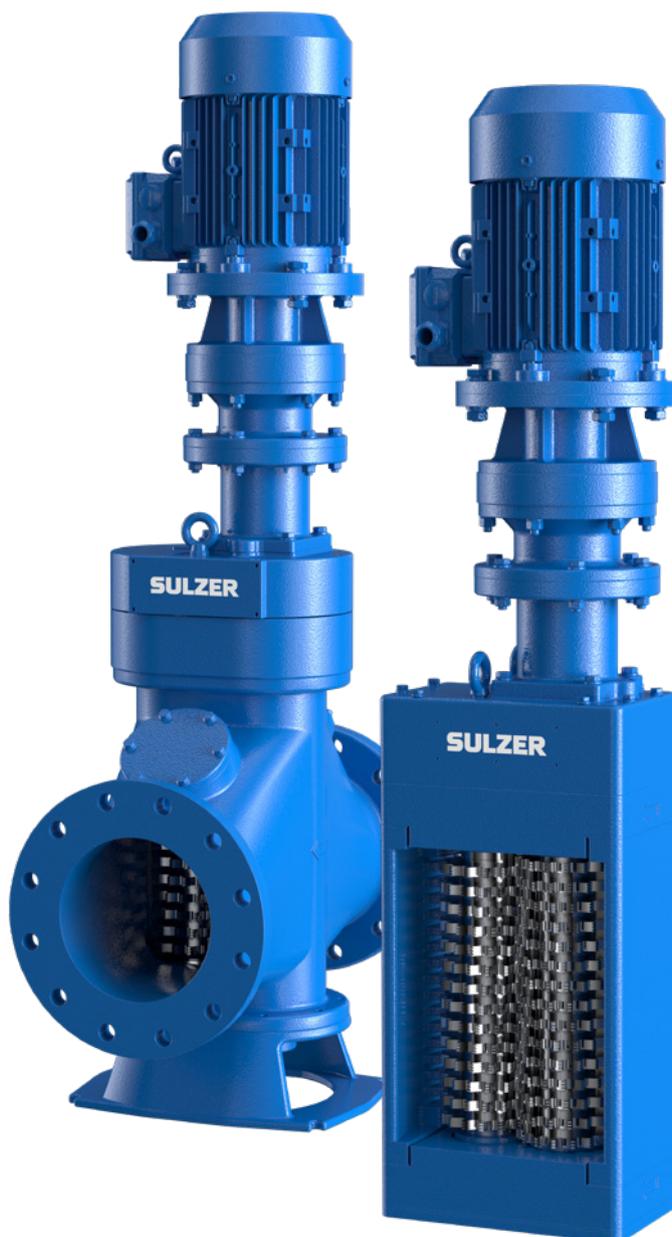


SULZER

Solids reduction solutions

Muffin Monster™ Inline/open channel grinders



Main applications

The Muffin Monster sewage grinders are designed to protect pumps and other equipment by grinding down the toughest wastewater solids. Available in three different models each with two different configurations, they are suitable for applications such as:

- Pump stations
- Sludge processing
- Correctional facilities
- Headworks – primary treatment
- Septage/grease receiving
- Airports

10K series Small volume applications

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- Wastewater pre-treatment
 - Small pump stations
 - Hotels and resorts
 - Parks and recreation
 - Marinas and cruise-ships
 - Schools, colleges and universities
 - Residential complexes

30K and 40K series Municipal and high solids loading

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- Pump stations
 - Digester recirculation systems
 - Sludge transfer lines from clarifiers
 - Sludge grinding before land application
 - Headworks
 - Prior to and after sludge dewatering
 - Prior to and after incineration



Features and benefits

Dual-shafted grinder

- Proven slow-speed, high-torque grinding easily shreds the toughest solids, including rags, rocks, wood, wipes, clothing, plastics and other debris
- Capable of grinding a wider variety of solids than single-shafted machines, macerators, or chopper pumps

Smart controller with load-sensing control system

- Automatically reverses grinder to clear jams and protect it from damage
- Adaptive to custom requirements and plant SCADA systems
- Stores operational data

Wipes Ready™ cutter technology

- Cutters create two-dimensional cutting capabilities to control width and length of output
- 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
- Easy-to-remove 30K series inline model cutter cartridge simplifies maintenance
- Individual helical cutter stack improves shredding, reduces particle size, and encourages solids movement in chamber

Robust solids reduction

- Keeps pumps and equipment running efficiently to reduce operating costs

Materials

- Housings: ductile iron
- Cutters: hardened alloy steel
- Shafts: hardened alloy steel
- Mechanical seals: tungsten carbide faces



The Muffin Monster range

Muffin Monster sewage grinders represent the best-in-class technology for wastewater solids reduction. With over 40'000 installations, the proven capabilities of the Muffin Monster are legendary in providing solutions for the industry's increasingly demanding needs.

10K series

The 10K series Muffin Monster is a compact grinder that is tough on solids in sludge and sewage applications. It fits into areas with limited space requirements, while still providing the necessary power for downstream protection. The 10K series is an ideal, low-cost solution that goes beyond sludge grinding at resource recovery facilities. It fits perfectly into office buildings, apartment complexes, resorts, retail centers and package treatment plants.

30K series

Troublesome solids are now easier than ever to reduce with the Muffin Monster dual-shafted grinder. Its slow-speed, high-torque design shreds tough solids that typically cause sewer problems. The 30K Muffin Monster is available as both inline and open channel configurations.

40K series

The 40K series Muffin Monster provides enhanced sewage grinding and sludge conditioning capabilities. Its performance is scaled for use in high-flow facilities with the highest solids loading. This grinder excels at sludge grinding in biosolids systems for larger treatment plants.



Operational data

Muffin Monster 10K series

Inline model	Flow rate*, m ³ /h	Pipeline size, mm	Pressure drop, bar
10000-B100-DI	62	100	0.03
10000-B150-DI	125	150	0.09

* 0-2% solids

Hex shafts: 50 mm
 Motor: standard 1.5 kW; 25:1 reducer
 Cutter size: 120 mm diameter
 Seal max working pressure: 6 bar
 (optional severe-duty seals available)

Open channel model	Flow rate*, m ³ /h	Head drop, mm
10002-0008-DI	41.4	146

* Flow based on optimum channel conditions

Muffin Monster 30K series

Inline model	Flow rate*, m ³ /h	Pipeline size, mm	Pressure drop, bar
30004T-B100	102	100	0.04
30004T-B150	159	150	0.08
30004T-B200	250	200	0.21
30004T-B250	386	250	0.20
30004T-B300	556	300	0.40

* 0-2% solids

Hex shafts: 50 mm
 Motor: standard 2.2 kW; 25:1 reducer
 Cutter size: 120 mm diameter
 Seal max dry working pressure: 10.3 bar

Open channel model	Flow rate*, m ³ /h	Head drop, mm
30005-0008	84	178
30005-0012	141	290
30005-0018	223	405
30005-0024	311	405
30005-0032	477	445
30005-0040	686	495
30005-0050	979	595
30005-0060	1'277	760

* Flow based on optimum channel conditions

Muffin Monster 40K series

Inline model	Flow rate*, m ³ /h	Pipeline size, mm	Pressure drop, bar
40002-18B300	612	300	0.24
40002-24B400	999	400	0.15
40002-24B450	1'249	450	0.23
40002-32B500	1'558	500	0.29

* 0-2% solids

Hex shafts: 64 mm
 Motor: standard 7.5 kW; 35:1 reducer
 Cutter size: 191 mm diameter
 Seal max dry working pressure: 10.3 bar

Open channel model	Flow rate*, m ³ /h	Head drop, mm
40002-0018	207	203
40002-0024	327	406
40002-0032	477	457

* Flow based on optimum channel conditions

Wipes Ready™ technology

Muffin Monster sewage grinders are available with unique Wipes Ready technology. It is designed to capture all wipes in the waste stream and shred them into small pieces that will not reweave to form ropes and ragballs in sewage systems.

The Wipes Ready technology applied in Muffin Monster sewage grinders includes:

Wipes Ready cutters

A combination of serrated cutters and knurled spacers cuts wipes in two directions. The result is smaller particles that cannot reweave downstream.

Delta P side rails

Direct solids into the cutters without sacrificing flow rate and prevent debris build-up in the grinder.

Optimized cut control

The optimized cut control (OCC) gear ratio optimizes shaft speeds to enhance the cutting action and cleaning of the cutters, which in turn improves the performance and extends the life of the grinder.

Wipes Ready feature availability

	10000 inline Muffin Monster	10002 open channel Muffin Monster	30004T inline Muffin Monster	30005 open channel Muffin Monster
17 tooth Wipes Ready cutters	Optional	Optional	Optional	Optional
Delta P side rails				●
Optimized cut control	●	●	●	●



Options

To extend the performance of your Muffin Monster, we offer a wide range of options. For information about which options are available for each of our Muffin Monster sewage grinders, please visit sulzer.com.

Cutters

- 7, 11, 13 and 17* tooth options (* Wipes Ready™ serrated cutters)
- Cutter stack can be tailored to meet operational requirements
- Available in optional stainless steel for 7, 11 and 13 tooth cutters



Motor options

- IP55 TEFC motor
- IP55 TEFC motor for ATEX: (Ex d IIC T4)
- IP68 immersible motor ATEX: (Ex de IIB T4)
- IP55 integrated drive, 10K only
- Extended drive shafts available



Smart controller

- Load-sensing control system automatically reverses to clear jams
- Powder-coated mild steel or stainless steel IP65 enclosures

Custom frames

- Stainless steel frames for easy installation



Representative panel shown. Actual panel may vary to meet application requirements.

The Sulzer Flow division keeps your processes flowing. Wherever fluids are treated, pumped, or mixed, we deliver highly innovative and reliable solutions for the most demanding applications.

The Flow division specializes in pumping solutions specifically engineered for the processes of our customers. We provide pumps, agitators, compressors, grinders, screens and filters developed through intensive research and development in fluid dynamics and advanced materials. We are a market leader in pumping solutions for water, oil and gas, power, chemicals and most industrial segments.

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