



Built-In Pumps



DocuSigned by:

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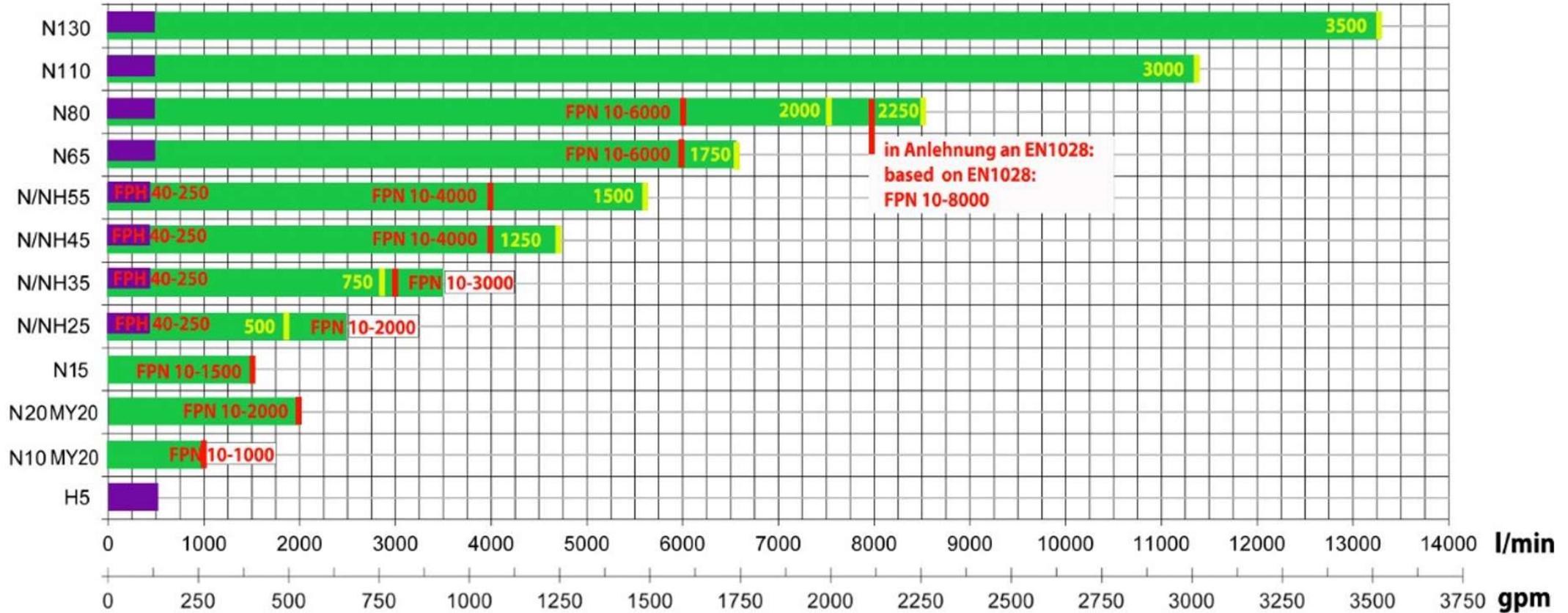
DS

Rosenbauer International AG
Paschinger Straße 90
4080 Leonding, Austria



BUILT-IN PUMPS

Overview



nach EN 1028 / according EN 1028 (bar - l/min)

UL classified nach NFPA 1901 - according NFPA 1901 (gpm)

Durchflussmenge/ Flow

BUILT-IN PUMPS

Built-In Pumps

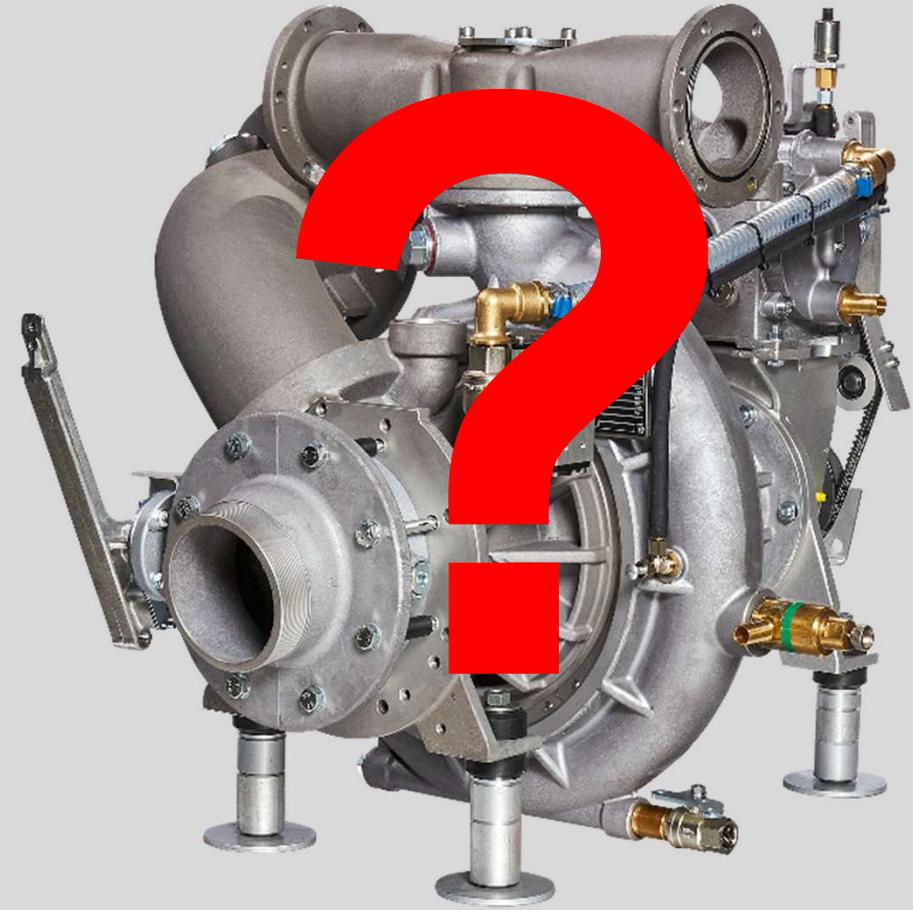
- Rosenbauer offers a wide range of Built-In Pumps for every application. From normal-pressure, combined normal- and high pressure as well as high pressure pumps.
- Different drive options are available
- Each pump is individually tested according the specified standard.
- The pumps fulfill equally the requirements of volunteer fire departments, professional fire departments, industrial fire departments and airport departments worldwide.



A built-in pump for every application



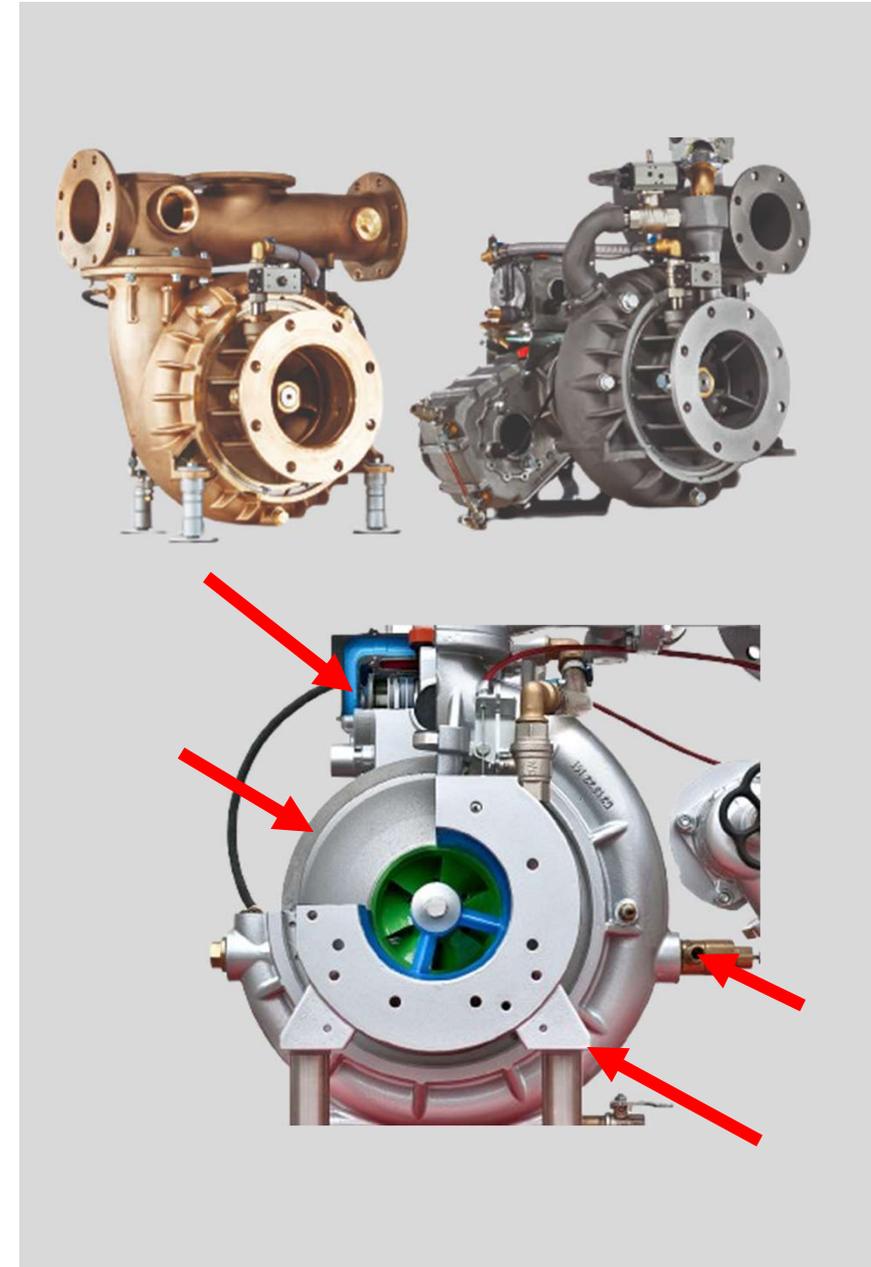
How to Specify



BUILT-IN PUMPS

How to specify?

- Rosenbauer pumps impress with a **minimum water-hammer during opening and closing discharges** due to a very flat pump curve
- Standard material is a **corrosion resistant, light weight light alloy**, for longer **seawater use**, **gunmetal** is also available as pump material
- Spiral housing and implemented water-stripping edges together with 3 dimensional shaped impellers guarantee best efficiency to best use the available power.
- The **mechanical sealing** guaranty **maintenance-free** operation.
- The suction cover is mounted via circlip system for easy disassembly in case of pump service.
- The double acting piston pump is dirt resistance and guarantee best priming performance.
- An overheating protection system guarantees a protection of the pump and nozzle operator



BUILT-IN PUMPS

How to specify?

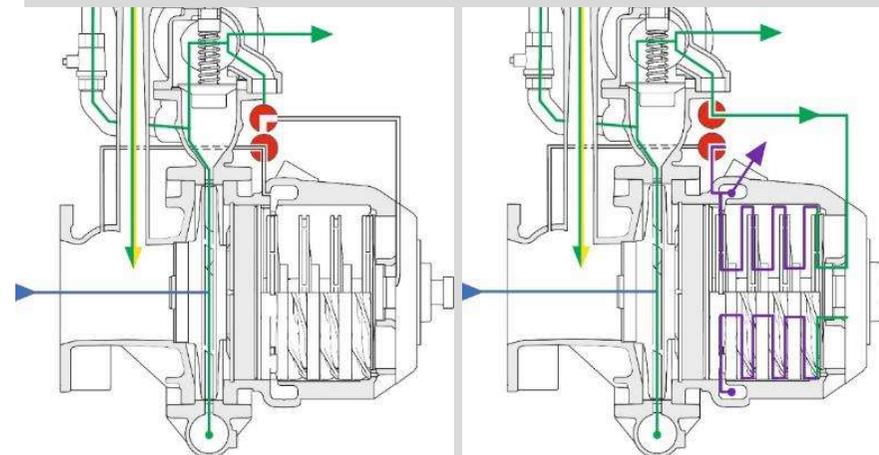
- The FIXMIX 2.0 around-the-pump foam system adopts **automatically to pump flow and pressure**. 2 or 3 admixing rates are possible.
- The operation of the pump can be realized **from fully mechanical to fully electrical** – depending on the requirements.
- All operation elements are **color coded** (mechanical as well as electronic operation).
- The LCS operation system guarantees the same operational logic for all systems on the truck: pump, pressure governor, foam system, lights,
- A fully integrated pressure governor is available with the LCS and LCS Compact system.



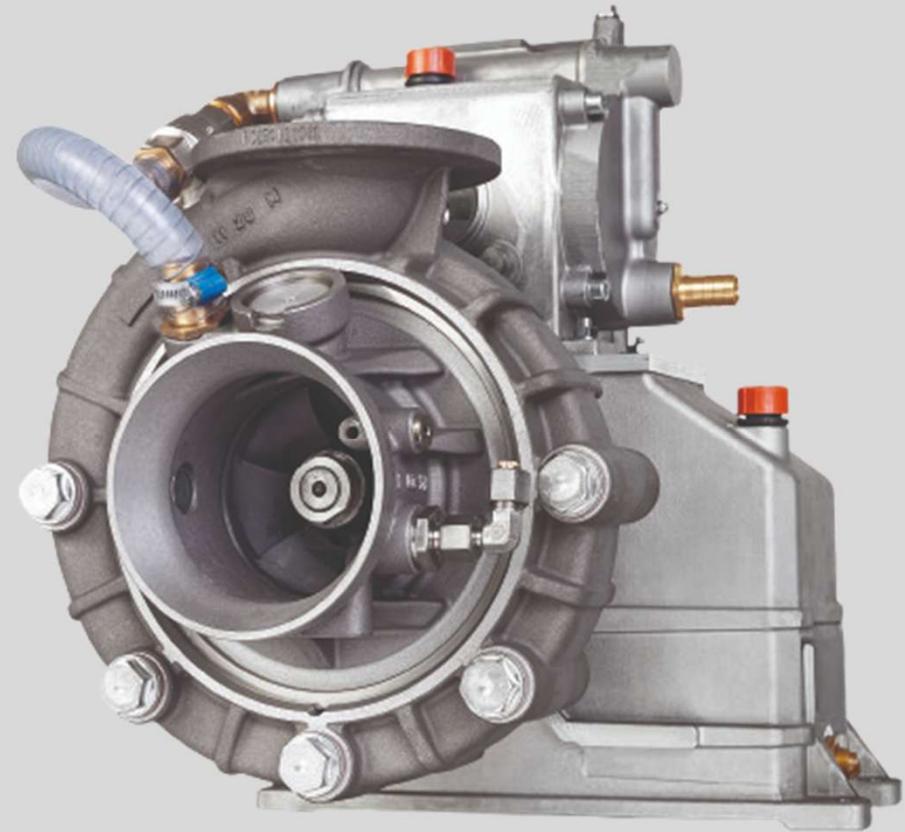
BUILT-IN PUMPS

Rosenbauer High Pressure - How to specify?

- Centrifugal style high pressure stage
 - Reduced water hammer when opening and closing discharge due to flat pump curve
 - Insensitive against dirt
- NHx5 series
 - On one common shaft with the normal pressure stage
 - Easy activation of the high pressure by opening the water flow to the pump
 - No additional clutch necessary for activation
- Very good foam quality (CAFS like) with HP-FIXMIX and NePiRo + foam attachment
- Possibility to overcome long distances (up to 1,000 m) with high pressure hose (Storz38), e.g. for Wildfire extinguishing
- Additional options: extinguishing lance and washing lance



N10/N20 Series MY20



N10/N20

N10/N20

The compact all-round package.

- Single stage normal pressure pump
- low power requirement
- compact unit – especially for underfloor-installation (also possible for engine-pump module)
- no pump operation panel available
- for rear-mount: use N15 or N25
- gear box required to adapt to different PTO speeds
- around-the-pump foam proportioning system FIXMIX 2.0 (optional)

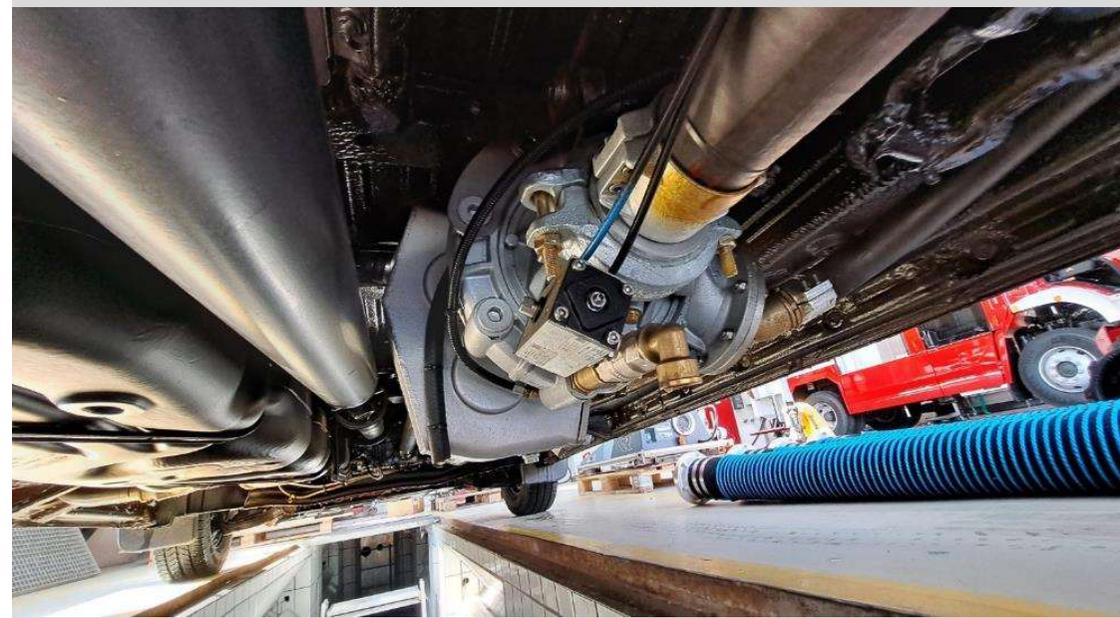


N10/N20

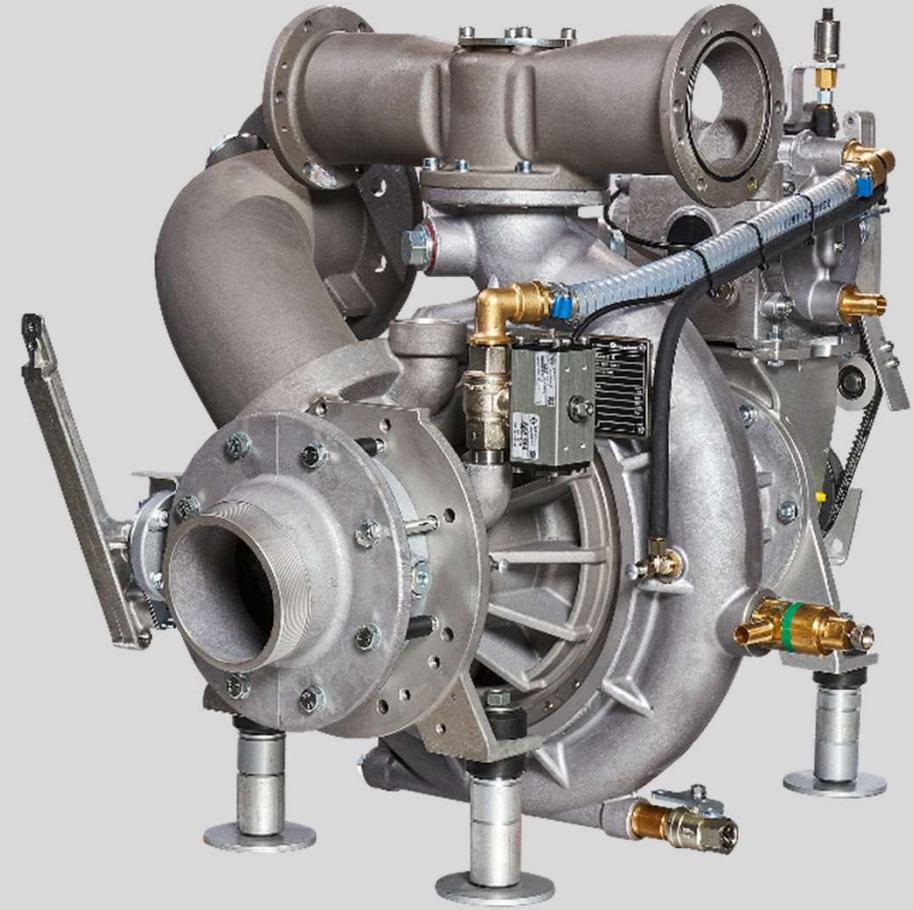
N10/N20 series

Pump performance NP

- N 10: 1,000 lpm at 10 bar
- N 20: 2,000 lpm at 10 bar
- at 3 meters suction height (with right size suction lines)
- Pump speed: appr. 6,000 RPM



Nx5 Series

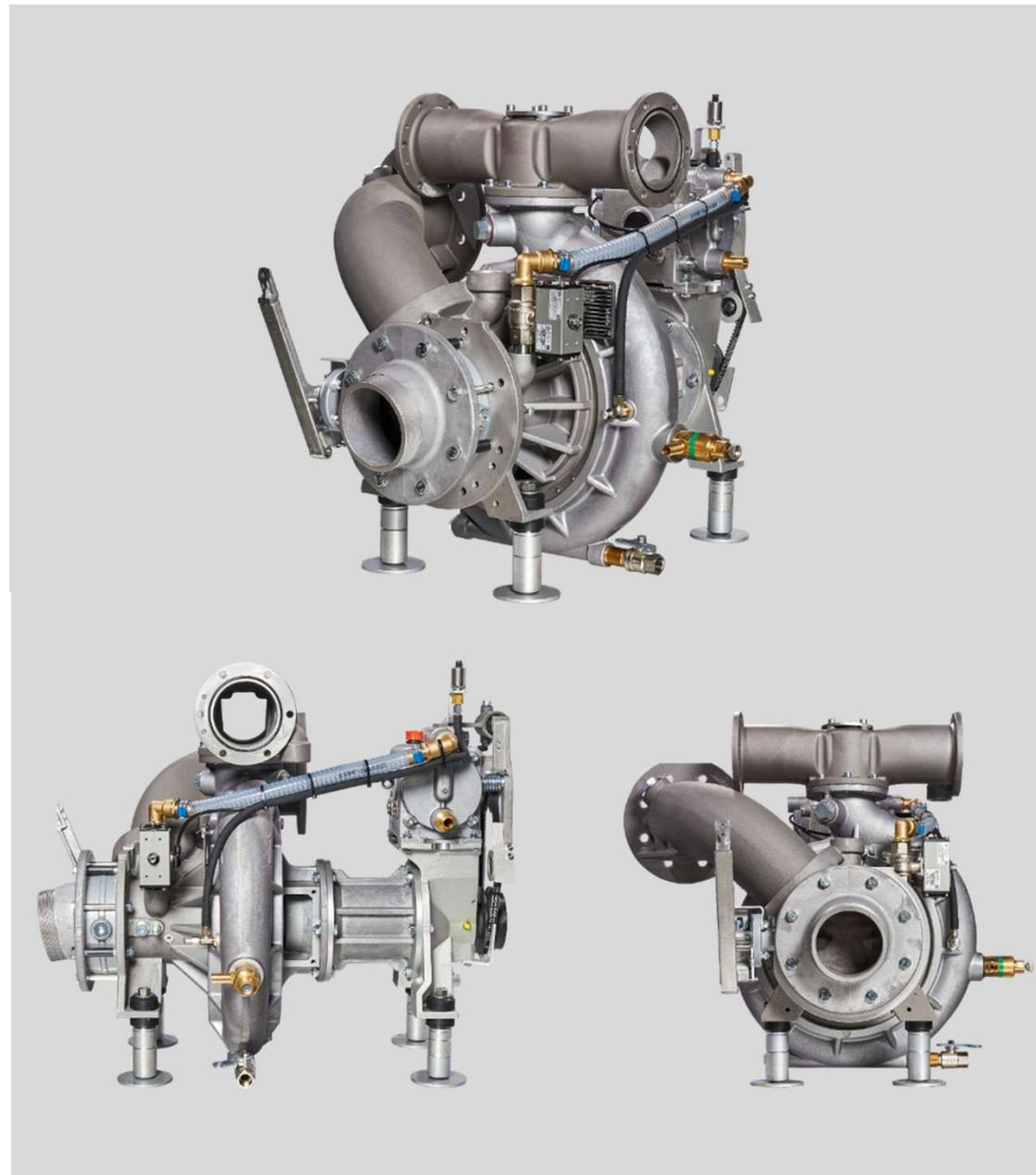


NX5 SERIES

Nx5 series

Equipped for every scenario.

- Single stage normal pressure pump
- noise reduction due to low pump speed, mounting on rubber mounts
- spiral housing with distributor and central pressure outlet
- in 80% no gear-box is necessary – saves weight, reduces noise and need less maintenance
- around-the-pump foam proportioning system FIXMIX 2.0 (optional)
- N15 added with MY20 – also available with only 2 rear discharges (also for N25/ NH25)



NX5 SERIES

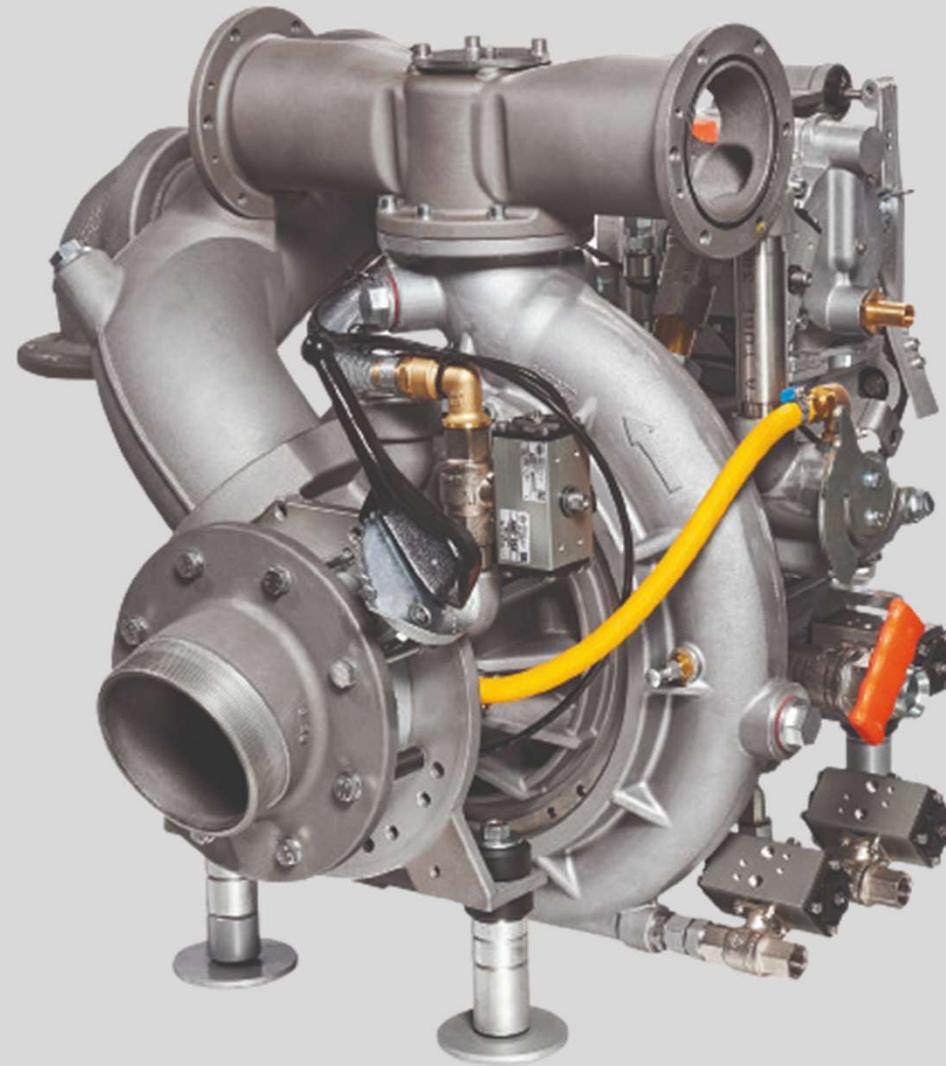
Nx5 series

Pump performance NP

- N 15: 1,500 lpm at 10 bar
- N 25: 2,500 lpm at 10 bar
- N 35: 3,500 lpm at 10 bar
- N 45: 4,250 lpm at 10 bar
- N 55: 5,500 lpm at 10 bar
- at 3 meters suction height (with right size suction lines)
- Pump speed: appr. 3,000 RPM



NHx5 Series



NHX5 SERIES

NHx5 series

Equipped for every scenario.

- Single stage normal pressure pump
- 4 stage high pressure centrifugal pump
- normal- and high pressure on one common shaft
- noise reduction due to low pump speed
- spiral housing on NP side with distributor and central pressure outlet
- around-the-pump foam proportioning system FIXMIX 2.0 (optional)
- HP-FIXMIX for “CAFS-like” foam (optionally)



NHX5 SERIES

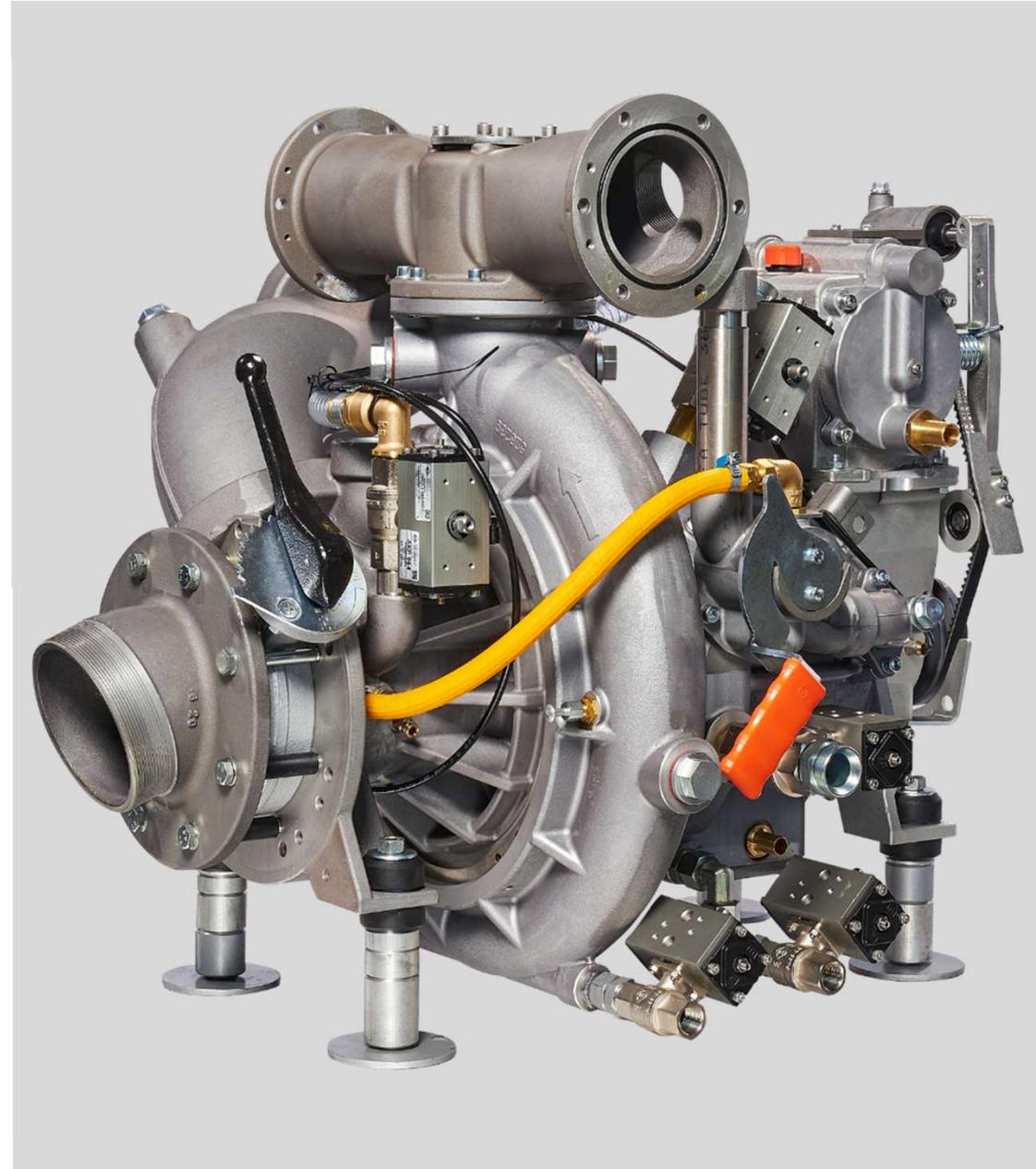
NHx5 series

Pump performance NP

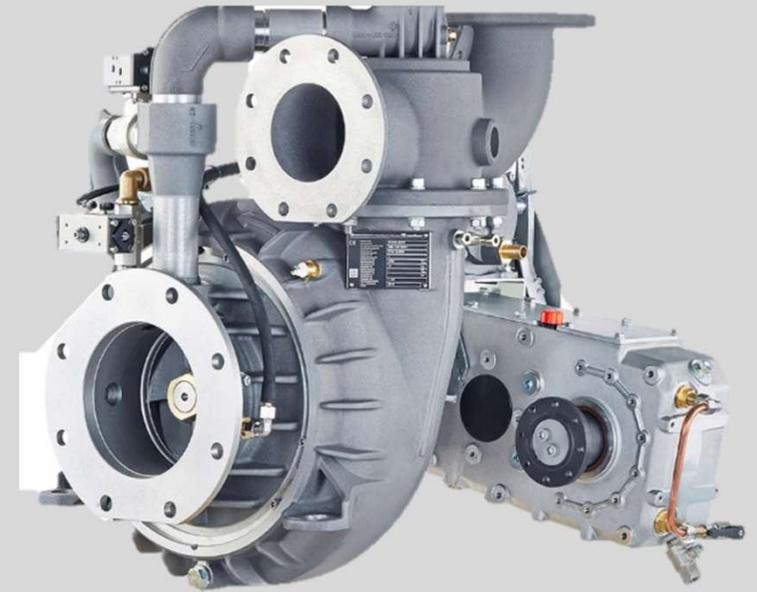
- NH 25: 2,500 lpm at 10 bar
- NH 35: 3,500 lpm at 10 bar
- NH 45: 4,250 lpm at 10 bar
- NH 55: 5,500 lpm at 10 bar
- at 3 meters suction height (with right size suction lines)
- Pump speed: appr. 3,000 RPM

Pump performance HP

- up to 400 lpm at 40 bar (with 2 HP discharges)
- Pump speed: appr. 3,200 RPM



N65/N80 Series

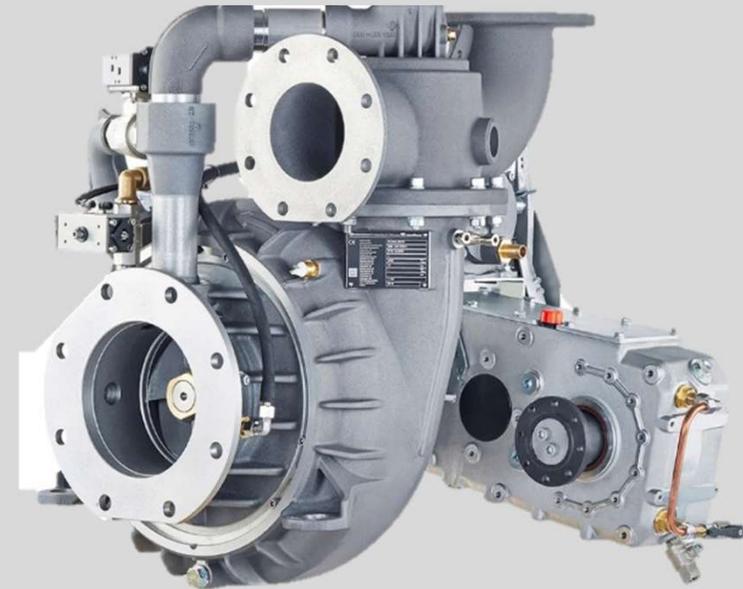


N65/N80

N65/N80 series

Compact pumps for powerful performance.

- Single stage normal pressure pump
- High pump capacity on a compact pump
- spiral housing with distributor and central pressure outlet
- same dimensions on N65/N80
- around-the-pump foam proportioning system FIXMIX 2.0 (optional)



N65/N80

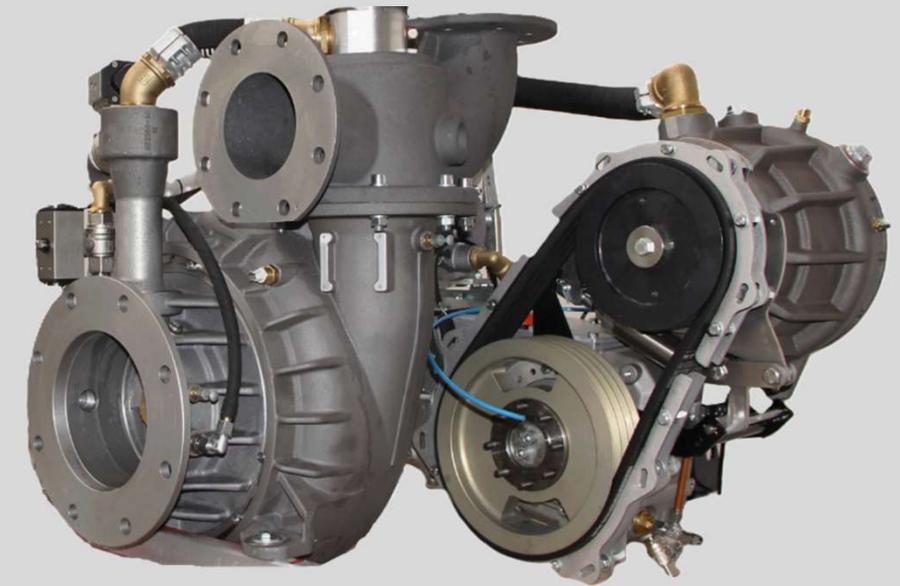
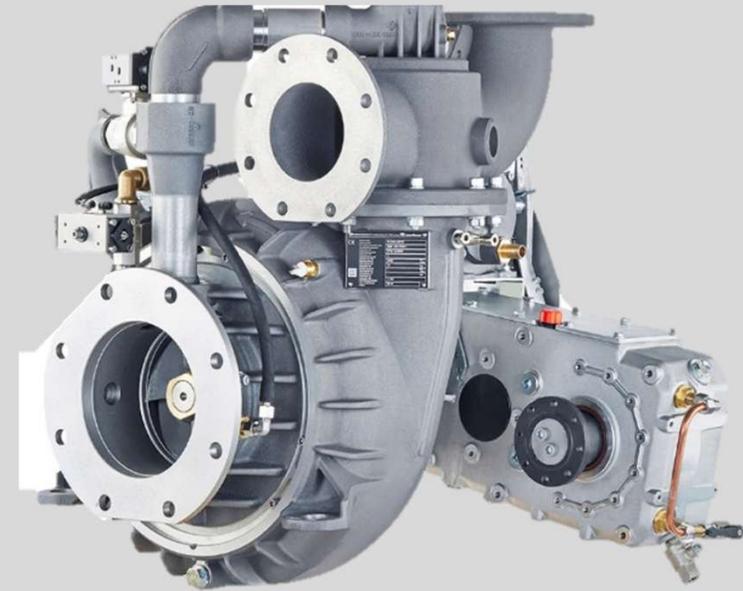
N65/N80 series

Pump performance NP

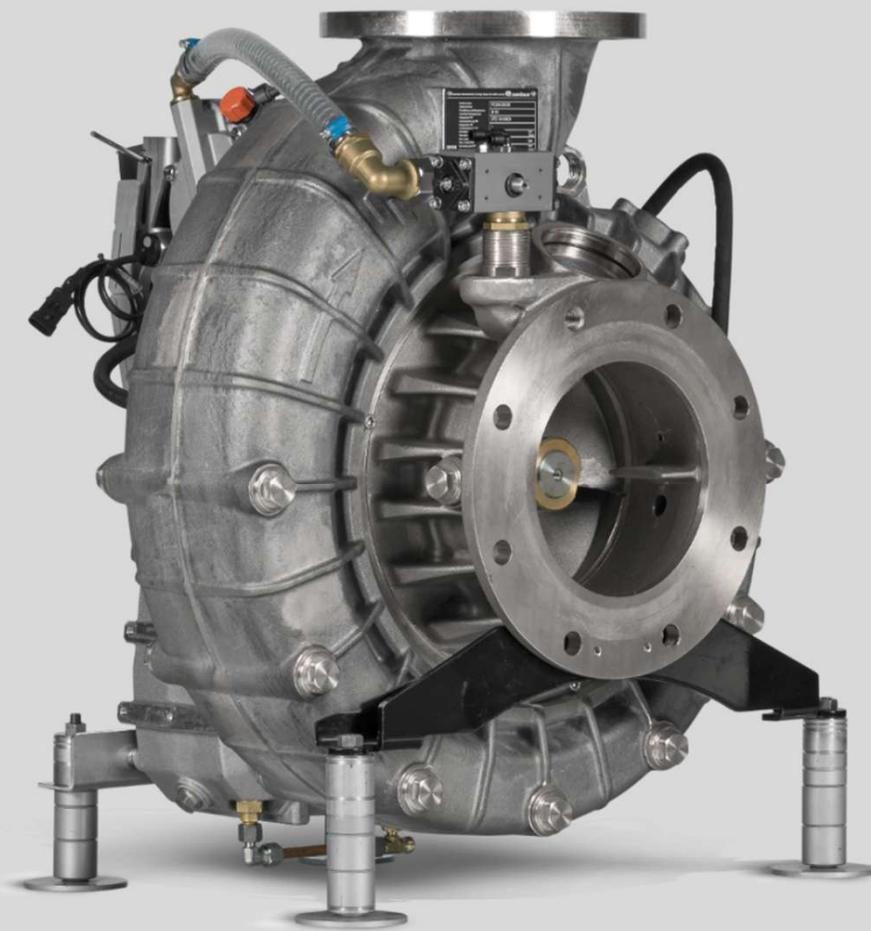
- N65: up to 6,500 lpm at 10 bar
- N80: up to 8,000 lpm at 10 bar

Pump performance HP

- add-on high pressure pump H5 (optional) up to 500 lpm at 40 bar
- belt driven from gear-box RGB335 or RGB182



N110/N130 Series



N110/N130

N110/N130 series

Highest outputs for the highest demands.

- Single-stage normal pressure pump
- high performance for high demand
- compact dimensions for the high performance
- piston pump KAP600E (for highest priming performance, KAP210E on Panther 8x8)
- around-the-pump foam proportioning system FOAMATIC E (optional)



N110/N130

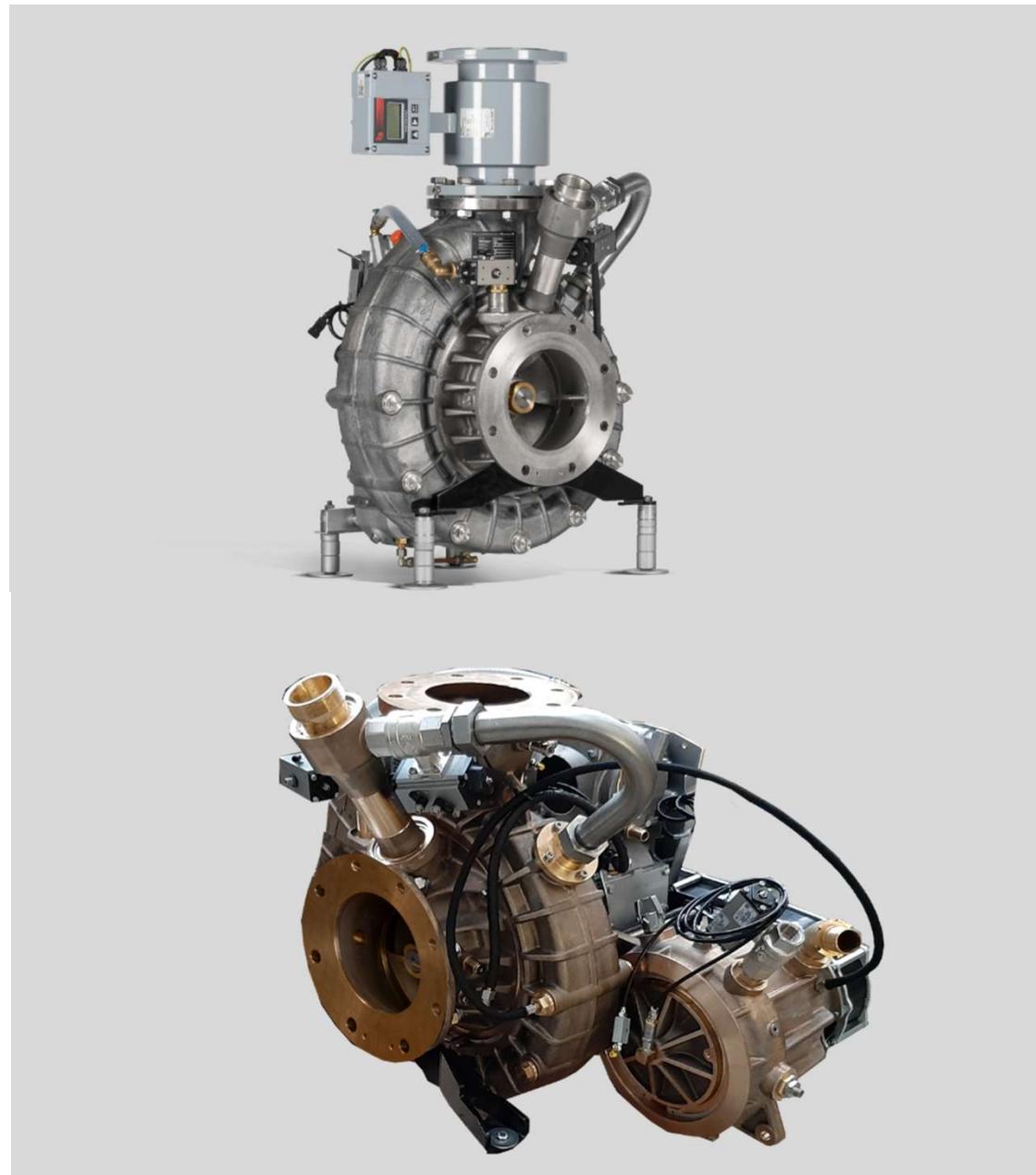
N110/N130 series

Pump performance NP

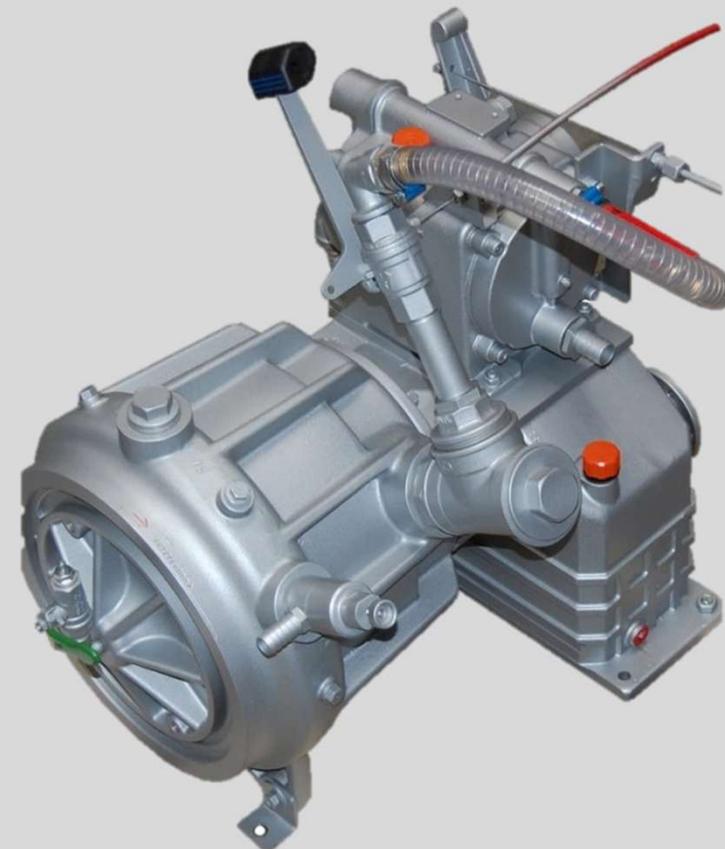
- N110: up to 11,000 lpm at 10 bar
- N130: up to 13,000 lpm at 10 bar
 - **Up to 20.000 lpm with a feeding pressure of at least 4 bar** (on pump inlet)
- almost no water hammers due to flat pump characteristic

Pump performance HP

- add-on high pressure pump H5 (optional) up to 500 lpm at 40 bar
- belt driven from gear-box RGB335 or RGB182



H5



H5

H5

The compact high pressure package.

- 4-stage high pressure pump
- high pressure firefighting on small vehicles
- pump output up to 500 lpm @ 40 bar
- compact dimensions and low weight
- possibility to built in as underfloor pump – saves space – additional place for equipment
- gear-box to adapt to different PTO speeds
- optionally: HP-FIXMIX (1 rate)



Drive options

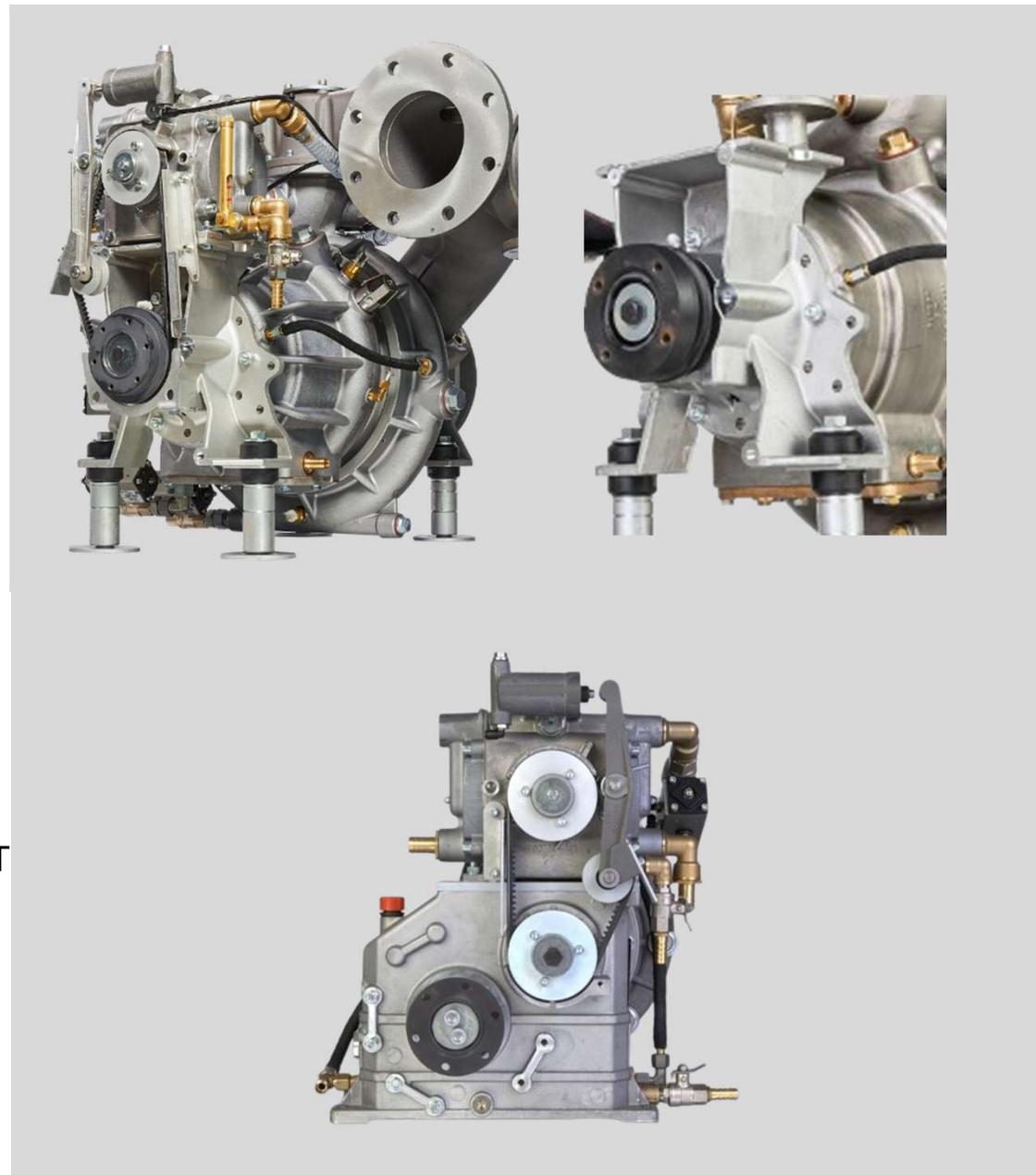


DRIVE OPTIONS

Drive Options

PTO driven

- Depending on the requirements, different solutions are available
- Drive via drive shaft from PTO
 - Direct drive (Lantern) for N/NHx5 pump
 - No gear-box needed: saves cost, maintenance and noise
 - Possible at appr. 80% of the N/NH series pumps
 - Gear box 89
 - For N/NHx5 if the PTO ratio does not fit, or at MT
 - For N10/N20 for smallest possible design
 - For H5 pump

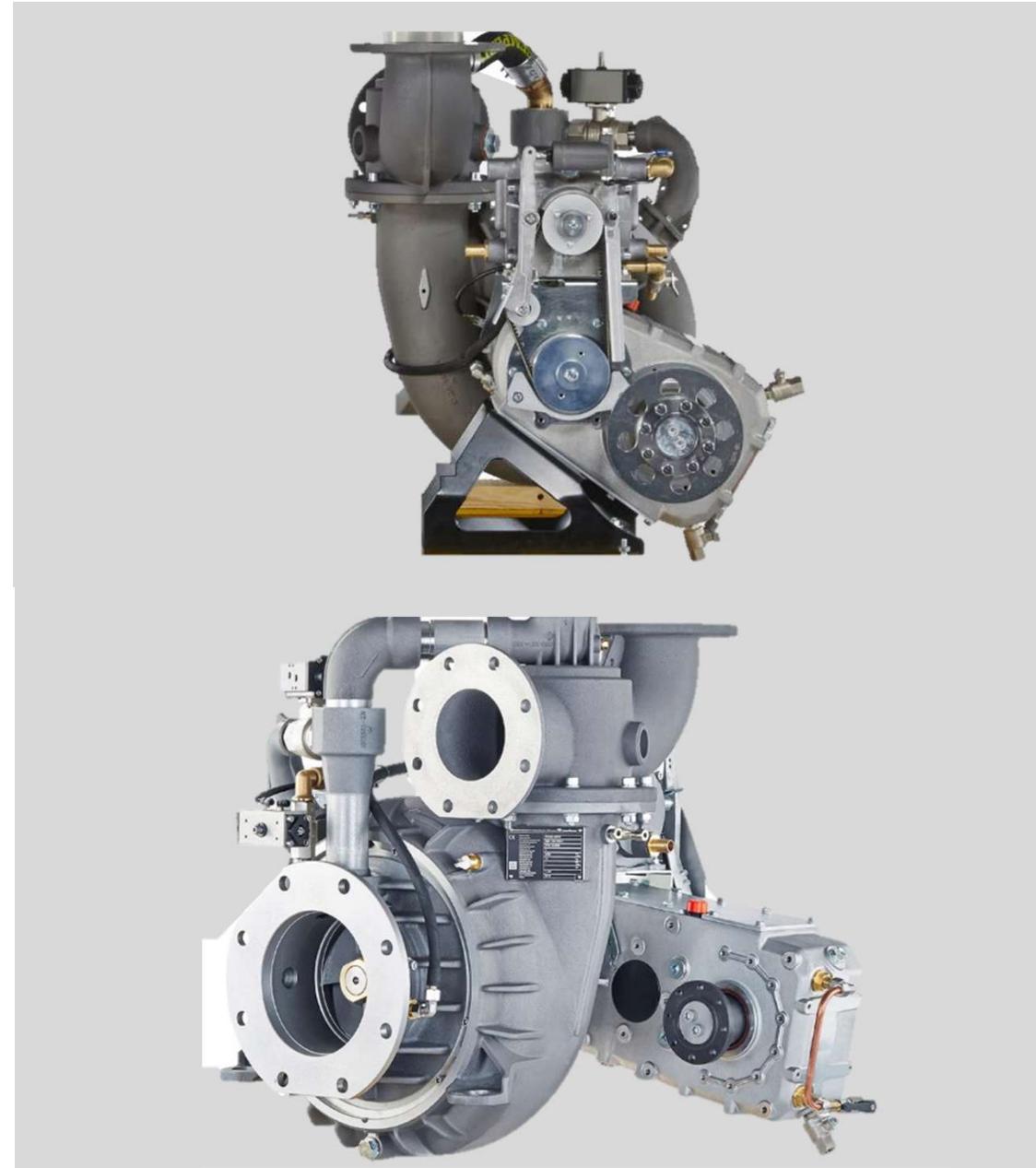


DRIVE OPTIONS

Drive Options

PTO driven

- Drive via drive shaft from PTO
 - Gear box RGB182
 - For N65 – N130
 - For N/NHx5 with CAFS belt driven
 - Gear box RGB335
 - To overcome bigger offsets in the driveline – arrangement
 - If the driveline comes from the suction side (e.g. PANTHER 6x6)

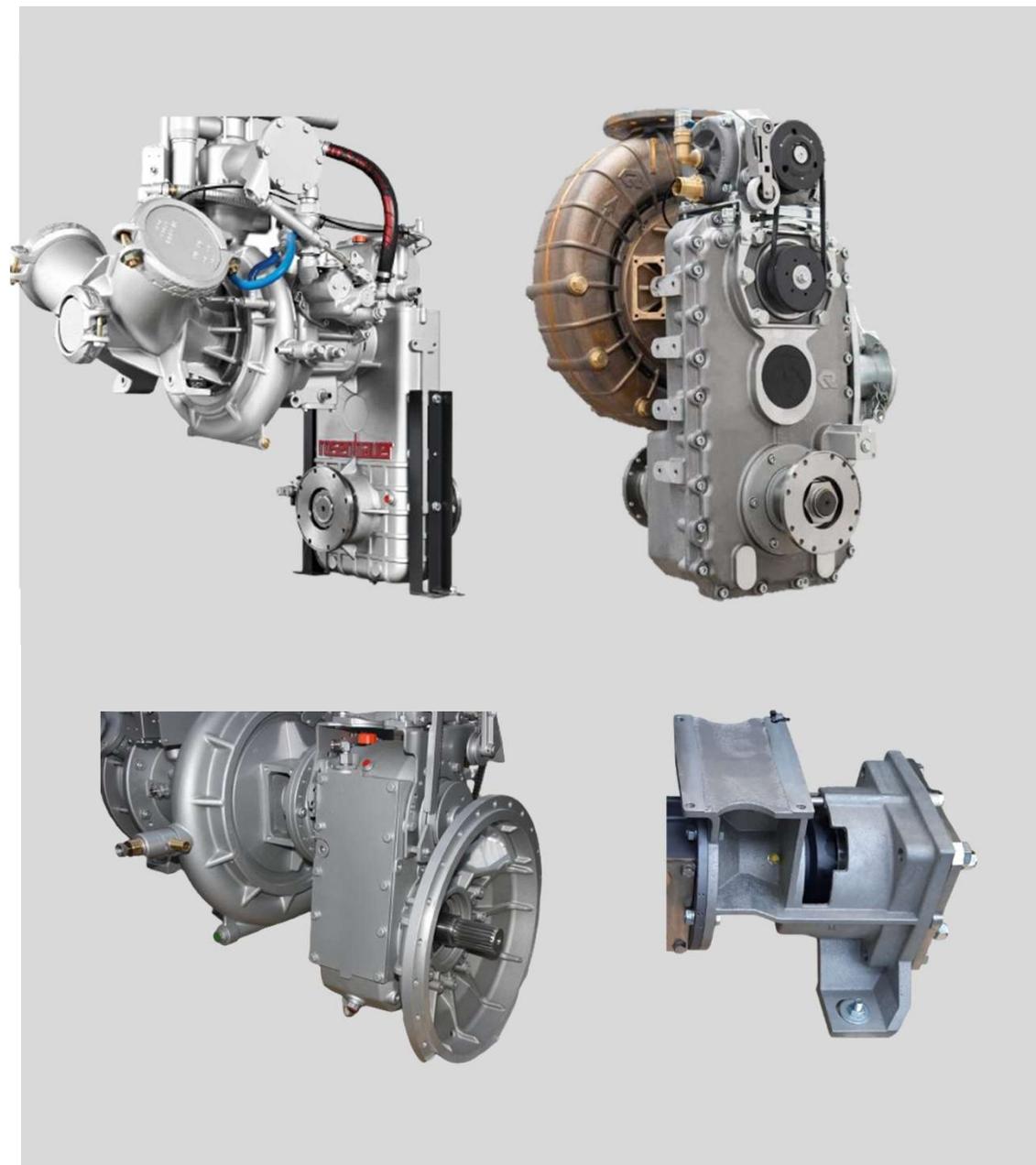


DRIVE OPTIONS

Drive Options

Split-Shaft / via Pump Engine / Hydraulic

- Drive via the main drive shaft: full engine power to pump
 - Split-Shaft Gearbox RSG399
 - For N/NHx5 series
 - Split-Shaft Gearbox RSG450
 - For N65/N80/N110/N130
- Drive via separate pump engine
 - SAE3 flange for Gear box 89
 - For N/NHx5 series
 - SAE3 flange for RGB182
 - For N65/N80/N110/N130 (all without H5 pump)
- Hydraulic drive preparation for N/NHx5 series



Priming Pump



PRIMING

Piston Priming Pump

Rosenbauer KAP

- Centrifugal pump can not prime by itself – separate priming system is necessary
- double acting piston priming pump - for fail safe
- is mounted above the pump shaft - parts are not moving during operation of the pump, easily accessible
- priming pump is driven via belt from the pump shaft
- eccentric moves the pistons
- material: light alloy
- automatic priming option
 - Stops automatically if appr. 1.5 bar are reached in the pump



PRIMING

KAP Version

KAP210P

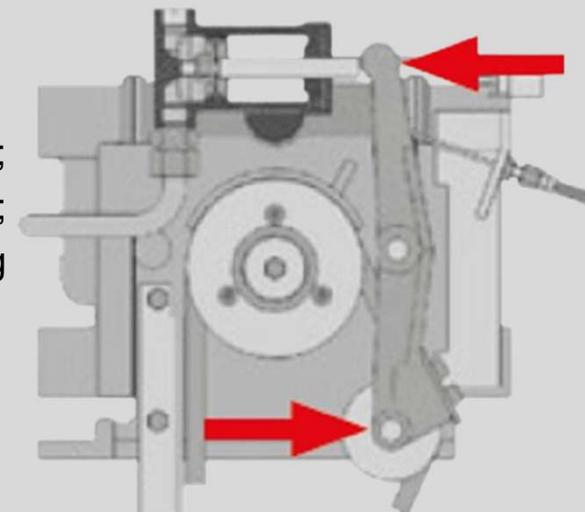
- Priming system for: N/NH series, H5 and N65/ N80
- KAP210P (professional) is mounted above the gearbox or pedestal (at N/NH x5 series possible)
- is driven via v-belt, will be tensioned and un-tensioned via lever (switch on and off)
- if KAP210P is not used – belt is always un-tensioned

KAP210E

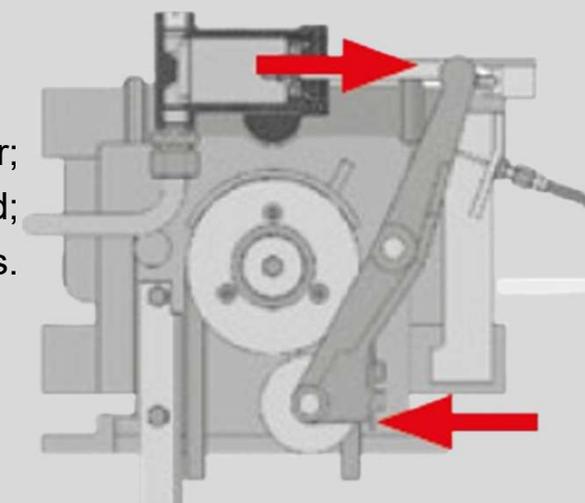
- Is driven via tooth belt and activated via an electric-clutch (switch on and off)
- priming system for: CAFS units (belt driven) and N110 in Panther 8x8



KAP210P: No water pressure;
drive belt tensioned;
priming pump is running



Water pressure over 1.5 bar;
drive belt is relieved;
priming pump stops.

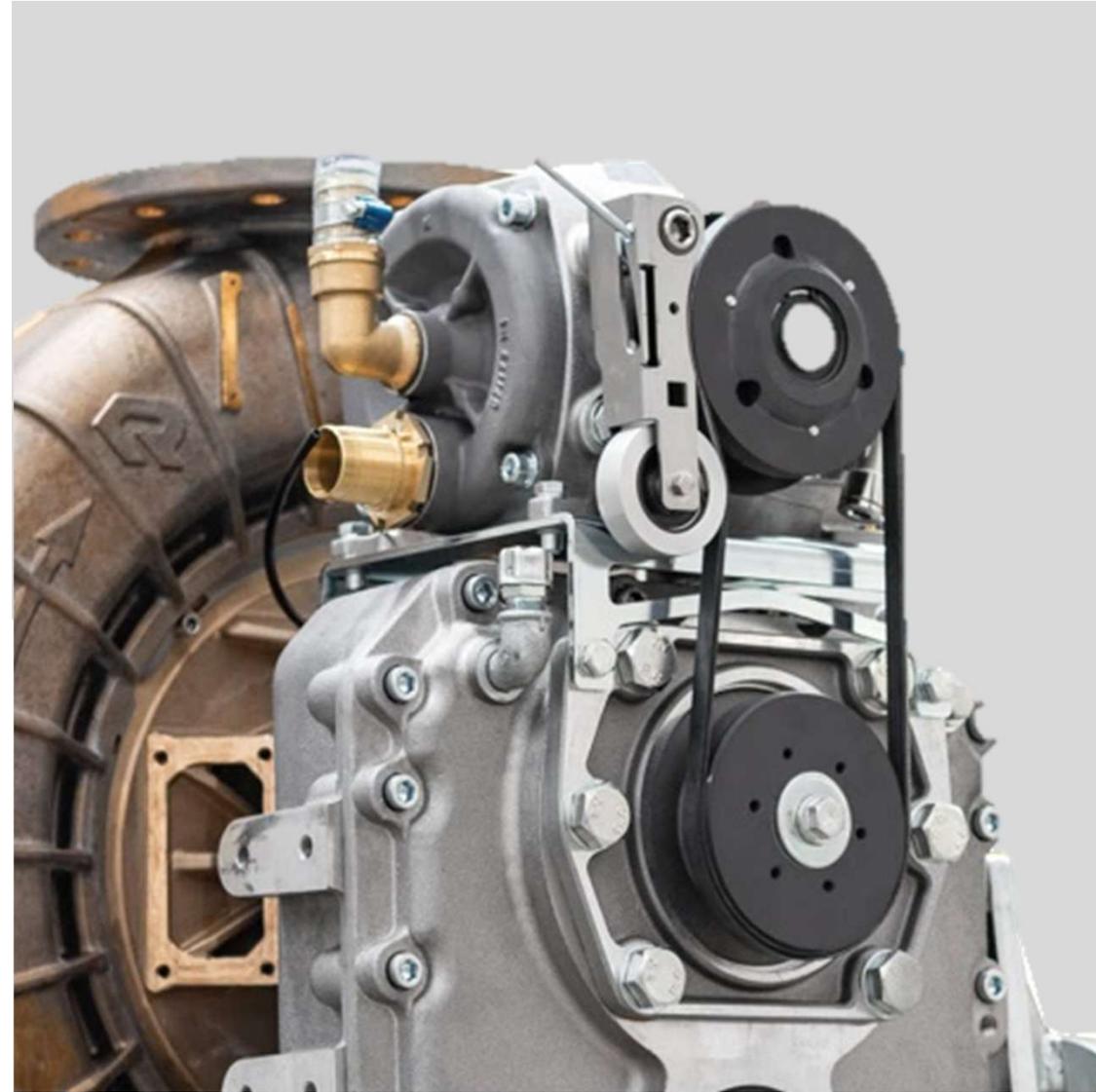


PRIMING

KAP Version

KAP600E

- Higher priming performance
- Priming system for: N110 and N130 and drive with RSG450
- KAP600E is mounted above the gearbox
 - except SP/SPA: here it is mounted underneath the gear box
- is driven via tooth belt and activated via clutch (switch on and off)

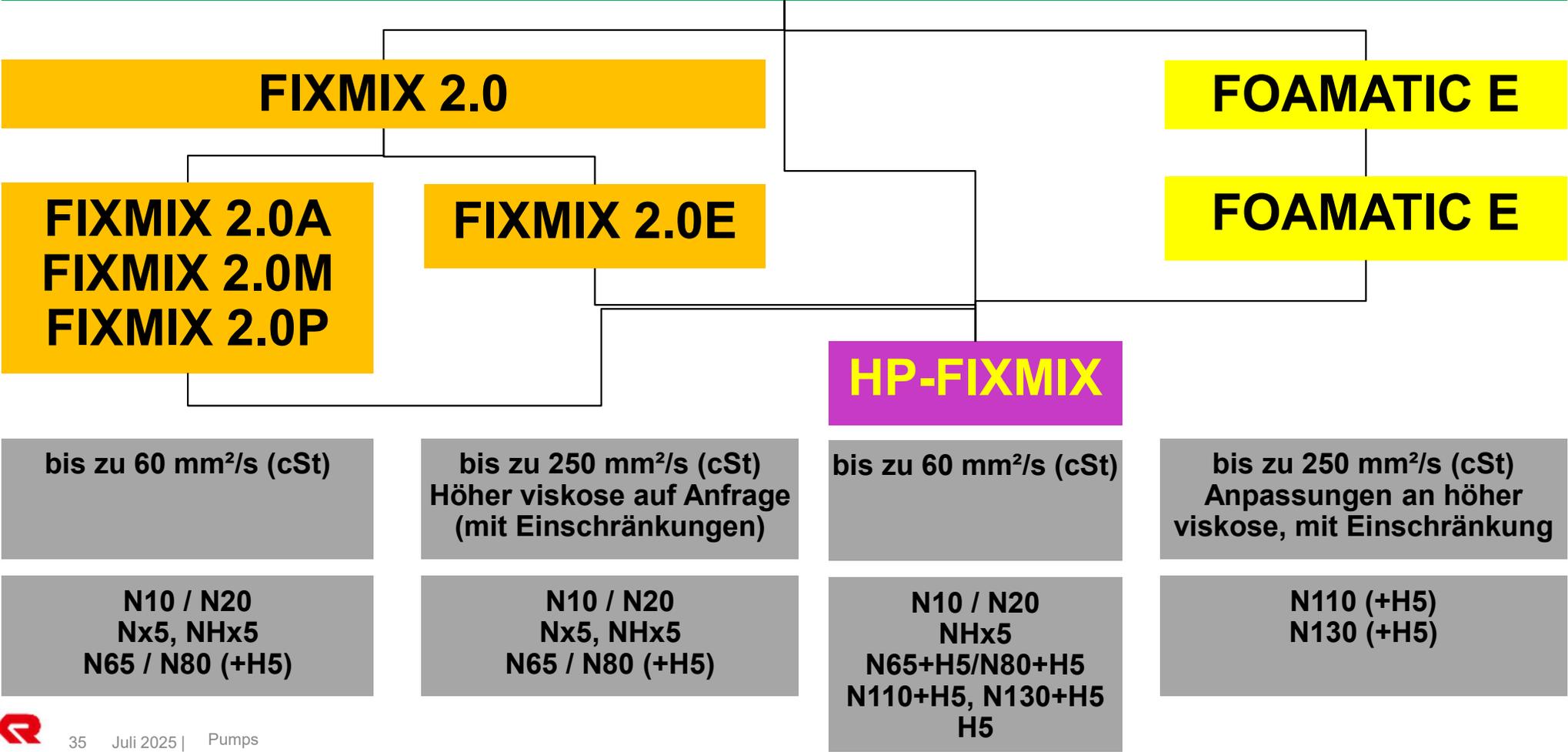


Around-the-Pump Foam Proportioning Systems



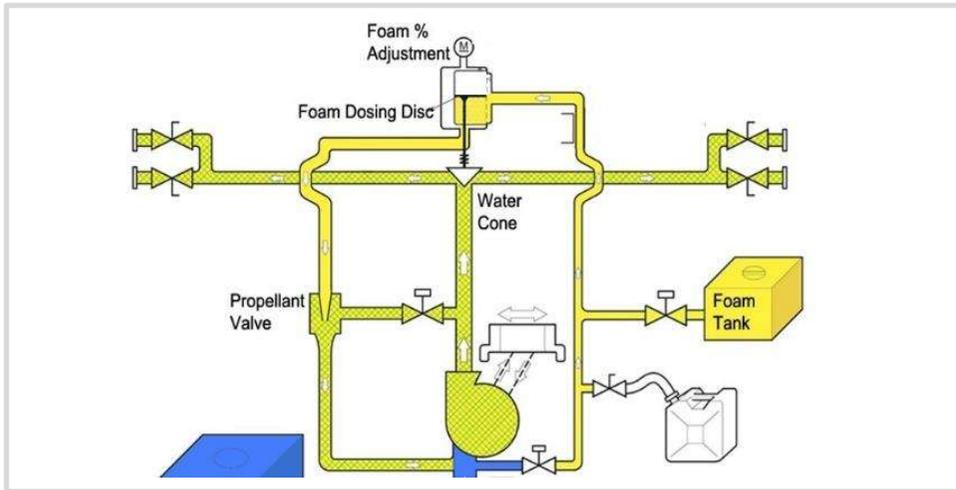
AROUND-THE-PUMP FOAM PROPORTIONING

Around-the-Pump Foam Proportioning Systems



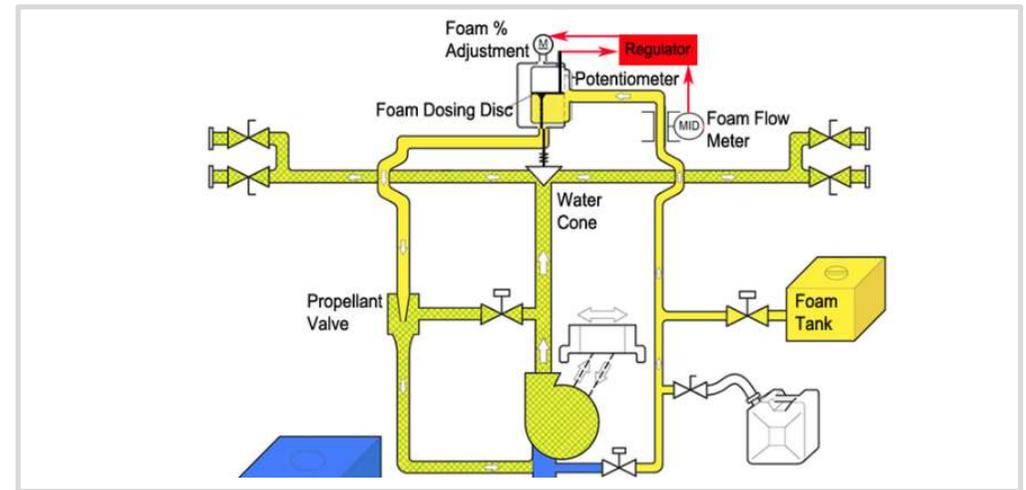
AROUND-THE-PUMP FOAM PROPORTIONING

Foam Proportioning Possibilities



Controlled System

- FIXMIX 2.0 M/ P/ A
- Foam proportioning adjustment to a pre-adjusted value
- For foam concentrates with a viscosity up to 60 mm²/s (cSt)



Regulated System

- FIXMIX 2.0 E, FOAMATIC E
- Foam proportioning adjustment to a pre-adjusted value, afterwards active re-adjustment according to the flows
- For foam concentrates with a viscosity up to 250 mm²/s (cSt) (higher viscose foam concentrates on request, with restrictions)



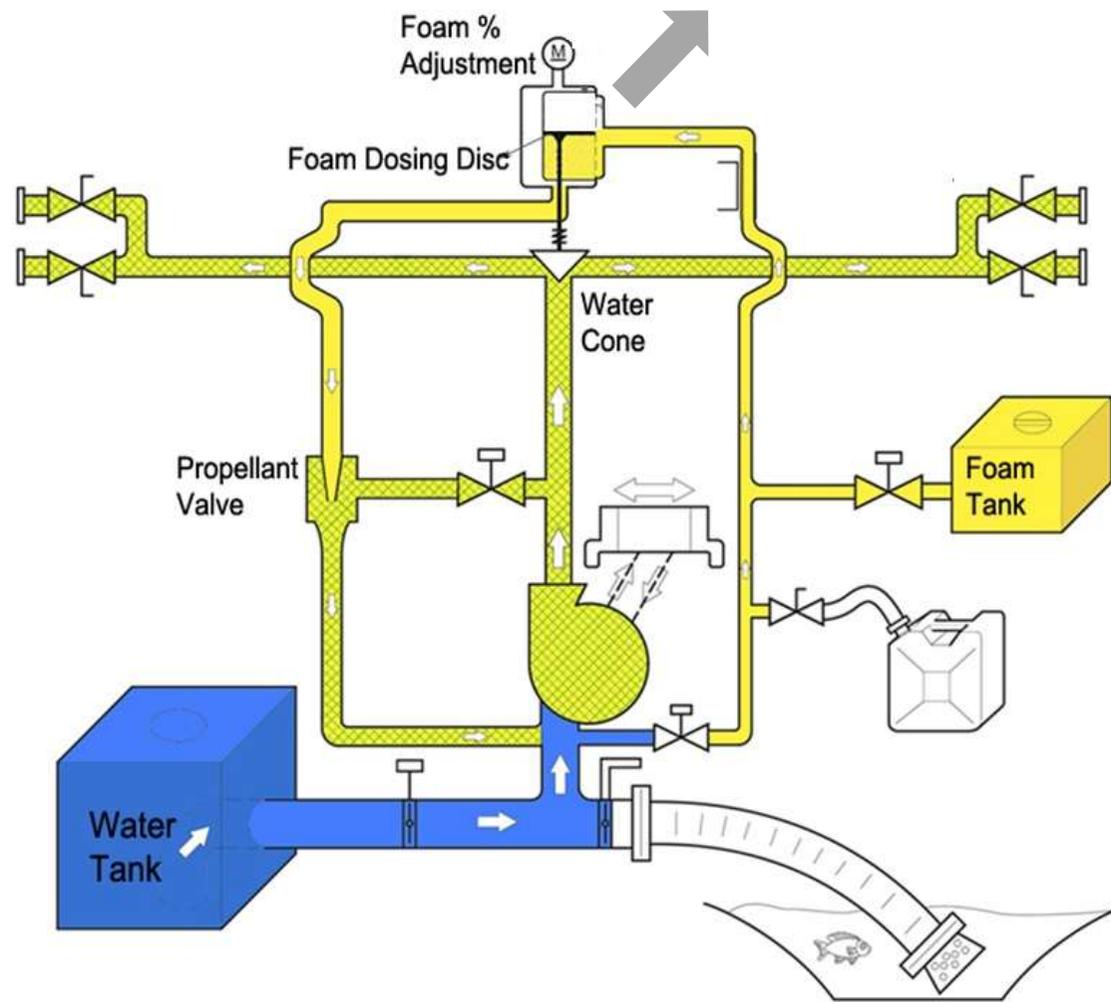
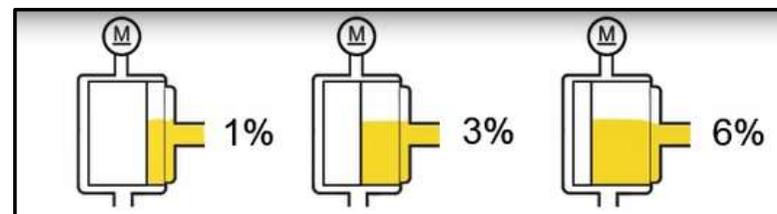
AROUND-THE-PUMP FOAM PROPORTIONING

FIXMIX 2.0

Well thought out overall concept



- The foam proportioning is fully integrated in the pump. It adapts automatically to water flow and water pressure.
- A small amount of water is guided from the pressure side to the suction side and creates a suction in the propellant valve.
- The water moves the water cone together with the foam disc.
- The percentage rate is adjusted above.
- Two or 3 proportioning rates can be chosen (choice of 0.5%; 1%; 3% or 6%)
- The operation is realized by the RBC LCS System or manual (FIXMIX 2.0 M).
- For N10/ N20, N/NH x5, N65/ N80



AROUND-THE-PUMP FOAM PROPORTIONING

Versions FIXMIX 2.0



FIXMIX 2.0 M

- Rate adjustment manual
- Controlled system
- 2 proportioning rates
- No LCS required



FIXMIX 2.0 P

- Rate adjustment pneumatic
- Controlled system
- 2 proportioning rates
- No LCS required
- LCS Compact can be used
- Only for components



FIXMIX 2.0 A

- Rate adjustment electric
- Controlled system
- 2 or 3 proportioning rates
- LCS required or customer programs his electronic and provide the right signals
- Not for LCS Compact



FIXMIX 2.0 E

- Rate adjustment electric, **electronically regulated**
- Flows of water and foam are measured
- 2 or 3 proportioning rates or stepless
- RBC LCS is required



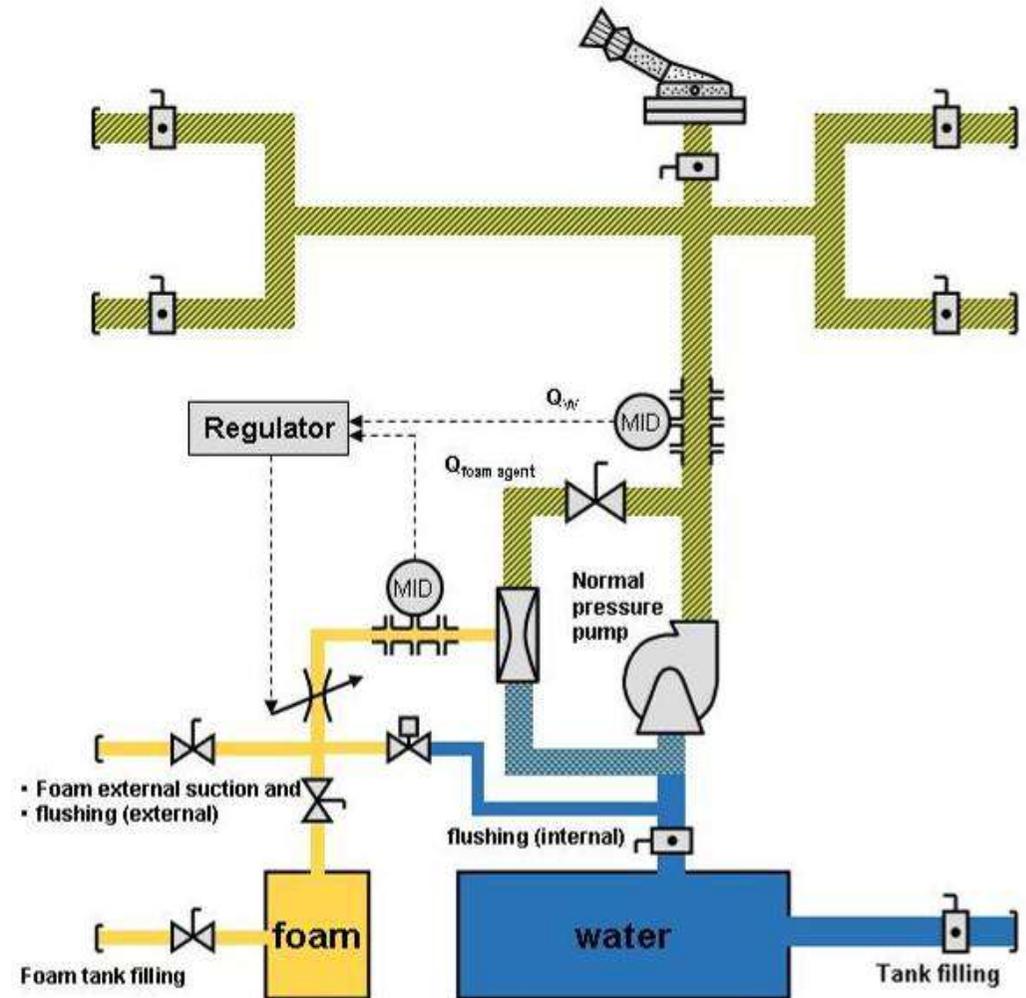
AROUND-THE-PUMP FOAM PROPORTIONING

FOAMATIC E

Well thought out overall concept



- The foam proportioning is integrated in the pump system. It adapts automatically to water flow and water pressure.
- A small amount of water is guided from the pressure side to the suction side and creates a suction in the propellant valve.
- The water flow and the foam flow are measured by a magnetic inductive flow meter.
- The percentage rate is adjusted by electric actuated valves in the foam suction line.
- Two or 3 proportioning rates can be chosen (choice of 0.5%; 1%; 3% or 6%). A stepless adjustment is optionally available.
- The operation is realized by the RBC LCS.



AROUND-THE-PUMP FOAM PROPORTIONING

Data

Accuracy

- amount of water < 500 lpm (<130 gpm): 0 up to + 50%
- amount of water >500 lpm (>130 gpm): 0 up to + 30%, 1%-point absolute
- water flow measurement accuracy: <500 lpm: max. +/- 10%; > 500 lpm: +/- 5%

Usability

- **FIXMIX 2.0 M/ FIXMIX 2.0 P/ FIXMIX 2.0 A:** for foam concentrates with a viscosity up to **60 mm²/s (60 cSt)**
- **FIXMIX 2.0 E, FOAMATIC E:** for foam concentrates with a viscosity up to **250 mm²/s (250 cSt)** (**higher viscose foam concentrates on request, with restrictions**)



Highest Operation Comfort



HIGHEST OPERATION COMFORT

Manual Operation

For N/NHx5 Pumps

- Ergonomic designed manual levers are available for rear-mount pumps
- w/ permanently affixed label
- easy operation even wearing fire fighting gloves
- optionally w/ FIXMIX 2.0M
 - manual adjustment of the proportioning rate above the operation panel
 - manual levers for start of the FIXMIX 2.0 and for the foam tank suction line (only if no HP-FIXMIX)
 - or pneumatic switches for these to functions



HIGHEST OPERATION COMFORT

RBC LCS – LCS Compact

Operation for Pump (w/ less functions)

- Operation panel hardwired (w/ Start/Stop for the PTO)
- 3.5" display with background color black
 - for tank levels (fludometer necessary)
 - chassis warnings, cavitation warning
 - display of pump speed (rpm)
 - display of pump pressure (sensor necessary)
- and potentiometer (DIGIPOT)
- integrated pressure governor optional
- A limited number of **7 additional functions** can be added! (with additional key-pad)
- Only one "operation point" possible



HIGHEST OPERATION COMFORT

RBC LCS

RBC LCS Operation

- The operation is fully integrated in the operation concept of the pump module/ the vehicle.
- Consistent labeling of the media (water normal pressure: green, foam: yellow, maintenance functions: grey,)
- All functions are backlit for flawless operation even in poor light conditions and at night.
- Different version of the operation (button- or display operation) available



HIGHEST OPERATION COMFORT

Operation Options



RBC LCS „Button Operation“

- 15 button field
- Additional DIGIPOT and 3,5“ Display for FIXMIX 2.0E
- One button per function



RBC LCS „Display Operation“

- Included in 10“ display operation for pump module
- In the sub-menu foam proportioning system
- If a system is active, the LED on the call button for the respective system will illuminate.
- Available for Rosenbauer vehicles



HIGHEST OPERATION COMFORT

Button Operation

RBC LCS Button Operation

- DIGIPOT w/ start/ stop for main pump operation
- 3,5" display
 - warnings (e.g. from truck, tank levels get empty, ...)
 - display of tank levels
 - pressure governor
 - 2nd display for foam systems e.g. FIXMIX 2.0 E with stepless adjustment, VARIOMATIC
- 15 button field: each function has a separate button, ...
- Arrangement: on the right side incl. Pump operation



HIGHEST OPERATION COMFORT

Button Operation

RBC LCS Button Operation

- Different sizes of the operation panel available
 - 1 x 2
 - 2 x 2
 - 3 x 3
- Arrangement: on the left side incl. Pump operation

3 x 3



with & without height adjustment

2 x 2



with & without height adjustment

1 x 2



without height adjustment



HIGHEST OPERATION COMFORT

Display Operation

RBC LCS with 10" Display

- Call button (for sub menu) underneath the display
- All functions can be chosen in the menu
- Status LED of the call button illuminates, if something is active in the respective menu
- Operation of the functions via buttons on the side of the display, a „touch function“ is optionally additional possible
- Available for Rosenbauer vehicles



Certifications



PUMP CERTIFICATIONS

Certification according EN1028

p	Q	N10	N20	N15	N25	NH25	N35	NH35	N45	NH45	N55	NH55	N65	N80	N110	N130
FPN 10 -	750	x														
FPN 10 -	1000	x		x												
FPN 10 -	1500	x	x	x	x	x										
FPN 10 -	2000		x		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 -	11000***														x	x
10 -	13000****															x
FPH 40 -	250*****)					x		x		x		x				

p: nominal pressure (bar), Q: nominal flow (lpm)

*) performance of 5,000 lpm performance not included in EN1028

***) performance of N80 is not included in EN1028: complies with 8,000 lpm at 10 bar

****) performance of N110 is not included in EN1028: complies with 11,000 lpm at 10 bar

*****) performance of N130 is not included in EN1028: complies with 13,000 lpm at 10 bar in tank suction operation or at a suction height of 1,8 m

*****) FPN 40-250 according EN1028, optionally also 40-400: at least 2 HP-discharges or a high-pressure turret is necessary





**Thank you for your
attention.**

DISCLAIMER

DISCLAIMER

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DS

Rosenbauer International AG
Paschinger Straße 90
4080 Leonding, Austria



AMORSARE

Versiunea KAP

KAP600E

- Performanță superioară la amorsare
- Sistem de grunduire pentru: N110 și N130 și transmisie cu RSG450
- KAP600E este montat deasupra cutiei de viteze
 - cu excepția SP/SPA: aici este montată sub cutia de viteze
- este acționat printr-o curea de dinți și activat printr-un ambreiaj (comutator pornit și oprit)

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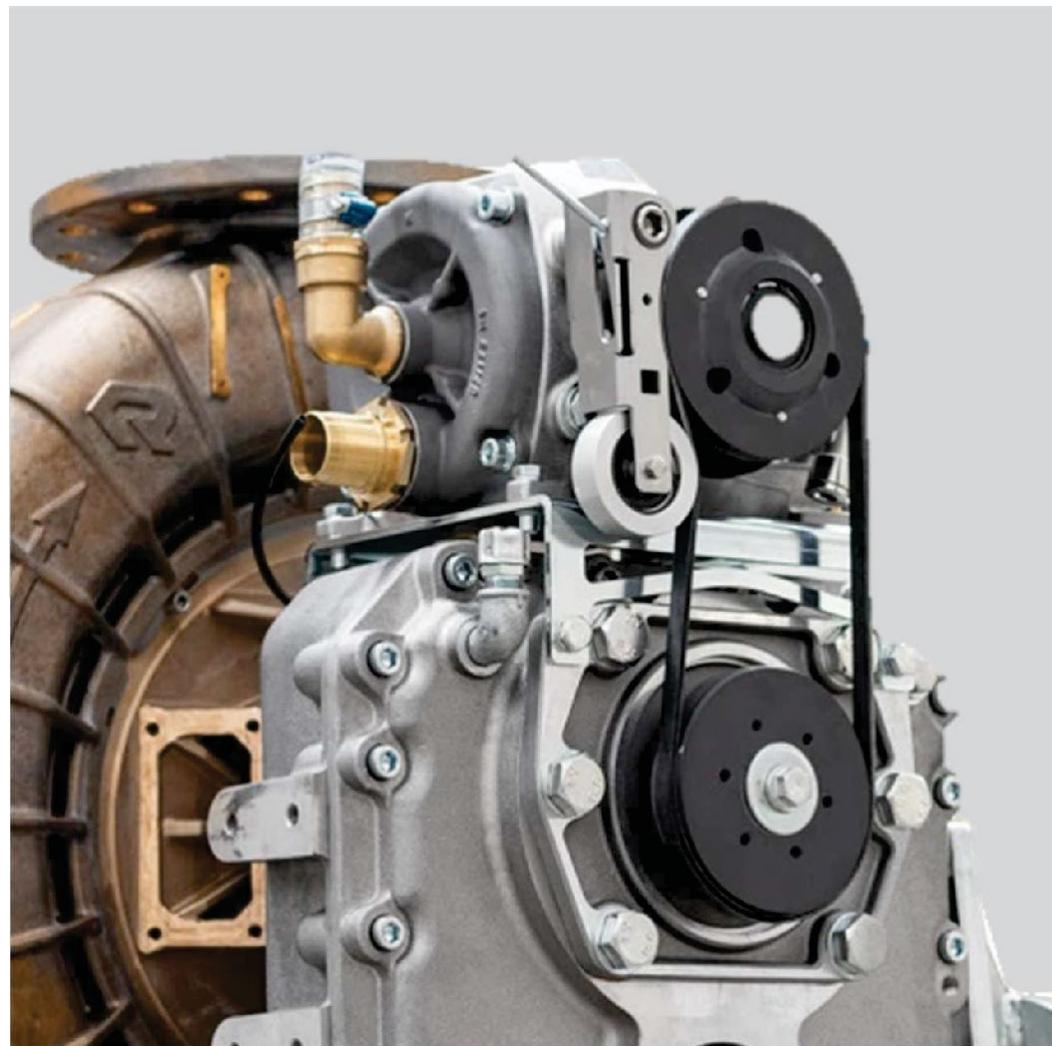
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Rosenbauer International AG
Paschinger Straße 90
4060 Leonding, Austria



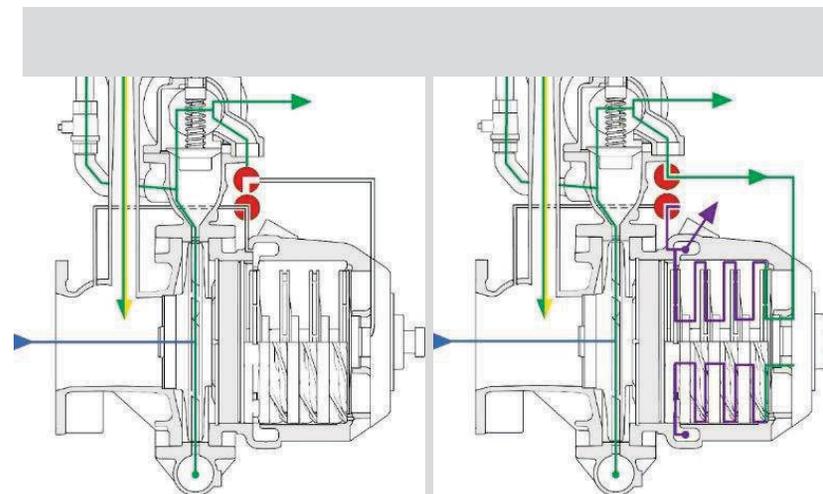
Iulie 2025 | Pompe



POMPE ÎNCORPORATE

Presiune înaltă Rosenbauer

- Treaptă centrifugă de înaltă presiune
 - Reducerea loviturii de ariete la deschiderea și închiderea descărcării din cauza curbei plate a pompei
 - Insensibil la murdărie
- Seria NHx5
 - Pe un arbore comun cu treapta de presiune normală
 - Activarea ușoară a presiunii înalte prin deschiderea debitului de apă către pompă
 - Nu este nevoie de ambreiaj suplimentar pentru activare
- Calitate foarte bună a spumei (asemănătoare CAFS) cu HP-FIXMIX și NePiRo + accesorii din spumă
- Posibilitatea de a depăși distanțe lungi (până la 1.000 m) cu furtun de înaltă presiune (Storz38), de exemplu pentru stingerea incendiilor de vegetație
- Opțiuni suplimentare: lancea de stingere și lancea de spălare



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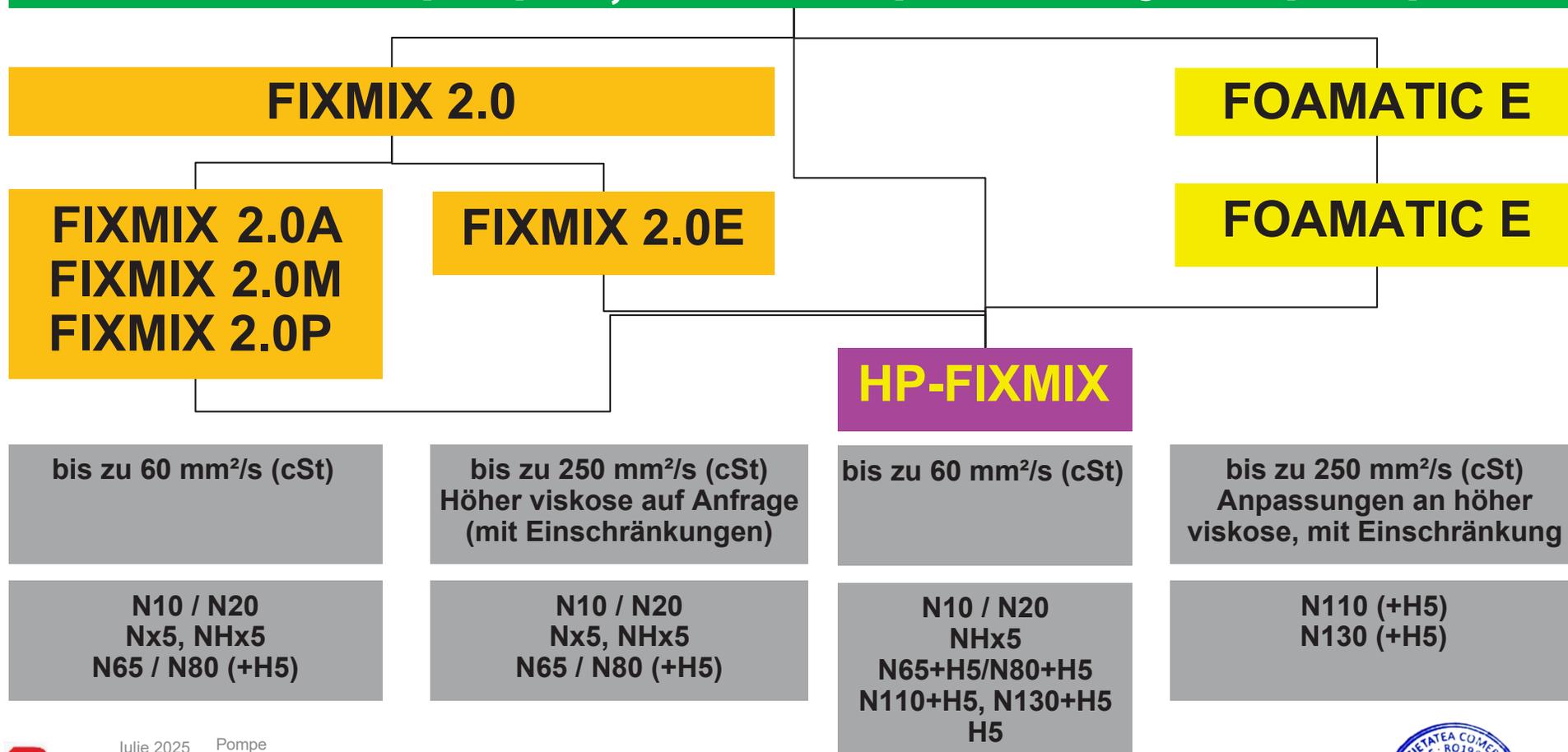
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Paschinger Straße 90
4080 Leonding, Austria



PROPORȚIONAREA SPUMEI ÎN JURUL POMPEI

Sisteme de proporționare a spumei în jurul pompei



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Rosenbauer International AG
Paschinger Straße 90
4080 Leonding, Austria



POMPE ÎNCORPORATE

- Sistemul de spumă FIXMIX 2.0 în jurul pompei se adaptează **automat la pomparea debitului și presiunii** de pompă. Sunt posibile 2 sau 3 rate de amestecare.
- Funcționarea pompei poate fi realizată **de la mecanică completă la complet electronică** – în funcție de cerințe.
- Toate elementele de funcționare sunt **codificate pe culori** (atât mecanice, cât și electronice).
- Sistemul de operare LCS garantează aceeași logică de funcționare pentru toate sistemele de pe camion: pompă, regulator de presiune, sistem de spumă, lumini,
- Un regulator de presiune complet integrat este disponibil cu sistemele LCS și LCS Compact.



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A handwritten signature in blue ink, appearing to be 'M. M.', written over a blue line.

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Rosenbauer International AG
Paschinger Straße 90
4080 Leonding, Austria

