



FOOD INDUSTRY PUMPING EQUIPMENT

Process Pumps
Wastewater Pumps
DAF Systems



RamParts®
Pumps



ragazzini
s.r.l.

HYDRO
INNOVATIONS
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Hydro Innovations

Hydro Innovations was formed in 2008 to be the Gorman-Rupp pump distributor for Australia. We have since grown our "stable" of pump manufacturers to include RamParts of USA, EDUR of Germany and Ragazzini of Italy. We have been very particular in selecting manufacturers to represent, wanting only the best in each class to offer to our customers.

The Hydro Innovations team is small, but dedicated to delivering excellent products and services to our customers. Our main market areas are municipal and industrial wastewater, food process, utilities pumps and paper manufacturing.

We promote self priming pump systems because they are much safer for operators and more cost effective for asset owners. We believe the use of quality self priming pumps can reduce civil costs, reduce maintenance costs and greatly improve safety.

Our capabilities have grown over time and now include CAD, 3D modelling, and finite element analysis. We have developed our own pump bases which have been specifically designed for use with self priming pumps, and with input from EDUR, are developing pumping systems for DAF plants.

"Hydro Innovations helped us solve some safety issues connected with the operation of the submersible wastewater pumps we had. We now have Gorman-Rupp self priming wastewater pumps in that application and our safety issues have been substantially reduced. We have no hesitation in endorsing Hydro Innovations."

Chris Schumacher,
Director of Works & Engineering, Oberon Council

"Another big plus with the Gorman-Rupp pump is that if you do get a malfunction occurring in the motor you can just replace the motor. This isn't possible with submersible pumps. If there is a motor problem you have to change the entire pump. As an engineer I grew up on submersible pumps but having now been exposed to an above ground centrifugal pump I'd say they have a lot to offer and should be seriously considered as a pump option in a wastewater treatment plant."

Adrian Harper,
Senior Engineer Wastewater Treatment Group,
Moe Wastewater Treatment Plant, Gippsland Water

"Inghams Enterprises Pty Ltd have used Gorman-Rupp pumps for over 20 years. Gorman-Rupp pumps have provided reliable, dependable wastewater pumping service for our waste treatment processing plants in this time. Based on this experience we had no hesitation selecting Gorman-Rupp Pumps for a new trade waste treatment plant at one of our NSW plants."

David Jessup,
Group Executive General Manager, Inghams Enterprises Pty Ltd.

Testimonials

"It's great to see that there are still suppliers out there who will stand behind their products and let you trial them before buying. If Hydro Innovations hadn't let me trial the pump I doubt I would have bought it upfront because I have been burnt so many times before. After all my negative experiences, the Gorman-Rupp T2A3-B is far more than I hoped for."

Mat Collier,
Principal Partner and Manager
of Midwest Piggery

"Choosing to partner with Hydro Innovations was the right decision. They grasped what was required immediately, have a very good understanding of their products and their backup service has been excellent."

Grahame Dunstan,
Co-ordinator for Wastewater Services for Cairns Regional Council



Gorman-Rupp Pumps are mounted “high and dry” above the wastewater for safe and easy access for monitoring and service

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Wastewater Pumping

Gorman-Rupp self priming solids handling centrifugal wastewater and trash pumps are ideal for even the toughest jobs at food processing plants.

They are designed to operate 24/7 on suction lifts up to 7.6m, can handle spherical solids up to 76mm in diameter, and can handle stringy materials such as rags, gloves etc. Also, very tough “raggy” applications can be handled by Gorman-Rupp’s new “Eradicator Solids Management System” (available in all Super T Series pump models). This is the absolute latest in solids handling technology.

Gorman-Rupp pumps are the safest and most cost effective solution for wastewater pumping. No cranes, no confined spaces access and the easiest maintenance of any pump.

Energy Efficiency

An important aspect of pump selection is energy efficiency. It is one thing to provide an efficient pump, but keeping it at peak efficiency is another. Gorman-Rupp pumps are easily accessed, and adjusting internal clearances is a breeze.



Just remove the locking screw, rotate the collar by two notches and replace the screw. One operator with two spanners takes five minutes and the pump is back to peak efficiency. The pump is NOT removed from the piping system.

Pump Chokes

If a choke does need to be removed, the job is much simpler than that of a submersible pump or any other pump. Just open the inspection cover and remove the obstruction.



Chokes are easy to remove



NEW Eradicator helps prevent chokes

Servicing

Keeping the maintenance up to equipment is a good recipe for a long service life and lower life cycle costs. And servicing Gorman-Rupp pumps is simple. Even a major overhaul can be completed in an hour.



Gorman-Rupp pumps are fully manufactured in the USA to an exacting standard

Safety and Reliability

Gorman-Rupp self priming centrifugal pumps are the safest and most reliable wastewater pump on the market today. Companies like JBS Australia, McCain, Snack Brands, Arnott's, Nestle, Heinz, Baiada and Ingham rely on their Gorman-Rupp pumps day-in and day-out to deliver reliable and dependable pumping service. They also have their operators in mind, by providing them with the safest method of transferring their wastewater. Operators don't need to be exposed to falls into the wet well or the hazards of working with cranes and heavy swinging weights, because their pumps are mounted on the surface, high and dry above the wastewater, easily and safely accessed for monitoring and/or service.

Handling Aggressive Wastewater

Some industries have wastewater that is abrasive, corrosive or both. These environments can prove to be troublesome and/or expensive to maintain pumps. Gorman-Rupp pumps can be supplied with materials of construction that resists the abrasive or corrosive effects of these environments. Gorman-Rupp's "Hard Iron" components have a Brinell hardness of approximately 400, which is twice as hard as standard cast iron, and ideal for abrasive wastewater. Components can also be supplied in 316 stainless steel if the wastewater is corrosive in nature. If the wastewater is corrosive and abrasive, pump components (or complete pumps) can be supplied in CD4MCu, which is a duplex stainless steel. CD4MCu is more corrosion resistant than 316ss and 50-100% harder, making it ideal for gritty corrosive wastewater.

Gorman-Rupp has two series of pumps dedicated to wastewater pumping. These are the Super T Series and the Ultra V Series. Here are their basic specifications:

Specifications	Super T Series	Ultra V Series
Flow	4 l/s (litres per sec) to 200 l/s	10 l/s to 120 l/s
Head	Up to 40 metres	Up to 90 metres
Temperature	Up to 71°C	Up to 71°C
Materials	Cast Iron, Hardened Iron, 316 Stainless Steel, CD4MCu (duplex stainless steel)	Cast Iron, Hardened Iron, 316 Stainless Steel, CD4MCu (duplex stainless steel)

Clean and Grey Water Pumping

Hydro Innovations also has the right solution for clean or grey water pumping.

GORMAN-RUPP

Gorman-Rupp Super U Series pumps are self priming (so can be mounted “high and dry” above the wet well), easy to maintain, and among the most efficient self priming pumps available. They are also capable of delivering high pressures, making them ideal for pumping through filters.



EDUR self priming pump



EDUR multistage pump



Gorman-Rupp Super U Series pump on a 6 metre suction lift

EDUR

EDUR centrifugal and self priming centrifugal pumps are ideal when heads/pressures are high and the liquid is relatively clean. Manufactured to exacting standards in Germany, these pumps are built to deliver high performance year after year.

Specifications	Gorman-Rupp Super U Series	EDUR Self Priming	Edur Centrifugal
Flow	6 l/s to 60 l/s	1 l/s to 70 l/s	1 l/s to 100 l/s
Head	Up to 60 metres	Up to 160 metres	Up to 300 metres
Temperature	Up to 71°C	Up to 90°C	Up to 110°C
Solids Handling	32mm Maximum	< 1.0mm	80mm Maximum
Materials	Cast Iron, Hard Iron, 316 Stainless Steel, CD4MCu	Cast Iron, Bronze, Stainless Steel	Cast Iron, Bronze, Stainless Steel

DAF System

A conventional DAF system (besides the tank and scraping system) is made up of a recirculating pump, an air saturation vessel, an air compressor and a control system to run it.

The pump draws water from the clean side of the DAF tank and feeds it, under pressure into the air saturation tank, where the compressed air saturates into the water. Water is released into the tank, and because of the lower pressure, the air comes out of solution to form tiny air bubbles that attach to floating matter [oil, grease and other small particles] and take it to the surface to be scraped away.

The drawbacks of this system are:

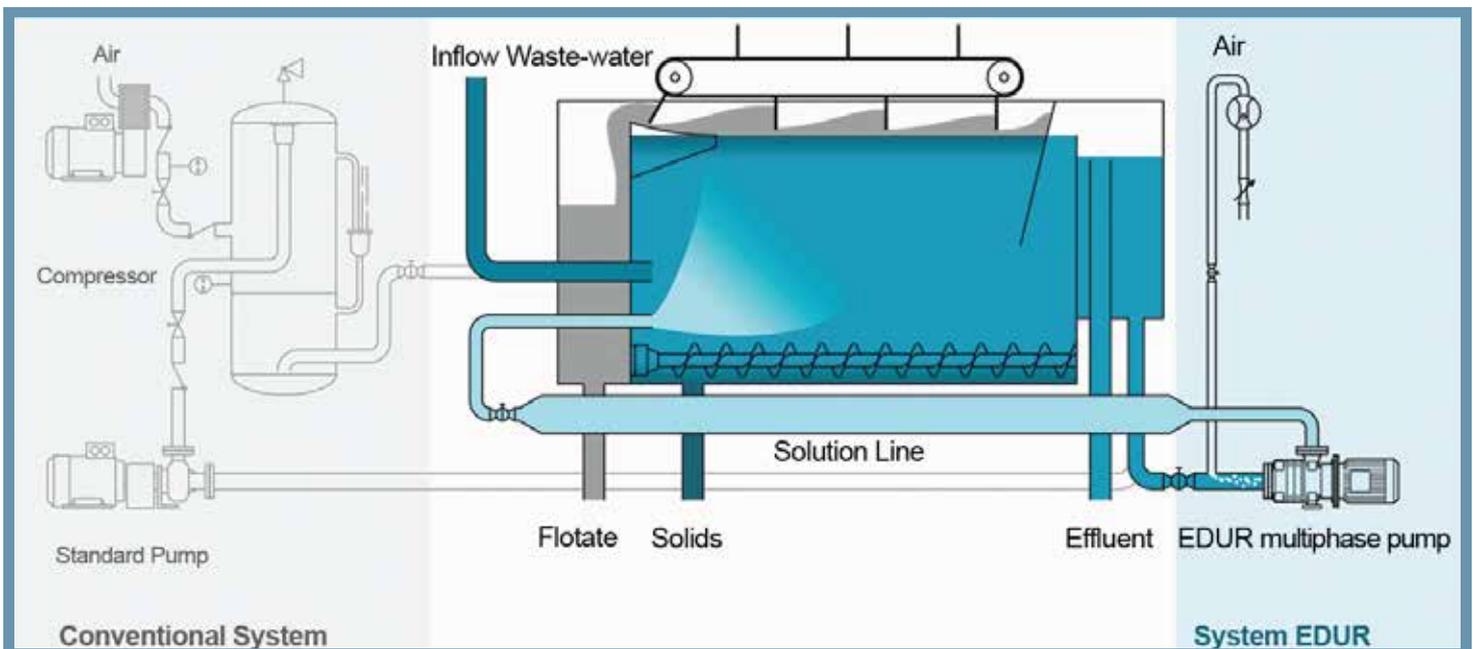
- 1) Inefficiency. The combined energy of the pumps and compressors is not as efficient as the system could be;
- 2) The air saturation tank is a pressure vessel, requiring maintenance and re-certifying periodically;
- 3) The compressor requires ongoing maintenance
- 4) The system requires a complicated control system;

The EDUR System

EDUR has been manufacturing high quality centrifugal pumps in Kiel, Germany since 1927. Each pump is manufactured to exacting standards and subjected to a computer controlled final inspection and 100% testing to DIN EN 9906.

By using an EDUR Multiphase pump in a DAF System, the compressor, air saturation vessel, the standard pump, and the control system can all be eliminated, along with the on-going maintenance that goes with them. The EDUR Multiphase pump is capable of handling a mixture of liquid and air, so when set up correctly, the pump draws atmospheric air into the suction line and feeds it under pressure straight into the DAF tank.

It is pressure and time that is needed to saturate the air into the liquid prior to releasing it into the DAF tank. After drawing air into the suction line, the EDUR pump mixes and shears the air, then imparts up to 6-7 BAR pressure (produced by throttling a discharge valve) on the discharge line. The liquid/air mix then takes approximately 60 seconds to reach the DAF tank (this is achieved by sizing the discharge line to suit the flow rate), which "forces" the air into solution. When the air saturated liquid reaches the DAF tank, the great reduction in pressure allows the air to come out of solution and form 30-70 micron bubbles, which attach to floating matter and bring it to the surface.



Process Liquid / Product Pumping

Hydro Innovations is in an excellent position to supply the right process pump because of our access to Gorman-Rupp's G Series Rotary Gear Pump, and Ragazzini's Rotho Peristaltic Pump.

Pumps are able to handle most liquids or pastes required by the food industry, including:

Food oils	Liquid sugars	Chocolate	Whole foods such as beans	Molasses
Syrups	Honey	Shortening	Fats	Brine
Emulsions	Concentrates	Pastes	many more ...	

Gorman-Rupp Rotary Gear Pumps

Gorman-Rupp Rotary gear pumps are designed to deliver years of dependable service and out-perform any pump in their category. They can handle liquids with viscosities from just a few centistokes (cSt) up to 440,000 cSt. They are also capable of handling liquids with temperatures from -51°C to 358°C, and pressures to 20 BAR (300psi). Pumps can also be supplied with heating jackets for temperature sensitive liquids such as chocolate. Pumps can also be set up to run in either direction so that they can fill or empty the same vessel.

Gorman-Rupp gear pumps have numerous advanced features to improve pump performance and service life. Some of these include: an automatic idler pin lubrication system that lubricates and cools the idler pin and bushing to reduce wear; an internal seal vent provides a continuous flow of liquid through the seal cavity. This ensures cooling and also reduces pressure in this area, which reduces seal face load, extending seal life; and a "deep end" feed area improves suction and priming capabilities.

Gorman-Rupp rotary gear pumps are available in various materials of construction including Ductile Iron, Hardened Iron, Cast Steel and Stainless Steel, and they also have the widest range of sealing options including: • Single • Double • Tandem • Hard Faced • Cartridge • PTFE Lip • Quench • Flush • Metal Bellows • High temperature • Packing.



Gorman-Rupp pumps can be relied on 24/7

Hot or Cold, Thick or Thin - We Have a Pump For The Job



Ragazzini Peristaltic Pump

Ragazzini has been manufacturing quality peristaltic pumps in Italy for more than 60 years. This experience is apparent in every pump they produce. A Ragazzini hose pump is an excellent choice for lower flows or if there is clean-in-place (CIP) or sanitise-in-place [SIP] requirements. CIP and SIP hoses can be steamed to 120°C, and autoclave sterilisation is possible on alimentary and pharmaceutical hoses.

Hoses are available in food grade, chemical resistant and/or abrasion resistant materials. These pumps are a breeze to service and they have a fast leak detection system. Because they use rollers, there is no need for lubrication fluid in the casing.

As there is no casing fluid, and leaks are detected quickly, the likelihood of contamination is low, and product loss can be kept to a minimum if there is a hose failure. Because rollers are easily moved, hose replacement is easy and CIP or SIP systems are easy to administer. These pumps can pump as little as 0.2 litres per hour or up to 180m³/hr, and up to 15 bar pressure.

Sensitive products and/or products with solid particles can be pumped with confidence because of the pump's non-emulsifying action and the free tube-passage.



A Ragazzini Rotho can pump viscous, abrasive, corrosive fluids containing solids and makes CIP or SIP operations simple

Ragazzini pump with automated retractable roller system

Leak detector can reduce product wastage and avoid contamination

Specifications	Gorman-Rupp Gear Pumps	Ragazzini Peristaltic Pumps
Flow	2 to 2250 litres per min [lpm]	0.2 to 3000 lpm
Head	Up to 20 Bar	Up to 15 Bar
Temperature	Up to 357°C	Up to 135°C
Solids Handling	minimal	60mm maximum
Materials	Cast Iron, Cast Steel, 316 Stainless Steel	Cast iron body, Flanges in: 316ss; PVC; PVDF; Polypropylene and Titanium. Hoses in Isoprene; EPDM; NBR; Hypalon and Pharmed

Waste Slurries and Sludge

Ramparts Air Driven Diaphragm Pumps

RamParts pumps are rugged heavy-duty pumps designed for uninterrupted unattended service in the transfer of waste slurries or sludge. They are generally not considered dirty water or wastewater pumps, but are in fact true sludge and slurry pumps, designed for pumping of thick, viscous liquids. They are both corrosion and abrasion resistant.

Pumps can be confidently applied to any of the following applications:

- Vegetable slurries (particularly potato, corn and other grains)
- Grape skins
- Spent grain
- Berry waste
- Blood
- Meat processing waste
- Any kind of sludge or aggressive slurries
- Any kind of viscous liquid



RamParts pumps are constructed with extra thick cast iron casings with gussets for added strength to both top and bottom housings. The diaphragms are also heavily constructed and available in a range of materials to match the application, as are balls and ball seats. Diaphragms [with matching balls and seats] are available in Nordel, Hypalon, Nitrile, Neoprene, Viton, Dura XL (Santoprene), Dura-S (Hytrel) and PTFE.



Pumps are available with wetted surfaces lined or unlined. Pumps can be lined in Hypalon, Nordel, Neoprene, Nitrile or Viton for better abrasion resistance and mild corrosive service. For the best chemical and abrasive resistance in acid or organic slurries, pumps can be lined in ETFE fluoropolymer (aka - Tefzel®).

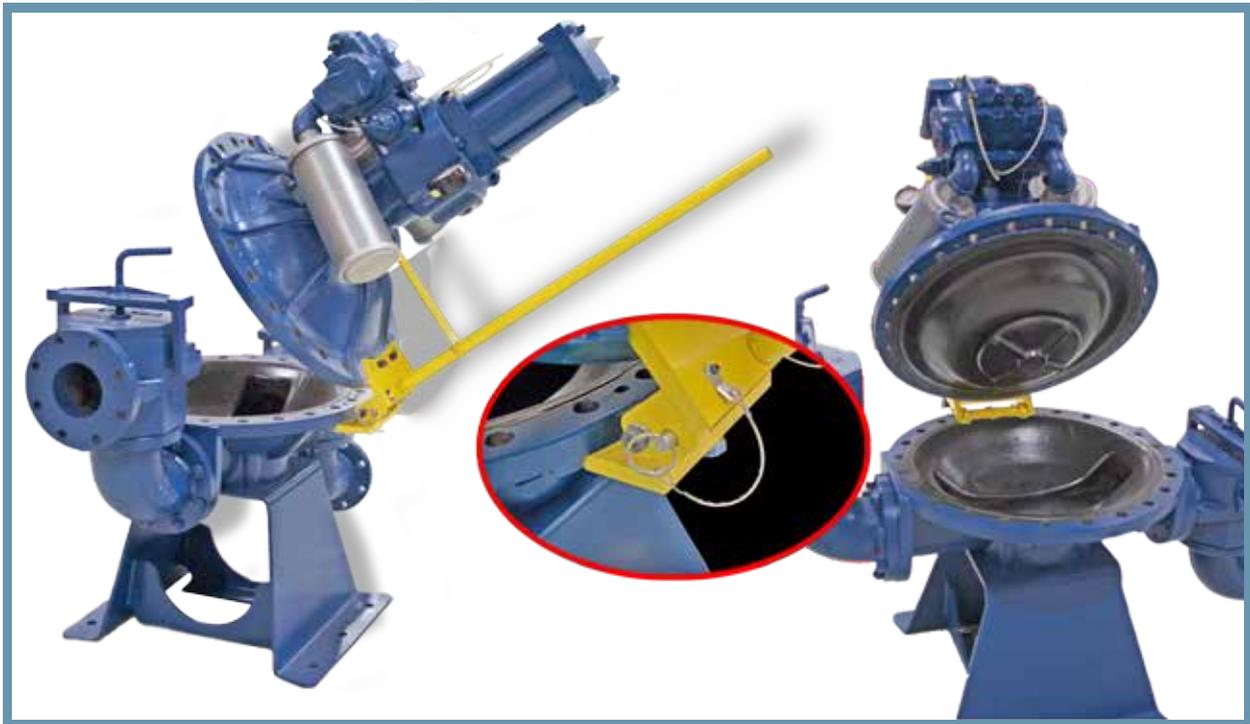
Unlike double diaphragm pumps, the pressures on the suction and discharge side of the pump can be set independently and finely tuned to each and every application, so there is no waste of energy in supplying unnecessary air. Also, with RamParts DRC controller, cycle times can be set, discharge times can be tuned and a digital LED display shows cycle rate.

Advantages

The RamParts diaphragm pump is seal-less and can run dry indefinitely, making it perfect for “slurping” out of pits with inconsistent inflow. The pumps can also “deadhead” without damage, and can be repaired in-line, without the need to remove them from the pipe system.

Easy Servicing

Having only three moving wetted [wearing] parts, a Ramparts pump is simple and easy to maintain. Also, because only elastomeric parts need to be replaced, a complete overhaul will cost approximately 15% of the price of a new pump, compared with a helical rotor pump which will often cost 80% of the price of a new pump to repair. Adding a Sidekick™ to a RamParts pump will make a diaphragm replacement even easier.



Specifications	Ramparts Pumps
Flow Rate	15 to 1200 litres per minute
Pressure	To 65m
Temperature	-40°C to 148°C
Solids	Maximum 63.5mm spheres

Extra Features

Pumps can be supplied with leak detectors that send a signal and stop the pump in case of a diaphragm rupture, and pulsation dampeners or stabilisers can minimise pressure spikes.

“We have your food industry
pumping needs covered”



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