

# MUFFIN MONSTER In-line/Open Channel Grinders







Muffin Monster sewage grinders are designed to protect pumps and other equipment by grinding down the toughest wastewater solids. Applications including:
 lift station, sludge lines;
 septage receiving stations;
 headworks screenings
 reduction, prisons and more.

### **10K series** Muffin Monster®

The 10K Series Muffin Monster is a compact grinder, 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, and fits perfectly into office buildings, apartment complexes, resorts, retail centers and package treatment plants.

### **30K series** Muffin Monster<sup>®</sup>

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. With over 35,000 installations, the proven capabilities of the Muffin Monster is legendary in providing solutions for the ever more stringent operational needs arising throughout the industry.

### **40K series** Muffin Monster<sup>®</sup>

The 40K Series Muffin Monster excels in wet and dry grinding applications. It's a powerful shredder for large sludge processing systems. It also serves in many industrial applications including fish and beef processing, petroleum, pulp and paper mills, chemical plants, and recycling plants. The proven capabilities of the Muffin Monster are now providing solutions for the ever more stringent operational needs arising throughout the industry.

# wipes ready™ technology





### Wipes Ready™ Cutters\*

Achieve the desired 2-Dimmensional cutting capabilities to control both the width and length of output, preventing materials from forming long strips and reweaving in the waste stream.

- Cut wipes in 2 directions
- Smaller particle size
- No reweaving

### **Features**

#### **Dual Shafted Grinder**

- Slow-speed, high torque grinders handle 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.

#### **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.
- In-line 30K Muffin Monster incorporate an easy to remove cutter cartridge.

#### **Automated Monitoring and Controls**

 Auto load sensing and reversals reduce interrupts and optimize the grinder's performance.

### **Benefits**

#### **Equipment Protection**

 Protect pumps and other critical equipment from costly clogs and damage from tough solids.

#### **Efficient Treatment Operations**

- Grinding separates organic from inorganic materials in the waste stream.
- Organics stay in treatment process and screening are cleaner.

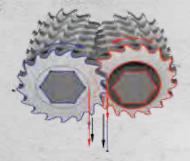
#### **Lower Operating Cost**

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





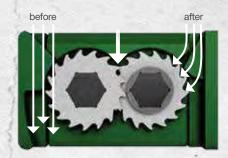




### **Optimized Cut Control\***

Improve cutting by tailoring the speed of the new wipes-ready cutter rotation with optimized cut control.

- Cutters Stay Clean
- Prevents Long Strips



### **DELTA P\* Side Rails**

Ensure the capture of all items in the waste stream and drive debris into the cutter stack.

- Drives Debris into Cutters
- Prevents Build Up
- Enhances High Flow



### Materials of Construction

Housings: Ductile iron

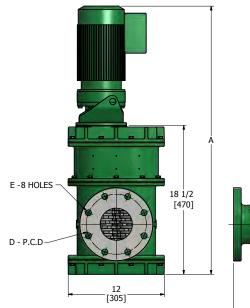
**Cutters:** Hardened alloy steel **Shafts:** Hardened alloy steel

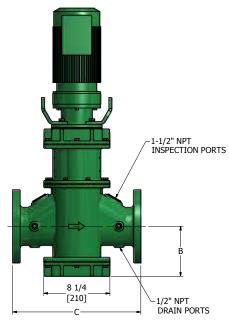
Mechanical Seals: Tungsten carbide faces

### **Specifications**

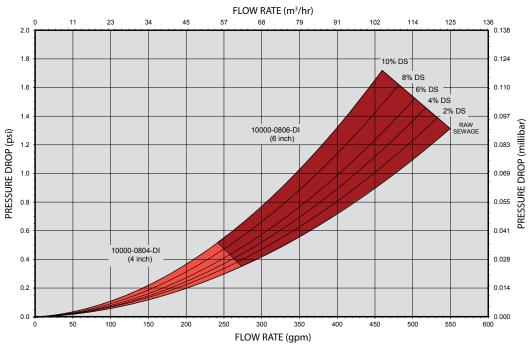
2" (50 mm) hex shafts;

Standard 2 HP (1.5 kW) motor; 29:1 reducer Cutter Size: 4-3/4" (120 mm) diameter cutters Seal Max Working Pressure: 90 PSI (6 bar)





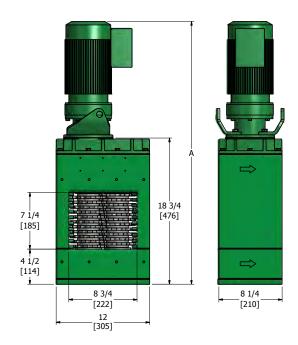
### **MODEL 10000**



IN-LINE Model	Flow Rate* - gpm (m³/hr)	Pipeline Size - inches	Pressure Drop - psi (bar)	Standard Dimensions - inches (mm)			Flange Dimensions - inches (mm)		Approximate Net Weight - lbs (kg)	
		' (mm)		A - 2 hp (1.5kW)	A - 3 hp (2.2kW)	В	С	D	E	
10000-0804-DI	275 (62)	4 (100)	0.36 (0.03)	33-7/16 (850)	35-7/16 (900)	6-1/4 (158)	16 (406)	7-1/2 (180)	3/4 (19)	303 (137)
10000-0806-DI	550 (125)	6 (150)	1.33 (0.09)	33-7/16 (850)	35-7/16 (900)	7-1/4 (184)	19 (483)	9-1/2 (240)	7/8 (23)	323 (147)

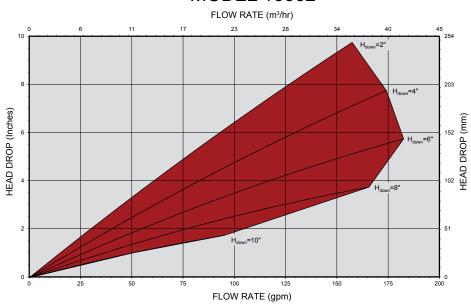
<sup>\* 0-2%</sup> solids • In-Line unit typically installed prior to suction side of pump • Consult factory for analysis of application • Drive dimensions are based on a unit with gear motor.





OPTIONS AVAILABLE						
	In-Line	Open Channel				
2hp (1.5kW) or 3hp (2.2kW) Motors	•	•				
7, 11, 13 Tooth Cutters	•					
17 Tooth Wipes Ready™ Cutter	•					
Custom Mounting Frames						
SS & NEMA 7 Control enclosures	•					
Alternate Voltage & HP Motors	•					
Explosion Proof Motors	•					
Immersible Motors	•					
Extended Motor Shafts	•	•				
ANSI, JIS, JWA, BS & AS Flanges	•					

### **MODEL 10002**



OPEN CHANNEL Model	Flow Rate* - gpm (m³/hr)	Head Drop - inches (mm)	Standard I - inche	Approximate Net Weight - Ibs (kg)	
			A - 2 hp (1.5kW)	A - 3 hp (2.2kW)	,
10002-0008-DI	180 (41.4)	5-3/4 (146)	33-11/16 (856)	35-11/16 (906)	338 (153)

 $<sup>^{\</sup>star}$  Flow based on optimum channel conditions.  $\bullet$  Consult factory for analysis of application



<sup>•</sup> Drive dimensions are based on a unit with gear motor.

### Materials of Construction

Housings: Ductile iron

**Cutters:** Hardened alloy steel **Shafts:** Hardened alloy steel

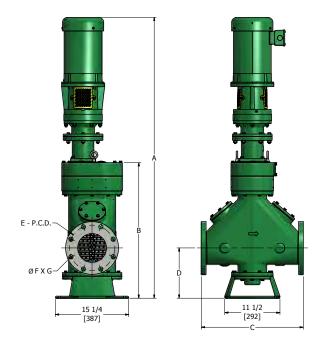
Mechanical Seals: Tungsten carbide faces

### **Specifications**

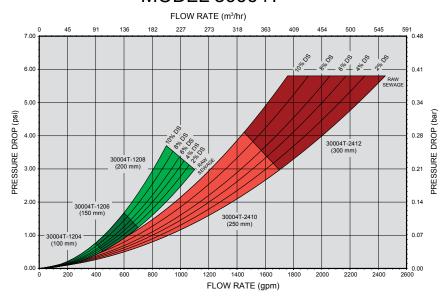
2" (50 mm) hex shafts;

Standard 3 HP (2.2 kW) motor; 29:1 reducer **Cutter Size:** 4-3/4" (120 mm) diameter cutters **Seal Max Working Pressure:** 90 PSI (6 bar)

OPTIONS AVAILABLE						
	In-Line	Open Channel				
7, 11, 13 Tooth Cutters	•					
17 Tooth Wipes Ready™ Cutter	•					
Custom Mounting Frames						
SS & NEMA 7 Control enclosures	•					
Solids Scrapers						
Stainless Steel Feed Hopper						
Alternate Voltage & HP Motors	•					
Explosion Proof Motors	•					
Immersible Motors	•					
Hydraulic Power Pack	•					
Extended Motor Shafts	-					
ANSI, JIS, JWA, BS & AS Flanges	•					



### **MODEL 30004T**



IN-LINE Model	Flow Rate - gpm (m³/hr)	Pipeline Size - inches	Pressure Drop - psi (bar)	Standard Dimensions - inches (mm)			Flange Dimensions - inches (mm)			Approximate Net Weight - lbs (kg)	
	(,	(mm)	<b>F</b> 5. (3.3)	Α	В	С	D	E	F	G	(3)
30004T-1204	450 (102)	4 (100)	0.52 (0.04)	58-1/4 (1480)	28-1/4 (718)	19-1/4 (483)	9-3/8 (238)	7-1/2 (191)	3/4 (19)	8	562 (255)
30004T-1206	700 (159)	6 (150)	1.23 (0.08)	58-1/4 (1480)	28-1/4 (718)	21-1/4 (534)	10-3/8 (264)	9-1/2 (241)	7/8 (22)	8	559 (254)
30004T-1208	1100 (250)	8 (200)	3.00 (0.21)	58-1/4 (1480)	28-1/4 (718)	23-1/4 (584)	11-1/4 (238)	11-3/4 (286)	7/8 (22)	8	568 (258)
30004T-2410	1700 (386)	10 (250)	2.97 (0.20)	69-3/4 (1772)	39-3/4 (1010)	27-1/4 (686)	12-5/16 (313)	14-1/4 (362)	1 (25)	12	789 (358)
30004T-2412	2450 (556)	12 (300)	5.80 (0.40)	69-3/4 (1772)	39-3/4 (1010)	31-1/4 (787)	13-1/4 (337)	17 (431)	1 (25)	12	809 (367)

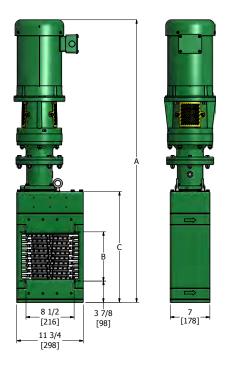
 $In-Line\ unit\ typically\ installed\ prior\ to\ suction\ side\ of\ pump.\ \bullet\ Consult\ factory\ for\ analysis\ of\ application.$ 

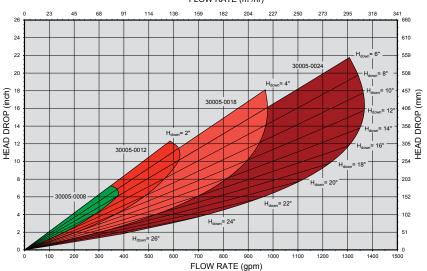
• Drive dimensions are a maximum based on a unit with a 3 HP (2.2 kW) drive.



### **MODEL 30005**

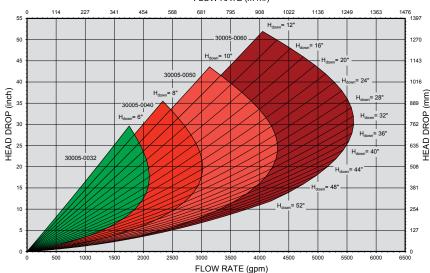
FLOW RATE (m³/hr)





### **MODEL 30005**

FLOW RATE (m³/hr)



OPEN CHANNEL Model	Flow Rate - gpm (m³/hr)	Head Drop - inches (mm)		Approximate Net Weight - Ibs (kg)		
			Α	В	С	- ibs (kg)
30005-0008	370 (84)	7 (178)	49-1/2 (1257)	8 (203)	19-1/2 (495)	370 (168)
30005-0012	620 (141)	11-1/2 (290)	53-5/8 (1362)	12 (305)	23-5/8 (600)	410 (186)
30005-0018	980 (223)	16 (405)	59-1/2 (1511)	18 (457)	29-1/2 (749)	465 (211)
30005-0024	1370 (311)	16 (405)	65-1/4 (1657)	24 (609)	35-1/4 (895)	520 (236)
30005-0032	2100 (477)	17-1/2 (445)	73 (1854)	32 (813)	43 (1092)	580 (263)
30005-0040	3020 (686)	19-1/2 (495)	81 (2057)	40 (1016)	51 (1295)	650 (295)
30005-0050	4310 (979)	23-1/2 (595)	90-7/8 (2308)	50 (1270)	60-7/8 (1546)	740 (336)
30005-0060	5620 (1277)	30 (760)	101-3/8 (2575)	60 (1524)	71-3/8 (1813)	845 (383)

<sup>\*</sup> Flow based on optimum channel conditions. • Consult factory for analysis of application.



<sup>•</sup> Drive dimensions are a maximum based on a unit with a 182T motor frame. • Extended drive shafts are available on request.

### Materials of Construction

Housings: Ductile iron

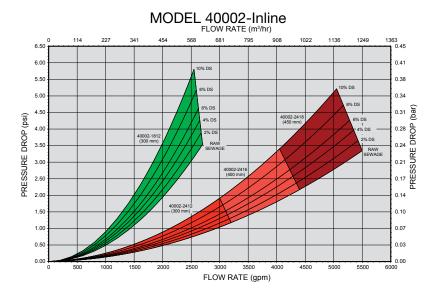
**Cutters:** Hardened alloy steel **Shafts:** Hardened alloy steel

Mechanical Seals: Tungsten carbide faces

### **Specifications**

2-1/2" (64 mm) hex shafts;

Standard 10 HP (7.5 kW) motor; 43:1 reducer **Cutter Size:** 7-1/2" (191 mm) diameter cutters **Seal Max Working Pressure:** 90 PSI (6 bar)



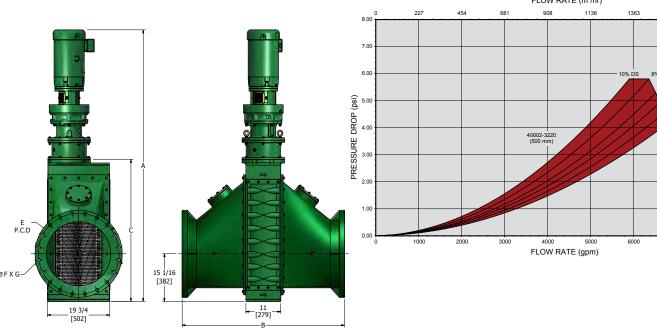
### MODEL 40002-Inline



1817 0.55

PRESSURE DROP

0.07

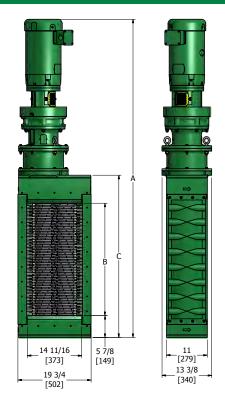


IN-LINE Model	Flow Rate - gpm (m³/hr)	Pipeline Size - inches	Pressure Drop - psi (bar)	Standard Dimensions - inches (mm)		Flange - in	Approximate Net Weight - lbs (kg)			
	(,	(mm)	po. (5a.)	Α	В	С	E	F	G	(9)
40002-1812	2700 (612)	12 (300)	3.5 (0.24)	69-5/8 (1768)	35-1/4 (895)	30-1/4 (768)	17 (254)	1 (25)	12	1520 (690)
40002-2412	3200 (727)	12 (300)	1.2 (0.08)	76-5/8 (1946)	35-1/4 (895)	37-1/4 (946)	17 (254)	1 (25)	12	1775 (805)
40002-2416	4400 (999)	16 (400)	2.2 (0.15)	76-5/8 (1946)	43-1/4 (1099)	37-1/4 (946)	21-1/4 (539)	1-1/8 (29)	16	1895 (860)
40002-2418	5500 (1249)	18 (450)	3.4 (0.23)	76-5/8 (1946)	47-1/4 (1200)	37-1/4 (946)	22-3/4 (578)	1-1/4 (32)	20	2095 (950)
40002-3220	6860 (1558)	20 (500)	4.2 (0.29)	83-1/4 (2115)	51-1/4 (1301)	43-7/8 (1114)	25 (635)	1-1/4 (32)	20	2610 (1184)

In-Line unit typically installed prior to suction side of pump.  $\bullet$  Consult factory for analysis of application.

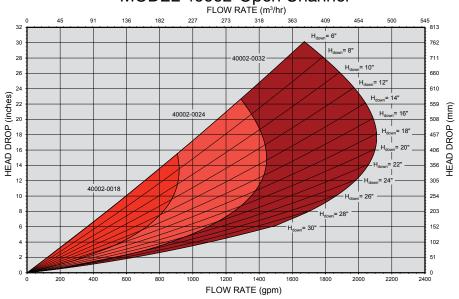
• Drive dimensions are a maximum based on a unit with a 10 HP (7.5 kW) drive.





OPTIONS AVAILABLE						
	In-Line	Open Channel				
7, 11, 23 Tooth Cutters	•					
Stainless Steel Cutters	•					
Custom Mounting Frames						
SS & NEMA 7 Control enclosures	•					
Solids Scrapers						
Nickel Plated Housing						
Stainless Steel Feed Hopper						
Alternate Voltage & HP Motors	•					
Explosion Proof Motors	•					
Immersible Motors	•					
Hydraulic Power Pack	•	•				
Extended Motor Shafts	•	•				
ANSI, JIS, JWA, BS & AS Flanges	-					

### MODEL 40002-Open Channel



OPEN CHANNEL Model	Flow Rate - gpm (m³/hr)	Head Drop - inches (mm)		Approximate Net Weight - Ibs (kg)		
			A	В	С	, o,
40002-0018	915 (207)	8 (203)	69-5/8 (1768)	18 (457)	30-1/4 (768)	1175 (533)
40002-0024	1440 (327)	16 (406)	76-5/8 (1946)	24 (610)	37-1/4 (946)	1365 (619)
40002-0032	2100 (477)	18 (457)	83-1/4 (2115)	32 (813)	43-7/8 (1114)	1560 (708)

<sup>\*</sup> Flow based on optimum channel conditions. • Consult factory for analysis of application.

<sup>•</sup> Drive dimensions are a maximum based on a unit with a 10 HP (7.5 kW) drive. • Extended drive shafts are available on request.





## Muffin Monster

# options



7-Tooth: Pump Stations or Prisons



11-Tooth: Wastewater, Sludge or Scum



13-Tooth: Heat-exchanger or Centrifuge Protection



17-Tooth: **★** Rags, Stringy Materials

### **Cutters**

- 7, 11, 13, 17 and 23 tooth options.
- Special Cutter designs for unique needs.
- Optional stainless steel cutters.
- **★** 17-Tooth Serrated Wipes Ready<sup>™</sup> Cutter.



Electric Motor



Exclusive: JWC Designed Immersible Motor (NEMA-6P)



Hydraulic Drive

### **Motors**

- TEFC: Totally enclosed fan cooled electric.
- XPFC: Explosion proof fan cooled electric.
- XPNV: Exclusive electric immersible.
- Hydraulic Drives available in: 2, 3, 5, 10 HP (2.2, 3.7, 7.5 kW).

### Hydraulic Power Packs

Available in: 5, 10, 15 HP (3.7, 7.5, 11 kW).



Custom Control Configurations



Model PC2200 Standard Enclosure

## Smart Controller

- Load sensing control system automatically reverse to clear jams.
- Standard: NEMA-4X FRP enclosure with 3-position switch and status indicators.
- Optional: NEMA 4X stainless steel or NEMA 7 enclosures.
- Customized control configurations for any installation.
- UL registered.







# Muffin Monster

# options



Custom Wall Frames



Custom Channel Frame



Pre-fab Muffin Monster Manhole

### **Custom Wall Frames**

- Stainless steel guide frames attach to pump station to make installation easier.
- Frame is customized to fit each site and includes: guide rails; grinder support base; overflow bar racks and more.

# Custom Channel Frames

- Adapt grinders to fit any channel.
- Guide rails for easy installation and maintenance.
- Stainless Steel construction.

# Muffin Monster Manhole

- Pre-fabricated fiberglass reinforced manhole with grinder.
- Custom Depth.
- Hinged cover or H-20 traffic rated top.



Scrapers (optional)

## Scrapers

- Integrated steel scrapers increase throughput and help cutters cleanout faster.
- Improves performance of hopper fed applications.



Extended Motor Shaft



Custom Hoppers

### Hoppers

- Custom made to fit application.
- 304 or 316 stainless steel.



### **Extended Motor Shaft**

Places motor above highest water level.
 Available in 1' (305 mm) increments.
 Maximum: 15' (4570 mm).







Since its founding in 1973, JWC Environmental has become a world leader in solids reduction and removal for the wastewater industry with its Muffin Monster grinders and Monster Separation Systems. JWC also solves challenging size reduction and processing problems in commercial and industrial applications through its Monster Industrial division. JWC Environmental is headquartered in Santa Ana, California, and has a global network of representatives, distributors and regional service centers to provide customer support.

For more information, visit JWC Environmental at www.jwce.com.



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www.jwce.com