

RotaCut Professional Bid Specifications

Service Item: Wet Shredder with Heavy-Material Separation

Wet grinder with integrated heavy-material separator, automatic cutting force control, and energy-optimized Eco mode, in which the grinding performance is adjusted based on the medium and process.

The wet grinder must be designed for installation in the piping or in the designated process section of the wastewater treatment plant and is intended to protect pumps, valves, piping, and equipment from contaminants. The design must enable safe, energy-efficient, and low-maintenance operation. Operation must be possible either in continuous regulated mode or in an energy-optimized, demand-based Eco mode.

The machine must be designed so that the shredding unit, the heavy-material separator, and the essential operating and monitoring functions are easily accessible. The design must allow for quick inspection, cleaning, and maintenance to reduce downtime and maintenance costs.

Vogelsang RotaCut Professional

Series ☐RCQ ☐RCX

Size _____

Detailed Specifications

- Perforated disc shredder with integrated heavy-material separator for shredding fibers and separating impurities from the medium
- Easy and quick access to the cutting unit and heavy-material separator
- Integrated arrangement of the necessary sensors
- Digital interface to the higher-level control system for warning and fault messages as well as a reset function
- AutoReverse function for reversing in case of a blockage
- AutoSharp function for automatic direction reversal to support the self-sharpening effect of the blades
- Automatic cutting force control (ACC plus®)
- Condition Monitoring for monitoring the wear status of the cutting blades
- Mechanical seal without flushing or barrier water connections
- Energy-optimized control with active speed regulation and demand-based operation
- Compact design with controls located directly on the machine
 - Selection of operating mode: Automatic, Stop, Remote Automatic
 - Selection of operating mode (Eco, Regular)
 - Local fault diagnosis

- Machine pre-assembled and factory-commissioned

Requirements for reducing energy consumption, wear, and maintenance costs

To achieve energy- and wear-optimized operation, the wet shredder must feature an Eco operating mode. This mode optimizes operation by running the shredder on demand and actively adjusting the speed to the process conditions.

The following must be included as a minimum:

- Automatic, medium-dependent power adjustment for demand-based crushing with reduced energy consumption and wear on parts (ECO mode)
- Blockage detection and reverse function in all operating modes

Operating Conditions

The wet grinder must be designed based on the following operating data.

Material	_____	
Throughput:	_____	m ³ /h
Viscosity:	_____	free-flowing
Temperature:	_____	°C
Solids content:	_____	% DM (dry matter)
Max. ball passage size of the cutting screen:	_____	mm
Density:	_____	kg/m ³
pH:	_____	
Operating pressure:	_____	bar

Technical Specifications

The wet shredder must be designed with at least the following technical specifications:

Materials and design of the cutting head

Housing material: _____

Optimally matched cutting screen and blade rotor geometries

Cutting blades:

- Material: hardened stainless steel
- Self-sharpening
- Pivoting mount

Cutting screen:

- Material
 - ☐ Highly wear-resistant special steel
 - ☐ Stainless steel
- Ball passage _____ mm
- Cutting angle _____ 20°

Seal pair _____ with NBR O-ring

O-rings in contact with the medium: NBR

Separator with connections

Material: _____

Suction / discharge side

Flange standard

Combination flange compatible with EN, ANSI

Pressure class

PN _____

Flange size

DN _____

Cleaning opening: _____ Square flange

Drive

Flat gear motor

Manufacturer:

NORD Gear Motors

Type:

Drive power:

_____ kW

Output speed (50 Hz)

_____ min⁻¹

ISO class:

F

Protection rating:

IP55

Voltage:

400 V

Frequency:

50 Hz

Winding protection:

3 cold-junction temperature sensors

- The paint finish is to be applied as follows: RAL 3020 traffic red or project-specific custom paint finish: RAL _____

Complete machine

- Unit weight = _____ kg
- Dimensions L x W x H = _____ mm x _____ mm x _____ mm

Please supply wet shredders as described above

Quantity: _____

Unit price: _____ €

Total price: _____ €