**Solid grinder up to 220 m³/h**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-solid grinder

The Multichopper is a solid grinder for chopping solid and fibrous materials in sewage sludge. It is installed as tough material grinder with integrated solid separator in a robust and compact design. The casing is delivered as one-piece block casing made from grey cast iron GG 25, to be installed on suction or pressure side. There should always be a simple and quick access to the cutting unit and solid separator, for example via the quick-release cover. The mechanical seal with oil quench can easily be replaced through the pipe connection, without having to dismantle the Multichopper. The dual-applicable shear plate as well as the 4 fold applicable knife blades should be delivered in abrasion-low material. The knife blades re-sharp themselves by changing the direction of rotation. A constant contact pressure from knife blade to shear plate should be given by automatically adjusting the knife blades. The oil filling for initial commissioning is included in the scope of delivery.

**Fluidic data:**

Fluid: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solid content: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ % TS

Operating temperature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ °C

Capacity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m3/h

Inlet pressure: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bar

Pipe connections: suction side: DN \_\_\_\_\_\_\_\_\_ PN 10/16

 Pressure side: DN \_\_\_\_\_\_\_\_\_ PN 10/16

Reversible, for any operating direction

**Solid grinder Data:**

Make: BÖRGER Multichopper

 Phone (+49) 02862 9103-20 - Fax 9103-46,

 info@boerger.de, [www.boerger.com](http://www.boerger.com)

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Make selected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type selected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Shaft speed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rpm

Required power: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kW

Selected power: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kW

**Design and materials:**

Casing: pressure resistant, one-piece block casing made from EN-GJL-250 (GG25) for installation on suction or pressure side

Cover: steel, coated

Shear plate: hardened steel 1.7218, bilaterally applicable

Knife blade holder: steel 1.0037, with three mounted knife blades for many cuttings per rotation

Knife blades: HHS – C010, 4 fold applicable by rotating, self-sharpening by changing the direction of rotation

MCA: automatical knife blade adjustment for a constant cutting result

(Mechanical Cut Adjustment)

Maintenance: MIP® = Maintenance in Place

 Through the quick release cover opening with 4 rings nuts and O-ring seal, all medium-wetted parts can easily be controlled and replaced, without dismantling the solid grinder or the pipe connections.

**Drive:**

Helical geared motor

Make: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Drive power: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kW

Operating speed (shaft) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1/min

Operating (drive) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1/min

ISO-class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Protection category: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ V

Frequency: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hz

Winding protection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Drive suitable for inverter control: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hz

Aggregate-weight: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kg

Dimensions (L x WB x H): \_\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_\_ mm

**Deliver solid grinder as described before:**

**Quantity: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit price: \_\_\_\_\_\_\_\_\_\_\_\_\_ €**

**Total price: \_\_\_\_\_\_\_\_\_\_\_\_\_ €**

***Options:***

**Control technique – alternative 1:**

A controller with display as well as preinstalled control software is the control technique for the

solid grinder. It is ready installed in a steel sheet control cabinet.

Function: - load-depending reverse in case of overload to avoid blockages

 - temporary reverse to re-sharpen the knife blades

 - changing the direction of rotation with every restart

 - malfunction message when reaching a predefined number of

 load- depending changes of direction of rotation

 - all operating parameters can be set by the operator

 - Control of the corresponding pump

 (start/stop/change direction of rotation)

 - interpretation of PTC resistor in motor winding

 - Determination and interpretation of the proximity switch when

 reaching the wear limit

 - All operating and malfunction messages should be put isolated

 onto a separate connecting terminal plate

Steel sheet control cabinet: - protection category: IP 54

 - pre-mounted ready for installation including all necessary

 guards, relays and switches

 - main switch

 - emergency/stop switch

 - changeover switch hand-0-automatic

 - luminous indicator for operation and malfunction

 - luminous press button for clockwise and counter clockwise

 rotation

 - PTC resistor trigger box

 - overload relay

 - Siemens SPS

 - supplier voltage: 230 VAC

**Quantity: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit price: \_\_\_\_\_\_\_\_\_\_\_\_\_ €**

**Total price: \_\_\_\_\_\_\_\_\_\_\_\_\_ €**

**Control technique – alternative 2**

Controller with a display and a pre-installed control software are the control techniques for the

solid grinder. It is pre-assembled on a carrier rail for the installation in the control panel by the

customer.

Functions: - load-depending reverse in case of overload to avoid

 blockages

 - temporary reverse to re-sharpen the knife blades

 - changing the direction of rotation with every restart

 - malfunction message when reaching a predefined number of

load- depending changes of direction of rotation

 - all operating parameters can be set by the operator

 - control of the corresponding pump (start/stop/change direction

of rotation)

 - interpretation of PTC resistor in motor winding

 - determination and interpretation of the proximity switch when

reaching the wear limit

Scope of delivery: - protection category: IP 20

 - overload relay

 - Siemens SPS

 - supplier voltage: 230 VAC

**Quantity: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unit price: \_\_\_\_\_\_\_\_\_\_\_\_\_ €**

**Total price: \_\_\_\_\_\_\_\_\_\_\_\_\_ €**