

# Tri-Hammer Macerators



**Mono**<sup>®</sup> **NOV**

One Company, Unlimited Solutions



# Construction

Derived from a pedigree of over 11,000 installations worldwide our Macerator range incorporates a number of design advances over older machines that give improvements in both maintenance and energy costs.

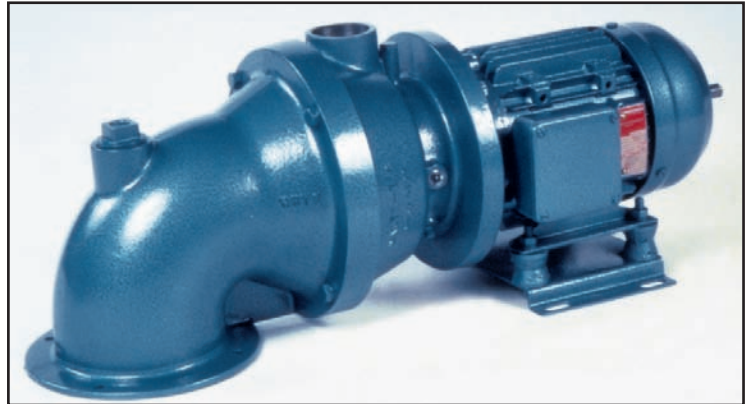
## 2 Model Range M12 and M18

Flow on Raw Sewage: M12 up to 5m<sup>3</sup>/h  
M18 up to 15m<sup>3</sup>/h

(N.B. For higher flows please refer to our Muncher® range of grinders).

Both models available with straight in or 90° inlet chambers.

*Horizontal Macerator*



*M18 Macerators, part of a Mutrator system installed to macerate settled sludge and storm tank effluent.*

Use of high strength Chrome Molybdenum alloy steel allows impeller to be of slimmer 'dished' profile - less resistance to water flow and better flow path for solids - lower energy consumption.

One nut fixing for impeller - easier than fiddling around with Allen keys and socket head screws.

## 1. Mechanical Seal

Entire seal assembly is oil lubricated and mounted out of contact with liquid being processed. Substantial increase in seal life expectancy.

Easier to exchange impeller as seal is not part of impeller hub - seal not disturbed when changing impeller.

## 2. Tri-Hammer Impeller

A 3 hammer impeller replaces the old 2 hammer impeller

- Better balance

- More 'blows' per revolution (more efficient grinding/maceration).

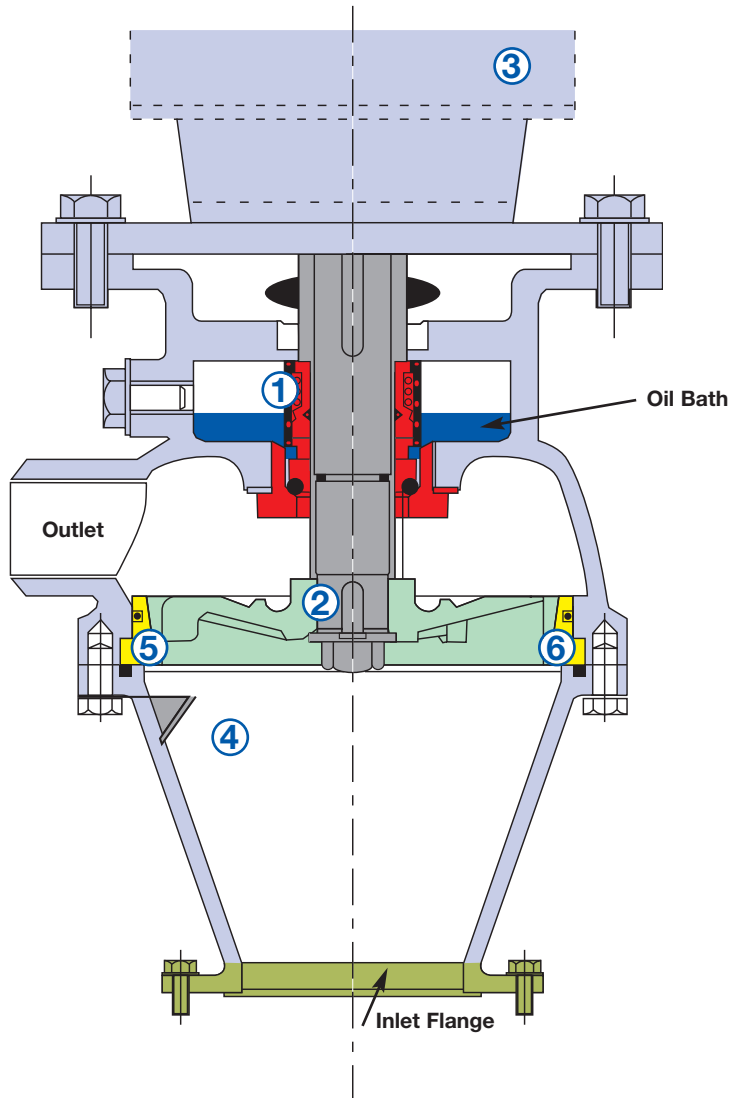


*Tri-Hammer Impeller*



### 3. Standard IP55 Motor

Single or 3 phase



### 4. Anti-Swirl Fins

Inlet chamber contains 2 large anti-swirl fins to stop 'spinning' of textiles and to direct solids in suspension into optimum flow path for maceration through impeller.

### 5. Cutter Ring

Investment cast in Chromium Iron optimum combination of both hardness and resilience - positively clamped in position by inlet chamber. Hardened and internally ground for maximum cutting efficiency.

### Body and Inlet Chamber

Cast in corrosion resistant Grade 220/260. Cast iron BS 1452 (1977).

Outlet screwed BSP (female) for direct connection to discharge pipework.

Units can operate in vertical or horizontal mounting position.

90° inlets normally fitted when macerator mounted horizontally e.g. in 'Grifter' or 'Compact Mutrator' layout and have rodding eye for suction pipe clearance duties.



*M180 mm Vertical Macerator installed as part of a pumping system to handle sewage from a primary school.*

# Retrofitting to Existing Mono<sup>®</sup> Mutrators

A special adaptor ring is available to enable easy retrofitting of the M18 unit to all existing group 2 (7") and group 3 (8") Macerators. The ring simply fits onto the existing inlet canopy without the need to disturb the baseplate or suction pipe.



The new Tri-Hammer Macerators offer both an improvement in energy consumption and lower spares prices. The following table shows comparative power consumption of the new models against our earlier units.

## Power Consumption Tests

New M18 design in comparison with:   
 1. Existing Group 2 macerator   
 2. Existing Group 3 macerator

*Tests conducted in test plant during February 1990.*

Power Consumed @	10m <sup>3</sup> /h	16m <sup>3</sup> /h
Group 2 180mm macerator/3kW motor	4.0 amps	4.0 amps
Group 3 200mm macerator/5.5kW motor	9.5 amps	9.5 amps
New M18/2.2kW motor	3.0 amps	3.0 amps

*(Tests conducted on water @ approx 15°C)*

	Old Types	New Types
<b>Grifter</b>	125mm macerator for CP25 and CP800 Grifters	New M12 macerator used with CP25 and CP800 Grifter pumps
	150mm macerator for CP1600 Grifter (light duty)	CP1600 Grifter discontinued
<b>Mutrator</b>	150mm macerator (group 1)	New M18 macerator
	180mm macerator (group 2)	
	200mm macerator (group 3)	New M18 macerator or SB Muncher
	250mm macerator (group 4)	SB Muncher <sup>®</sup> (Please refer to separate leaflet)
	300mm macerator (group 5)	

# Physical Connectors

## 2 Model Range M12 and M18

**Cutter/Impeller diameters:** 125mm/180mm

**Flow on Raw Sewage:** M12 up to 5m<sup>3</sup>/h  
M18 up to 15m<sup>3</sup>/h with pump assistance i.e. Murrator/Grifter type installation.

**M12 Inlet:** 80mm Flanged with NP6 drillings.  
Straight in or 90° bend.

**M18 Inlet:** 100mm or 150mm Flanged NP16 drilling.  
Straight in.  
125mm Flanged NP16 drilling. 90° bend.

**Outlet:** 1½" BSP female.

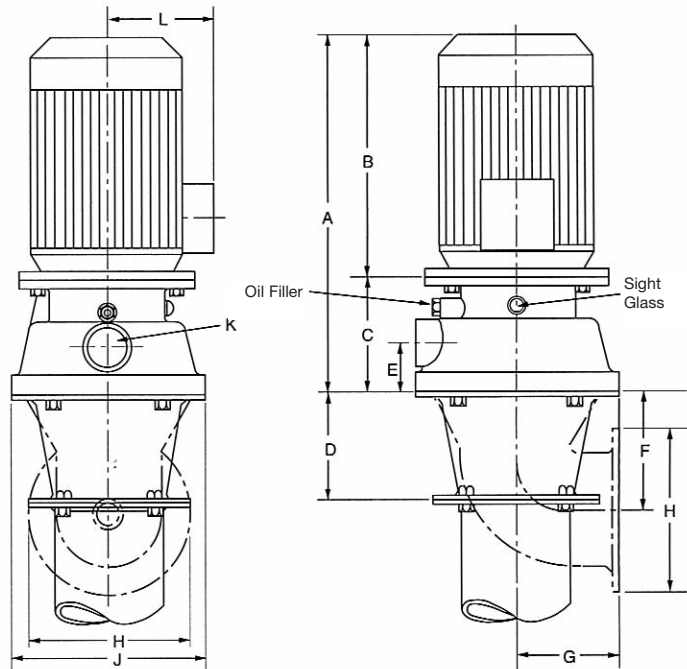
**Outlet:** 2" BSP female.

## Range Selector

**Mono Macerator**  
**G.A. Drawings**  
**and Dimensions**

Units can be mounted vertically or horizontally.

Dimensions shown are for guidance and planning purposes only. Please obtain certified drawings before proceeding with detail design work.



Model	Motor	Frame	*A	B	C	D	E	F	G	H		J	K	L		
M18	2.2kW	D100 LA	473.5	311	162.5	150	70.5	170	140	} 220	100 n/b	} 275	2"	151		
	3.0kW	D100 LB	473.5	311	162.5	150	70.5	170	140		250		125 n/b	275	2"	151
	4.0kW	D100 LK	473.5	311	162.5	150	70.5	170	140		280		150 n/b	275	2"	151
M12	0.55kW	D90S	398	264	134	100	45	150	90	190	80 n/b	200	1.5"	140		
	0.75kW	D90L	423	289	134	100	45	150	90	190	80 n/b	200	1.5"	140		

All dimensions in mm unless otherwise stated

NOTES: \*For M18X Unit, Dimensions A, C and E add 20mm  
\*For M18Y Unit, Dimensions A, C and E add 30mm

A 5.5kW motor is available for the M18 for special duties on application to Mono Pumps