AxFlow Systems

SYSTEMS CATALOGUE

AxFlow

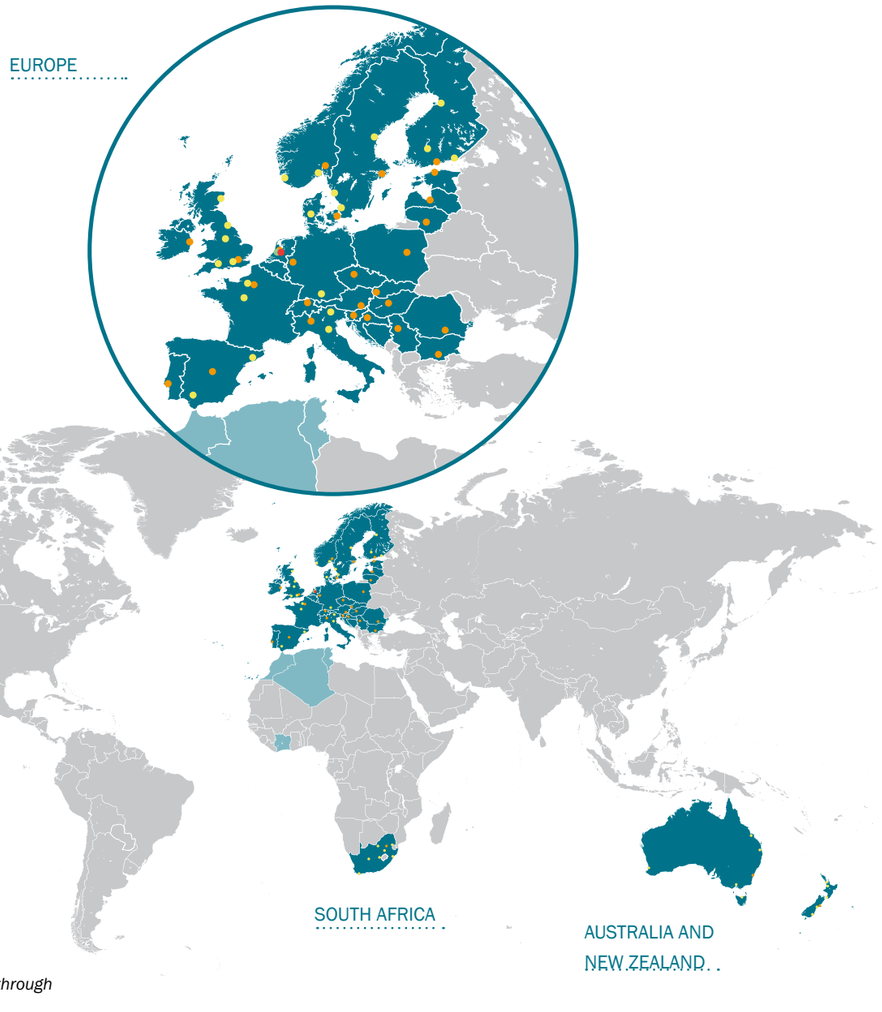
ABOUT AXFLOW

Since its founding in 1989, AxFlow has represented the world's leading manufacturers of industrial and laboratory pumps, agitators and other process equipment.

AXFLOW GROUP IN THE WORLD

- Over 700 experts in the field of fluid mechanics and process technology
- Representation in 29 countries in Europe, South Africa, Australia and New Zealand
- Central distribution warehouse in the Netherlands with delivery of critical parts within 48 hours
- AxFlow Systems – design and construction of complete solutions for pumping, vacuum and other process systems
- Strong financial background and unique corporate culture of owner Axel Johnson, founded in 1873

AXFLOW HEADQUARTERS IN THE CZECH REPUBLIC



AXFLOW IN THE CZECH REPUBLIC AND SLOVAKIA OFFERS

- Wide portfolio of high-end process equipment (positive displacement and centrifugal pumps, vacuum pumps, agitators, mixers, heat exchangers, homogenizers, separators, valves, filters)
- Original spare parts with fast delivery
- Regular and emergency service
- Fast-growing engineering department
- Design, delivery and commisioning of complete solutions
- Detailed documentation
- Expert assistance and consulting
- Detailed product information at www.axflow.cz

AXFLOW

AXFLOW DESIGNS COMPLETE SYSTEMS FOR YOU

to keep your processes running!

**The AxFlow Systems concept is simple,
we will design and deliver a complete turnkey solution.**

No matter if you need to dose chemicals, extract vapours or solve a CIP process in the pharmaceutical industry. We deliever more and more complete pumping, vacuum and mixing systems and we love it.

Contact us and we'll build one for you!

PACKED UNITS

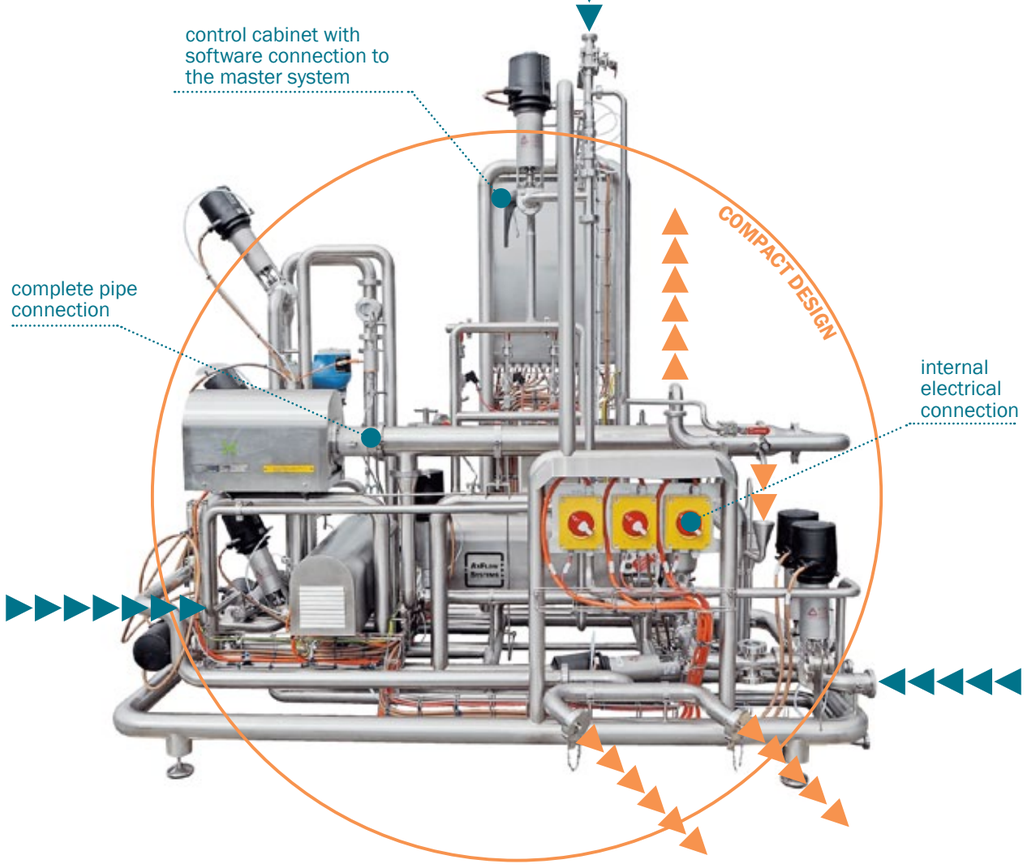
Every delivery of new technology means an intervention in existing operations.

Because we know how expensive production time is, we offer our systems as packed units that dramatically reduce the necessary downtime of the associated technology, minimizing production ramp-up issues. But our packed units are not catalogue numbers and we always build them to order, so you don't lose the option of customization.

Take valuable installation time off your hands!

BENEFITS OF PACKED UNITS

- Mechanical and electrical assembly on site
- Complete functional test before dispatch
- Possibility of integrated touch screen control
- Space-saving compact design
- Significantly faster on-site installation (shorter downtime)
- Possibility of certification to the required ATEX zone
- 24 months warranty



HOW DOES COOPERATION WITH US WORK?

ENQUIRY

Together we'll discuss what you need to solve

The opportunities to improve your process are endless.

- ✓ Would you like to automate product dispensing on the assembly line?
- ✓ Solve milk separation and homogenization?
- ✓ Ensure accurate injection and mixing in the chemical process?
- ✓ Does our solution have to work autonomously or do you want to software integrate it into the entire operation?
- ✓ Do you need to design solution for an ATEX zone?

1 SOLUTION PROPOSAL

Based on your needs and our experience, we will design a **solution tailored to your application, space and budget**.

Inspecting your operation in advance will ensure that our solution fits perfectly into the overall technology.

ORDER 2

WE PERCEIVE EVERY REALIZATION AS A PROJECT

The project will be taken over by one experienced AxFlow project manager, who is responsible for the implementation and with whom you will handle the entire project.

3 ENGINEERING

We will **regularly consult with you** on emerging solutions.

We design all systems in 3D software, so you get a **complete design service in 2D and 3D**. After we agree on the connecting points, we proceed to the production and completion of the solution.

WE KEEP TAKING CARE OF YOU

7 SERVICE, SUPPORT AND WARRANTY

It doesn't end with the delivery of the system for us. We are confident in our solutions, so we offer a superior **24-month warranty**. If the system shows deficiencies or stops working, **we will come and fix the problem**. If, over time, you find that you would like to further modify or expand the system, we will be only too happy to do so.

The manual will also give you complete **instructions for regular maintenance**. You can arrange it yourself, but you don't have to. **Our service department** is ready to ensure long-term trouble-free operation.

We can also arrange **additional documentation** in advance.

- ✓ Material certificates according to EN 10204 – 3.1, 2.2
- ✓ Hygienic component certifications (EHEDG, FDA, 3-A, EC 1935/2004, USP)
- ✓ Performance and pressure components tests
- ✓ Project documentation according to the provided samples

6

OPERATOR AND MAINTENANCE TRAINING

We invent and build the entire solution in AxFlow, so we know it down to the last screw. As soon as everything is ready, we train the operators and maintenance staff on-site so that everyone is familiar with the new technology.

SYSTEM TESTING AND HANDOVER

We provide transport to the site and connect the unit to the follow-up technology. We have our own **welding team, electrician and programmer**.

Therefore, any piping, assembly, electrical wiring or software connection to the control system is not an obstacle.

PRODUCTION AND ASSEMBLY 4

We will **assemble the entire solution** in our modern workshop and **execute basic leak test**.

We fit the unit with sensors and electrically connect it. **We will also write and test the control software**.

INSTALLATION 5

We will arange an **installation date** at your plant and arrange for the unit to be installed on site.

HYGIENIC SYSTEMS

AxFlow solutions for the food and pharmaceutical industry place a high value on the quality of materials, smooth surfaces, excellent cleanability, certifications and operational safety. Thanks to our direct links to the world's leading manufacturers, we offer extensive know-how in pumping, mixing, homogenization, separation and filtration.

MAIN FEATURES

- Stainless materials: SS304, SS316L
- Smooth surfaces (Ra <1,6/0,8)
- Easy cleanability
- Hygienic certifications (EHEDG, 3A, FDA, EC 1935/2004, USP)
- Material certificates
- ATEX certification option

TYPICAL APPLICATIONS

- Liquids dosing
- Big bag station with dosing
- Emulsions mixing
- Product heating and cooling
- High-pressure homogenization
- Centrifugal separation

EC 1935/2004

DOSING OF AROMAS

Compact dosing unit for continuous injection of two food aromas into the base mass.

The system continuously monitors the actual flow rate of chocolate base and adjusts the instantaneous injection of aroma before the static pipeline mixer by PID control. Frequency-controlled microgear pumps with non-contact flow meters ensure hygienic operation. The system automatically monitors the current amount of aromas in the supply tank and warns of the need to refill it.

ZONE 1

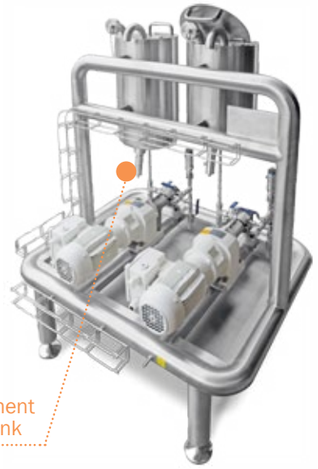
FLOW RATE
0,4 - 5,0 l/h

ACCURACY
2 - 5 %

SUPPLY TANKS
15 - 20 l

MATERIAL
AISI 316 L

FOOTPRINT
1 x 0,8 m



SOLUTION FOR EXTREMELY LOW FLOW RATES

Due to the high concentration of aromas, the flow rate during dosing is extremely low, which requires a special approach to pump selection and flow rate measurement.

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DOSING OF FOOD COLORANTS

Fully automatic system for dosing six plant food colorants into the blender for vegetarian food processing.

According to the recipe, the system ensures the exact dosage of each colorant and then the colorants mixture is gravity flushed directly into the mixer. The venting and washing programs for the entire unit are also automated.

DOSE
5 - 2.000 g

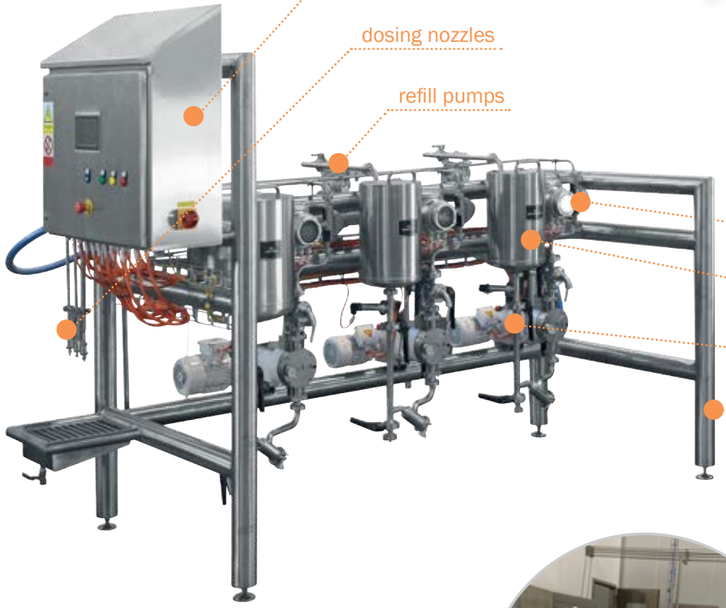
MATERIAL
AISI 316L

ACCURACY
1 - 2 %

HEIGHT
2 m

TANK CAPACITY
20 - 70 l

FOOTPRINT
5,2 x 1,2 m



HIGH LEVEL OF AUTOMATION

High recipe variability and high dosage accuracy of around 1%. The system is also ready for automatic refilling from supply tanks and can dispense each colorant into two different paths.

PREPARATION AND DOSAGE OF SUSPENSION

Hygienic unit for the preparation and dosing of natural preservative suspension in the production of vegetarian dishes.

The system ensures the dosing of the required amount of water, the operator manually empties the bag of powder into the prepared basket and the agitator ensures the homogenization of the suspension and its continuous maintenance in the float. When a batch is required to be dispensed into the mixer, the metering pump will ensure the exact volume of the batch. Also offers both automated venting and system washing including tank showering.

EASY OPERATION

Integrated platform for easy loading of bags with powder. Possibility of dosing into two different routes. All stainless steel agitator for maximum operational safety with intensive pressure washing.

BATCH
100 - 1.000 kg

HEIGHT
2,8 m

SUSPENSION CONCENTR.
11 % (hm.)

FOOTPRINT
3 x 1,8 m

ACCURACY
1 - 2 %

WEIGHT
800 kg

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BOTTLING AND DOSING OF VINEGAR

System for bottling and dosing two vinegar concentrations into a mixer for the production of vegetarian dishes.

The mezzanine dust-proof operating tanks are automatically filled from the central tank below. The metering pumps then pressurize the required vinegar into one of the four mixers.

BATCH
4 - 30 kg

TANKS CAPACITY
200 l

ACCURACY
1 - 2 %

MATERIAL
AISI 316L

HEIGHT
2 m

FOOTPRINT
2,3 x 1,1 m

MAINTENANCE-FREE AUTOMATIC SYSTEM

Dustproof design of vinegar refill tanks for safe, hygienic operation in dusty environments. Precise pressure dosing with very reliable dose repeatability.

MIXING AND DOSING OF VINEGAR

Compact unit for the preparation of vinegar in the required concentration.

The system provides quick dispensing of drinking water and concentrated vinegar and the hygienic all-stainless steel agitator ensures good mixing of the mixture. The transfer pump maintains a sufficient level in the dosing tank.

BATCH
150 l

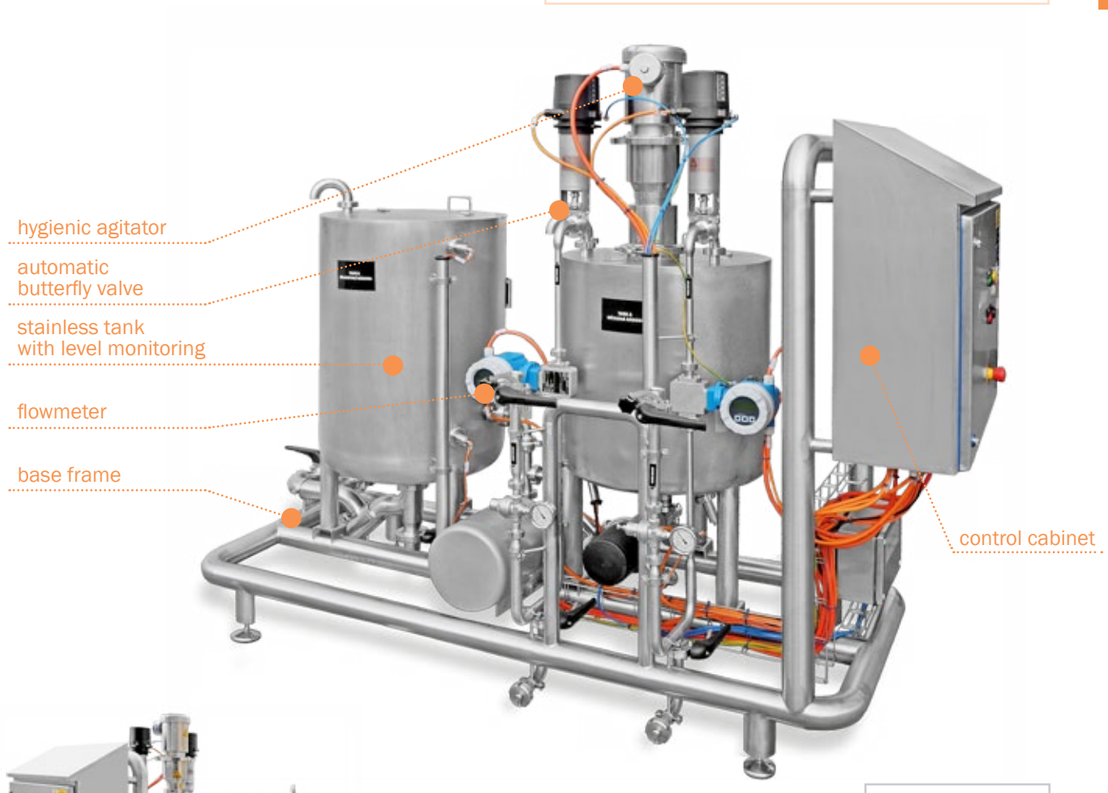
ACCURACY
2 %

MATERIAL
AISI 316L

HEIGHT
2 m

FOOTPRINT
2,2 x 1,1 m

WEIGHT
400 kg



HYGIENIC CONSTRUCTION

All stainless steel design for intensive washing operation, simple remote unit control.

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FRUIT YOGHURT MIXING

Very compact unit for precise mixing of fruit yoghurts in a dairy plant.

Two dosing routes are used to determine the proportional amount of ingredients in the yoghurt and a yoghurt mixer is used to achieve high homogeneity and fineness of the output product. The unit is integrated into continuous production and responds to the current performance of the production line by PID control.

COMP. 1 FLOW RATE.
500 - 3.000 l/h

ACCURACY
± 2 %

COMP. 2 FLOW RATE
100 - 800 l/h

HEIGHT
2,2 m

OUTPUT
3.000 - 5.500 pcs/h

FOOTPRINT
2,3 x 1,2 m

IMPLEMENTATION INTO THE PRODUCTION LINE

High homogeneity of the end product, sophisticated CIP and SIP cleaning of the unit. The highly compact design of the unit is precisely adapted to the production site.

BIG BAG STATION WITH SUGAR DOSING

Complete station for dosing crystal sugar directly from 500 kg big bags with a sequence of screw conveyors including a vibrating station with sugar filtration for maximum operational safety.

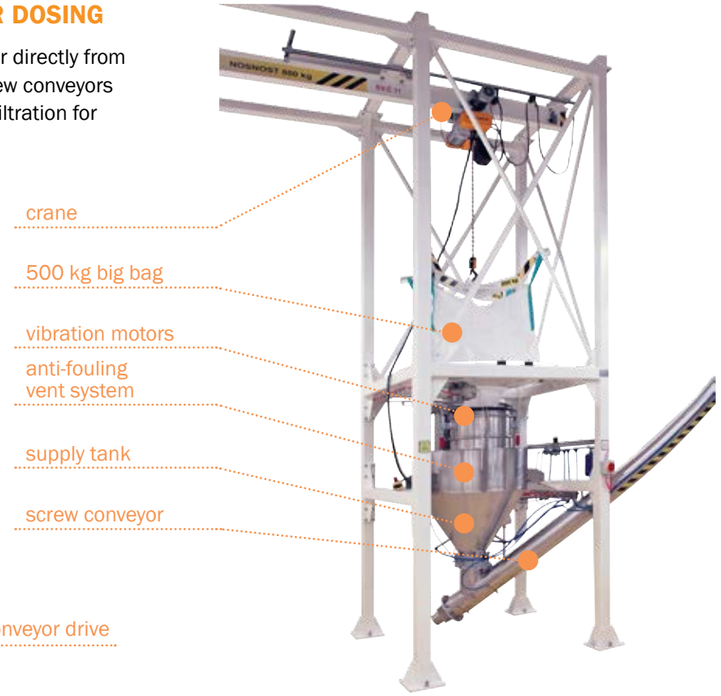
BIG BAG
500 kg

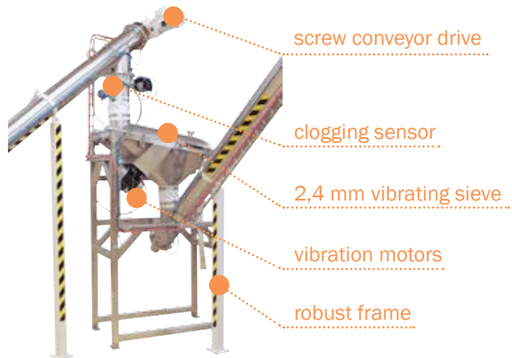
DOSING
up to 100 kg/min

MATERIAL
AISI 304

HEIGHT
4,7 m

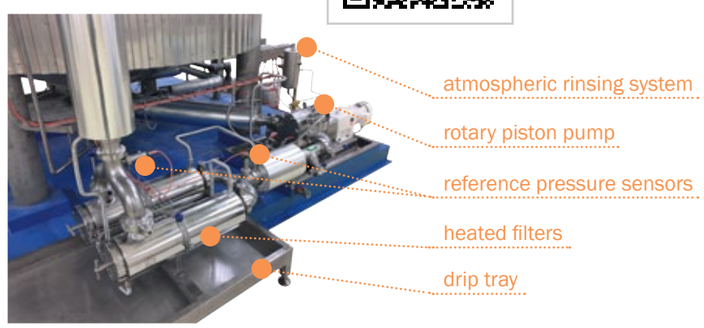
FOOTPRINT
4,2 x 5 m





SUGAR SYRUP TRANSFER STATION

A rotary piston pump handles the transport between the central tanks, pushing the viscous syrup through high-capacity filters in a fully heated system.



PRESSURE
up to 13 bar

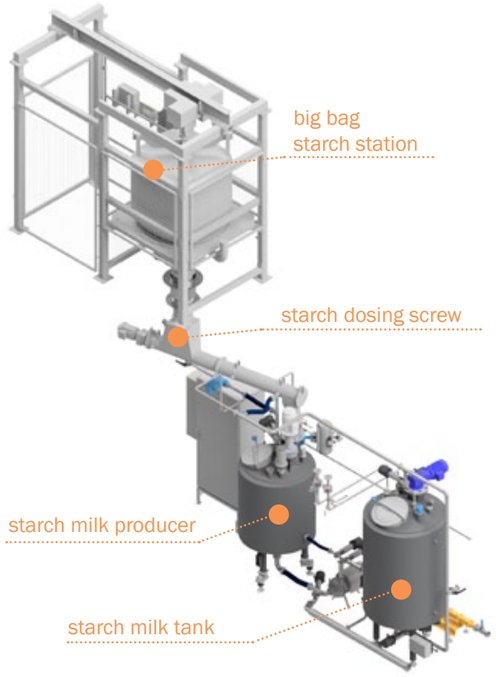
FLOW RATE
4 m³/h

FILTRATION FINENESS
200 microns

STARCH MILK PRODUCTION

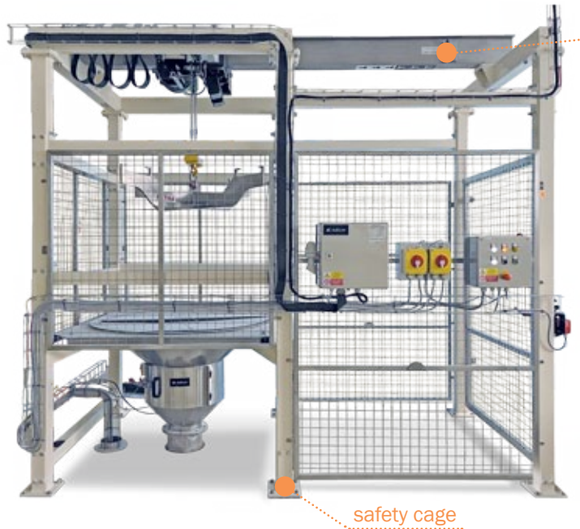
Unit for automatic preparation of starch milk of desired concentration from powdered starch and water.

The production station starts with a big-bag station with a crane to easily attach a 500 kg big bag of starch. The starch and water dosing is done simultaneously to increase the speed of preparation and uses a combination of flowmeter and scales. A special dynamic starch mixer is used to mix the ingredients thoroughly. Once the mixing is complete, the contents are pumped into a tank for further dosing in the preparation of the jelly candy base. The dosing is then handled by a hygienic Mono NOV PC pump. The entire system is by its heating, construction and control adapted to minimize the sedimentation of starch to prevent it from hardening.



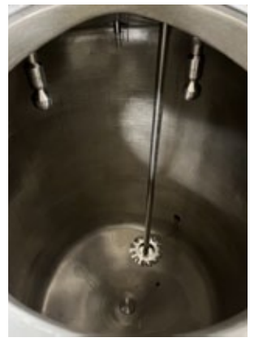
OVERALL INSTALLATION SCOPE

BATCH PREP. SPEED	STARCH MILK CONCENTRATION
10 m	25 %
TANK CAPACITY	**PRODUCER CAPACITY**
1.000 l	500 l



SEDIMENTATION OF THE MEDIUM

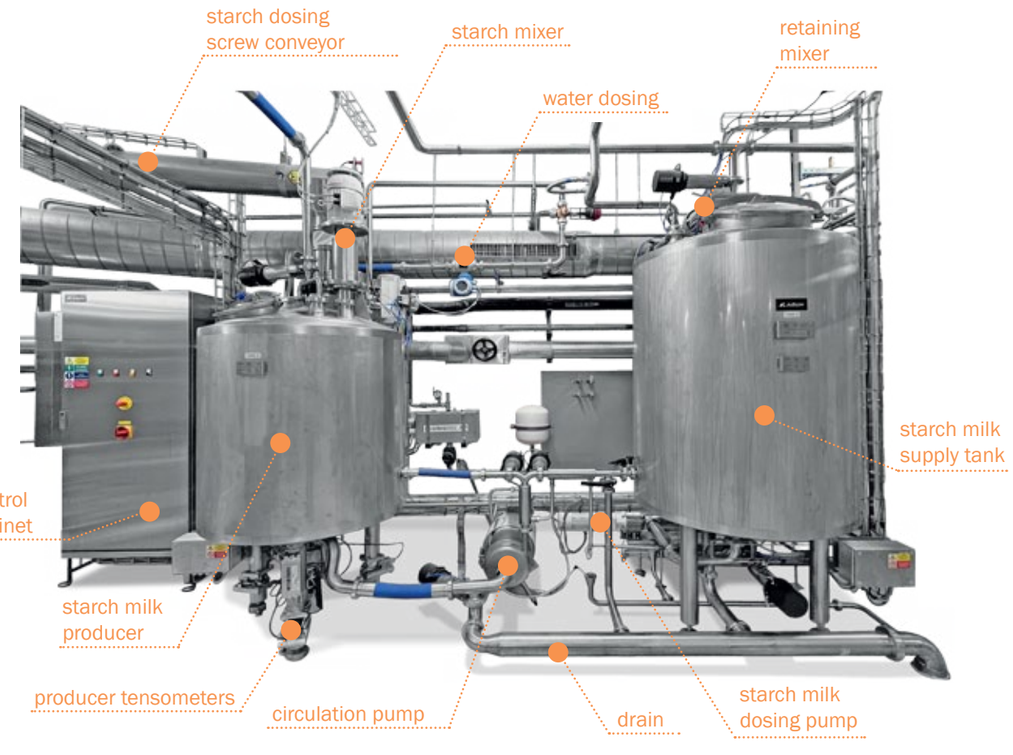
Starch is a medium that settles very easily and quickly. When this complication occurs, when combined with water, it practically forms concrete that can only be got rid of by disassembling the components and complicated cleaning. The constant circulation and mixing of the starch is ensured by the control software and components with subsequent thorough cleaning with water.



DETAIL OF THE TANKS

The unit is certified for operation in hazardous areas - ATEX zone 2, dust.

ZONE 2



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CFA STATION FOR THE JELLY CANDIES PRODUCTION

System for the continuous production of 6 flavours of candies from a base mass - colourants, flavourings, acid mixes and apple concentrate.

Principle of mixture preparation:

The jelly blend consists of a starch-based base, which is supplemented with precise amounts of colourants, flavourings, acid mixes and apple concentrate. The unit incorporates a combination of gravity dosing controlled by levels in the mixing tank and precise dosing of the remaining components by a pump through a flow meter. The resulting components are mixed and the mixture is automatically dispensed into the mogul heads.

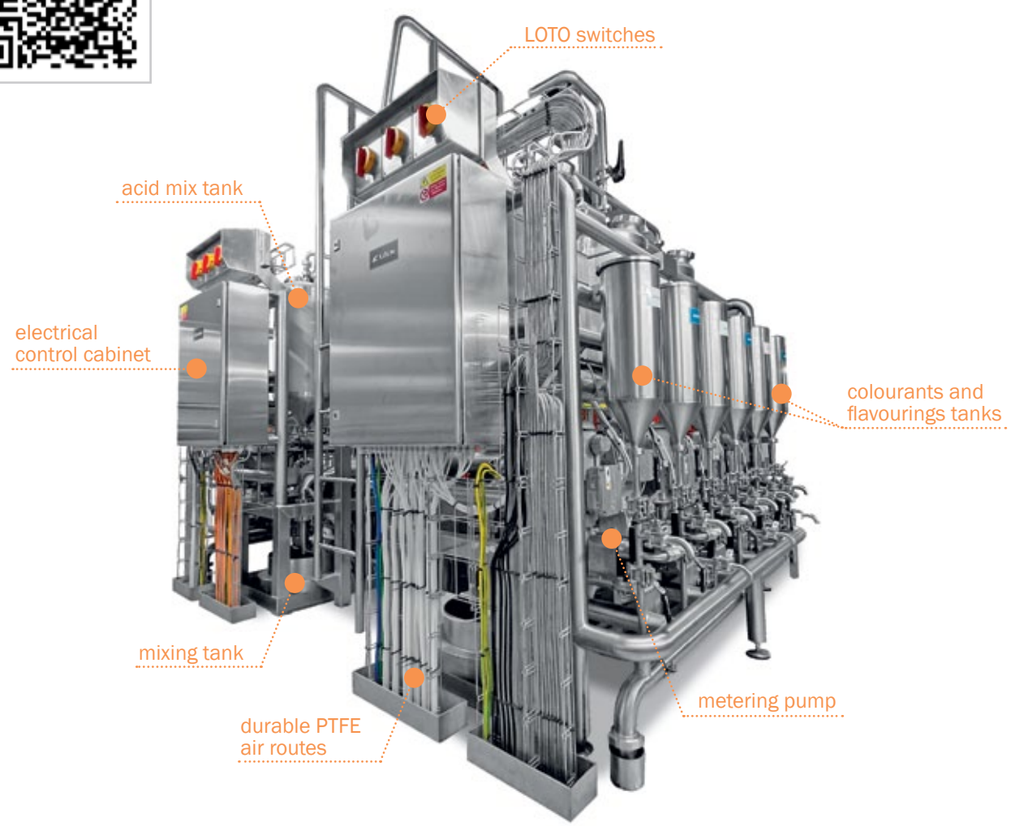
TOTAL INDEPENDENT PRODUCERS
6

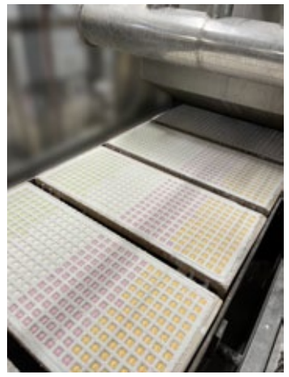
SINGLE BATCH PREPARATION SPEED
2 min

SINGLE BATCH SIZE
50 kg

TOTAL UNIT CAPACITY
1-2 t/h

AUTOMATED CLEANING
The unit incorporates sophisticated, automated washing of all tanks and lines, saving time and manpower and achieving consistent results. The entire unit or selected parts can be automated.





CANDY PRODUCTION

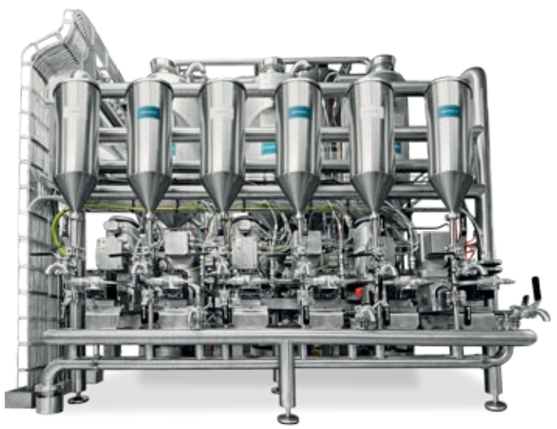
HIGH AUTOMATION
Production in the CFA station is controlled from a central touch-screen control panel, on which different production recipes are easily set. All tanks except colourants and flavourings are monitored and automatically refilled for efficient production with minimum manual labour.

OPERATOR TRAINING

OVERALL INSTALLATION SCOPE

BENEFITS OF A MODERN CFA STATION

- ✓ High level of automation
- ✓ Easy recipe change
- ✓ High mix safety
- ✓ Operational safety
- ✓ Elimination of risky glass cylinders



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IBC DOSING STATION FOR GLUCOSE AND INVERT SYRUPS

Simple station for dosing viscous glucose and invert syrups into the mixer during the production of muesli products.

The construction allows the IBC container to be safely placed on the pallet scale. A hygienic metering rotary piston pump ensures that the required dose is dispensed into the mixer according to the weight loss.

FLOW RATE 10 - 25 kg/min	**PRESSURE** 10 bar
ACCURACY 2 - 5 %	**HEIGHT** 1,8 m
VISCOSITY up to 10.000 cP	**FOOTPRINT** 1,3 x 1 m

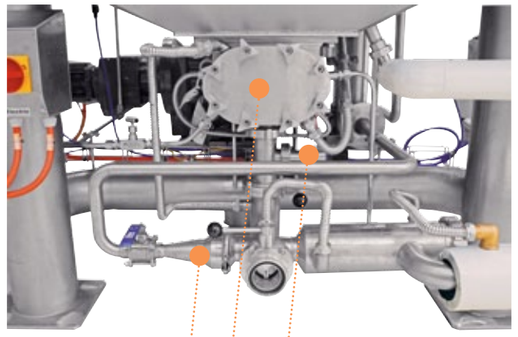
COMPACT FOOTPRINT

Thoughtful design with a compact footprint that barely exceeds 1 pallet space. The inclined storage platform allows the complete emptying of the IBC container. It can be fitted with inlet/discharge pump heating.

REWORK UNIT FOR CANDY WASTE REDUCTION

Compact unit for melting and processing non-standard candy for further processing.

A heated container with a grate allows the failed candies to be emptied and the melted mixture flows into the rectangular flange of the rotary piston pump. This ensures pumping for further processing through a hygienic filter and magnetic metal particle separator to ensure maximum product purity for blending into the final confectionery. The unit also incorporates an automatic washing program using shower balls.



TEMPERATURE 70 °C
FLOW RATE 250 l/h
TANK CAPACITY 350 l
MATERIAL AISI 316L
FOOTPRINT 2 x 1,1 m
WEIGHT 2,5 t

AIR-OPERATED LID

The operation of the unit is facilitated by the pneumatic opening of the lid, which also increases protection against hot surfaces.

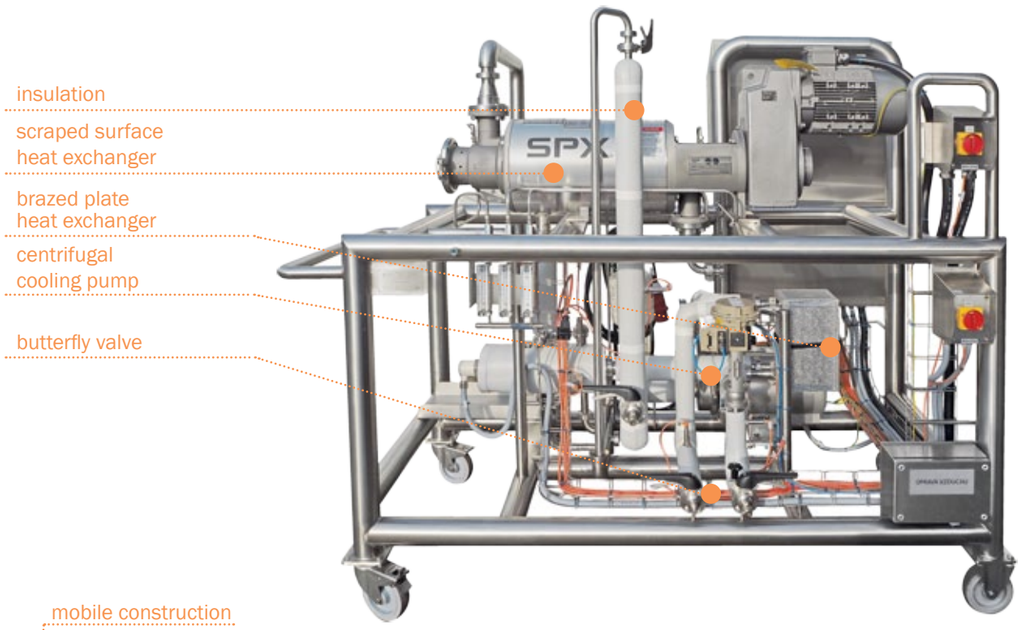
MOBILE HEAT EXCHANGER STATION

Experimental unit for R&D department in a food processing plant.

The system provides cooling or heating of viscous food products in a scraped surface heat exchanger during the production of new confectionery. The unit is capable of automatically responding to the amount of flowing product by PID control. The heating function is provided by a heating coil, cooling is supplied via a secondary circuit with a brazed plate heat exchanger.

UNIVERSAL USABILITY

Highly flexible system with both manual and fully automatic modes and a high temperature range. Mobile yet fully hygienic design with a high safety standard.



FLOW RATE
50 kg/h

HEAT RANGE
0 - 90 °C

VISCOSITY
up to 1.000.000 cP

HEIGHT
2 m

FOOTPRINT
2,3 x 1,4 m

COMBINATION OF SCRAPED SURFACE HEAT EXCHANGERS

Exchanger station with series-connected scraped surface heat exchangers for efficient cooling of the base material in confectionery production.

The scraped heat exchangers allow processing of the most viscous products while maintaining trouble-free cleaning. In this case, the unit allows controlled crystallization of sugar syrup at temperatures around 100 °C. The double mechanical seals of the exchangers are flushed with a control medium with a monitored flow rate. The positioning of the exchangers on top of each other saves the footprint of the unit.

MEDIUM TEMPERATURE
95 - 130 °C

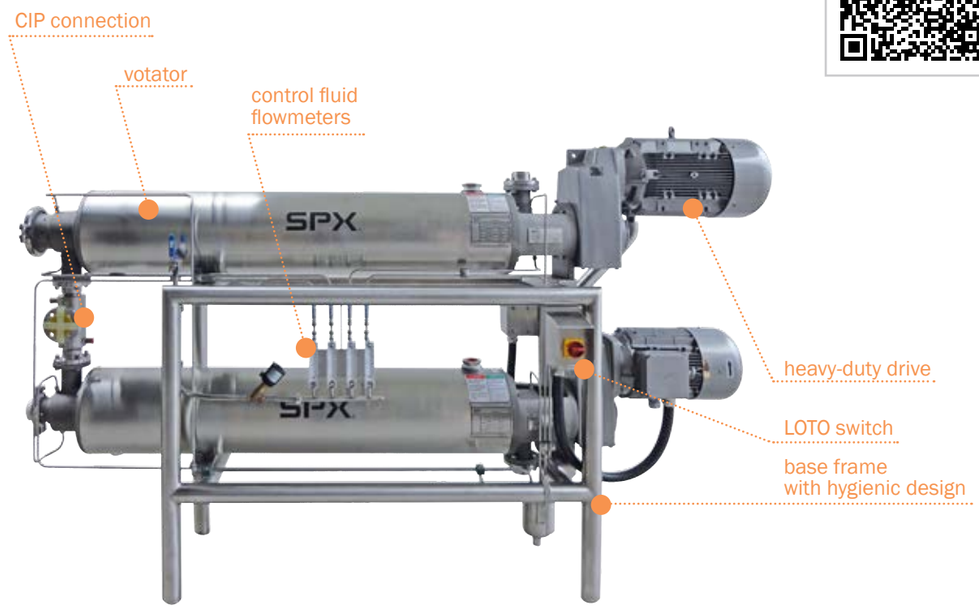
HEIGHT
1,9 m

HEAT TRANSF. SURFACE
1,7 m³

FOOTPRINT
3 x 0,8 m

VISCOSITY
15.000 cP

WEIGHT
500 kg



SOLUTION FOR DEMANDING PRODUCTS

Powerful exchangers drives ensure the product is safely scraped from the walls to avoid from sticking or caking on the exchanger walls.

MOBILE TOOTHPASTE FILLING STATION

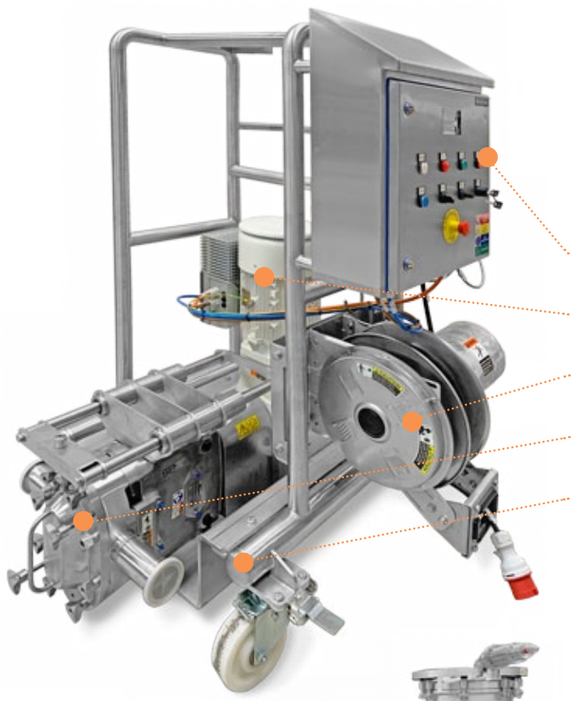
Mobile unit for filling toothpastes in multiple equipment levels.

The autonomous unit provides transfering/filling of toothpaste. Due to the extreme viscosity and abrasiveness of the product, we have integrated rotary pistons pumps with jacketed rotors. The pumping unit is ready for autonomous operation and remote control from a central system. Various equipment levels include the option of a special cable reel, the facilitation of cleaning with a lid extraction system, or the integration of a filling hopper with filtration. The mobile design provides flexibility for on-site use.

various equipment variants

custom port modification

easy opening system of the pump lid



control cabinet

gear motor with frequency converter

reel connection cable

rotary piston pump

construction with reduced ground clearance

FLOW RATE
20 kg/min

VISCOSITY
up to 100.000 cP

MATERIAL
AISI 316L

FOOTPRINT
1,2 x 0,9 m (1,3 x 1,6 m)

folding steps for easy filling of the tank

UNIQUE DESIGN ELEMENTS

The design of the trolley incorporates a number of unique solutions. The clearance of the pump connection is absolutely minimized for functional reasons. Each pump has specially extended ports with protection against finger tucking into the pump chamber. Due to the thorough cleaning of the pump chamber, a safe pull-out system for removing the lid is also installed.

MOBILE DISPENSING STATION

Mobile ethanol dispensing unit.

The unit is adapted for two 60 l jerry cans, connecting suction needle and using a dispensing gun to transfer their contents further into the process. System includes air-operated diaphragm pumps in a hygienic design with an integrated volume pulsation damper. The pump output is regulated by throttling the compressed air at the pump inlet.

COMBINATION OF ATEX STANDARD AND HYGIENIC OPERATION

The entire system is designed for hazardous areas. Hygienically certified and easy to clean components guarantee product safety.

ZONE 1

MEDIUM
ethanol, propylene glycol

HEIGHT
1,2 m

FLOW RATE
10 l/min

FOOTPRINT
1,5 x 0,9 m

PRESSURE
up to 7 bar

WEIGHT
110 kg

air treatment

FDA flexible hose

integrated pulsation damper

dispensing gun

AODD pump

drip tray

stainless steel trolley

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MOBILE REWORK UNIT

Mobile station for dissolving confectionery with a metal detector reading.

The compact unit allows the manual pouring of sweets that have failed the metal impurity detector and pouring hot water to dissolve them.
A frequency-controlled mixer ensures the preparation of a homogeneous mixture which passes through a fine filter at the outlet, allowing further identification of the collected particles.

TANK CAPACITY
15 l

MATERIAL
AISI 304

HEIGHT
1,1 m

FOOTPRINT
0,8 x 0,8 m

HYGIENIC CONSTRUCTION

Due to the increased requirements for a hygienic environment, the lid of the container is also fitted with a seal to prevent contaminants from entering the food product.

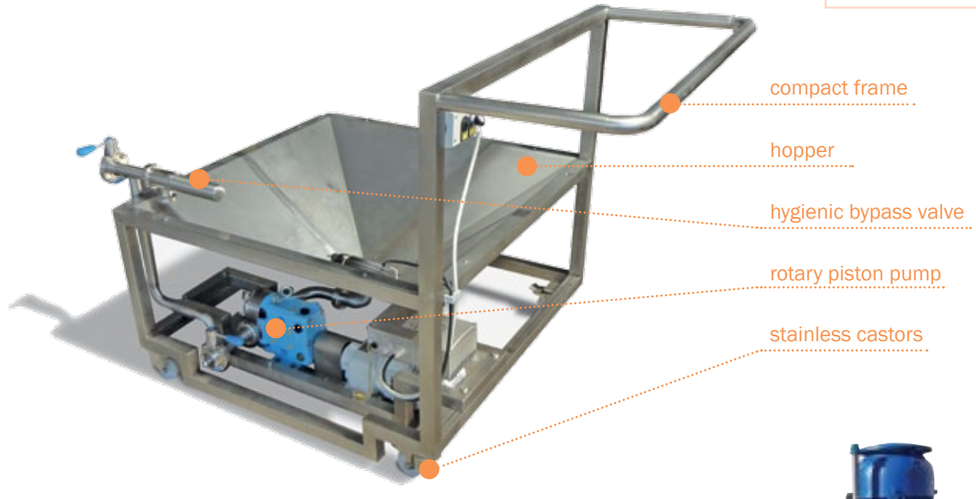
MOBILE CHEESE FILLING UNIT

Mobile viscous cheese filling unit.

A hygienic rotary piston pump pushes the cottage cheese into the filling unit. The pump is anchored on a mobile frame, made of 316 steel.

FLOW RATE
400 kg/h

PRESSURE
up to 13 bar



MOBILE SUPPLY TANK WITH PUMP

A simple mobile tank in a hygienic design with an unconventionally positioned plunger pump for greater compactness.

The supply tank meets the requirements for pharmaceutical operations thanks to the combination of stainless steel materials, polished surfaces, and easy cleanability.

FLOW RATE
10 l/h

TANK CAPACITY
80 l

MATERIAL
AISI 316L

HEIGHT
1,2 m

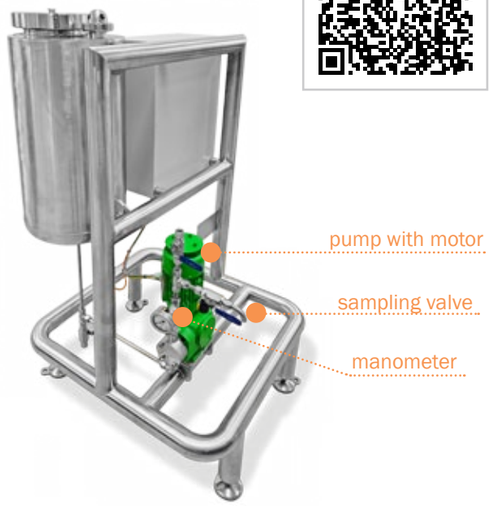
WEIGHT
200 kg

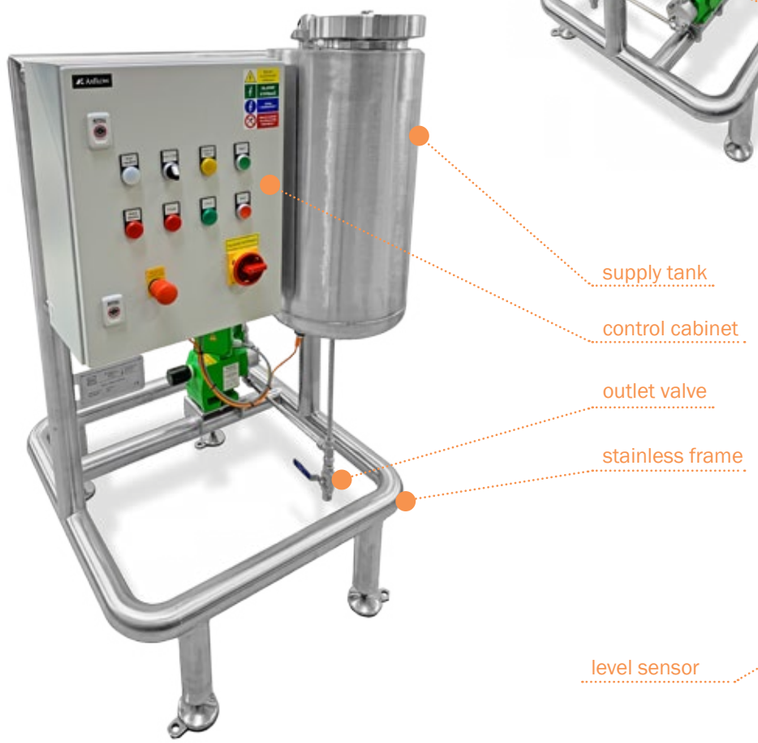
AxFlow

FOAM REDUCTION UNIT

Compact dosing unit with a supply tank for defoaming admixture.

A unit for dosing a defoaming admixture into the main product line in a food processing plant. The injection is coupled to the base product pump in automatic mode, but the unit can also be operated manually. The hygienic dust-proof tank allows use in demanding environments. A minimum level sensor in the tank automatically shuts off pumping of the defoamer and the main product if the level drops below the minimum value.





TANK CAPACITY 40 l	**HEIGHT** 1,3 m
FLOW RATE 1,5 – 7,5 l/h	**FOOTPRINT** 0,7 x 0,8 m
PRESSURE up to 10 bar	**WEIGHT** 180 kg

MANUAL OPERATION

The pump on the unit includes a manual stroke length adjustment that can be used to manually change the flow rate after installation. This can be useful when, for instance, replacing the pumped medium or requiring a different flow rate.

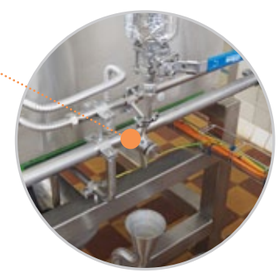
HIGH-PRESSURE INJECTION SYSTEM FOR DRYER

High-pressure pump including accessories for injection of a medium into the spray dryer nozzle.

A system capable of operating in automatic mode, in which, based on the measured temperature in the spray dryer, the PID control continuously adjusts the medium flow to ensure optimum process conditions. The delivery consists of an APV W+ centrifugal priming pump and a duplex filter with automatic contamination detection of the filter screens. The entire system is designed for CIP cleaning.

MEDIUM
various products with viscosity up to 100 cP

FLOW RATE 50 - 300 l/h	
PRESSURE 250 - 400 bar	
TEMPERATURE 10 - 80 °C	
FOOTPRINT 2,1 x 1,2 m	
WEIGHT 350 kg	



UNCOMPROMISING HYGIENICITY

As a high-pressure pump, an APV homogenizer without homogenizing valve was selected in this configuration. This unit meets strict hygiene and sanitability standards and is FDA, 3A certified.

AxFlow

EXTRUDER FILLING HOPPER

Unit for efficient pressurization of extruder with minced meat in cat food production.

The unit is designed for the production line as the upstream element of the minced meat extruder. The amply-sized stainless steel hopper allows for a comfortable supply of incoming meat for further processing. Filling of the extruder is then provided by progressive cavity pumps with an inlet screw feeder. The unit meets food industry hygiene standards.

HOPPER CAPACITY
1.200 l

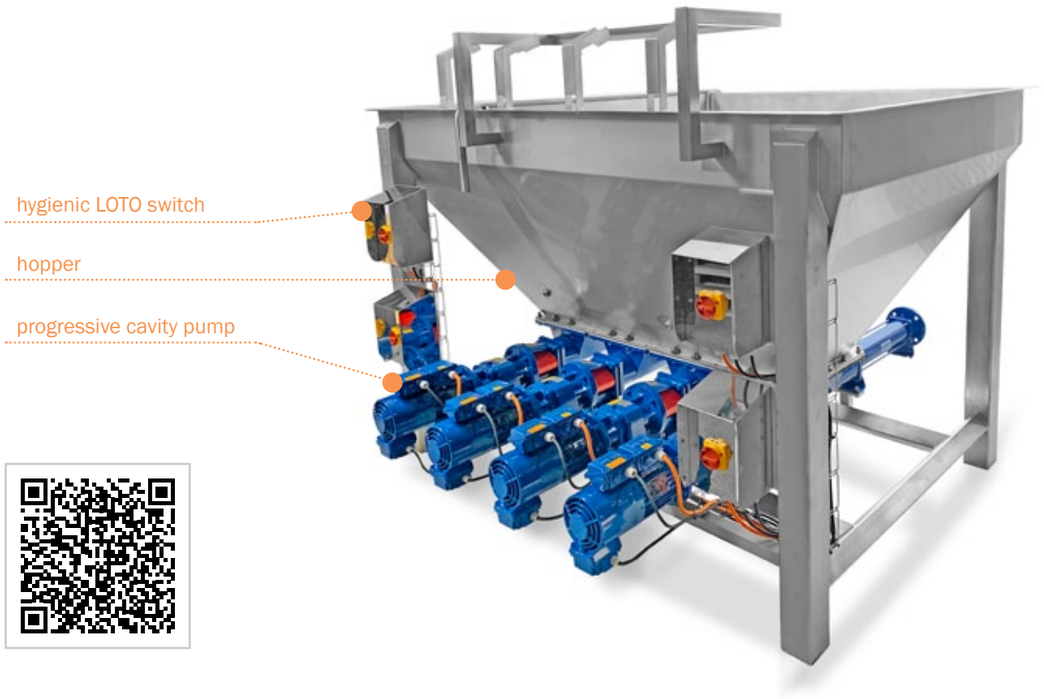
MATERIAL
AISI 304/316L

1. PUMP FLOW RATE
up to 2 m^3/h

FOOTPRINT
2,1 x 1,4 m

PRESSURE
up to 12 bar

WEIGHT
380 kg



SIGNIFICANT SAVINGS IN OPERATING COSTS

The extra wide rectangular inlet of the Mono NOV pumps covers a large area of the hopper bottom and the associated reliability of the extruder filling. Compared to the original design, this saves the customer thousands of euros in spare parts.

CIP UNITS

The system provides an automatic CIP process for production lines in the food industry.

CIP unit in different equipment levels - from a basic version with two tanks up to a fully automatic unit with three tanks and an integrated control system.

TAILOR-MADE FINISH

Each plant has individual requirements for the CIP process. AxFlow gives you a customized CIP process tailored to your exact requirements.

FLOW RATE
50 m^3/h

TANKS CAPACITY
1.000 l

HEIGHT
2,6 m

FOOTPRINT
3,5 x 1,2 m

AxFlow

EXTERNAL WASHING SYSTEMS

AxFlow, in cooperation with its partner company System Cleaners, designs, and supplies complete solutions for external cleaning of production lines in the food industry.

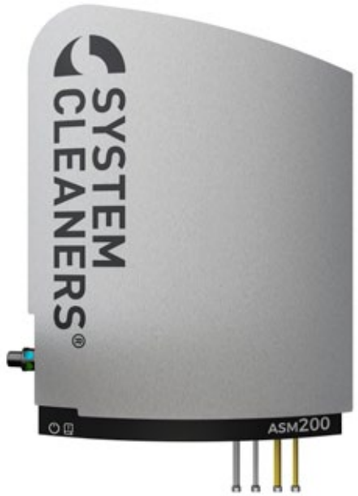
No matter what machine you need to clean. We provide simple solutions for efficient manual cleaning as well as fully automated cleaning systems without human intervention. There is a solution for every operation.

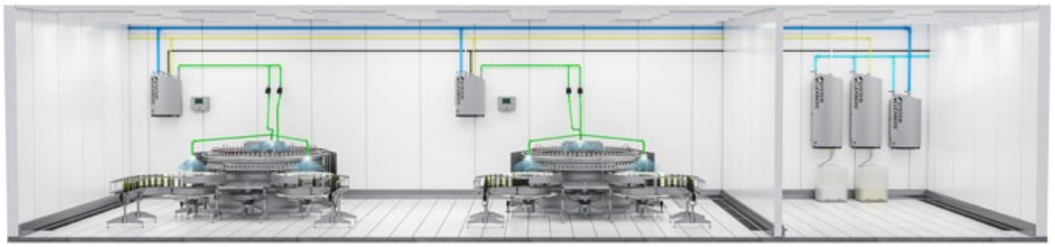
In the first step, we will need to know some initial informations. The essential thing is to know what equipment or production line you want to clean. Then we will clarify whether it is appropriate to use a fully automatic cleaning system or choose a manual option. We will specify the cleaning and disinfecting agents and listen to your ideas about the structure of the cleaning programme.

Then we will prepare a complete turnkey proposal for the installation of the cleaning system. Full local service support is naturally included. In addition, we can also arrange a service contract for a fixed amount. You will be relieved of the unnecessary worry of keeping regular maintenance appointments and in the case of repairs, you will be guaranteed a superior approach from us.

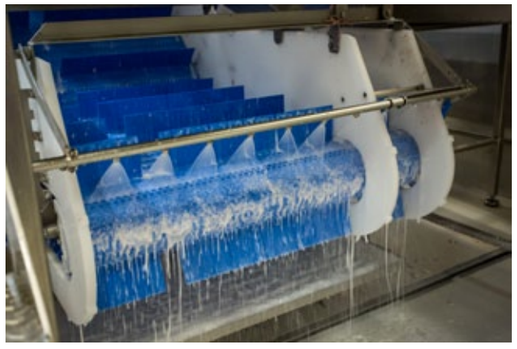
An exceptional benefit is the 24-month warranty.

SYSTEM CLEANERS
Member of AxFlow Group





AUTOMATIC CENTRAL WASHING SYSTEM



BENEFITS OF AXFLOW/SYSTEM CLEANERS WASHING SOLUTIONS

- Gentle and effective low-pressure washing
- Saving water and cleaning agents
- Fast return on investment
- Lots of satisfied customers on the global and Czech market

MANUAL AND FULLY AUTOMATIC WASHING SYSTEM

MANUAL HYBRID SYSTEM

PRESSURE
up to 40 bar

CHEMICAL CONCENTRATION
up to 30 %

TYPICAL AUTOMATIC CLEANING APPLICATIONS

- Belt conveyors
- Screw conveyors
- Spiral freezers
- Fillers

MOBILE STATION SYSTEM

AxFlow

INDUSTRIAL SYSTEMS

Chemical, petrochemical, mining, paper as well as general industrial plants. This is where we offer tailor-made solutions for your process. Solid design with durability, high-quality metal and plastic materials with chemical resistance, and energy-saving units with easy and safe operation. Count on our many years of know-how in the industrial field and forget about the problems.

MAIN FEATURES

- ✓ Any application-specific construction material (carbon steel, cast iron, stainless steel, plastics)
- ✓ DIN/EN or ASME design
- ✓ API standards
- ✓ Process connection based on medium requirements
- ✓ Material certificates
- ✓ ATEX certification available

TYPICAL APPLICATIONS

- ✓ Liquid dosing
- ✓ Big Bag dispensing stations
- ✓ Mixing of suspensions, emulsions
- ✓ Product heating and cooling
- ✓ High-pressure spraying

PREPARATION AND DOSAGE OF POLYETHYLENE GLYCOL

The system is used to produce an aqueous solution of polyethylene glycol (PEG).

After the automatic filling of the water through the flowmeter, the operator pumps the concentrate into the tank with a drum pump to mix the batch. The produced solution is pumped further into the process by rotary piston pumps.

ZONE 1

MEDIUM
PEG 20 % vol.

FLOW RATE
3 m^3/h

DISPLACEMENT
up to 13 bar

FOOTPRINT
2,9 x 2,2 m

WEIGHT
2,2 t

ASME UNIT DESIGN

The piping is manufactured according to ASME standards and tested to ČSN EN 13480-5 standards.

AxFlow

MIXING OF POLYOLS AND ISOCYANATES

The system provides fully automatic preparation of a polyurethane mixture consisting of 4 polyols and 13 reactants.

If the radar sensor detects a shortage of mixture in one of the supply tanks, this unit starts production of a new batch of this mixture. The production consists of successive dosing of individual reactants into small weighed containers at the top of the unit with a maximum accuracy of 1 gram.

The bottom (also weighed) tank is meanwhile dosed with a large amount of polyols as per the recipe. Once the dosing into all tanks is complete, the contents of the upper tanks are transferred to the large lower tank where all components are mixed. A screw pump then pumps the resulting mixture into the appropriate tank.

3D MODEL OF THE UNIT

OVERALL INSTALATION SCOPE

UNIT PARAMETERS

- Three-story construction with a height of nearly 5 meters
- Automatic preparation of 4 recipes
- Stainless steel variable speed mixer for efficient mixing
- Valve terminal with minimal dead space reduces mixture contamination when switching recipes
- Complete control of the dosing, mixing, and pumping process

DOSE RANGE
0,7 - 920 kg

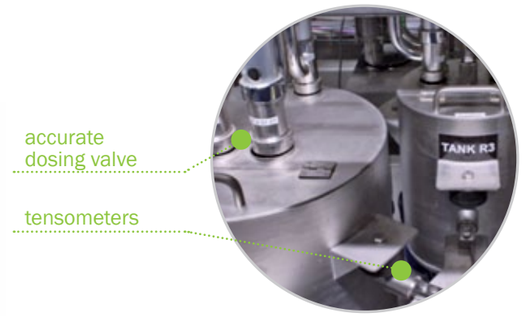
HEIGHT
4,8 m

ACCURACY
up to 1 %

FOOTPRINT
2,1 x 1,8 m

MIXTURE FLOW
3 m^3/h

WEIGHT
2 t



AxFlow

UNLOADING OF POLYOLS

System of unloading a tanker of polyol into two large tanks with monitoring of the current levels.

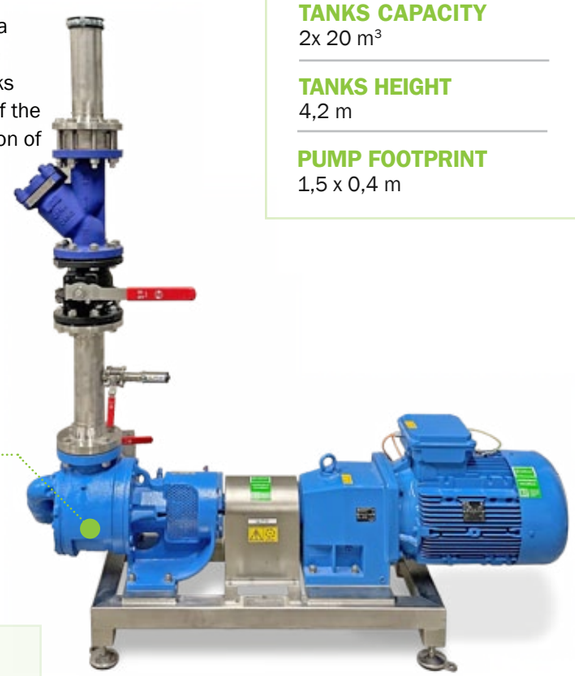
The system allows easy connection of the tanker via a standard connector and fast pumping by a gentle gear pump to the connected plastic tanks. The tanks monitor the instantaneous level and temperature of the polyol, which is the basic ingredient in the production of polyurethane compounds.

FLOW RATE
20 m³/h

TANKS CAPACITY
2x 20 m³

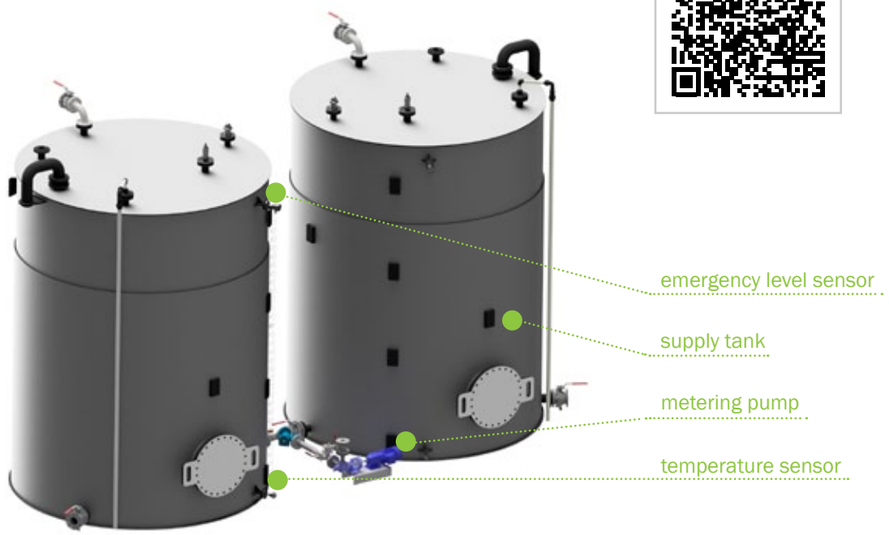
TANKS HEIGHT
4,2 m

PUMP FOOTPRINT
1,5 x 0,4 m



SAFE AND RELIABLE OPERATION

Built-in safety functions and easy communication between the tanker operator and plant personnel for long-term reliable operation. Installation adapted to the low ceiling of the client's hall.



COOLING DYE SUPPLY TANK

The unit delivers constant dye quality for entry into downstream technology in the textile industry.

A level sensor in the tank monitors the instantaneous dye supply and in case of a shortage, sends a signal to the progressive cavity pump to refill the dye from the connected trolley. The duplicated jacket is cooled by the supplied refrigeration unit and a vertical agitator prevents frosting on the walls and mixes the dye to ensure a constant temperature..

FLOW RATE
1 m³/h

COLOR TEMPERATURE
15 °C

MATERIAL
SS 304

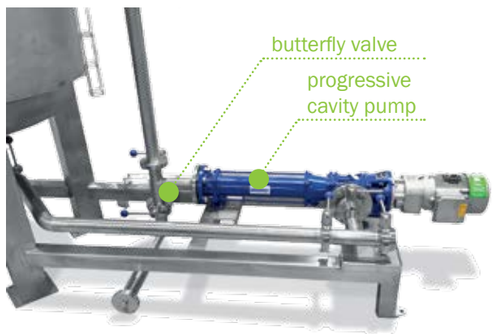
HEIGHT
3,5 m

FOOTPRINT
2,1 x 0,6 m

WEIGHT
1 t

ANTI-CLOGGING PROTECTION

Due to the adhering nature of the dyes, the shut-off valves are made in a hygienic, easy-to-clean design.

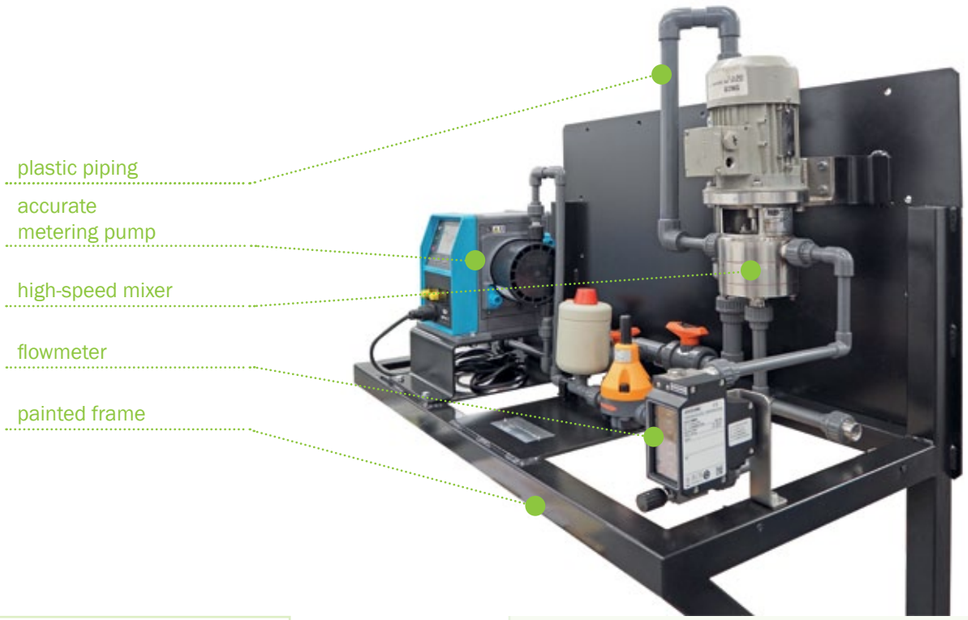


AxFlow

DOSING AND DILUTION OF ADDITIVES

Compact unit for easy in-line dilution of additives in a papermaking plant.

The water supply pipeline is equipped with an intelligent injection of the additive in the exact quantity required by the peristaltic metering pump. A high-speed dynamic mixer then ensures thorough mixing of the emulsion for further use in the plant.



ADDITIVES INJECTION
0,1 - 500 ml/min

PRESSURE
7 bar

HEIGHT
0,7 m

FOOTPRINT
1 x 0,5 m

CHEMICAL RESISTANCE

The corrosive nature of the additives requires a special choice of construction materials. Durable plastic material in combination with quality stainless steel ensures long-term trouble-free operation.

Industrial systems

AMMONIA WATER UNLOADING

The unloading unit allows easy connection of the ammonia water tanker and its transfering into the prepared tanks.

Due to the nature of ammonia water, a self-priming pump design with a wading rotor is chosen to ensure long-term operation with very high suction capabilities, without the need for frequent servicing. Each line is equipped with a high-capacity basket filtration and a system monitoring pressure drop. The system itself stops the unloading when an empty pipe is detected.

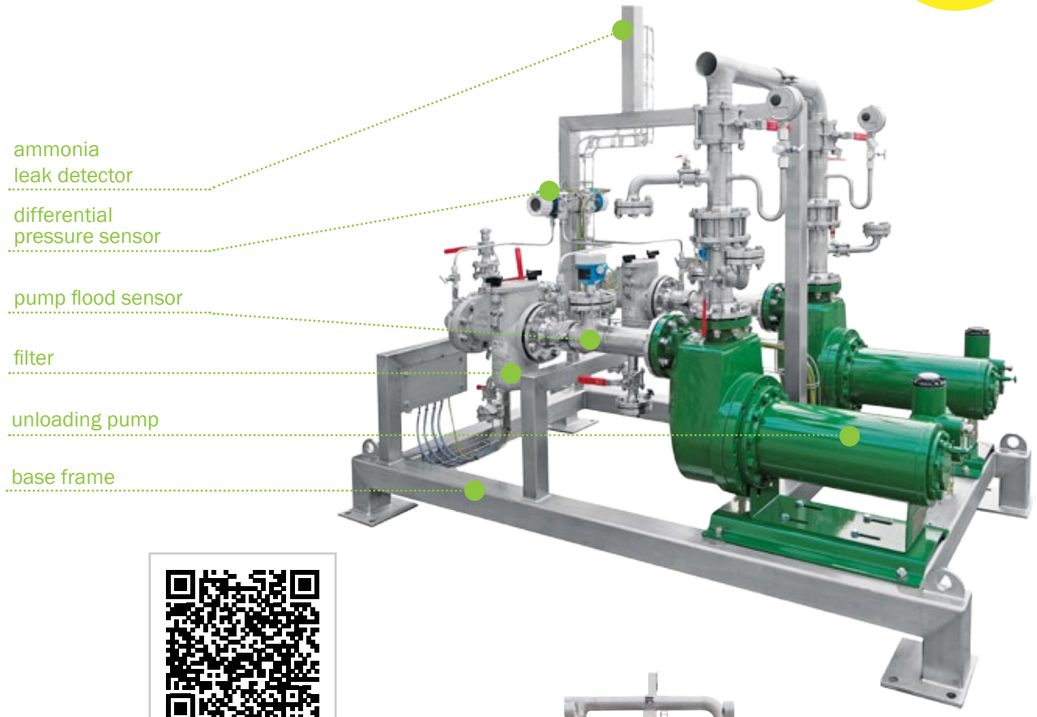
FLOW RATE
25 m³/h

MATERIAL
SS 316Ti

MAX. HEAD
25 m

FOOTPRINT
2,3 x 1,3 m

ZONE 2



SAFETY

The unit is equipped with an ammonia leak detector connected to the central security system of the premises.

AxFlow

AMMONIA WATER TRANSFERING

The unit allows transfering of ammonia water between the low and high-pressure tanks.

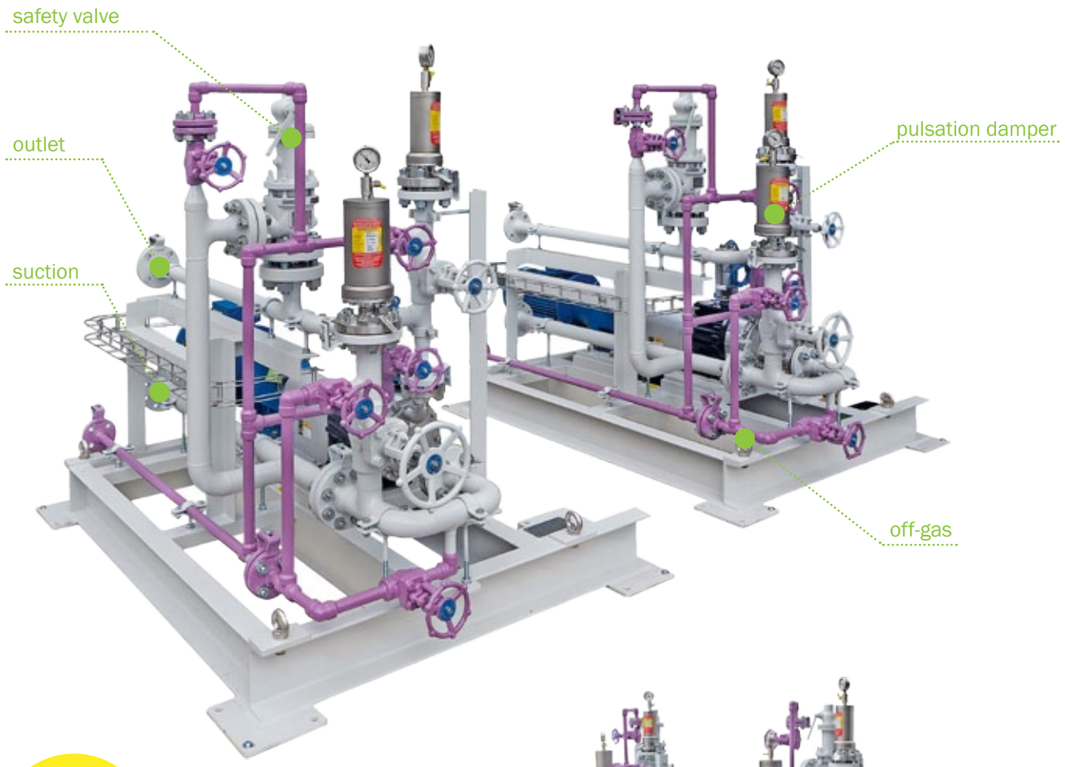
The sealless Wanner multi-diaphragm pumps provide trouble-free overcoming of high pressures. Pulsations in the system are properly damped and protection against mechanical shutdown is ensured by safety valves.

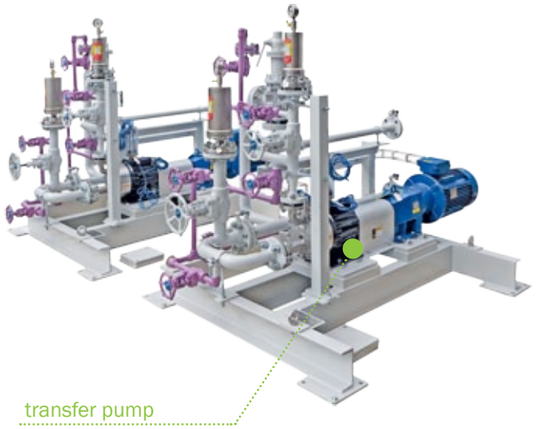
FLOW RATE
1,8 m^3/h

PRESSURE
21 bar

MATERIAL
low-temp. carb. steel

FOOTPRINT
2 x 1,4 m





ZONE 1

ADAPTATION TO THE PRODUCTION PLANT

The unit complies with strict internal plant regulations in terms of construction materials, documentation, and route painting.

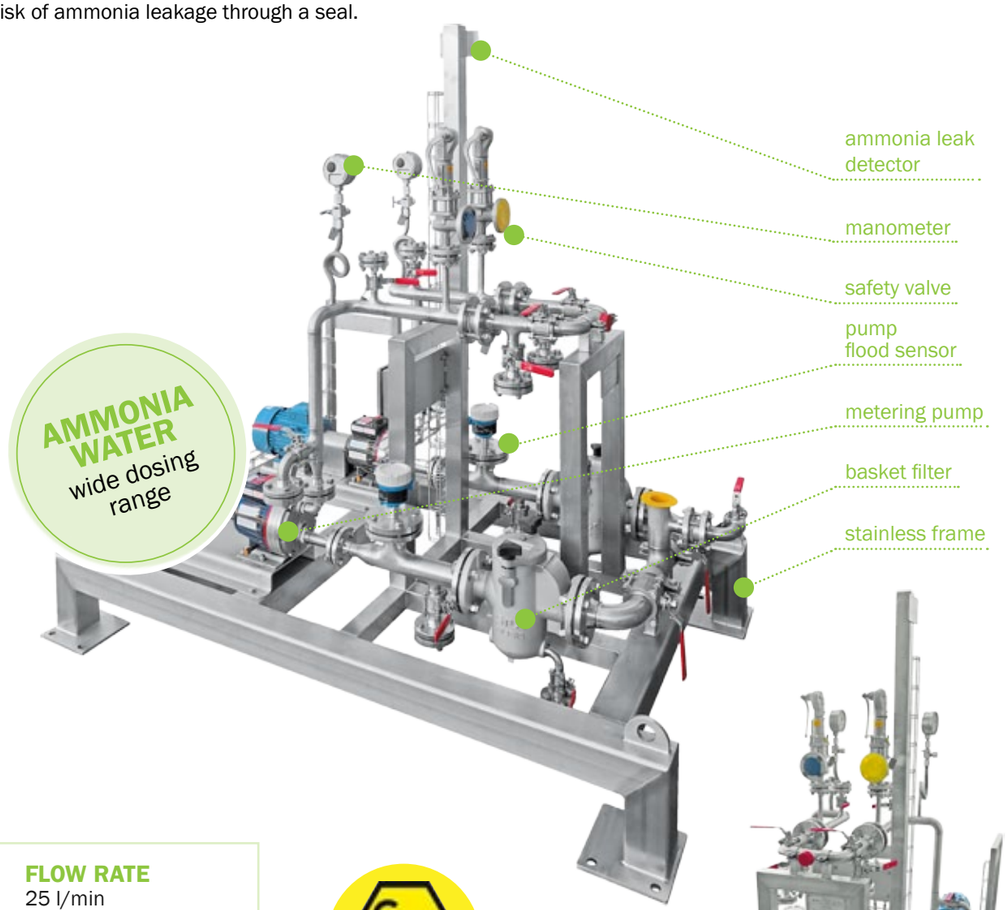
AMMONIA WATER DOSING

The dosing unit ensures the continuous injection of ammonia water into the combustion boiler.

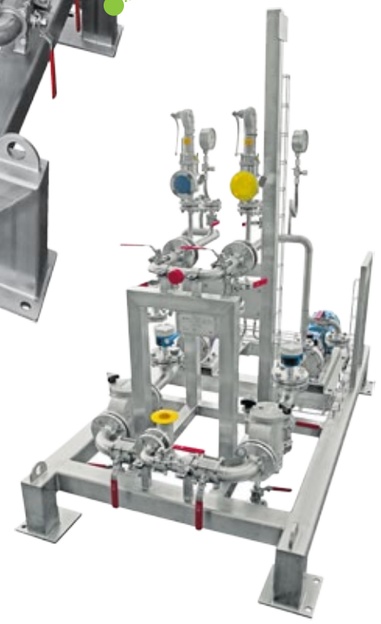
Each of the two parallel pipelines has integrated basket filtration and protection against pump dry running. Wanner multi-diaphragm metering pumps allow for long-term trouble-free operation without the risk of ammonia leakage through a seal.

SAFETY

The unit meets high safety standards thanks to its sealless pump design, safety arms, and ammonia leak detectors.



AMMONIA WATER wide dosing range



FLOW RATE
25 l/min

PRESSURE
15 bar

ACCURACY
2 %

MATERIAL
SS 316L/316Ti

FOOTPRINT
2 x 1,3 m

ZONE 2

AxFlow

AMMONIA WATER MIXING

System for the preparation of an arbitrarily concentrated solution by saturating demi-water with pure ammonia.

Pure ammonia and demi-water can be used to prepare any concentration of solution on site. Our technology is based on saturating demi water with ammonia to the desired concentration. The unit enables fully automatic and safe operation.

The reference unit contains a production circuit and a tank for the integrated spray dosing pump. Due to the processing of pure ammonia, uncompromising leak-tightness and high-pressure resistance of the entire system are ensured.

ZONE 1

ZONE 2

CONCENTRATION
arbitrary

PRESSURE RESISTANCE
25/40 bar

CAPACITY
250 l/h

SUPPLY TANK VOLUME
1.000 l

FOOTPRINT
3 x 2,5 m

ATEX ENVIRONMENT

The unit is designed for operation in ATEX zone 1/2. The occurrence of an explosive atmosphere inside the unit is eliminated by nitrogen blanketing in automatic design.

ADBLUE DOSING

System for pressurised AdBlue dosing in energy plant.

Reliable dosing of AdBlue is ensured by 2 parallel, sealless, peristaltic pumps. For a wide control range, the drives are equipped with an externally powered fan. In addition to a pulsation damper on the pump discharge for pulseless dosing, the unit also includes a protective canopy.

MEDIUM
AdBlue

FLOW RATE
20 - 200 l/h

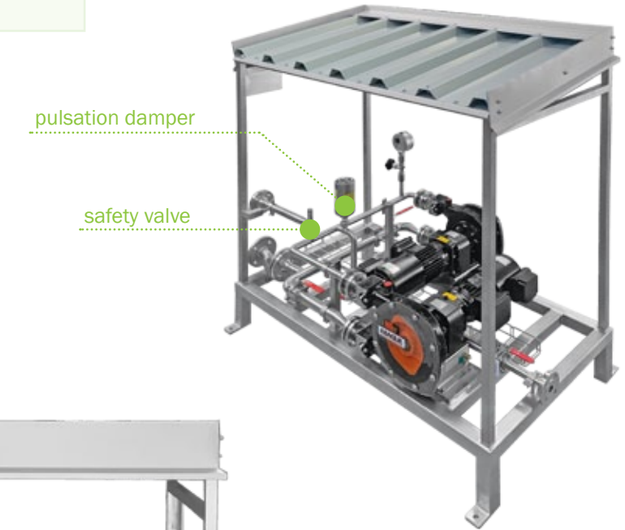
TEMPERATURE
0 - 40 °C

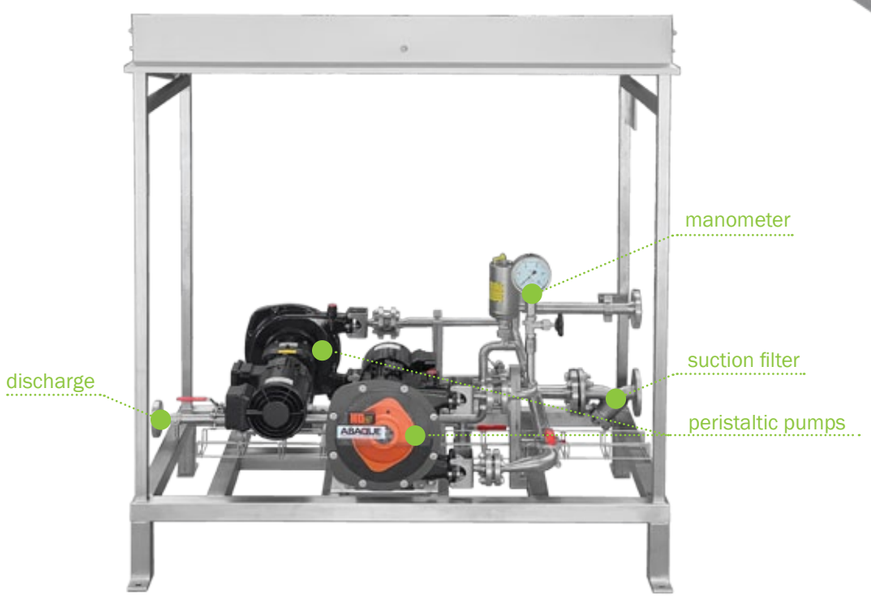
PRESSURE
up to 7,5 bar

FOOTPRINT
1,3 x 0,8 m

WIDE CONTROL RANGE

The unit includes drives with an externally powered fan that allows proper cooling of the motor even at low pump speeds.





LPG STATION

Liquid propane pumping system at synthetic natural gas (SNG) production.

Compact packed unit contains 2 high-pressure centrifugal pumps for pumping propane in natural gas production. The system allows the discharge pressure to be kept constant due to the bypass lines leading back to the tank. The pipeline is completely constructed of SS304 stainless steel.

MEDIUM
liquid propane

FLOW RATE
400 - 700 kg/h

MAX. PRESSURE
7,8 bar

TEMPERATURE
-20 to 35 °C

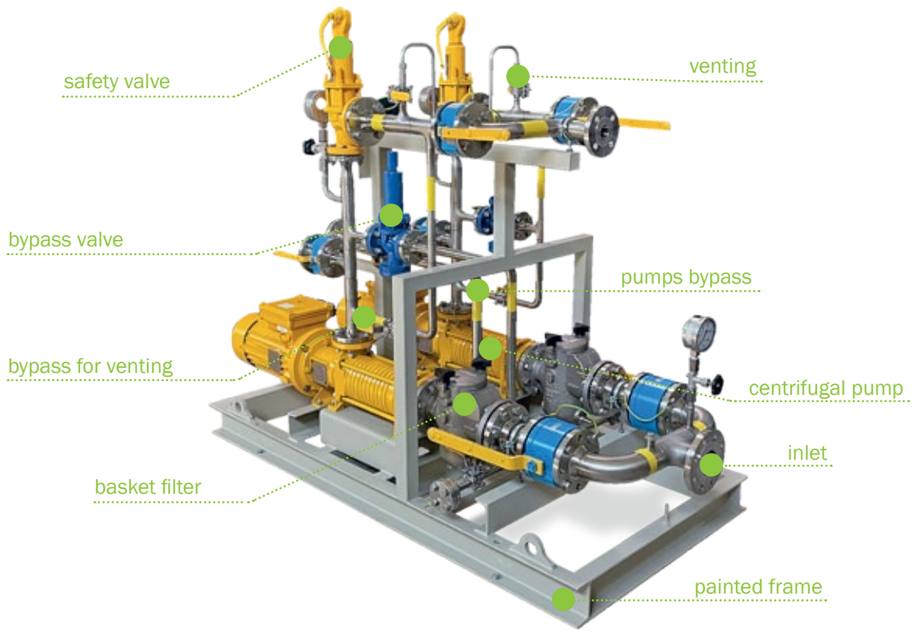
FOOTPRINT
1,8 x 0,9 m

ZONE 2

The unit is ATEX Zone 2 certified; all components are adapted for pumping flammable hydrocarbons.

BY-PASS LINE

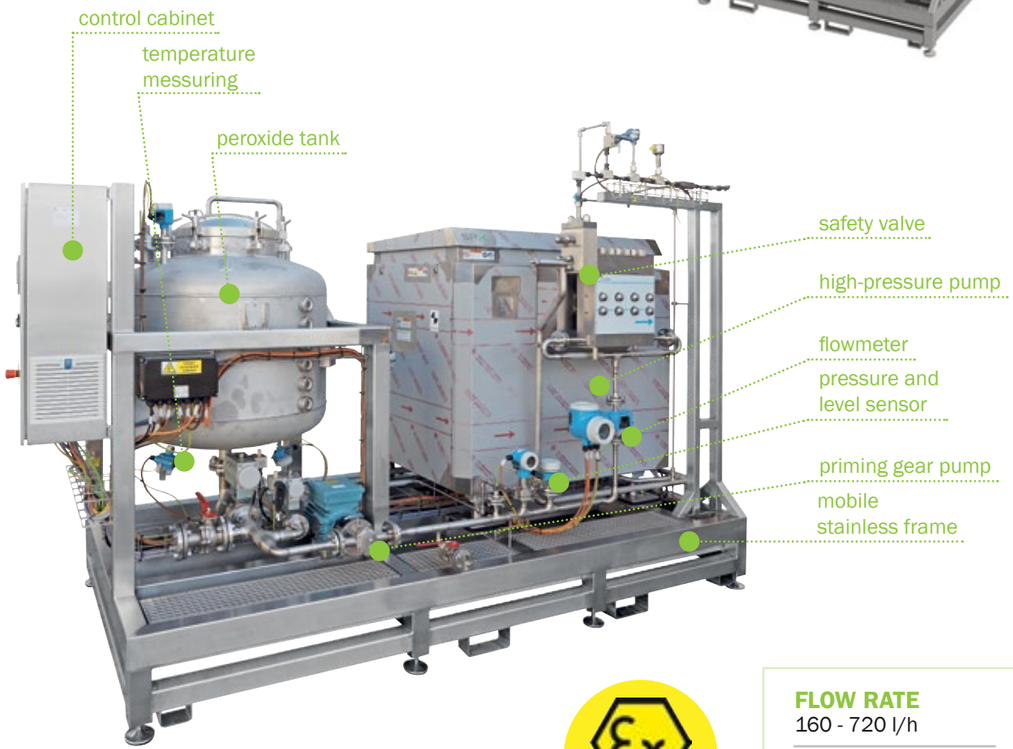
Depending on the discharge requirements and season, the unit has a by-pass line for flow of the medium without the need for pumps.



HIGH-PRESSURE INJECTION OF PEROXIDE INTO THE REACTOR

A safe injection system into a high-pressure reactor to test the medium properties under extreme conditions.

A large-capacity peroxide tank with automatic refill ensures sufficient level of the medium for its subsequent injection. This is carried out by two pumps in series connection. The rich instrumentation of the unit guarantees safe automatic operation.



PROTECTED AGAINST LEAKAGE INTO THE ENVIRONMENT

The hazardous nature of the medium requires careful separation of the internal piping spaces from the external atmosphere. This is achieved by the use of a sealless priming pump and the high-pressure plunger seal. All components are suitable for the ATEX zone.

ZONE 2

FLOW RATE
160 - 720 l/h

ACCURACY
± 5 %

PRESSURE
500 bar

HEIGHT
2,2 m

FOOTPRINT
3,3 x 1,5 m

AxFlow

CONTINUOUS SPRAYING OF ANTI-RODENT CHEMICALS

Compact unit for inline injection of two chemicals into the water and subsequent pressurisation of the nozzles.

The compact Bran+Luebbe diaphragm piston pumps allow precise, continuous spraying into the flowing water via a dosing needle. The resulting mixture is directed via a flowmeter to one of five nozzles, which ensures even spraying of the crop against pests in the storage silo.

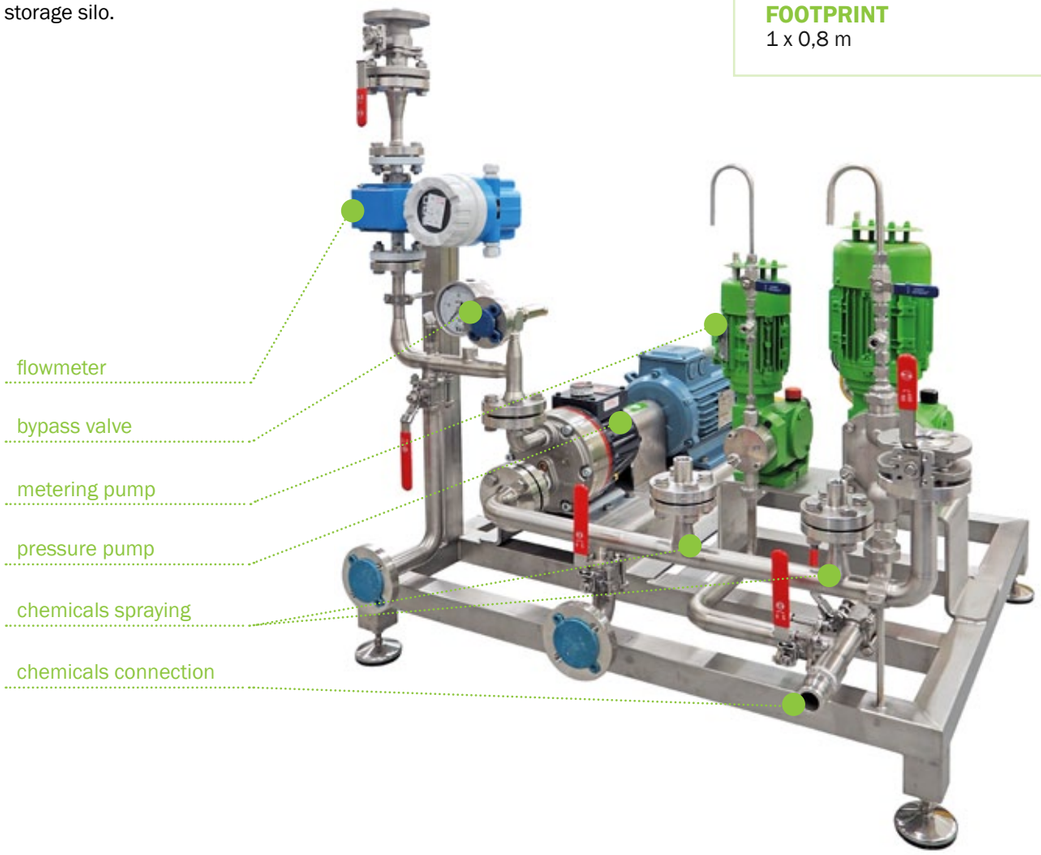
CHEMICALS SPRAYING
1,6 - 400 l/h

FLOW RANGE
150 - 1.400 l/h

ACCURACY
5 %

MATERIAL
SS 316L

FOOTPRINT
1 x 0,8 m



OPERATION FLEXIBILITY

Wide range of chemical dosing quantities thanks to a pair of differently sized pumps with manual flow control.

PARAFFIN UNIT

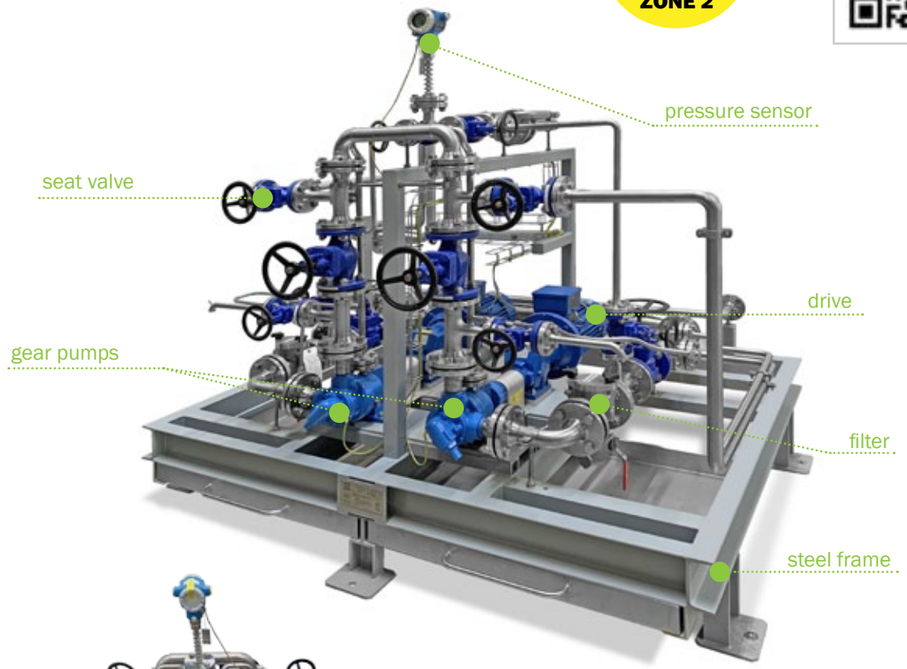
Mixture extraction system of liquid paraffin and MEK-T solvent.

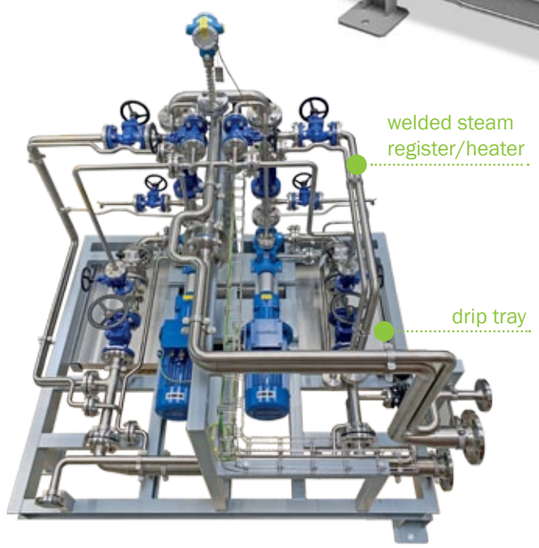
The transfer unit safely extracts the distillation residue from the distillation column using VIKING internal gear pumps. Due to the high temperature of the medium, highly resistant components up to 180 °C were used. The delivery was turnkey, including connection to the existing control system, hardware and software modifications. Due to the installation in a hazardous area, the unit is ATEX rated.

STEAM CLEANING

In the event of paraffin solidification, automatic high-pressure steam technology is installed.

ZONE 2





MEDIUM
liquid paraffin mixture

TEMPERATURE
130 to 180 °C

FLOW RATE
500 to 3.000 l/h

DISCHARGE
3 bar

FOOTPRINT
1,9 x 1,5 m

AxFlow

CHEMICALS DOSING

Dosing unit with a pair of piston diaphragm pumps.

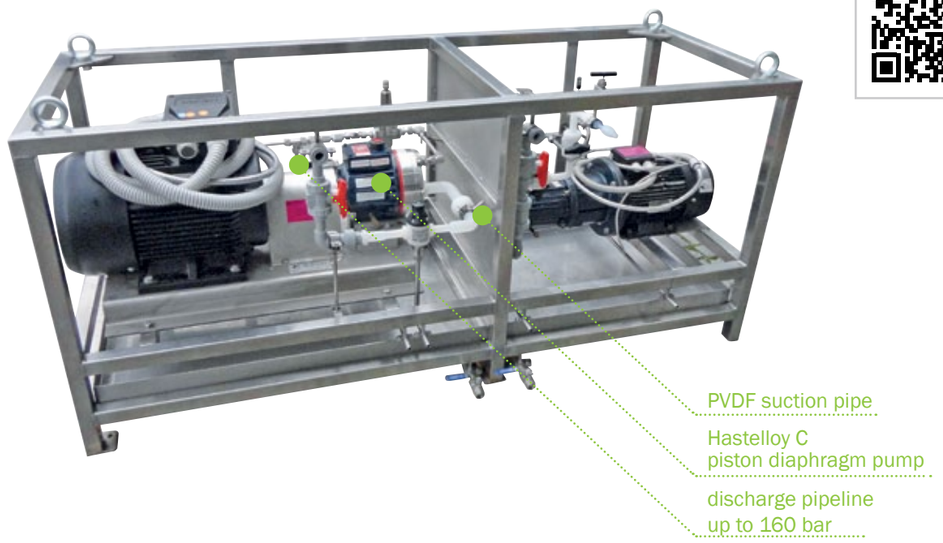
The unit is designed for high-pressure dosing of two different chemicals (NaNO2, NH4NO3+HCl) and is intended for increasing the subsurface pressure during oil production. The aggressive nature of the medium required a special design in a combination of suitable plastic materials (PVDF, PVC) and Hastelloy C alloy.

FLOW RATE
300 - 1.800 l/h

HEIGHT
0,9 m

PRESSURE
100 bar

FOOTPRINT
0,7 x 1,8 m



API DOSING UNIT

Unit for inhibitors dosing in the petrochemical industry.

The system is equipped with a progressive cavity pump fitted with a rinsing system that corresponds to API 53B standard.

FLOW RANGE
15 l/h

HEIGHT
1,2 m

FOOTPRINT
2,2 x 0,5 m

WEIGHT
300 kg

ZONE 2

HIGH-PRESSURE DOSING UNIT

Unit for precise dosing at high pressures.

The unit is controlled by panels on each of the metering pumps, which fill the suction of the piston diaphragm pumps. These allow high-pressure injection of the dosed medium.

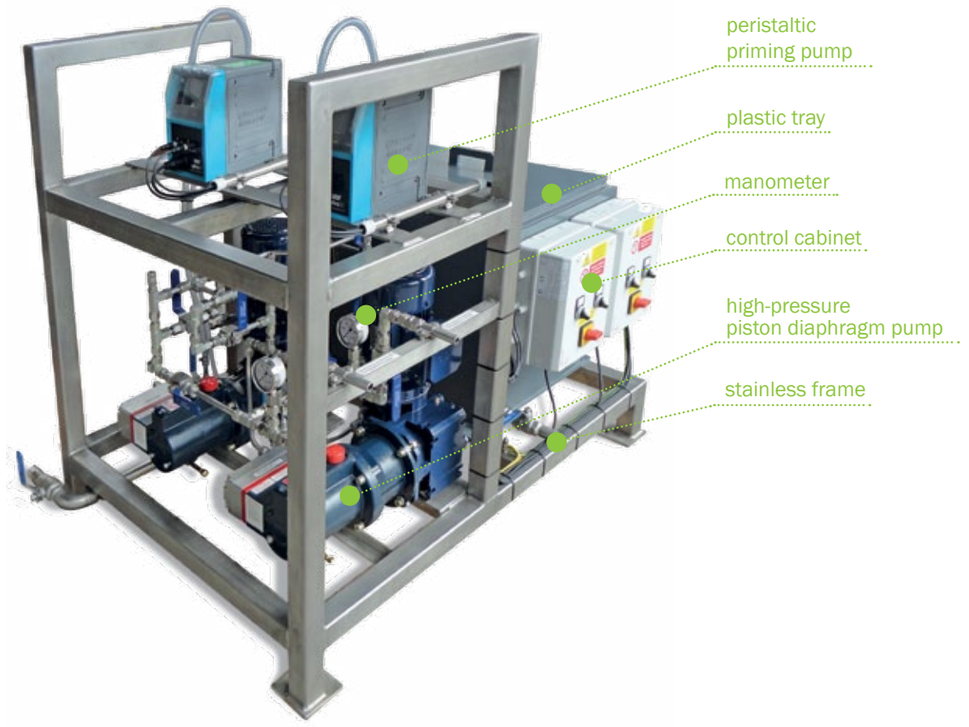
FLOW RATE
20 l/h

PRESSURE
up to 173 bar

HEIGHT
1,1 m

FOOTPRINT
1,2 x 0,9 m

WEIGHT
500 kg



COMPACT DESIGN

Priming of the high-pressure pumps is provided by highly compact peristaltic pumps, which, thanks to the integrated control display, allow easy set-up of the unit without the need for an external control cabinet.

AxFlow

HIGH-PRESSURE ANTICORROSIVES SPRAYING

Unit for medium spraying at very high pressures.

The unit is used to spray anticorrosive and cleaning mixture into three steam boilers at pressures exceeding 100 bar.

Spraying of the mixture from the IBC container is provided by three peristaltic pumps with precise, adjustable dosing and control directly on the display. The peristaltic pumps dispense the mixture into the inlet of three high-pressure piston diaphragm pumps where the mixture is mixed with demi water to the desired concentration.

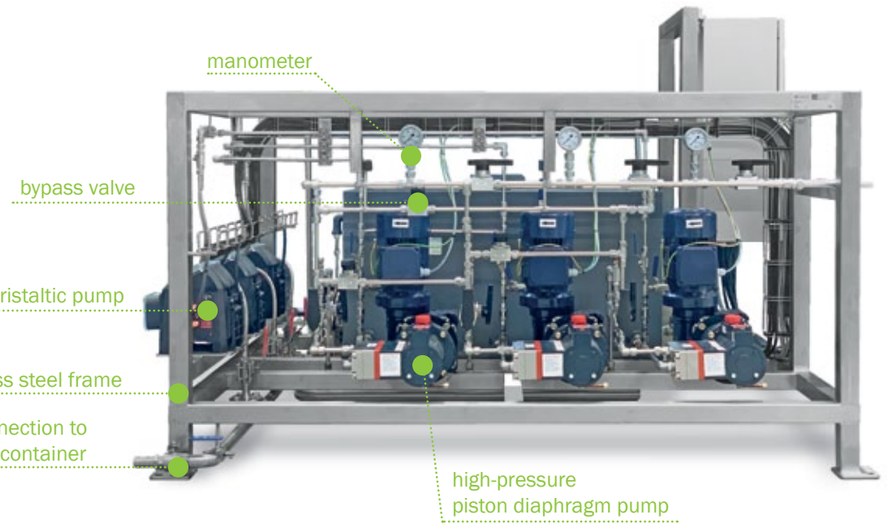
FLOW RATE
up to 11,3 l/min

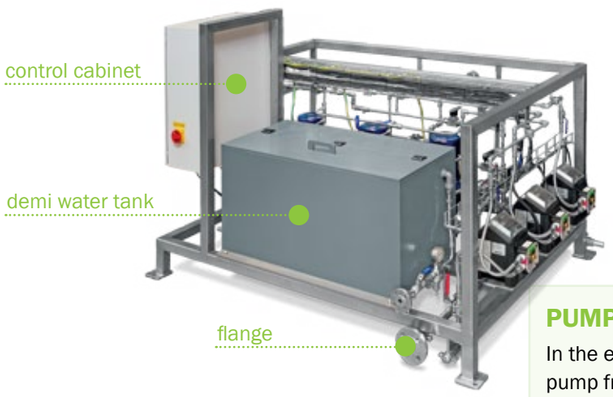
PRESSURE
up to 173 bar

TANK CAPACITY
150 l

MATERIALS
SS316L, PVC-U

FOOTPRINT
2 x 1,4 m





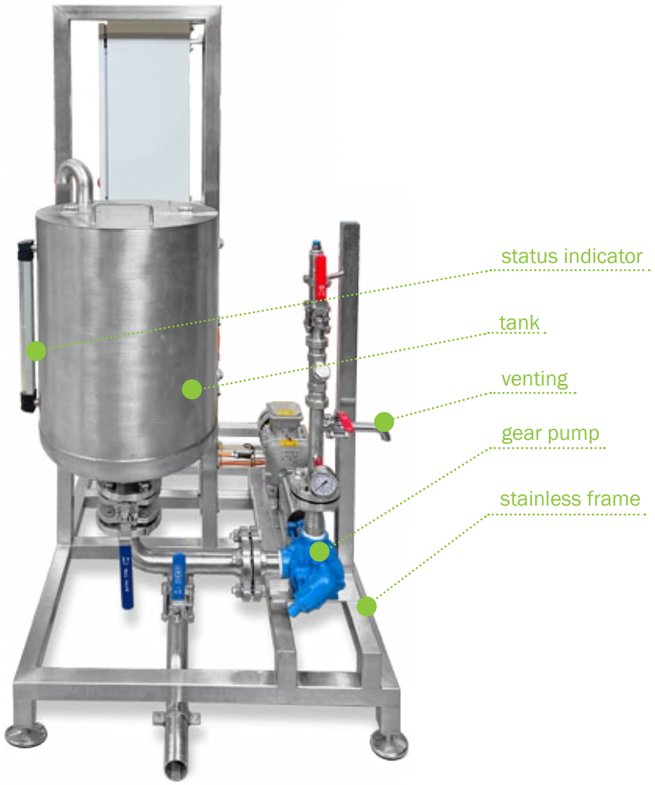
PUMP INTERCHANGEABILITY

In the event of a pump failure on one line, another pump from the other line can be used to substitute the pump using a line reconnection with ball valves. This ensures continuous pumping to any boiler even if one of the pumps fails.

OIL DOSING

Simple dosing unit with adjustable oil dosage.

The system is designed to dispense adjustable doses of oil from a manually refilled tank. The gear pump, equipped with a speed-detecting drive, has excellent dose repeatability with a simple design. An integrated touch screen provides dose size selection as well as the ability to recalibrate to a different medium.



VERSATILITY

By calibrating the batch, higher accuracy can be achieved for different process medium.

MEDIUM
hydraulic oil

DISCHARGE
up to 17 bar

FLOW RATE
24 l/min

FOOTPRINT
1,2 x 0,6 m

ACCURACY
±2 %

WEIGHT
230 kg

AxFlow

VACUUM SYSTEMS

AxFlow is the ideal partner for vacuum systems of various concepts. With direct connections to vacuum pumps and compressors manufacturers, an extensive list of applications and detailed know-how, we offer an unrivalled range of vacuum applications.

MAIN FEATURES

- Cast iron, steel/stainless design
- Detailed thermomechanical design
- Energy-efficient sophisticated design
- ATEX certification option
- Material certificates

BASIC VACUUM SYSTEM TYPES

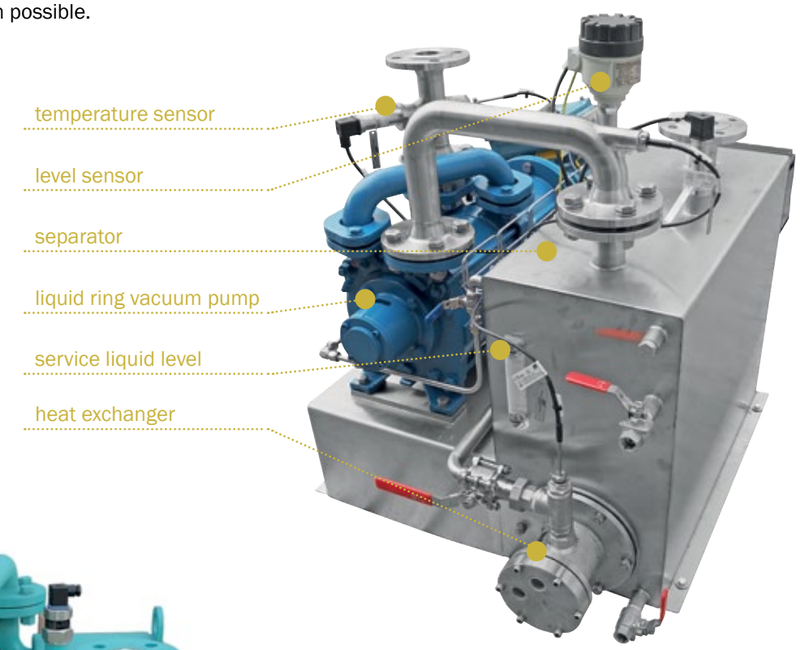
- Liquid ring units with partial recirculation
- Liquid ring units with full recirculation
- Liquid ring units with Roots blower
- Liquid ring units with ejector

SMALL VACUUM AND COMPRESSOR UNITS

Space-saving unit of liquid ring vacuum pumps with service liquid circulation.

Ensuring the recirculation and subsequent separation of the service liquid is essential for the economical and efficient operation of liquid ring vacuum pumps and compressors. AxFlow offers unrivalled variability in the construction of vacuum units. Our focus is always on the most compact design possible.

ZONE 1 ZONE 2



ALWAYS MADE TO MEASURE

Customization of vacuum units is not only about the materials and size of the unit. We are completely free to equip the units with temperature, level, pressure sensors or automate the regeneration of the service liquid.

AxFlow

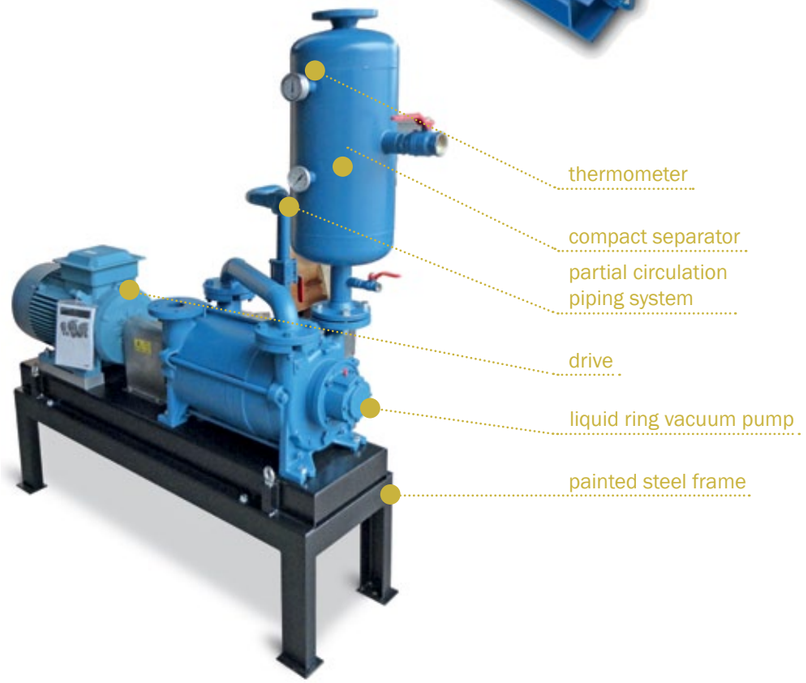
FLOW RATE
up to 800 m³/h

VACUUM
up to 33 mbar(a)

TANK CAPACITY
up to 150 l

HEAT EXCHANGERS
tubular, plate,
bundle, air coolers

MATERIALS
stainless steel,
cast iron, steel



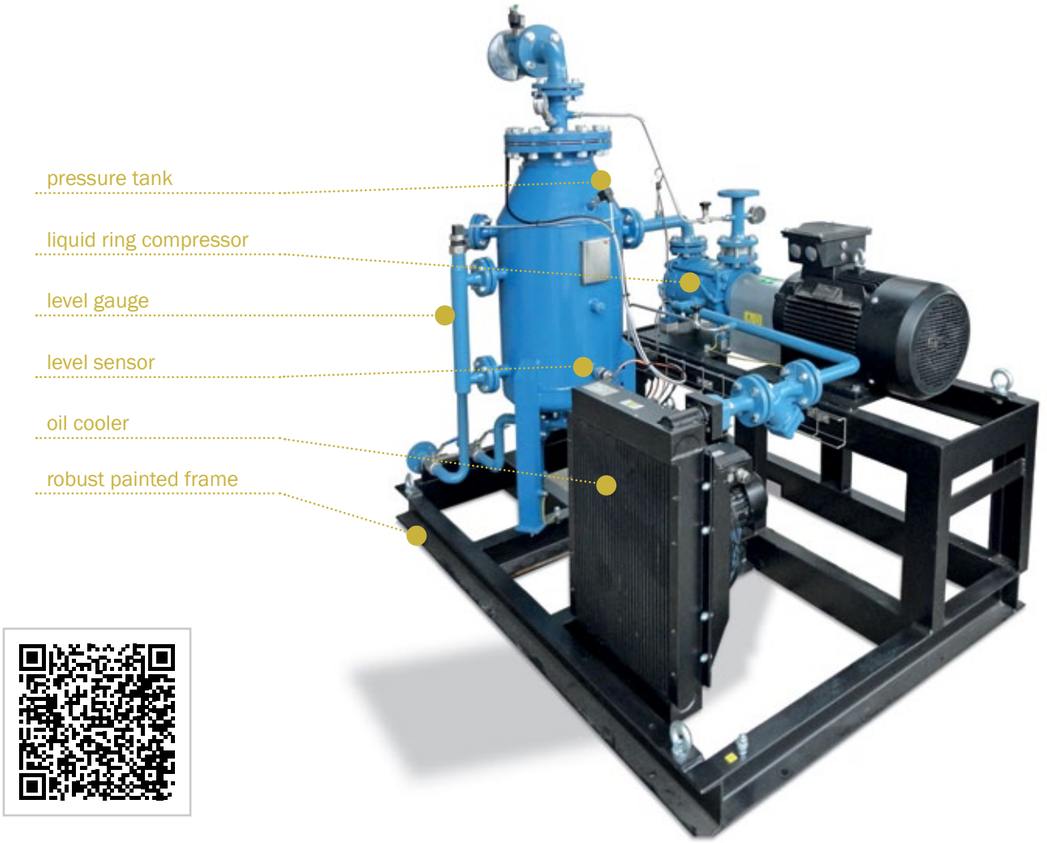
PYROLYSIS GAS COMPRESSOR UNIT

Oil-ring compressor system for efficient compression of the hydrocarbon mixture.

The unit provides reliable compression of pyrolysis gas by a liquid ring compressor with circulation of service oil. The use of oil as a service liquid contributes to higher compressor parameters. Oil cooling is provided by an air cooler and the separator is equipped with oil vapour filtration.

OIL SYSTEM

The liquid-ring system is very durable thanks to the use of oil as a service liquid and the whole system has a very long service life.



MEDIUM
hydrocarbon mixture

PRESSURE
8 bar(g)

SERVICE LIQUID
oil

MATERIAL
steel, cast iron

FLOW RATE
130 m³/h

FOOTPRINT
2,1 x 1,6 m

ZONE 2

VAPOUR MIXTURE COMPRESSOR UNIT

Liquid ring compressor system in stainless steel finish.

The unit is built in an all stainless steel design that resists corrosion in a water environment. Full circulation of the service liquid saves operating costs and the bundled heat exchanger eliminates the need for cleaning.

BUNDLED HEAT EXCHANGER

A helical (bundled) heat exchanger is used to cool the service liquid to maximize the overall heat transfer coefficient.

MEDIUM air, CO2, water vapour	**PRESSURE** 1,8 bar(g)
SERVICE LIQUID water	**MATERIAL** AISI 304/316L
FLOW RATE water 350 m³/h	**FOOTPRINT** 2,6 x 0,9 m

VACUUM UNIT WITH PARTIAL RECIRCULATION

The vacuum unit is used to maintain the inlet flooding of the hydropower plant by creating an underpressure.

The partial service liquid regeneration system consists of two single stage liquid ring vacuum pumps, each for 100 % of the required output. Ball valves for repositioning the pumps are controlled by electric actuators.

ENHANCED SUPPLY RANGE

The delivery also included other equipment for the engine room - a buffer tank with continuous level measurement and a system for the automatic refilling of the service liquid.

MEDIUM humid air
SERVICE LIQUID water
FLOW RATE 280 m³/h
VACUUM 200 mbar(a)
MATERIAL stainless steel
FOOTPRINT 2,2 x 1,3 m

AxFlow

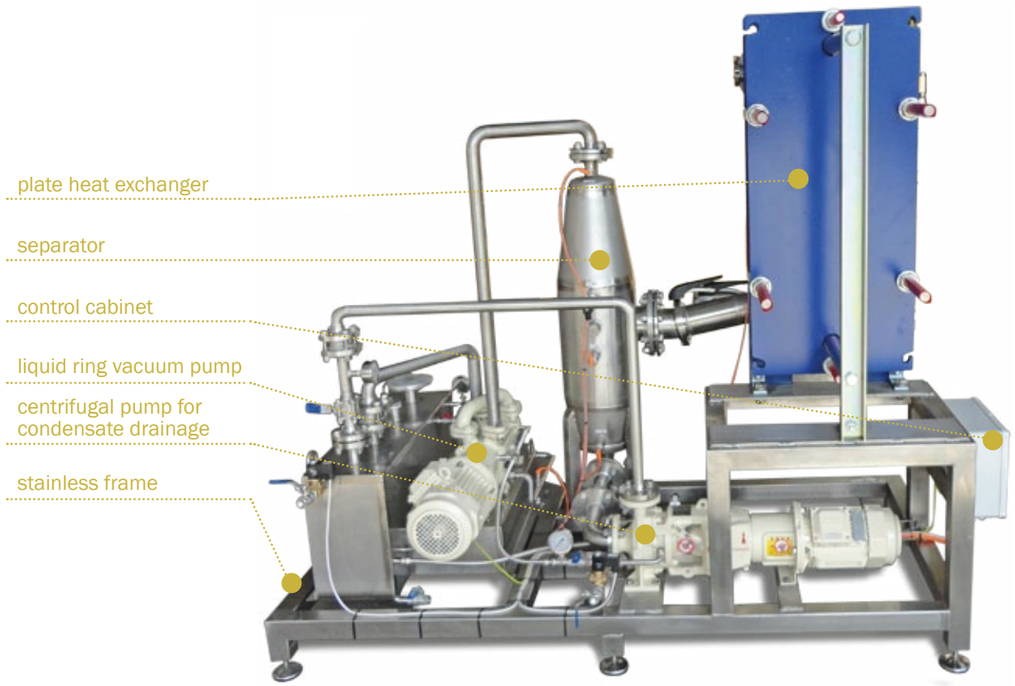
STEAM EXTRACTION FROM THE MUESLI COOKER

Automatic cooker vapour extraction unit with inlet vapour cooling and condensate separation.

A plate heat exchanger at the inlet of the unit ensures the cooling of hot vapours and condensation of excess moisture. The liquid ring vacuum pump thus already works with drier vapours at a lower temperature. The centrifugal pump then transfers the condensate between the two separators.

EFFECTIVE DOUBLE SEPARATION

Double liquid phase separation is used both upstream and downstream of the vacuum pump to increase the efficiency of hot vapour drying. This prevents condensate from flowing into the vacuum pump body and increases the efficiency of extraction.



MEDIUM
hot vapours

VACUUM
100 mbar(a)

SERVICE LIQUID
water

MATERIAL
stainless steel

FLOW RATE
22 m³/h

FOOTPRINT
2,1 x 1,2 m

WATER VAPOUR EXTRACTION FROM THE CONDENSER

Vacuum system for evacuation of the condenser behind the steam turbine.

Packed unit with full recirculation in 2 x 100% configuration (A+B vacuum pump).
At initial start-up (hogging) both vacuum pumps are in parallel, while in holding mode only one two-stage liquid ring vacuum pump is in operation. The full-service liquid recirculation system is operated with one shared separator and a service liquid cooler.

MEDIUM
humid air

VACUUM
57 mbar(a)

SERVICE LIQUID
water

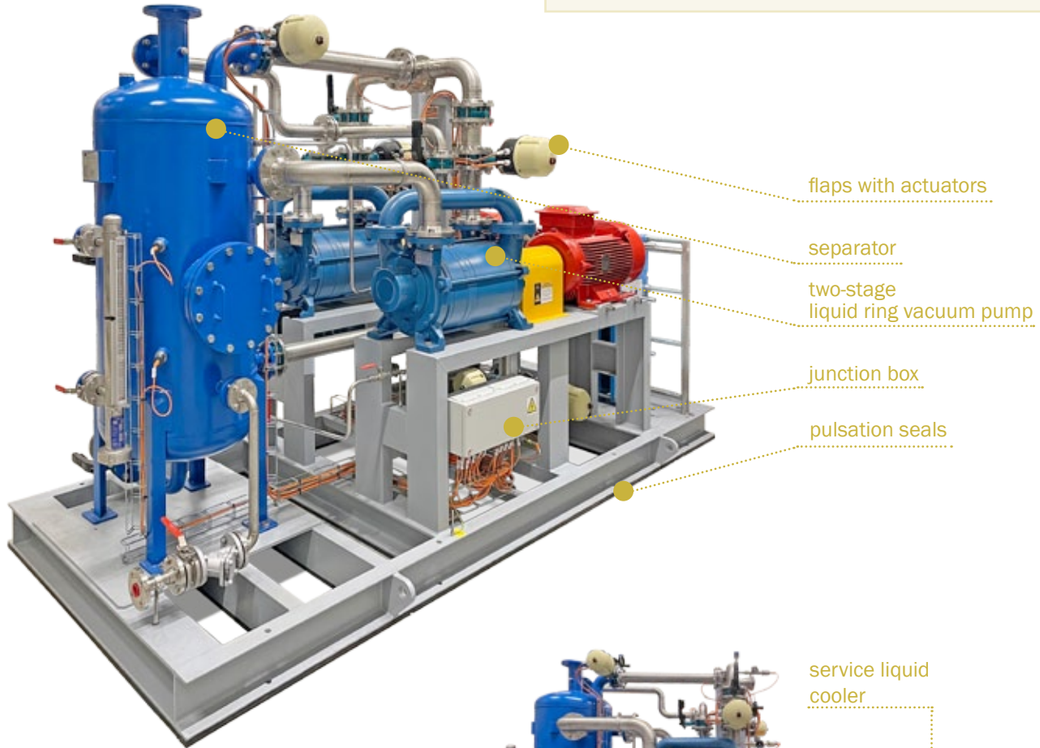
MATERIAL
stainless steel

FLOW RATE
553 m³/h

FOOTPRINT
3,6 x 1,6 m

EAC CERTIFICATION

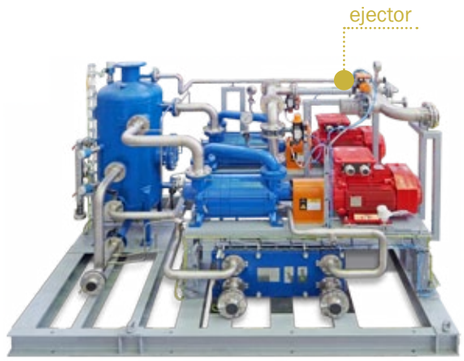
All system components are EAC certified for operation in the Eurasian Customs Union.



WATER VAPOUR EXTRACTION FROM THE CONDENSER WITH EJECTOR

Vacuum system for evacuation of the condenser behind the steam turbine.

The packed unit contains 2 liquid ring vacuum pumps, each for 100% of the required output.
Both vacuum pumps run in parallel during initial hogging. The system includes a shared separator and separate plate coolers for each vacuum pump. Switching the operation of vacuum pumps is made possible by flaps with pneumatic actuators.



EMBEDDED EJECTOR

An air ejector is included to reduce the minimum suction pressure without cavitating the vacuum pumps. This allows a higher vacuum to be achieved even with warmer service liquid. The documentation scope meets the requirements according to VGB standards.

MEDIUM
humid air

SERVICE LIQUID
water

FLOW RATE
428 m^3/h

VACUUM
41 mbar(a)

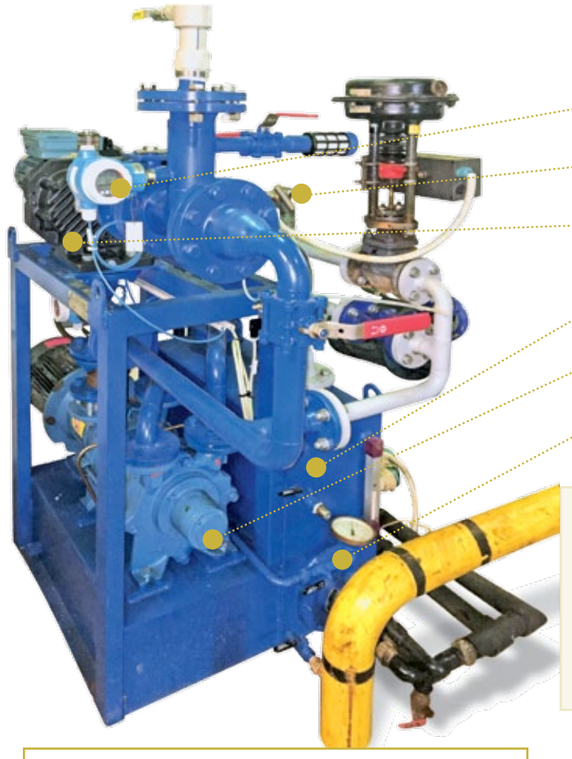
MATERIAL
stainless steel

FOOTPRINT
3 x 2 m

VACUUM UNIT WITH BOOSTER

Unique vacuum unit combining liquid ring principle with dry-running booster.

By pre-assigning the dry-running booster, both the extracted flow rate and the vacuum value increase dramatically, dropping to units of millibars. The compact vertical layout saves valuable footprint.



ENERGY EFFICIENCY

By combining the two principles, extraordinary energy efficiency is achieved and in this way, only a fraction of the power input of motors is required than in the case of a separate liquid ring vacuum pump.

MEDIUM
hydrocarbons, weak acids

SERVICE LIQUID
glycol

FLOW RATE
210 m^3/h

VACUUM (abs.)
1 mbar

MATERIAL
cast iron, steel, stainless steel

FOOTPRINT
1,5 x 0,7 m

ZONE 2

AxFlow

3-STAGE VACUUM UNIT FOR EXTRACTION OF GASES

King-size vacuum unit for extraction of hydrocarbon mixture at vacuum in units of mbar.

Skid system for evacuation of reactors to ensure conditions for chemical reactions during the production of F-gases, consisting of 3 stages; 1st and 2nd stage consists of Roots blower, 3rd stage of liquid ring vacuum pump. Contains 2 parallel lines A+B, with line A in operation and a backup line B. During initial start-up, both liquid ring vacuum pumps are switched in parallel to achieve higher volumetric flow rate and faster start-up to rough vacuum.

EASY SERVICE ACCESSIBILITY

The layout of the unit is well-suited for access to rotating machinery and instrumentation to facilitate subsequent servicing.

ENERGY EFFICIENCY

Roots blowers combined with liquid ring vacuum pumps provide high volumetric flow rate at low vacuum and significantly lower energy consumption for the end user.

MEDIUM
hydrocarbon mixture

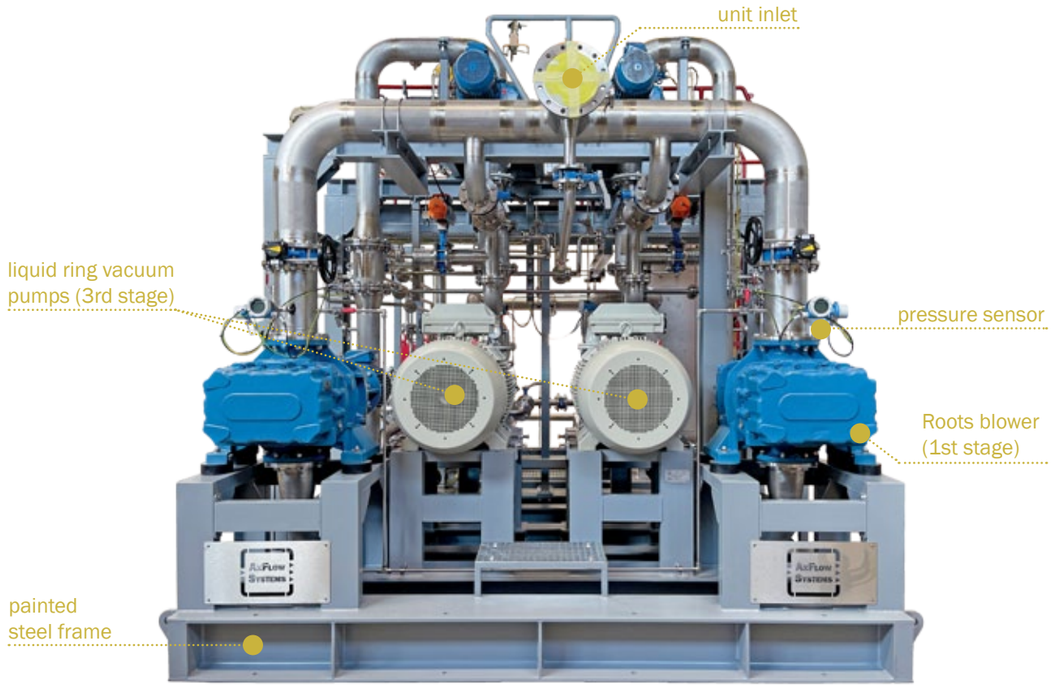
VACUUM
5 mbar(a)

SERVICE LIQUID
hydrocarbon

MATERIAL
stainless steel

FLOW RATE
4.000 m³/h

FOOTPRINT
3,7 x 4,4 m

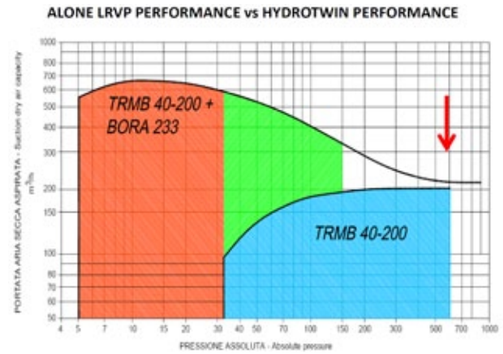


REQUIRED CAPACITY

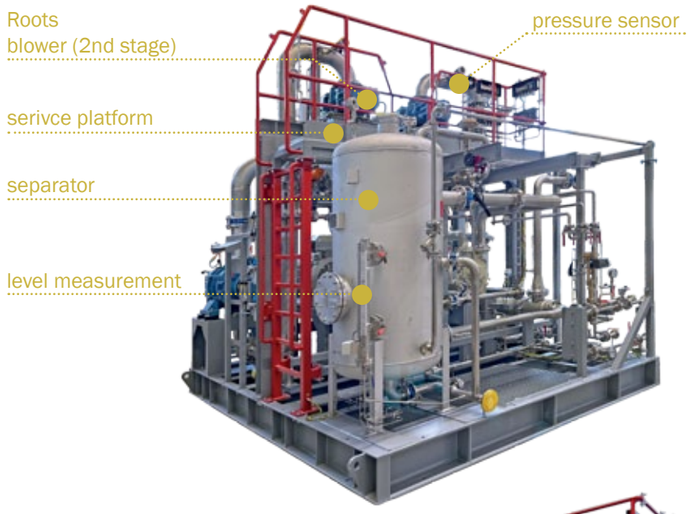
1500 m³/h at 10 mbar

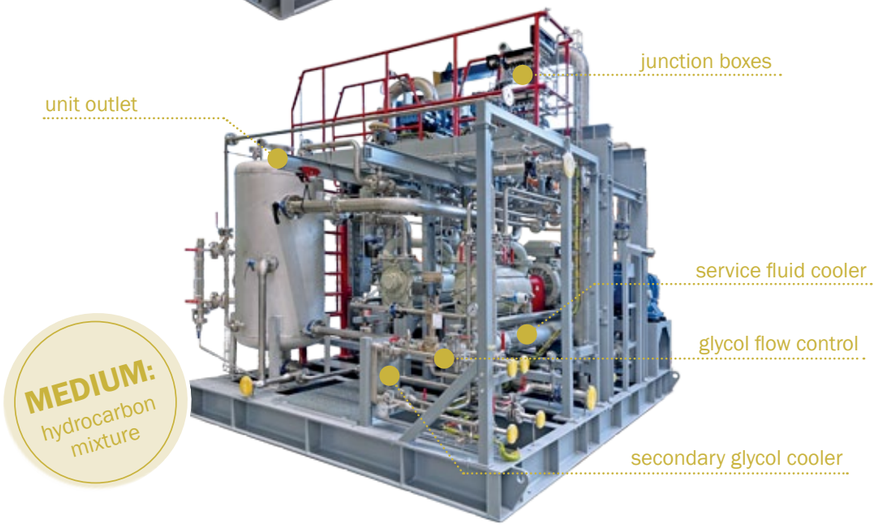
STANDARD LIQUID RING VACUUM PUMP
TRVX 1257
45 kW

HYDROTWIN VACUUM UNIT
TRVX 1257 + BORA 673
15 + 5,5 kW
20,5 kW



ENERGY SAVINGS COMPARSION





AXFLOW

2-STAGE VACUUM UNIT FOR GAS EXTRACTION

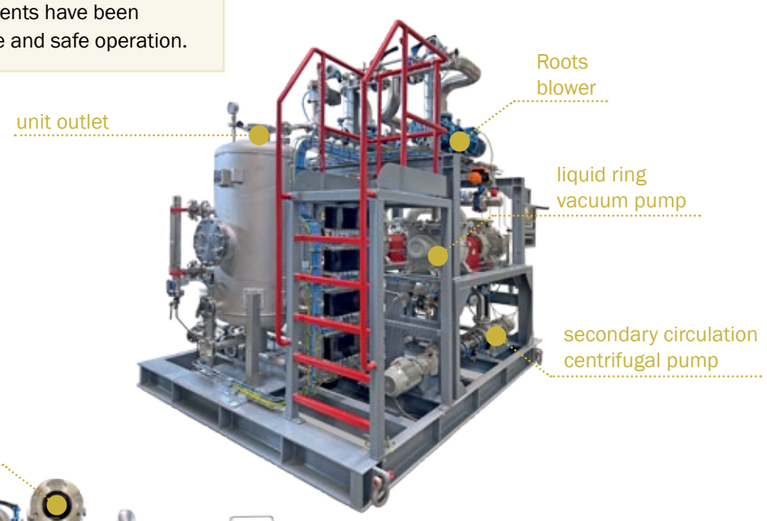
2-stage vacuum unit for hydrocarbon extraction.

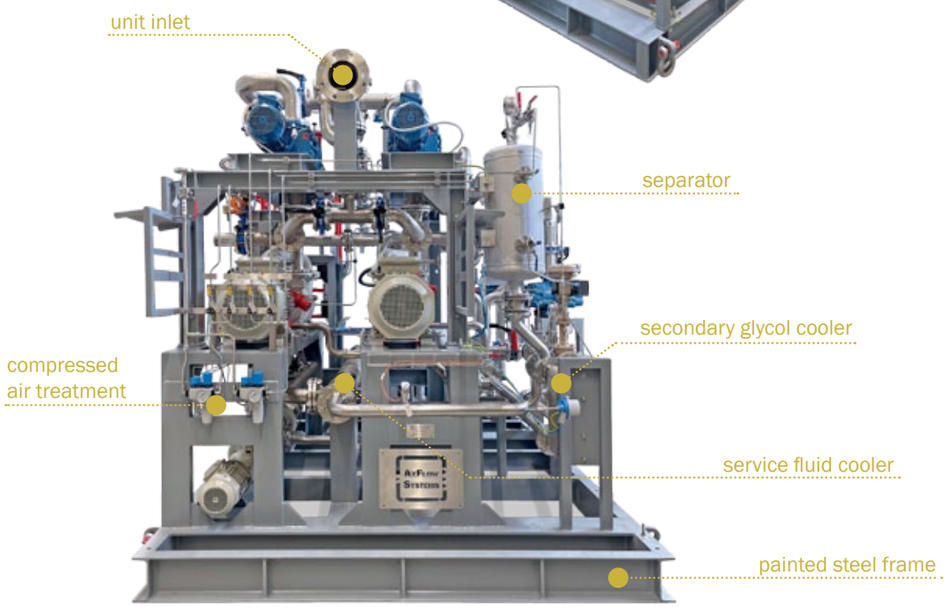
Unit for hydrocarbon extraction at vacuum up to 30 mbar(a) and flow rate 750 m³/h. In addition to the complete instrumentation package (pressure, temperature, service fluid flow and other monitoring), the system includes a glycol plant for cooling the working fluid - water.

MEDIUM hydrocarbon	**VACUUM** 30 mbar(a)
SERVICE FLUID water	**MATERIAL** stainless steel
FLOW RATE 750 m³/h	**FOOTPRINT** 2,6 x 3,4 m

CHEMICAL COMPATIBILITY

Due to the hazardous nature of the extracted medium, compatible components have been selected to guarantee reliable and safe operation.





LIQUID-RING SYSTEMS

The foundation of any vacuum system is a properly designed liquid ring vacuum pump. It requires a constant supply of service liquid at the correct temperature to function. However, in addition to its sealing function, the service liquid also removes the compression heat from the pump, thereby heating itself. The temperature of the service liquid has a significant effect on the operating point of the vacuum pump, so it must be kept within the required temperature range. AxFlow liquid ring systems provide a comprehensive and economical solution for liquid ring vacuum pump operation in several equipment levels.

PARTIAL RECIRCULATION SYSTEMS

The vacuum pump is connected to the supply separator and allows circulation of the service liquid. However, for the long-term operation of the vacuum pump, the service liquid must be regenerated due to the rising temperature in the circuit.

- \+ lowest investment costs
- \+ suitable for short-term operation and heavily contaminated steam
- \+ possibility of filling/draining of liquid

- − fluctuating vacuum pump parameters due to unstable service liquid temperature
- − service liquid regeneration required for long-term operation
- − higher running costs

FULL RECIRCULATION SYSTEMS

The service liquid circulation is supplemented by a heat exchanger to ensure a continuous supply of service liquid at a constant temperature.

- \+ significantly more economical operation
- \+ constant vacuum pump parameters
- \+ choice of exchanger type based on vapour purity (plate, tube)
- \+ possibility of automated filling/draining of liquid

- − slightly higher investment costs

COMBINED VACUUM SYSTEMS

To achieve the highest vacuum, AxFlow offers liquid ring systems supplemented by a pre-assigned dry-running booster (Roots blower) or a gas/steam ejector.

Ejector

- \+ simple construction without drive
- \+ vacuum increase up to units of mbar(a)

- − need for an additional drive medium (steam type)
- − vacuum increase at the expense of flow rate decrease

Booster (Roots blower)

- \+ vacuum increase up to units of mbar(a)
- \+ simultaneous increase in flow rate
- \+ lowest running costs
- \+ possibility to replace a significantly larger vacuum pump with a small aggregate without booster

- − higher acquisition costs

WHAT CAN WE DO?

Delivering a catalog product is one thing. We invent, build and commission our systems ourselves, which is only possible because of the extraordinary range of services available to you.

AXFLOW SCOPE OF SUPPLY

- ✓ Design and calculation
- ✓ Assembly and installation
- ✓ Welding
- ✓ Wiring
- ✓ Software
- ✓ Service
- ✓ Consulting
- ✓ Documentation

ASSEMBLY AND INSTALLATION

Modernly equipped assembly hall and a wide range of on-site installation options.

AxFlow has modern facilities with a fully equipped assembly hall in Prague, where we build all our units for you.

After assembly, each packed unit undergoes a standard quality and leak check. But our work doesn't end with the completion of the unit. We will come to your facility and provide piping connections for all inlets and outlets. This ensures that you always have a guarantee of correct installation and functionality, including a superior warranty on the entire delivery range.

INSTALLATION

- ✓ Unit assembly in the production hall
- ✓ Quality and leak control
- ✓ Transport to the site
- ✓ Pipe connecting
- ✓ Warranty on the whole delivery range

ALL UNITS BUILT IN CZECH REPUBLIC

WELDING

Diligence, creativity and modern practices.

Perfect joints welded in a protective atmosphere are the basis of our systems. Our welding team is ready to meet the challenges in food and industrial plants. All work is backed by the necessary certification and, of course, is covered by our warranty.

Do you need to pipe the unit to your existing technology? No problem! We know our systems inside out, so we know best how to make the connection so everything works as it should. Save yourself the hassle and leave it to us!


DOM - ZO 13, s.r.o., Technická inspekce COV

CERTIFIKÁT

č. ZCV-20-33B/C01

AxFlow s.r.o.

procesu svařování

ČSN EN ISO 3834-2:2006

Výroba svařovaných potrubních systémů a jejich konstrukčních prvků.

AXFLOW WELDING

- ✓ TIG welding in a protective atmosphere
- ✓ Certification to the ČSN EN 3834-2:2006 standard
- ✓ Welding of stainless and carbon steel
- ✓ Guaranteed sealing
- ✓ Weld grinding

ON-SITE AND WORKSHOP WELDING

WIRING

Electric motors, sensors, valves and control cabinets as an integral part of our technology.

You can always rely on professional electrical wiring and the use of modern components and approaches for our deliveries.

We design and build all electrical control cabinets ourselves and deliver them including complete documentation. Our application department then benefits from many years of expert know-how in the field of process sensors

We use only quality components from world-class manufacturers and we can also adapt to your requirements. Uncompromising operational safety is paramount

We will wire up everything needed at the workshop or on-site and provide an electrical inspection/testing to get the new technology up and running as soon as possible.

Hygienic and industrial **DESIGN** also for ATEX sites

ELECTRICAL WIRING

- ✓ Design of electrical components
- ✓ Control cabinet construction
- ✓ Cable connection of the unit
- ✓ Electrical connection to technology
- ✓ Electrical project and other documentation
- ✓ Unit test/equipment revision

AxFlow

SOFTWARE

Software flexibility and sophisticated control.

We design and develop the control software from scratch in AxFlow ourselves. This way you can rely on a functional unit that we can tailor to your needs. We use the most widely used control systems from Siemens and Allen-Bradley.

Touch controls on modern control screens, customized for easy management and clear status monitoring. This is our idea of industrial automation.

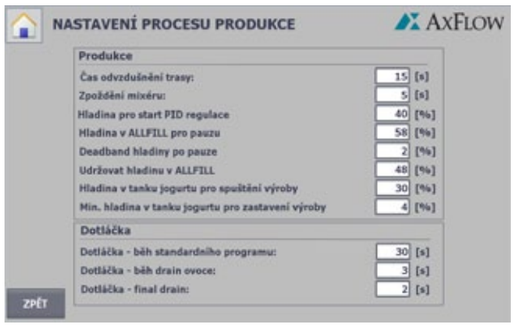
Our systems can operate completely autonomously, but increasingly we are integrating them into existing technology and providing software communication between our unit and your system.

Fast software assistance in the event of a sudden problem then completes the unparalleled software services on the market.

COMMUNICATION

- ✓ Siemens and Allan-Bradley systems
- ✓ EtherNET, ProfiNET, ModBUS, ProfiBUS, relay communication
- ✓ Touch screen control
- ✓ Software connection to technology
- ✓ Fast and flexible support

CUSTOM SOFTWARE AND CONTROL DESIGN



SERVICE

Full service support for the entire period of system operation.

We build our units exclusively from quality components and pride ourselves on their longevity. However, in addition to regular maintenance, we are also prepared for unexpected situations and problems. In these cases, you can rely on experienced service technicians as well as process engineers and designers to help identify the problem and provide a quick solution.

To minimize the risk of forced production shutdowns, we offer consignment warehouses and service contracts.

OUR SUPPORT SERVICES

- ✓ Regular maintenance
- ✓ Emergency service
- ✓ Service of ATEX equipment as per 2014/34/EU standard
- ✓ Service contracts and consignment warehouses
- ✓ Czech and slovak service team

ORIGINAL SPARE PARTS

AxFlow

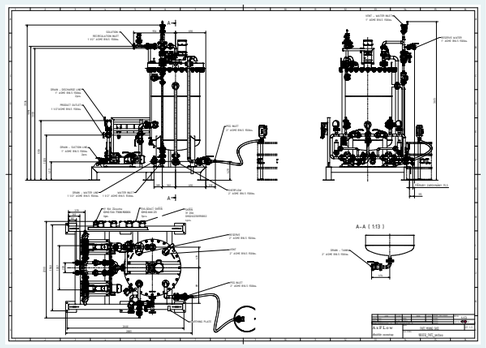
DOCUMENTATION

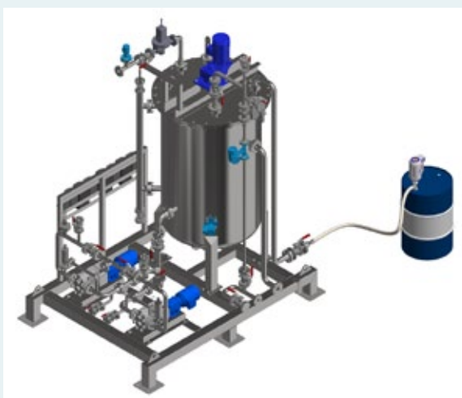
COMPLETE GUIDE

For each system, we supply clear operating instructions covering all processes and conditions, whether it is operation or maintenance.

CONSTRUCTION DRAWING DOCUMENTATION

We design all our systems in a 3D interface. This way, in addition to the standard 2D dimensional drawings, you always have a 3D model of the unit for easy use in further design.





MATERIAL CERTIFICATES

We can provide material certificates according to ČSN EN 10204 (2.2, 3.1) for any metal components of our systems.

HYGIENE CERTIFICATES

Component certifications are available for food and pharmaceutical systems certifying their suitability for clean installations.

ATEX CERTIFICATION

We also supply our systems for hazardous areas. You will receive all necessary certificates and declarations for the entire system and individual components.

fluidity.nonstop® is our promise and our goal. It expresses our commitment to providing a high level of service and offering quality products, technical solutions, and expertise that are at the top of the industry.
We are a leading European supplier of turnkey hygienic, industrial, and vacuum systems. We design and build our systems entirely in the Czech Republic and use top-quality components from the world's best manufacturers. Our dynamic team combines years of detailed application know-how with modern approaches and always puts the customer first. Entrust us with your application and improve your operation.

AxFlow

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