

# Waste Water Solutions





Mono is a leading name in the design, manufacture and supply of progressing cavity pumps, parts, grinders, screens and packaged solutions, worldwide. We have 7 international sites and a global distribution network, as well as over 70 years' experience in providing a range of products for the multiple application requirements of today's industries.

Our strong heritage and global success has been recognised, supported and further enhanced by our parent company, National Oilwell Varco (NOV), who are world-leaders in the oil and gas industry.

Mono's expertise extends to supplying customers with a product that will perform to the necessary duty requirements in the chemical, pharmaceutical, mineral, mining, food and beverage, pulp and paper, oil and gas, and of course waste water industries.


## Why Choose Mono?

Since our first progressing cavity pump was manufactured in 1935, the principle design has evolved to provide you with an efficient and reliable pump, when processing waste water. We have the expertise to select the correct materials to avoid wear and prolong the life of your product. We also understand that solids within the flow can cause pipework and pump blockages and therefore we manufacture macerators and grinders to eliminate this problem. Mono can design, manufacture and install a packaged solution that's right for your process.


Our large customer portfolio includes major civil contractors, consulting engineers, Water Authorities, local government, councils & a large number of industrial end users all of whom are a testament to our continued success in the waste water industry.




## Solutions for the Waste Water Industry

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**Transfer Pumps**  
Constructed with interchangeable components, sealed pin joints or a Flexishaft drive system, these pumps are designed to ensure reliable operation and a long service life when transferring effluent and sludges.




**Screens & Extractors**  
Self cleaning screens eliminate the need for manual raking or handling, and for storm water applications a flow-powered screen is available for sites with no electrical power. Complete extraction of gross solids is achieved with a screen/extractor package.




**Pressure Sewer Systems**  
For disintegrating domestic and industrial sewage and pumping it to a pressurised sewer main or treatment plant. The system provides savings in both pipe and installation costs by eliminating the need for large diameter gravity sewer mains and large and expensive pumping stations.




**Widethroat Pumps**  
Feature an enlarged inlet and screw conveyor to assist viscous products into the pumping element. Dry solids approaching 40%, such as settled sludge and de-watered sludge cake can easily be pumped in an enclosed, hygienic environment.




**Munchers**  
A range of grinders incorporating cutters to macerate solids within a flow and prevent 'ragging' in a pump or pipework blockages. Especially beneficial in the homogenisation of sludge prior to digester feed and centrifuge de-watering.



**Submersible Pumps**  
Large passage or grinding type for the pumping of heavily polluted sewerage in commercial, industrial and municipal applications. Water pressure-tight encapsulated flood-proof motors in standard or explosion-proof versions with the option of a cooling jacket system. Suitable for both wet and dry conditions



**Packaged Solutions**  
A macerator or Muncher can be packaged with a transfer or widethroat pump, to simultaneously macerate and pump effluent or sludge at high pressure without the fear of blockage.



**Dosing Pumps**  
Their smooth action and output proportional to speed provides intermittent or continuous dosing, with a non-shear action suitable for polymer dosing.

## Applications

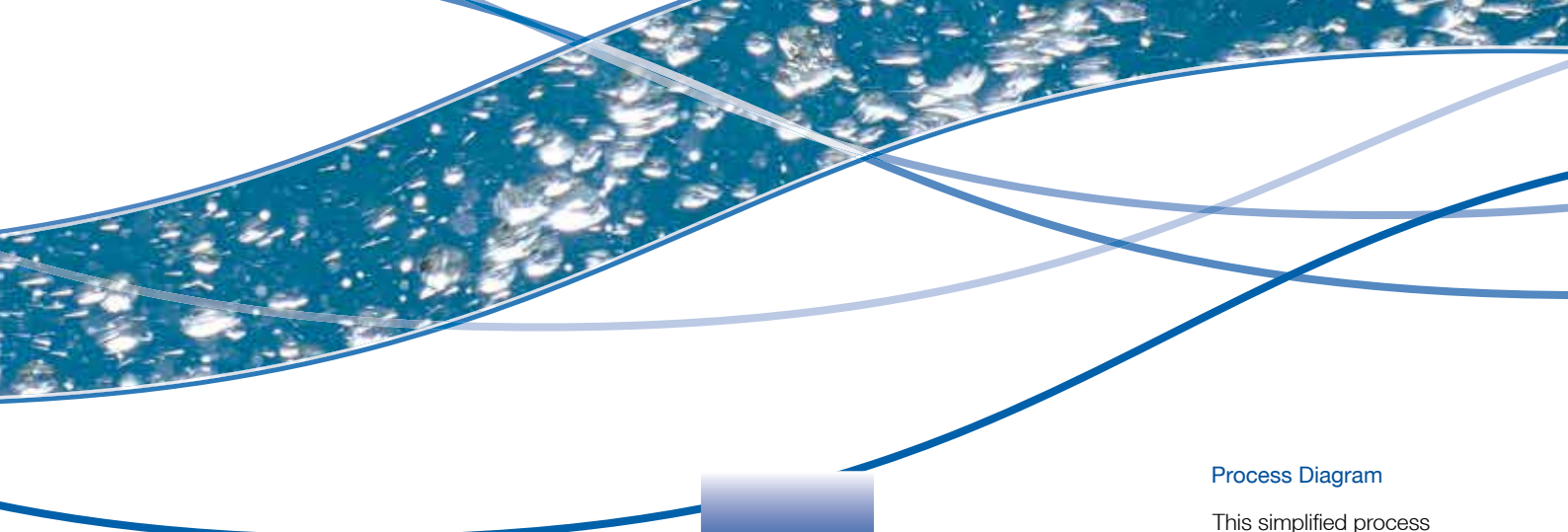
<b>Collection</b>	Pressure Sewer	<b>Waste Water</b>	Screening maceration	<b>Sludge Treatment</b>	Tankered sludge	
	Storm water		Treatment		Storm overflows	Primary sludge
	Contaminated process water		Weir wall washing			Secondary sludge
	Ground water		Inlet screening			Return activated sludge
	Water abstraction		Solids maceration			Consolidated sludge
	Domestic sewage		Industrial effluent			Digested sludge
	Leisure facilities					Sludge blending
	Caravan Parks					Sludge thickening
	Ship to shore					Dewatered sludge cake
				Polyelectrolyte dosing		

## Support Services

Installation and Service Facilities are areas where Mono can offer you additional expertise and support. 3D design of equipment and installation into your new or existing plant can be managed by Mono's dedicated team. Qualified engineers, confined space trained and working to health and safety regulations can install all the necessary equipment quickly to minimise downtime.

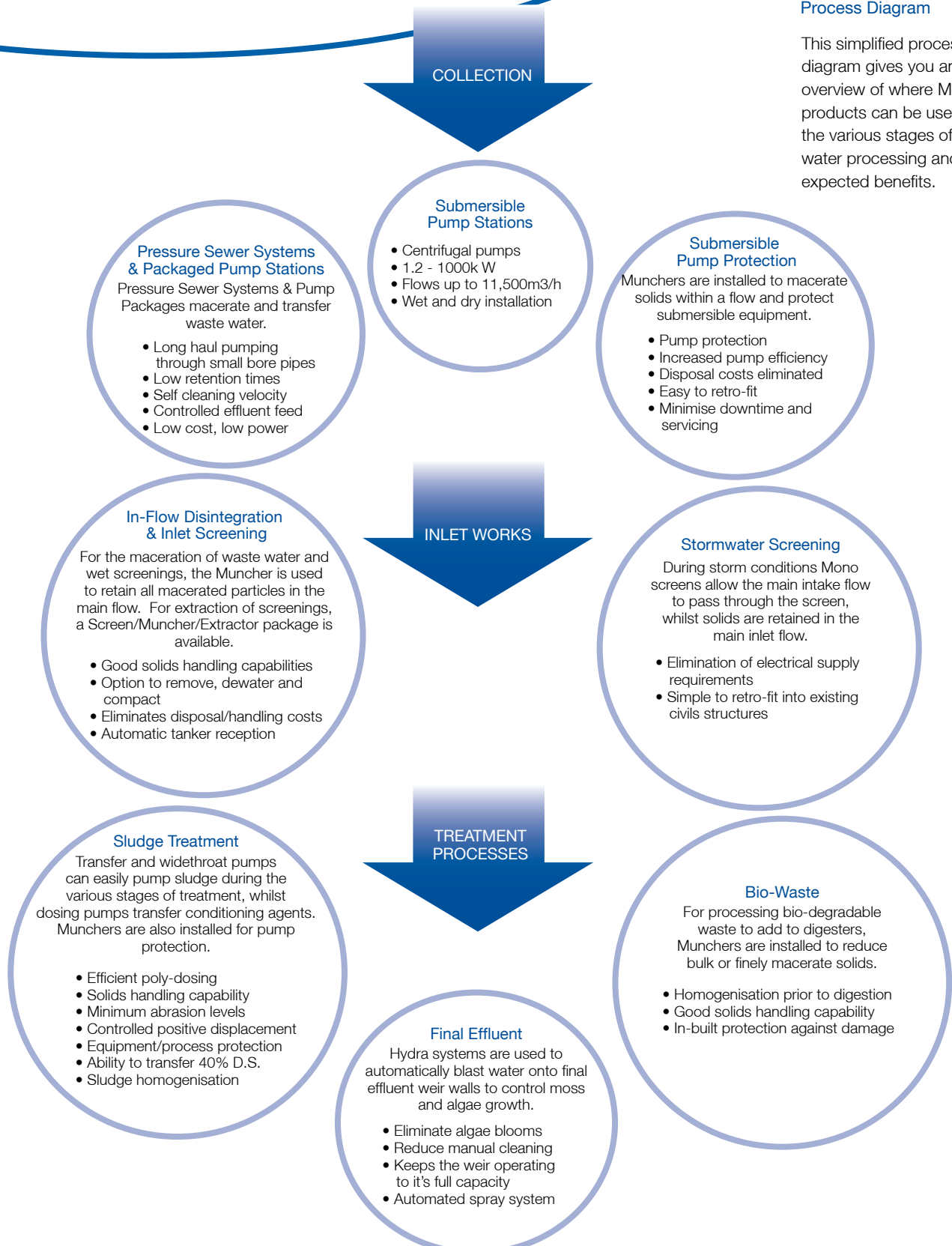
For routine maintenance of Mono equipment, spares can be purchased direct from Mono or our distributor network. Planned maintenance contracts are also available to help you keep your equipment working to maximum performance.

[Contact a Mono engineer for further details or a process evaluation.](#)



### Process Diagram

This simplified process diagram gives you an overview of where Mono products can be used within the various stages of waste water processing and the expected benefits.



## Understanding Your Process Needs



Transfer pumps at a WWTW's pumping sludge



Packaged pumping system transferring raw sewage



Discreen and Muncher screening and macerating waste water

### Small Bore Pumping

By using an above ground packaged pumping system or Pressure Sewer System, waste water is finely macerated enabling the use of small bore pipes. This significantly reduces the total installation cost over a traditional 100mm rising main. Sump entry risks and multi-labour visits are avoided.

### Storm Overflows

As storm or river water passes through our screens, the shaft rotation forms a gentle conveying action of solids across the face of the screen. Individual comb bars eject screened solids for discharge back into the main flow.

### Sludge Handling

Various sludges can be handled from primary to secondary and de-watered sludge cakes between 2% or 40% D.S.

### Drive Shaft Connection - Flexishaft

A significant contribution to the history of progressing cavity pump technology, the Flexishaft connects the rotor to the drive shaft, eliminating the need for double universal joints. As there are no moving parts, the Flexishaft extends the working life of the pump and reduces operational costs.

### Least Whole Life Costs

20 years is the typical life of a progressing cavity pump and Mono can design and build a pump where the benefits of your capital investment are soon realised through low spares and running costs.

### Maceration

To prevent any large solids and fibrous materials from blocking a process or damaging a pump, a macerator or Muncher can be installed to macerate solids to a small particle size, allowing easy transfer.

### Screenings Handling

We can provide high efficiency screens or Munchers to handle inlet screenings from both pump station or waste water inlets.

### Submersible Pumps

Large passage or grinding type for the pumping of heavily polluted sewerage in commercial, industrial and municipal applications. Water pressure-tight encapsulated flood-proof motors in standard or explosion-proof versions with the option of a cooling jacket system. Suitable for both wet and dry installations.

### Abrasive Pumping

Depending on the nature of the abrasive liquids, Mono will select the correct speed and pressure to reduce wear. Rotors can also be supplied with our range of specialist coatings to improve the rotor wear from abrasive particles.

### Algae Growth

For the effective control of moss and algae growth, a Mono Hydra system blasts water at high pressure against the final effluent weir wall to remove and prevent re-growth.

### Self-Priming and Suction Lifts

Unlike other pump technologies, the progressing cavity pump is designed to self-prime and suction lift up to 8.5m.

### Material Selection

We manufacture the critical components of our equipment, helping us to retain complete control over the performance and quality of the material selected, to ensure best component life. Material selection is based on over 75 years' manufacturing experience.



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