



# Muffin Monster

PRE-ASSEMBLED IN A GRP CHAMBER

## Product Overview

The Muffin Monster sewage grinder is designed to protect pumps and other equipment by grinding down the toughest wastewater solids. Its dual-shafted, slow speed, high-torque design shreds tough solids that typically cause problems in the wastewater treatment process system.

Its compact design fits into areas with limited space while providing the necessary power for downstream protection

### Construction

- ▶ Open channel configuration
- ▶ Cutter chamber opening height of 185 mm
- ▶ Hardened alloy steel cutters (standard), 120 mm diameter
- ▶ Ductile iron housings
- ▶ Hardened alloy steel shafts, 50 mm hex
- ▶ Mechanical seals with tungsten carbide faces, 6 bar working pressure
- ▶ Available with channel or wall mounted frame for easy installation

### Performance

- ▶ Flow rates up to 41,4 m<sup>3</sup>/hr

### Applications

- ▶ Pump stations
- ▶ Collection systems
- ▶ Headworks at wastewater treatment
- ▶ Private facility discharge to municipal sewer system
- ▶ Industrial wet waste grinding and maceration

## Features and Benefits

- ▶ Dual-shafted, slow-speed, high-torque grinder easily shreds the toughest debris, including rocks, wood, wipes, hair, clothing, plastic and other debris
- ▶ Capable of grinding a wider variety of solids than single-shafted machines, macerators, or chopper pumps
- ▶ Grinding separates organic from inorganic materials in the waste stream

### Automated monitoring and controls

- ▶ Protect pumps and other critical equipment from costly clogs and damage from tough solids
- ▶ Auto load sensing and reversals reduce interrupts and optimize performance

### Wipes Ready™ technology

- ▶ Wipes Ready Technology available which prevents materials from forming long strips and reweaving in the waste stream

### Compact and efficient design

- ▶ Adapts to pipelines or channels with little or no modification
- ▶ Custom stainless-steel frames allow easy installation in channels, wet wells and pump stations
- ▶ Inline 30K Muffin Monster offers easy removable cartridge maintenance that allows for overhaul without removing the unit from the pipeline

### Lower operating cost

- ▶ Clear pipes and pumps means shorter pump run cycles and lower electrical costs

## Monster Renew Grinder

In place of repairing a worn grinder, choose a Monster Renew unit. Sulzer provides a new, factory-built grinder cartridge to replace the worn grinder cartridge.

Remove the motor and reducer from the worn unit, install the motor and reducer on the Monster Renew unit, and install the new assembly in place of the worn unit. Benefits include:

- ▶ Minimizes operational downtime • Quick turnaround
- ▶ All new parts
- ▶ Great time to upgrade unit
- ▶ Full factory warranty on the Monster Renew grinder cartridge

## Muffin Monster Motor Assembly

- ▶ 1,5 kW gear motor standard, 2,2 kW gear motor optional
- ▶ Optional explosion proof (1,5 kW, 2,2 kW and 4,0 kW) and immersible electric motors (1,5 kW, 2,2 kW and 3,7 kW) available
- ▶ 25:1 reducer, cycloidal design

## Muffin Monster Grinder Cutters

| Tooth count           | Thickness | Material             |
|-----------------------|-----------|----------------------|
| 7-tooth               | 11 mm     | Hardened alloy steel |
| 11-tooth              | 8 mm      | Hardened alloy steel |
| 17-tooth Wipes Ready™ | 11 mm     | Hardened alloy steel |

## Frame Options

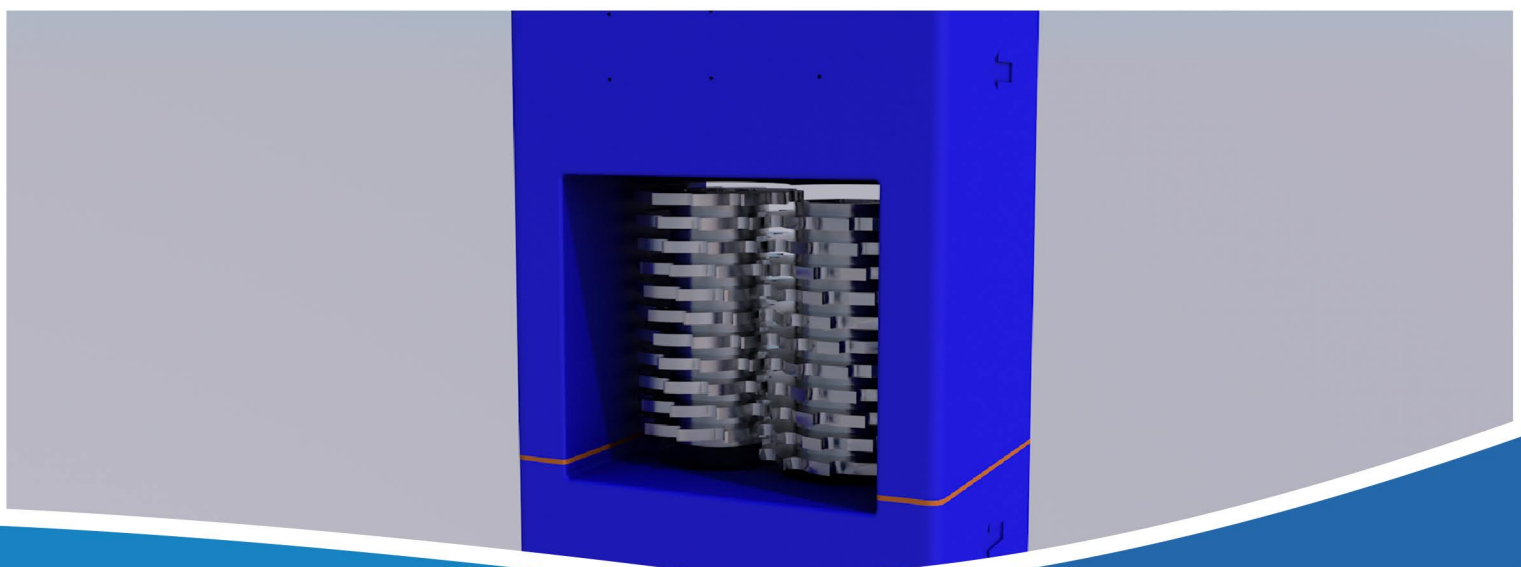
- ▶ Adapt grinders for easy installations
- ▶ Channel frames to fit most channel types
- ▶ Wall frames to mount on flat or round walls
- ▶ Type 304 or 316 stainless steel construction
- ▶ Guide rails for easy installation and maintenance

## Muffin Monster Controller

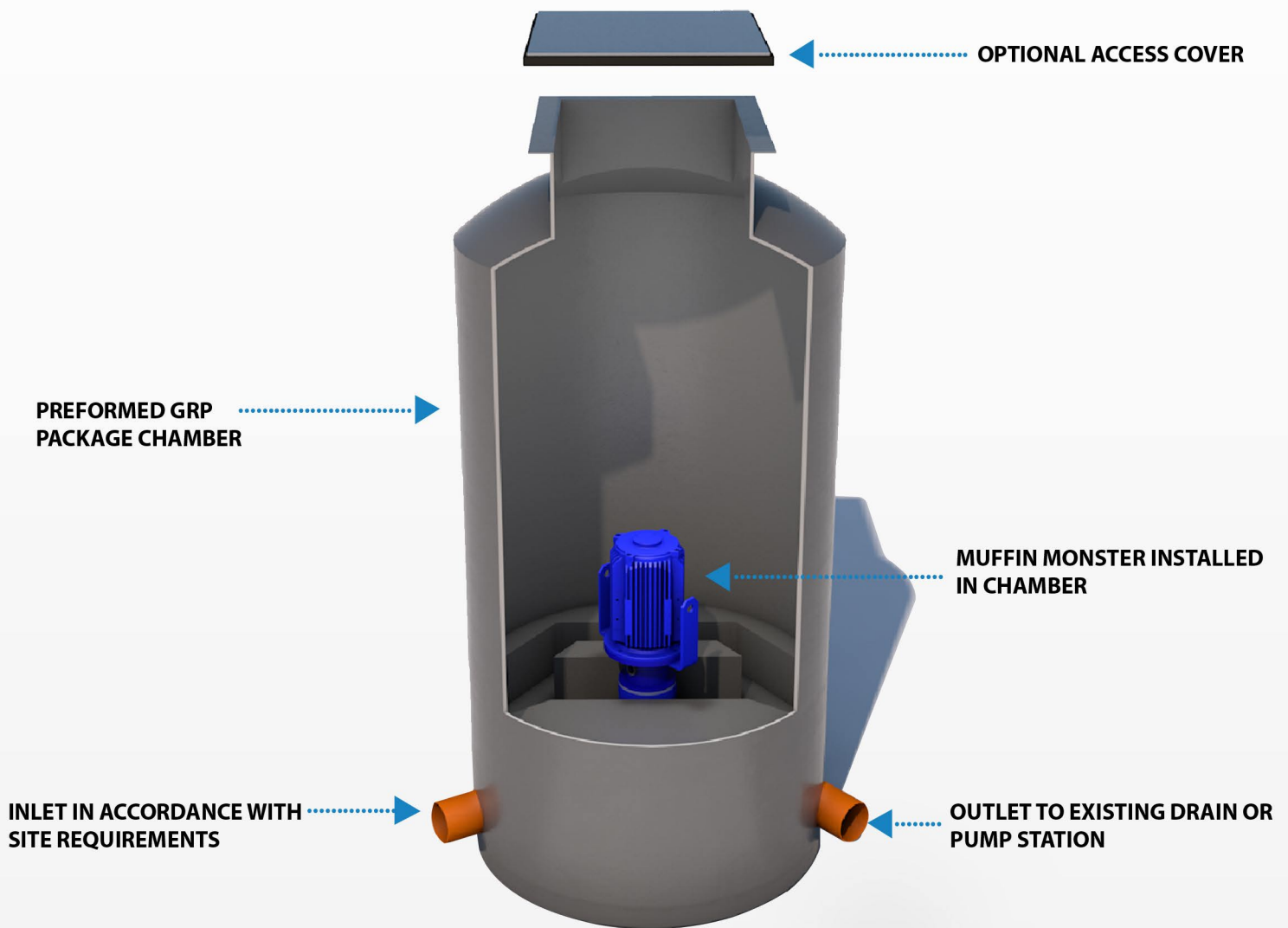
- ▶ Ensures maximum grinding ability with minimum stoppage
- ▶ Designed and programmed for specified motor

## Muffin Monster Grinder Materials

| Part             | Standard               |
|------------------|------------------------|
| Housings         | Ductile iron           |
| Cutters          | Hardened alloy steel   |
| Shafts           | Hardened alloy steel   |
| Mechanical seals | Tungsten carbide faces |
| Gaskets          | Cork and rubber        |



# Muffin Monster Features at a Glance

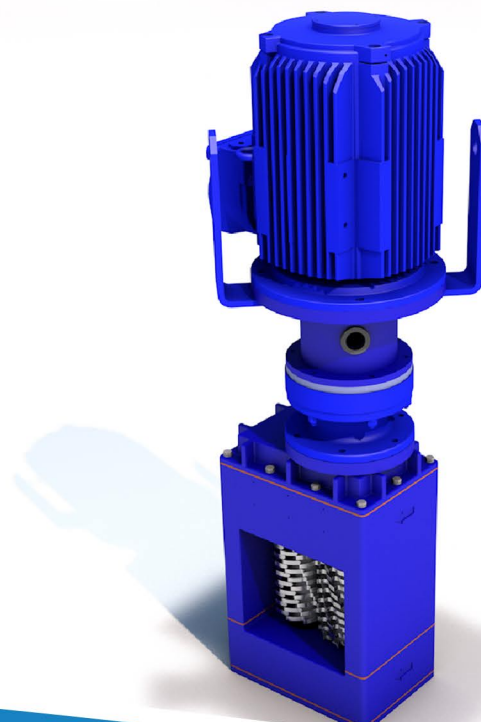


## Muffin Monster Motor Assembly

| Power             | Voltage              | Protection type              | Motor model code |
|-------------------|----------------------|------------------------------|------------------|
| 1,5 kW gear motor | 400V, 3-phase, 50 Hz | IP55                         | QA1435BXM        |
| 2,2 kW gear motor | 400V, 3-phase, 50 Hz | IP55                         | QB1435BXM        |
| 1,5 kW TEFC       | 400V, 3-phase, 50 Hz | IP55 for ATEX (Ex d IIC T4)  | QC2435B2M        |
| 1,5 kW Immersible | 400V, 3-phase, 50 Hz | IP68 for ATEX (Ex de IIB T4) | QC3435B1M        |
| 2,2 kW TEFC       | 400V, 3-phase, 50 Hz | IP55 for ATEX (Ex d IIC T4)  | QD2435B2M        |
| 2,2 kW Immersible | 400V, 3-phase, 50 Hz | IP68 for ATEX (Ex de IIB T4) | QD3435B1M        |
| 4,0 kW TEFC       | 400V, 3-phase, 50 Hz | IP55 for ATEX (Ex d IIC T4)  | QE2435B2M        |
| 3,7 kW Immersible | 400V, 3-phase, 50 Hz | IP68 for ATEX (Ex de IIB T4) | QE3435B1M        |

## Muffin Monster Controller

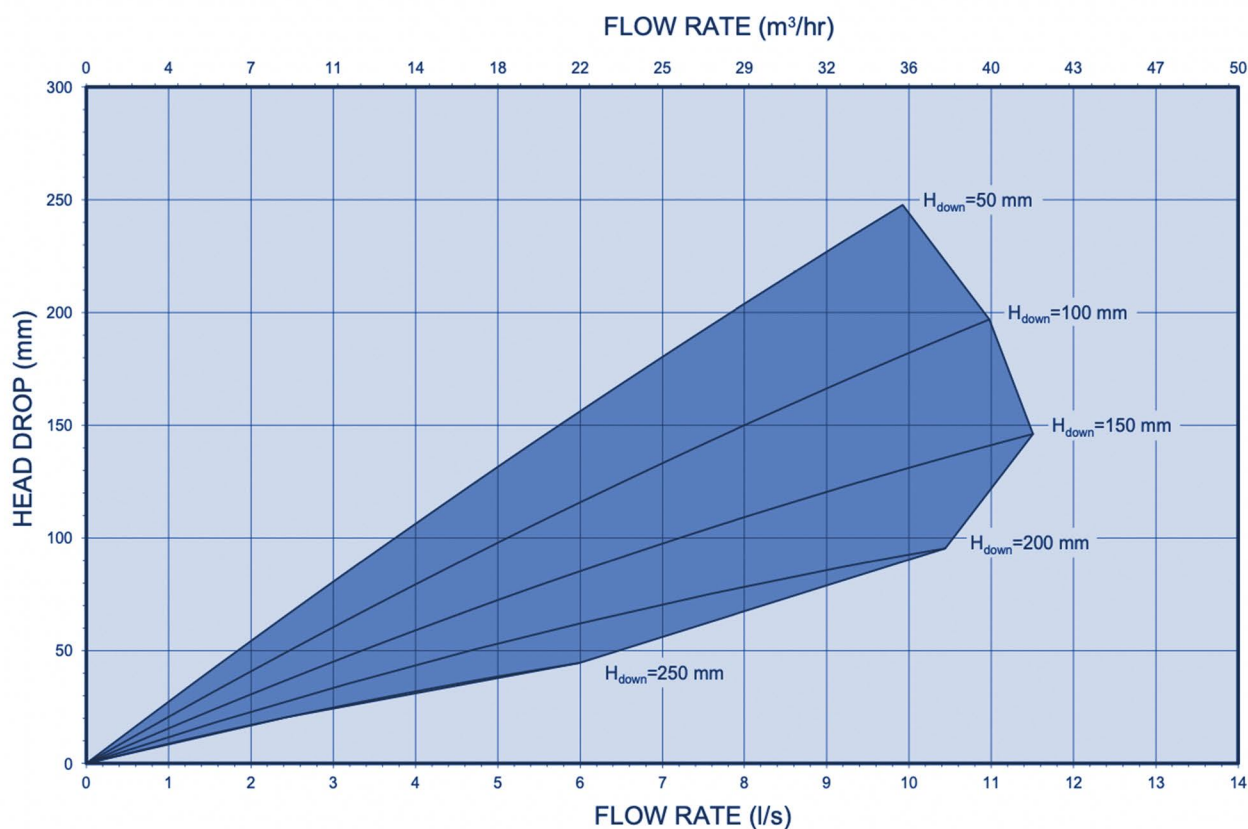
| Grinder motor type | Model code for IP65 control panel enclosure |                          |
|--------------------|---------------------------------------------|--------------------------|
|                    | Powder coated mild steel material           | Stainless steel material |
| 1,5 kW IP55        | QK1P45XXX                                   | QK1S45XXX                |
| 1,5 kW IP68        | QK2P45XXX                                   | QK2S45XXX                |
| 2,2 kW IP55        | QL1P45XXX                                   | QL1S45XXX                |
| 2,2 kW IP68        | QL2P45XXX                                   | QL2N45XXX                |
| 4,0 kW IP55        | QM1P45XXX                                   | QM1S45XXX                |
| 3,7 kW IP68        | QM2P45XXX                                   | QM2N45XXX                |



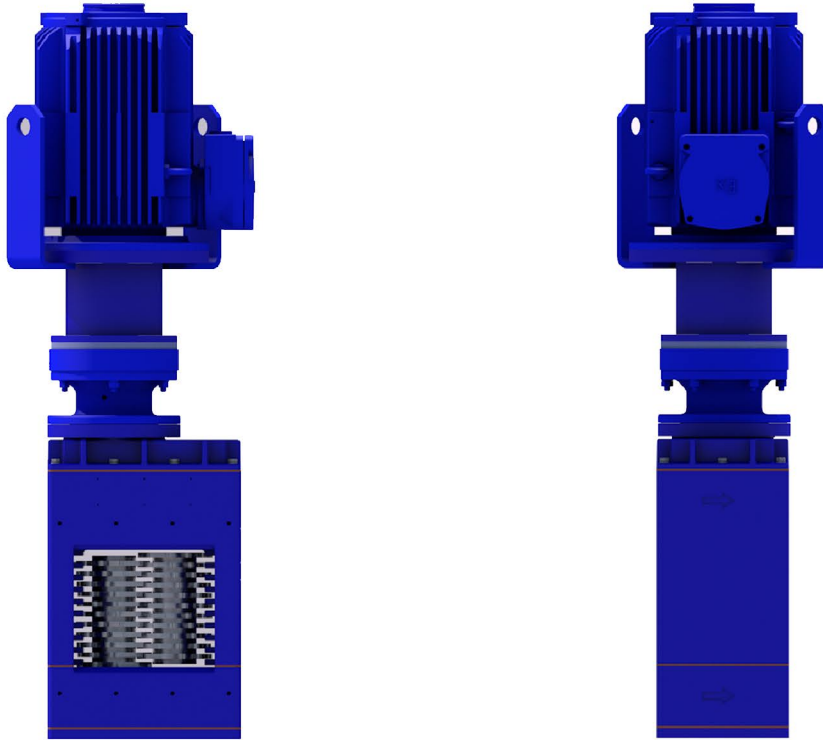
## 10002 Muffin Monster Grinder Model Coding

|                          |                                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------|--------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product family           | Solids reduction sewage grinder            | Q |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Grinder family           | 10K Muffin Monster                         |   | 1 |   |   |   |   |   |   |   |   |   |   |   |   |
| Grinder configuration    | New unit with motor (specified separately) |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |
|                          | Monster Renew unit                         |   |   | E |   |   |   |   |   |   |   |   |   |   |   |
|                          | Monster Renew unit with spool              |   |   | F |   |   |   |   |   |   |   |   |   |   |   |
| Cutter stack height      | 200 mm stack (8 inch)                      |   |   |   | J |   |   |   |   |   |   |   |   |   |   |
| Flange information       | BS EN 1092, PN16                           |   |   |   |   | X | X |   |   |   |   |   |   |   |   |
| Cutter material          | Alloy steel                                |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |
| Cutter                   | 7-tooth, 11 mm thick                       |   |   |   |   |   |   |   | C | 4 |   |   |   |   |   |
|                          | 11-tooth, 8 mm thick                       |   |   |   |   |   |   |   | F | 3 |   |   |   |   |   |
|                          | 17-tooth Wipes Ready™, 11 mm thick         |   |   |   |   |   |   |   | W | 4 |   |   |   |   |   |
| Body material & colour   | Cast iron blue                             |   |   |   |   |   |   |   |   |   | S |   |   |   |   |
| Seals & gaskets material | Seal cartridge and cork & rubber gaskets   |   |   |   |   |   |   |   |   |   |   | C |   |   |   |
| Drum information         | Not applicable                             |   |   |   |   |   |   |   |   |   |   |   | X | X |   |
| Drive configuration      | Single drive                               |   |   |   |   |   |   |   |   |   |   |   |   |   | S |
| Example:                 | 10002-0008 with 11-tooth cutters           | Q | 1 | 2 | J | X | X | 1 | F | 3 | S | C | X | X | S |

## Performance Curves



## Dimensions (mm)



| Open channel<br>model | Flow rate <sup>1</sup><br>- m <sup>3</sup> /hr | Head drop<br>- mm | Standard dimensions <sup>2</sup><br>- mm |          | Approximate<br>net weight<br>- kg |
|-----------------------|------------------------------------------------|-------------------|------------------------------------------|----------|-----------------------------------|
|                       |                                                |                   | A (IP55)                                 | A (IP68) |                                   |
| 10002-0008-DI         | 41.4                                           | 146               | 1016                                     | 1166     | 153                               |

## Photographs





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