



NRScompact
SLURRY TREATMENT SYSTEM

BENEFITS AT A GLANCE

COMPACT PLUG & PLAY UNIT

The NRScompact is a fully automatic, cost-optimized, and complete system for the mechanical separation of solids and nutrients from liquid pig manure and digestate, providing an opportunity to meet the requirements of potential fertilizer regulations.

The solids separated from raw manure or digestate is especially rich in nutrients and can be optimally used as an energy source in biogas plants or as natural fertilizer in regions with low amounts of farm manure. Further drying and thermal utilization is also possible.

Thanks to the high throughput of the NRScompact system and the significant reduction of nutrients in the liquid phase, the surface area required for spreading is significantly smaller. Due to its low viscosity and minimized total solids percentage, the liquid phase is also very well suited for further treatment, e.g. NH₃ stripping.

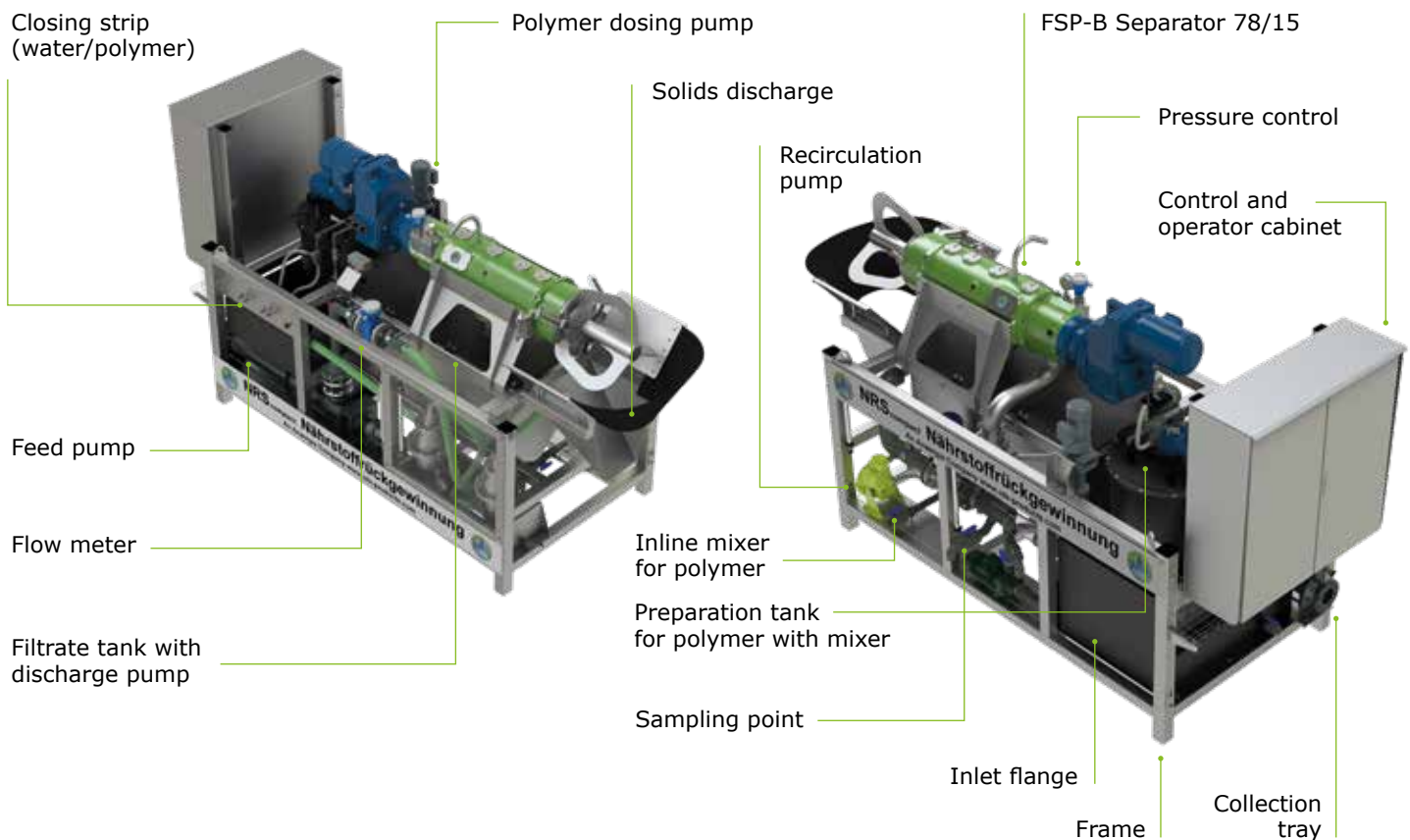
The low energy consumption of the system (approx. 6 kW_{el}), a low noise level (<60 dB), and minimal maintenance expenses are additional advantages of our intelligent slurry treatment unit.

SAFE:

Sensor-supported monitoring and safety shut-off, as well as collection tray for preparation and dosing station

EFFICIENT:

Very high separation capacity (achievable separation rates: phosphate >98%, total solids >80%, volatile solids >85%, nitrogen >50%), throughput up to 4m³/h



COMPACT:

Complete treatment system mounted on space-saving frame

INTELLIGENT:

Fully automatic operation

FLEXIBLE:

Separation of various media possible in multiple installation locations

OUR SOLUTION FOR NUTRIENT PROBLEMS

NRScompact



NUTRIENT REDUCTION FOR FERTILIZER REGULATION REQUIREMENTS

- » Through the separation process, nutrients are transferred into the solid phase in order to significantly reduce the nutrient load in the liquid phase
- » Hog farms benefit from a significantly lower footprint required for spreading of the separated liquid manure

FLEXIBLE USE

- » Used for the treatment of liquid pig manure for livestock facilities holding up to 20,000 feeding pigs and/or for the treatment of digestate
- » Possible to change location of equipment

NUTRIENT-RICH SOLID PHASE

- » The solid phase, with a total solids (TS) percentage of >25%, is particularly high in nutrients
- » It is optimal for use as an energy source in biogas plants or as a natural fertilizer in regions with low amounts of farm manure

IDEAL BASIS FOR FURTHER PROCESSING

- » The solid phase is very good for further drying, and is even suitable for thermal utilization
- » Thanks to the minimized total solids content and low viscosity, the liquid phase is well-suited for further treatment, e.g. by means of NH_3 stripping or ultrafiltration/reverse osmosis

LOW OPERATING COSTS

- » Fully automatic controls
- » Low energy consumption of the overall system at approx. 6kW_{el}
- » Long service life and low maintenance due to high quality of the product

HOW THE NRSCOMPACT FUNCTIONS

PREPARATION BY PROFESSIONALS

The separation of liquid manure takes place after passing through a flocculation system. For this purpose, diluted flocculant is mixed intensively into the liquid manure by an integrated polymer preparation and dosing station that includes a dynamic inline mixer.

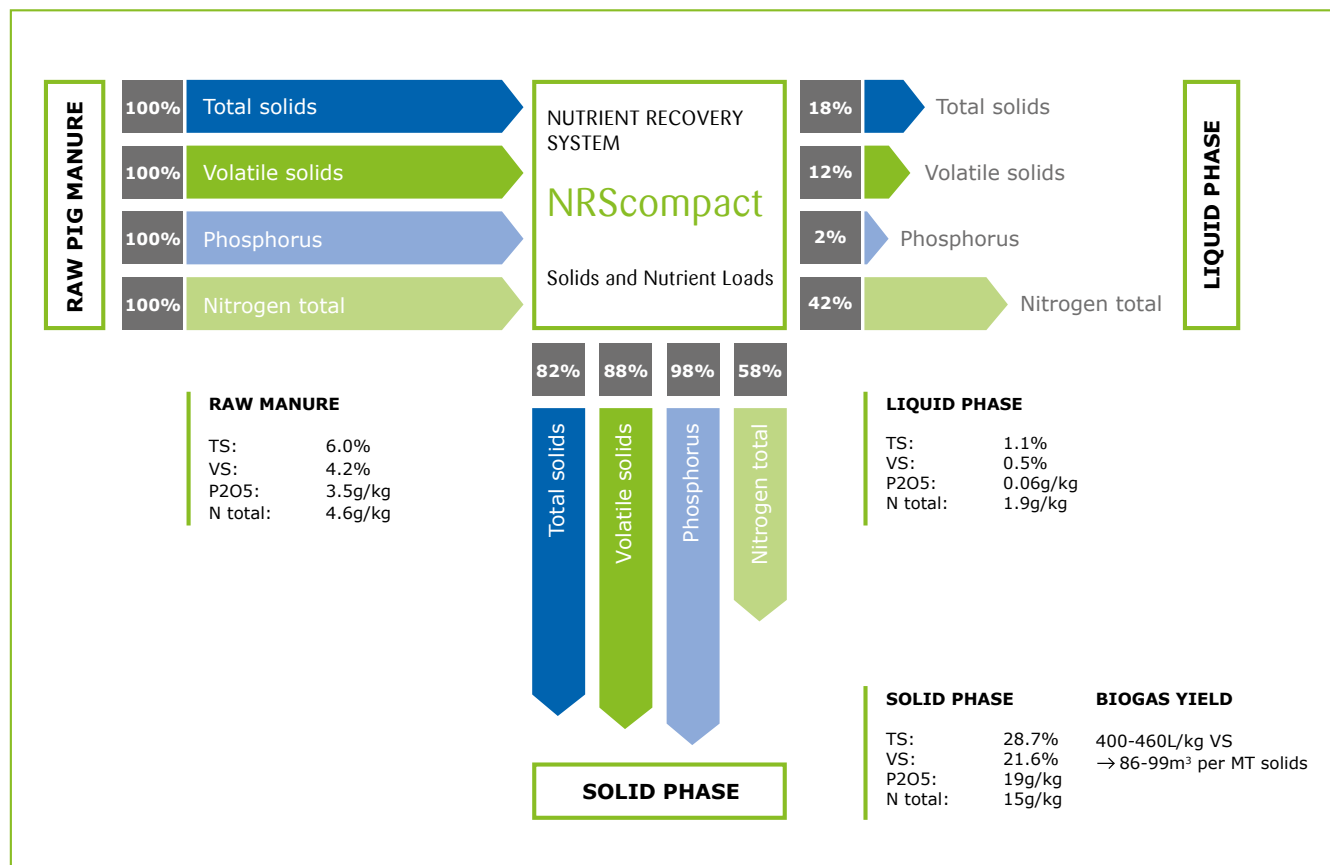
Optionally, micro-flocs can be generated in advance in an upstream step with an iron(III) dosing unit and a

mixing cyclone. This step is normally only necessary for fermentation products.

Dosing pumps, metering pumps and a filtrate tank with a filtrate pump are included in the system.

The control system, integrated sensors, and measuring technology enable fully automatic and safe operation of the system.

The following mass and nutrient balance, for example, depicts the distribution of solids and nutrient loads in the solid and liquid phases:



Flocculated pig manure



Filtrate pig manure



Solids

NRScompact - INSTALLATION EXAMPLE

SEPARATION MADE EASY

The NRScompact is a complete system with the separator and all necessary pumps, tanks, sensors, and a fully automatic control unit.

With the complete NRScompact system, a significant advantage is provided with optimized installation and footprint requirements. The system can be positioned at an elevated discharge point or at ground level, dependent on if either a solids conveyor belt or a conveyor screw (with a connection option at the control cabinet) for the removal of solids need to be installed.

An installation location protected from frost should be selected for winter operation.

Once placed in the desired location, it is then only necessary to connect a supply hose from a homogenized liquid manure storage tank, a filtrate hose (hose connections available) and electricity and water connections. The supplied hoses for the polymer concentrate and the iron(III) solution are screwed into the removal tank, e.g. IBC or vat, with the pre-installed suction lances such that safe and fully automatic operation can begin.



OUR ANAERGIA TECHNOLOGIES

We offer solutions for the following applications:

- » Pump Technology
- » Mixing Technology
- » Separation
- » Extrusion Technology
- » Screening & Sorting
- » Size Reduction
- » Organic Polishing
- » Conveyor Technology



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