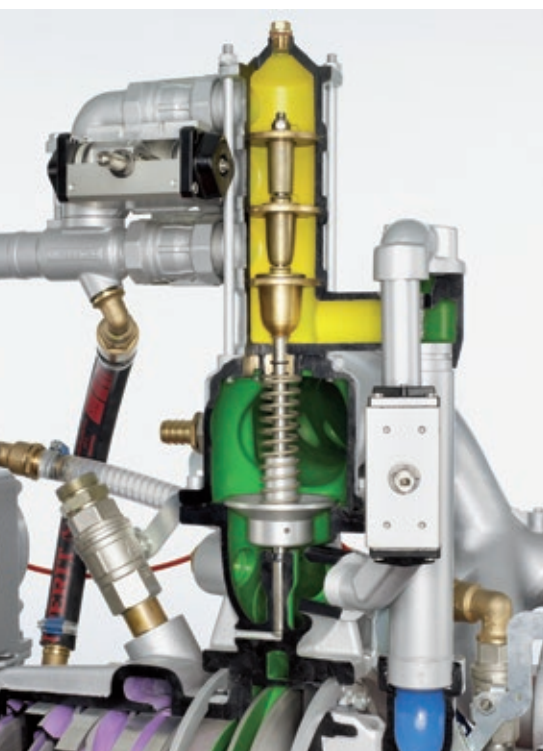
### Around-the-pump foam proportioning system FIXMIX

A mechanical, completely in the pump integrated foam proportioning system is available for the pumps of the N/NH series.

On the normal pressure side up to 3 different proportional rates (free combination between 0.5; 1; 3 and 6 %) can be chosen. The system is available in both in mechanical and pneumatic operation.

### High pressure FIXMIX

This enables to also proportioning of one proportioning rate on the high pressure pump. This system works absolutely mechanic as well. So you can get water on the normal pressure side and foam on the high pressure side at the same time.



3-stage FIXMIX

### Around-the-pump foam proportioning system FIXMIX 2.0

A mechanical, completely in the pump integrated foam proportioning system is available for the N65/ N80 pumps.

The system is available either as mechanically controlled or mechanically pre-controlled and electronically regulated system (FIXMIX 2.0 E). The proportioning can be chosen in 3 rates or stepless (only FIXMIX 2.0 E). It is possible to display the consumed foam concentrate amount after the operation with the FIXMIX 2.0 E.



High pressure FIXMIX

### Around-the-pump foam proportioning system FOAMATIC E

An electric, completely in the pump integrated foam proportioning system is available for the N100 pump.

Hereby the water flow rate and the foam flow rate are measured by magnetic inductive flow meters and continuously adapted to the adjusted proportioning rate, to achieve a correct proportioning.

The proportioning can be chosen in 3 rates or stepless. It is possible to display the consumed foam concentrate amount after the operation.



FOAMATIC E

### Benefits of around-the-pump foam proportioning systems from Rosenbauer.

- Easy to use
- Rosenbauer around-the-pump foam proportioning systems automatically adapt to the water flow as well as to the water pressure
- Systems are field-tested all over the world
- The systems are entirely maintenance-free
- Systems are integrated into the pump and thus work perfectly with the water pump.



## ■ Direct injection foam proportioning systems.



**DIGIMATIC42**

The direct injection proportioning system with electric drive for the smallest proportioning rates at smallest discharge amounts. The design with membrane pumps enables these smallest amounts. Proportioning rates from 0.1 % are possible. The minimum foam amount is 0.1 lpm (0.03 USgpm). Thus the DIGIMATIC is the ideal system to also realize the proportioning of wetting agent. Due to 42 lpm (11.1 USgpm) maximum amount of foam concentrate e.g. a turret can supplied with foam. The adjustment of the proportioning rate is stepless between 0.1 and 6 %. The drive of the foam proportioning system is realized via a 24 V motor. Also a smaller system with a maximum foam proportioning rate of 22 lpm (5.8 USgpm) is available.



**AQUAMATIC**

The AQUAMATIC can be driven without a separate electronic. It is driven by the extinguishing water. The proportioning rate can be adjusted individually on the outlets which are equipped with a venturi proportioner. The adjustment is implemented in stages of 0,5 %, 1 % and 3 % for normal pressure and 1 %, 3 % and 6 % for high pressure. This system is available both for normal pressure and high pressure. The system provides a foam concentrate amount of up to 24 lpm (6.34 USgpm).

The AQUAMATIC 96 is a bigger version with 96 lpm (25 USgpm). This system is only available for normal pressure.



### Benefits of direct injection foam systems from Rosenbauer.

- Easy to control through the Rosenbauer LCS System
- Proportioning over a foam concentrate directly on the outlet – therefore the water pump is free of foam concentrate
- Simultaneous extinguishing with a water-foam mixture and cooling with water possible
- When feeding the water pump the foam proportioning system also works
- For the DIGIMATIC: smallest proportioning amounts for wetting agent use - for breaking of the surface tension
- For the AQUAMATIC: no electric drive energy necessary, simple mechanic system

# Foam proportioning for industrial application.

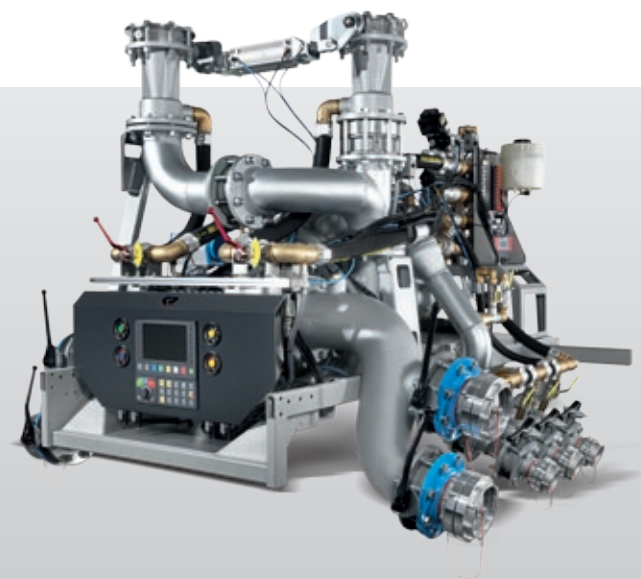
## Balanced pressure foam proportioning for the industry.

The Rosenbauer HYDROMATIC and MIXMATIC represent the balanced pressure foam proportioning systems for the industrial application. The use - especially in chemical plants, refineries, tank farms, etc. - requires a high flexibility in the area of water and foam concentrate usage of the operational units. The systems enable a simple adjustment to the corresponding operational conditions.



### Benefits of the balanced pressure foam proportioning systems.

- Completely foam concentrate free water pumps
- Completely independent outlet in terms of water, foam compound and proportioning rate
- Simultaneous extinguishing with a water-foam mixture and cooling with water possible
- When feeding the water pump the foam proportioning system also works
- Venturi proportioner per pressure discharge – infinite adjustable from 1 to 7 %
- Big amounts of foam concentrate of up to 450 lpm (120 USgpm) or 700 lpm (185 USgpm) can be supplied
- Foam concentrate will only be supplied on demand – no recirculation of foam back to the foam tank



- Systems can be operated either via external foam suction or from up to two foam tanks
- Possibility to fill the foam tank(s) after operation of the systems
- Easy to control through the Rosenbauer LCS 2.0 System



## ■ Rosenbauer CAFS systems.

Water is the most universal extinguishing agent and is used today as often as it has always been. With CAFS (compressed air foam system), the extinguishing effect increases numerous times as compared to just water. CONTI CAFS, SKY CAFS and FLASH CAFS – all systems stand for:

- Unique foam quality: CAFS is very compact and consists of numerous small-sized homogenous bubbles. This ensures maximum cooling, asphyxiation and excellent re-ignition safety.
- Best throw ranges: Contrary to conventional air-foam procedures, the air required for aspiration is not supplied through injection on the nozzle (=passive) but supplied as compressed air (=active). So, the energy is not removed from the extinguishing agent, but rather supplied to it.
- Very simple operation: via Rosenbauer Logic Control System



### CONTI CAFS WR

Regardless of whether it is CONTI CAFS WR 15, 30 or 60, generating air via compressors (hydraulic or direct drive through a belt), the modular concept offers a simple, optimum solution for every situation.

### SKY CAFS

Thanks to its high air content, CAF has considerably lesser weight than pure water or conventional aspirated water-foam mixture. SKY CAFS helps fire fighters reach heights they never thought possible: at least 400 m!

### FLASH CAFS WR/AR

FLASH CAFS WR/AR is the answer to the need for a simple CAFS technology that offers never-before throw ranges with large outputs (air crash rescue vehicles) and significantly increases cost efficiency and extinguishing effect of fire fighting vehicles of various types. FLASH CAFS WR/AR can be retrofitted!

# Easy and ergonomically.

## Operation of the Rosenbauer pumps.

In the development of the control of the Rosenbauer pump series special attention was paid to the ease of operation and ergonomically values.

The operation of the pumps is divided into a mechanical and an electrical operation, as well as in gauges. All control elements are arranged relatively low for easier access.

According to the configuration mechanical and electrical control elements can be configured. Due to the size of the pump only electric control elements have been integrated into the R600 and N 100.

### Mechanical control.

The control elements are designed ergonomically and are adequate for the use with gloves. The corresponding functions of the control elements are engraved and marked by colors.



### ROSENBAUER LCS 2.0 (Logic Control System).

This enables the control of several pump functions as well as the foam proportioning system, CAF-systems and generators.

For a proper control under difficult light conditions or at night, all functions are back-lit.

### Benefits of the operation.

- Easy, ergonomical operation
- All units have a similar user interface and thus are similar in the control, e.g. water pump, foam proportioning system, compressed air foam proportioning system (CAFS), generator, light tower.
- Every Rosenbauer pump has the same control - no adapting necessary
- Condition of the medium and aggregate are marked by colors
- The control panel is back-lit - for bad weather conditions, e.g. working at night



# Special modular system.

## Options.

Through a special modular design the Rosenbauer pumps can be developed according to the customers demands.

This enables to adjust the pump to the different chassis, environments and users.

- **Mechanical overheating protection**  
for normal and/or high pressure pumps the safe protection against overheating
- **Gunmetal design**  
for high corrosion resistance
- **Coupling system Storz, BSS, NH, etc.**  
for regional conditions the corresponding coupling system
- **Pump heating**  
prevents the freezing of the pump during long driving times
- **Pump pressure governor with cavitation alarm** regulates the rotation speed of the engine to maintain a certain pressure - independent from the flow
- **Drive shaft brake** Especially for automatic gear boxes, so that the drive shaft remains in its position when the power take-off drive is switched off.
- **Pump operation panel** different features (manual, electric, ...) - according to customer demand and level of automation



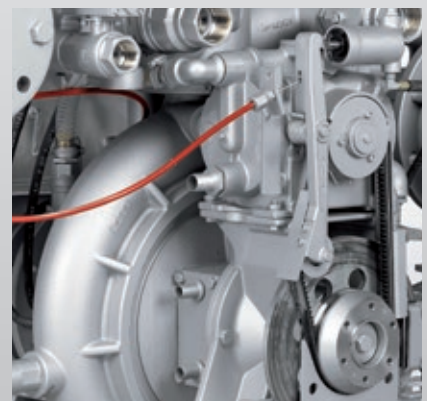
Manual operation



Mecanical overheating protection



Operation with LCS 2.0



Pump heating

# Truck-mounted fire pumps



## Certified according to EN 1028

p	Q	N10	N25	NH25	N35	NH35	N45	NH45	N55	NH55	N65	N80	N100
FPN 10 – 750		x											
FPN 10 – 1000		x											
FPN 10 – 1500		x	x	x									
FPN 10 – 2000			x	x									
FPN 10 – 3000					x	x							
FPN 10 – 4000							x	x	x	x			
10 – 5000*									x	x			
FPN 10 – 6000											x	x	
10 – 8000**												x	
10 – 10000***													x
FPH 40 – 250				x		x		x		x			

EN1028: p = nominal pressure (bar), Q = rated output (lpm)

\*) Pump performance of N55 / NH55 not included in EN1028 - correlates with 10-5000

\*\*) Pump performance of N80 not included in EN1028; correlates with 10-8000

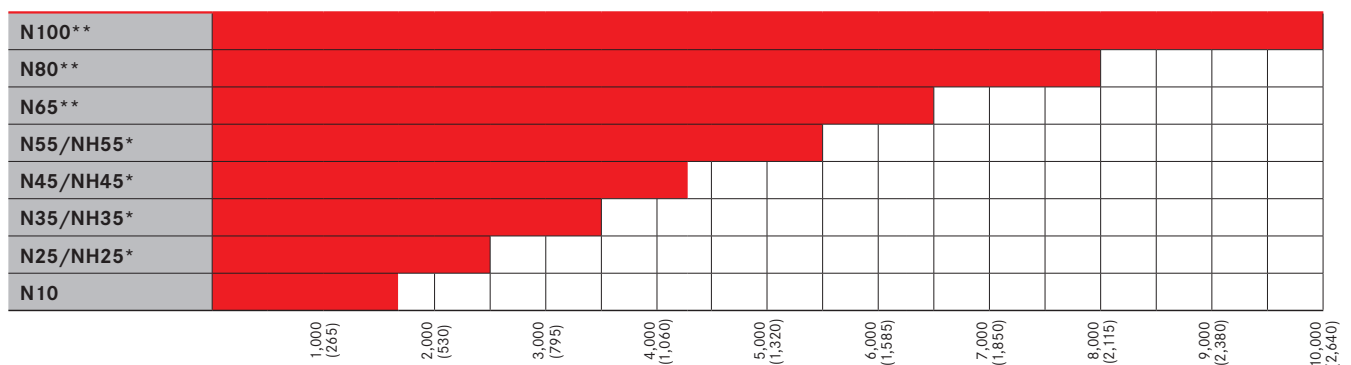
\*\*\*) Pump performance of N100 not included in EN1028; max. pump performance 10,000 lpm (2,640 USgpm) at 10 bar (150 psi) in tank suction operation

## UL classified according NFPA 1901

p	Q	N25	NH25	N35	NH35	N45	NH45	N55	NH55
UL 150 – 500		x	x						
UL 150 – 750				x	x				
UL 150 – 1250						x	x		
UL 150 – 1500								x	x

UL: p = nominal pressure (psi), Q = rated output (USgpm)

## Nominal Pump Performance in lpm (USgpm)



\*) at NH-series also high pressure performance up to 400 lpm (105 USgpm) at 40 bar (600 psi) possible

\*\*) high pressure pump H5 with a performance of up to 500 lpm (132 USgpm) at 40 bar (600 psi) optional available