



Submersible Sewage Pumps

# High Head Cutter C

## NEW C-series



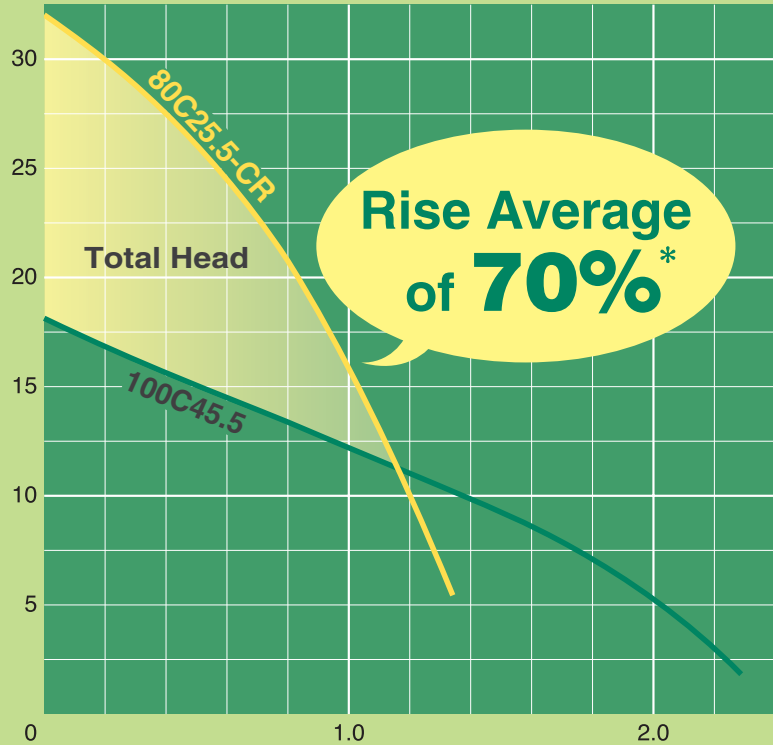
*Cutting up foreign matter to ensure smooth pumping  
Suitable for pumping over long distances*

The C-series, high-head type, incorporates a cutter mechanism that cuts up foreign matters sucked up with wastewater to prevent the pump from clogging. The mechanism is composed of sintered tungsten carbide alloy edges integrated with an impeller and a suction cover with a saw-tooth suction port. The impeller is equipped with two vanes, namely, two edges that act as a rotating cutter, that provide higher cutting efficiency. The impeller and suction cover are made of high-chromium cast iron, ensuring excellent durability and enabling the pump to maintain high performance for an extended period. The submersible high-head cutter pumps are appropriate for today's water-conservation society.

### Applications

- Transferring sewage and wastewater to wastewater treatment plant
- Draining wastewater from industrial plant
- Draining effluent from residence, hotel, commercial complex, etc.

### Performance Comparison



\* The rate indicates the average at the highest head.

### Semi-open Channel Impeller with Cutter Mechanism



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## ■ Features

### 1. Anti-wicking Cable Entry

The cable entry has an anti-wicking block. It prevents ingress of water that may occur when the cable is damaged or the end of the cable is accidentally submerged.

### 2. Motor Protector

A built-in thermal motor protection device reacts to the heat caused by overcurrent or run-dry conditions. It not only cuts off the motor circuit automatically but also resets by itself. When the motor cools down to a safe operating temperature, the motor restarts.

### 3. Dual Inside Mechanical Seal

Tsurumi incorporates the dual inside mechanical seal (dual face mechanical seal located in an oil bath) in all pumps. As both upper and lower sealing faces are lubricated by the oil only, it ensures a longer life of the product and a stable sealing effect.

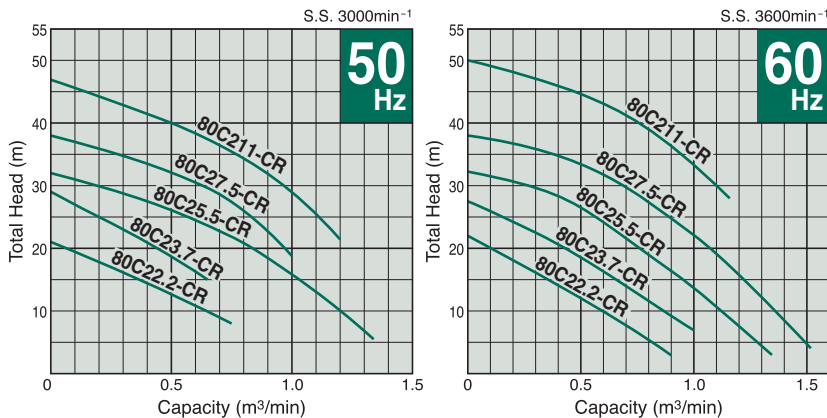
### 4. OIL LIFTER (Patented)

The OIL LIFTER is a lubricating device that forcibly lubricates the mechanical seal. It further stabilizes the functions of the mechanical seal and extends the life expectancy of the seal and also the maintenance term.

## ■ Major Components & Specifications

Discharge Bore		mm	80
Pumping Fluid	Type of Fluid	Sewage, Wastewater, and Liquid carrying Waste and Solid Matters	
	Fluid Temperature	0 to 40°C	
Pump	Structure	Impeller	Semi-open Channel Impeller with Cutter Mechanism
		Shaft Seal	Double Mechanical Seal with Oil Lifter
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	High-chromium Cast Iron
		Cutting Edge	Tungsten Carbide Alloy
Casing		Gray Cast Iron	
Suction Cover	Shaft Seal	High-chromium Cast Iron	
	Shaft Seal	Silicon Carbide	
Motor	Type, Pole	Dry Type Submersible Induction Motor 2-pole	
	Insulation	Class F	
	Phase	Three-phase	
	Starting Method	D.O.L. (7.5kW and below) Star-Delta (5.5kW and above)	
	Protection Device (built-in)	Circle Thermal Protector Miniature Thermal Protector (11kW only)	
	Lubricant	Turbine Oil (ISO VG32)	
	Materials	Frame	Gray Cast Iron
Shaft		420 Stainless Steel	
Cable		PVC (3.7kW and below) Chloroprene Rubber (5.5kW and above)	
Discharge Connection		JIS 10kg/cm <sup>2</sup> Flange	

## ■ Performance Curves



## ■ Standard Accessories

### Free Standing

- Discharge Bend (with Packing & Bolts)
- JIS 10kg/cm<sup>2</sup> Flange (with Packing, Bolts & Nuts)

### Guide Rail Fitting

- Lifting Chain 5m (with Shackles)
- Guide Support (with Bolts & Nuts)
- Guide Hook (with Bolts)
- Duckfoot Bend
- Guide Connector (with Bolts)
- JIS 10kg/cm<sup>2</sup> Flange (with Packing, Bolts & Nuts)

## ■ Model Selection 50/60Hz

Discharge Bore mm	Model		Motor Output kW	Phase	Speed (S.S.) min <sup>-1</sup>	Starting Method	Max. Head m	Solids Passage mm	Dry Weight**		Cable Length m
	Free Standing	Guide Rail Fitting							Free Standing	Guide Rail Fitting	
80	80C22.2-CR	TOS80C22.2-CR	2.2	Three	3000/3600	D.O.L.	21 / 22	22×31 / 20×31	77	68	10
80	80C23.7-CR	TOS80C23.7-CR	3.7	Three	3000/3600	D.O.L.	29 / 27.5	22×31.3 / 22×31	80	71	10
80	80C25.5-CR	TOS80C25.5-CR	5.5	Three	3000/3600	D.O.L.*	32 / 32.3	29×23.2 / 29×23	136.5	123	10
80	80C27.5-CR	TOS80C27.5-CR	7.5	Three	3000/3600	D.O.L.*	38 / 38	26×25.5 / 29×23	141.5	128	10
80	80C211-CR	TOS80C211-CR	11	Three	3000/3600	Star-Delta	47 / 50	26×26.7 / 26×25.5	156.5	143	10

\* Star-Delta available upon request

\*\* All weights excluding cable

Weights of guide rail fitting excluding duckfoot bend

We reserve the right to change the specifications and designs for improvement without prior notice.

**TSURUMI  
MANUFACTURING CO., LTD.**

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