Electric Pumps

A wide range of centrifugal pumps
to transfer manure and waste water

GEA engineering for a better world

gea.com

A pump for every need

GEA offers a comprehensive portfolio of electric pumps that provide maximum performance and efficiency. Each GEA pump is characterized by pressure and flow ratings to meet your precise needs.

Maximum performance and efficiency

Agitation and transfer of manure and waste water are vital farming tasks. To facilitate management of your manure, GEA offers a wide range of electric pumps designed to provide maximum performance, regardless of the pump's application. Whether you need to feed a flush system or separator, facilitate the transfer of liquids to an irrigation system, or just to empty your reception pit simply and effectively, GEA has the pump for you.

Transfer pump applications are as varied as all the factors that need to be considered for their optimal use: manure type and consistency, liquid contribution, transfer-line distance and specifications, pumping head and desired transfer rate. It is for all these reasons that GEA pumps set themselves apart and provide maximum performance and efficiency for a variety of farm-specific applications.

Nine electric pump models

GEA electric pumps will make your job easier, because they are reliable, effective and easy to operate. Please do not hesitate to contact your nearest GEA representative, who will be able to assist you and advise you about the pump or equipment that will meet your needs exactly.

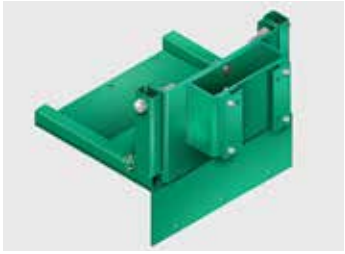
- 8" vertical flush pump and on pontoon
- 4" vertical Agi-Pompe and on pontoon
- 4" high-pressure vertical pump and on pontoon
- 4" vertical dairy manure pump
- 4" vertical hog manure pump
- 3" high pressure direct-drive vertical pump and on pontoon
- 3" high pressure belt driven pump (50 Hz)
- 3" pump
- 3" compact pump

Specifications

Excellent
Very good
Good
Optional

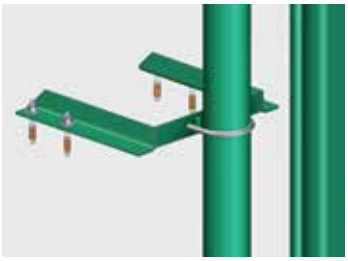
Pump model	Description	GEA Manure Consistency					Characteristics				
		Water	1/8" (3 mm)	1/4" (6 mm)	3/8" (10 mm)	1/2" (13 mm)	High flow	High pressure	Agitation	Economical	Available on pontoon
8" flush pump	Low-rpm pump offering a high flow rate.	✓	✓								✓
4" Agi-Pompe	High performance and versatile, with an agitating propeller producing rapid manure homogenization.	✓	✓	✓	✓	✓					✓
4" high-pressure pump	A high head pressures pump designed to transfer liquid over a relatively long distance.	✓	✓	✓							✓
4" dairy manure pump	The perfect balance between pressure, flow rate and agitation for efficient and optimal results.	✓	✓	✓	✓	✓					
4" hog manure pump	Ideal for transferring low-consistency liquid; ensures good flow and enviable pumping head when needed.	✓	✓	✓	✓						
3" high pressure pump (50 Hz)	Belt-driven pump designed for uses with 50-Hz motor.	✓	✓								
3" high pressure pump	Powerful and economical direct-drive pump for high pumping head applications.	✓	✓								✓
3" pump	Economical pump for transferring hog slurry or dairy wastewater.	✓	✓	✓							
3" compact pump	This compact version is as reliable as the 3" pump, but offers performance and efficiency where space is limited.	✓	✓	✓							

Pump Supports			
A	B	C	D
	✓		
	✓		
	✓		
	✓		
		✓	
		✓	
			✓
			✓
			✓



A *Sliding and tilting support*

B *Fixed support*

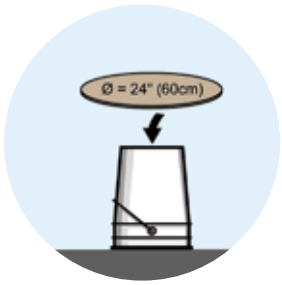


C *Adjustable pump support*

D *Adjustable pump support*

GEA Manure Consistency

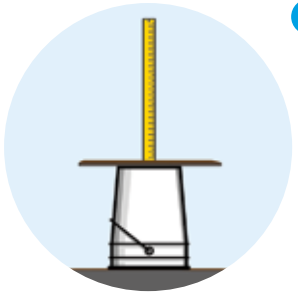
To determine the right pump for a given application, it is recommended to perform the following GEA consistency test in order to measure the material viscosity/consistency you intend to transfer with your equipment. This is an easy test which has to be performed at the farm with agitated and well homogenized manure.



1 On a pail, install a 24" (60 cm) round plate.

2 Slowly pour a full pail of manure until it overflows all around the plate.

3 Wait one minute.



4 Measure the thickness of the manure at the center of the plate to determine the consistency.

Performance and ease of use

At GEA, we focus our efforts on continuous improvement of our equipment by developing features that will facilitate their use and enhance manure management for your entire operation.

Driveline lubrication

The electric pump driveline is protected against vibration by a sealed, permanently lubricated bearing in the support column, thus eliminating the need for oil in the pump column. This reduces the impact on the environment and facilitates maintenance on all GEA electric pumps.

Motor supports

The motor supports on the 8" flush pump, 4" Agi-Pompe, 4" high pressure pump, and 4" dairy manure pump have a scissor joint that can easily be adjusted by loosening the two main bolts. This motor-support design is very sturdy and facilitates belt tension adjustment and pump service.

Oil reservoir

The oil reservoir for lubricating the lower bearing housing on the 8" flush pump, 4" Agi-Pompe, 4" high pressure pump, and 4" dairy manure pump is made of clear plastic for instantaneous oil level verification.

The support for two single-phase motors also has a scissor joint and is available on the 4" dairy manure, 4" high pressure pump, 4" Agi-Pompe and 8" flush pump.

Levers to activate the agitation nozzle and directional valve

All agitation nozzle and directional valve joints are readily accessible from the top of the pump.

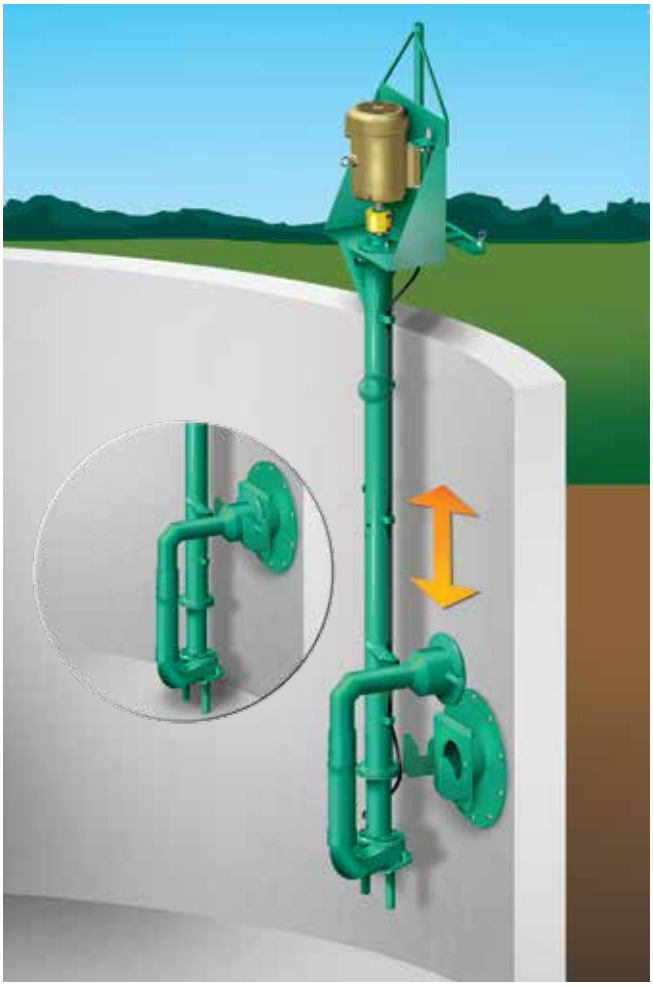
Drop-and-lock adapter option for connection to pit wall

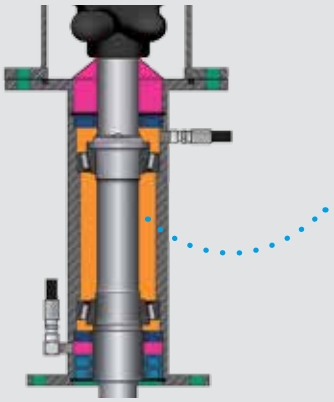
This attachment system is fast, easy and watertight. The connection set makes it easy to remove and reposition the pump in the pit when pump maintenance is needed. This configuration also enables pumping of liquid below the frost line.

The drop-and-lock option for connection to pit walls is available on all GEA electric pump models. A 6" (152 mm) connector diameter is offered on all pumps except the 8" flush pump, which has an 8" (203 mm) connector diameter.

Double-bearing housing protected by GEA 3-seal mechanism

GEA's unique and proven three-joint seal mechanism prevents the lower bearings from being contaminated by manure. During lubrication, dirty grease and contaminants are expelled. Lubrication as per the maintenance scedule greatly improves bearing service life while maintaining high performance. The threee-joint seal mechanism is found on all GEA electric pumps.





During lubrication, dirty grease and contaminants are pressed out from the lower grease chamber through the lower dual seals. Lubrication as per the maintenance schedule greatly improves bearing service life while maintaining high performance. The 4" Agi-Pompe has its own three-seal mechanism at each output of the gearbox to protect the oil bath from contaminant infiltration.

The bearing housing design of the 4" hog manure pump and for all 3" pumps differs from the adjacent illustration.

Reliability, performance and safety

All the accessories to complete your electric pump installation.

Diaphragm switch

A diaphragm switch is installed in the pit and acts as a high- or low-level switch. It starts or stops the pump to prevent overflows or damage caused by running the pump dry. The diaphragm switch is optional with all pump models.

Piping and hardware

GEA offers a wide range of adapters, elbows, coupling kits and valves to complete your electric pump installation and transfer line. This hardware is designed by GEA and made locally to suit all of our pump discharge line diameters and for maximum durability.

50- and 60-Hz starter panels

We offer, CE-certified starter panel models with different electrical demands and several options such as a timer to schedule up to 28 starts/stops per day, and starts/stops push buttons mounted on the panel or installed remotely.

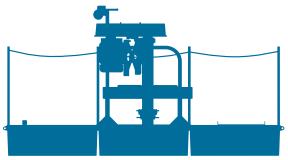
Starter panel with start/stop push-buttons attached to the panel

ELECTRIC PUMPS WITH DIAPHRAGM SWITCHES

Detect high and/or low levels to start or stop the pumps.

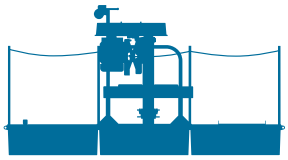
Even more possibilities with electric pumps on pontoons

Some of our vertical electric pumps are designed for use with pontoons. They enable transfer or agitation at various locations on a large storage pond, and pump only the surface liquid from a pit or lagoon.

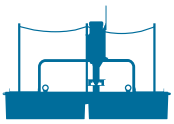


8" flush pump on 12-ft. (3.7 m) pontoon with six floats. A 16-ft. (4.9 m) pontoon with eight floats is also available for the 50-HP (37 kW) and larger motors.

4" horizontal Agi-Pompe on 16-ft. (4.9 m) pontoon with eight floats.



4" high pressure pump on 12-ft. (3.7 m) pontoon with six floats. A 16-ft. (4.9 m) pontoon with eight floats is also available for 50-HP (37 kW) and larger motors.



3" high pressure pump on 8-ft. (2.4 m) pontoon with four floats.

Another way of working with the same features

Pontoon-mounted pumps offer practically all the same characteristics as the vertical pumps: dry pump columns and a scissor joint-type motor support*.

Quality and safety first and foremost

- All our pontoon-mount electric pump models are designed to ensure maximum flotation and stability. They are mounted on quality floats made of UV-resistant polyethylene.
- Pontoons also have a stainless steel anti-skid platform, and a ramp for maximum safety during operations around the pump when necessary.
- Pump height can be adjusted to pump only the surface liquid.
- None of the joints or bearings are submerged.
- The 8" flush pump, 4" Agi-Pompe and 4" high pressure pump have a winch for raising the pump to facilitate maintenance.

* The scissor joint-type motor support is offered on all pump on pontoon models with the exception of the 3" high pressure pump.

8" flush pump

Low-rpm pump offering a high flow rate.

The 8" flush pump is used to force feed a power flume system or a flush valve system used to clean out the alleys or holding area.

- 8" (200 mm) diameter discharge;
- Available motors: 7.5, 10, 15, 20, 25, 30, 40, 50 and 60 HP (5.5, 7.5, 11, 15, 18.5, 22, 30, 37 and 45 kW);
- For pit depths of 6 to 20 feet by two-feet increments (1.8 to 6.1 m by 0.6 m increments);
- 16" (406 mm) ductile iron impeller with four curved blades;
- 9½" (241 mm) intake;
- Optional 6" (150 mm) nozzle with cast-iron valve to recirculate the manure in the pit.

8" in-line flush pump

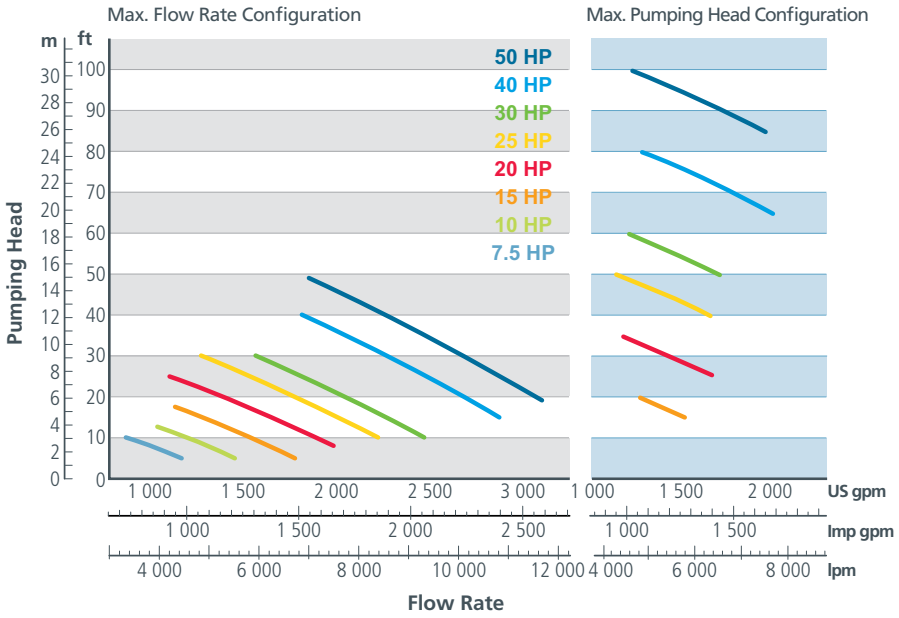
Pump specifically designed for dry pit installation. This model manages the same type of material as the original and pontoon-mounted models.

Liquid manure with no bedding and flush liquid	
Maximum consistency	**1/8" (3 mm)**

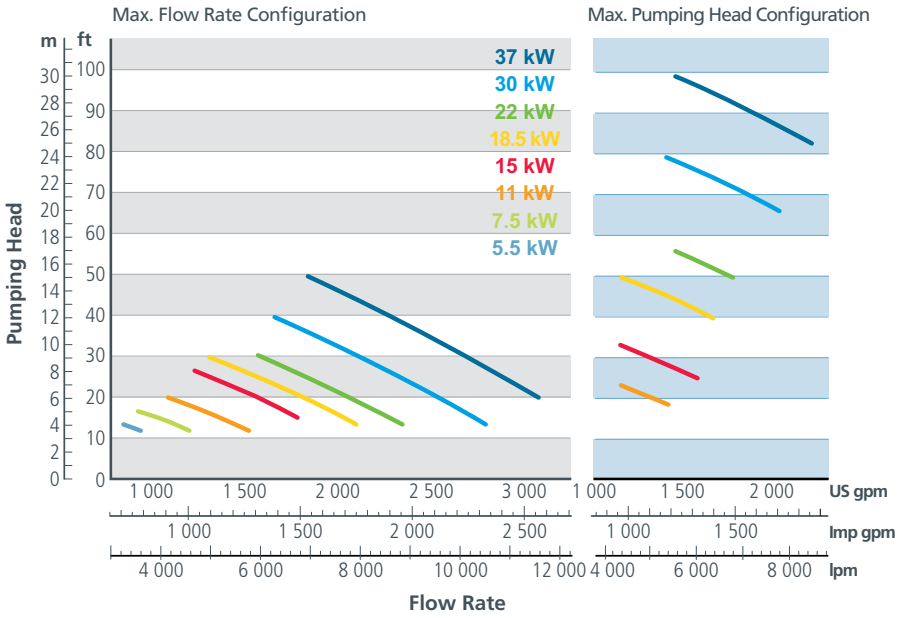
8" flush pump on pontoon used to pump liquid from the surface of a lagoon or pit to feed a power flume system or flush valves to clean out alleys and holding areas.

Performance charts

60-Hz motor



50-Hz motor



Performance charts are based on tests in water. Performance may vary depending on pump configuration and application.

4" Agi-Pompe

High-performance, versatile pump with an agitating propeller for rapid manure homogenization.

The 4" Agi-Pompe is used to agitate and transfer manure from a reception pit. It can also be used to feed manure separators.

- 6" (150 mm) diameter discharge;
- Available motors: 15, 20, 25, 30, 40 or 50 HP (11, 15, 18.5, 22, 30 or 37 kW);
- For pit depths of 4 to 20 feet by two-feet increments (1.2 to 6.1 m by 0.6 m increments);
- Agitating propellers with a diameter of 16", 18", 20" or 24" (406, 457, 508 or 610 mm) for optimal throughput depending on manure consistency and motor power. All propeller sizes are equipped with a knife kit for cutting fibrous materials;
- 16" (406 mm) cast-iron impeller with four curved blades;
- 8" (203 mm) intake;
- Optional agitation nozzle with 215° of horizontal rotation and up-and-down articulation;
- Conical receptacles for each pump foot are offered as an option to hold the pump firmly in place at the bottom of the pit;
- Submerged discharge also available for underground disposal.

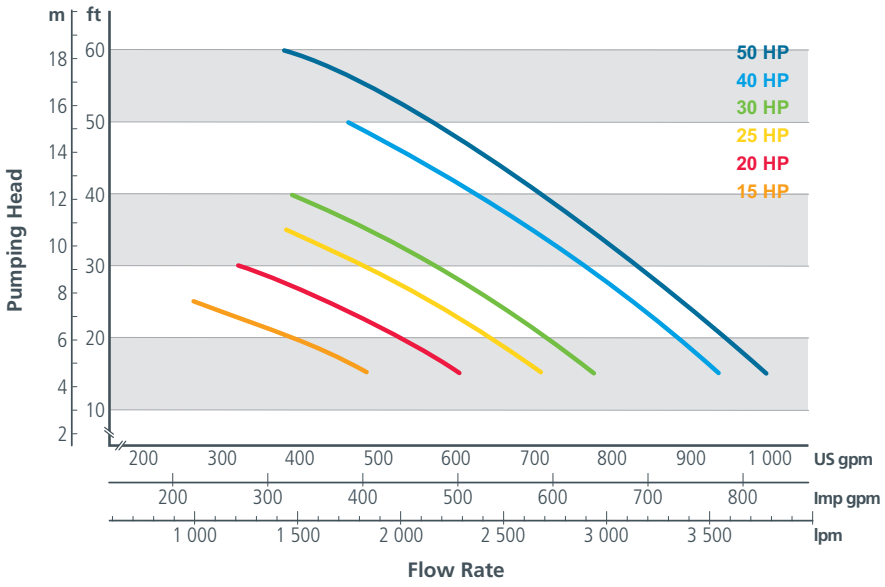
Dairy manure containing limited amount of bedding or flush liquid

Maximum consistency	**1/2" (13 mm)**

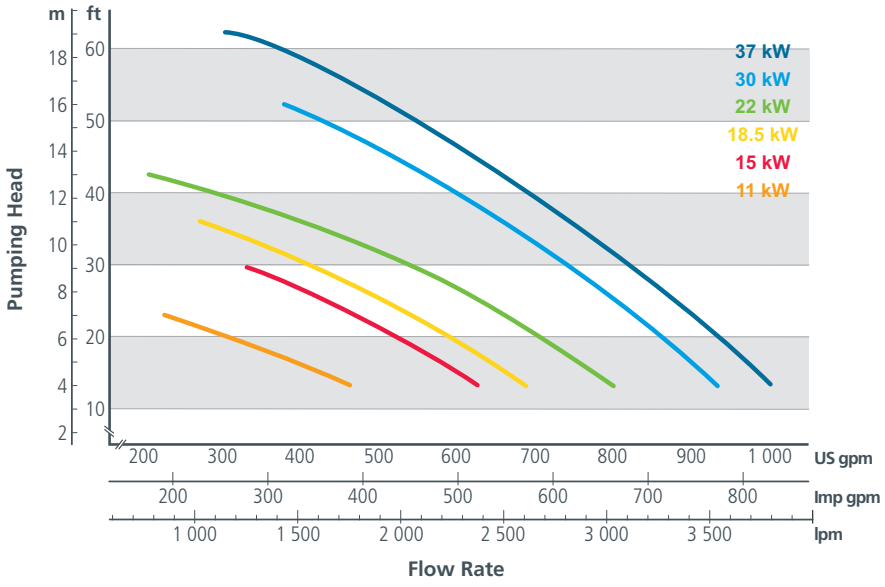
The 4" horizontal Agi-Pompe on pontoon agitates and transfers liquid rejected during manure separation. Its unique design agitates a greater volume of liquid.

Performance charts

60-Hz motor



50-Hz motor



Performance charts are based on tests in water. Performance may vary depending on pump configuration and application.

4" high pressure pump

A high head pressures pump designed to transfer liquid over a relatively long distance.

The 4" high pressure pump is used to transfer hog slurry or dairy wastewater from the reception pit to the main storage or to the feed flush system tanks.

- 6" (150 mm) diameter discharge;
- Available motors: 20, 25, 30, 40 or 50 HP (15, 18.5, 22, 30 or 37 kW);
- For pit depths of 4 to 20 feet by two-feet increments (1.2 to 6.1 m by 0.6 m increments);
- 14½" (368 mm) ductile iron impeller with three curved blades;
- 6½" (165 mm) intake;
- Optional 215° rotating agitation nozzle with up-and-down articulation;
- Optional submerged discharge for an underground transfer line.

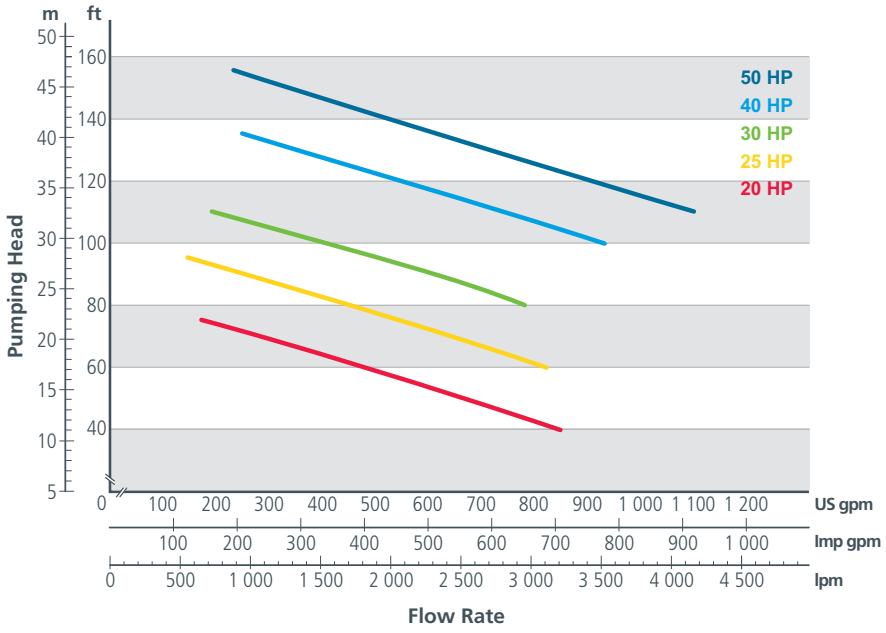
Liquid manure with no bedding, dairy wastewater or flush liquid

Maximum consistency	**1/4" (6 mm)**

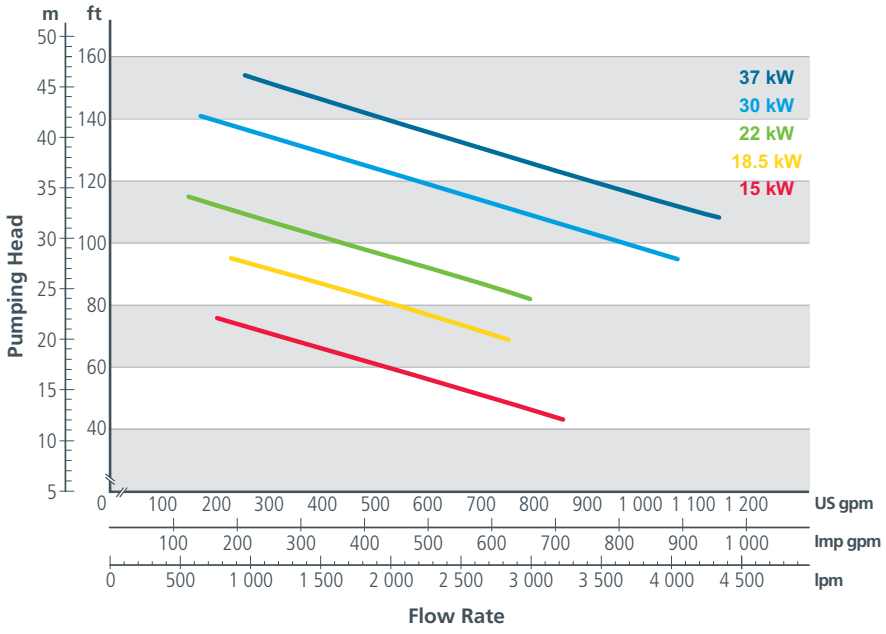
The 4" high pressure pump on pontoon is used for pumping liquid from the surface of a lagoon or pit to fill flush tanks or irrigations systems.

Performance charts

60-Hz motor



50-Hz motor



Performance charts are based on tests in water. Performance may vary depending on pump configuration and application.

4" dairy manure pum

The perfect balance between pressure, flow rate, and agitation for efficient and optimal results.

Steel angles for attaching pump to sliding and tilting support. This pump support is optional for the 8" flush pump, 4" Agi-Pompe, 4" high pressure pump, and 4" dairy manure pump.

The 4" dairy manure pump is used to transfer dairy manure from the reception pit to the main storage.

- 6" (150 mm) diameter discharge;
- A model with a 12" (305 mm) diameter impeller is offered for the following motors: 7.5, 10, 15, 20 or 25 HP (5.5, 7.5, 11, 18.5 or 22 kW);
- A model with a 16" (406 mm) diameter impeller is offered for the following motors: 10, 15, 20, 25, 30 or 40 HP (7.5, 11, 15, 18.5, 22 or 30 kW);
- For pit depths of 4 to 20 feet by two-feet increments (1.2 to 6.1 m by 0.6 m increments);
- 12" (305 mm) or 16" (406 mm) ductile iron impeller with four curved blades;
- 6" (152 mm) or 8" (203 mm) diameter intake;
- 215° rotating agitation nozzle with up-and-down articulation;
- Lower agitation nozzle to dislodge sediment accumulations around the pump;
- Optional 4" (100 mm) submerged discharge for an underground transfer line.

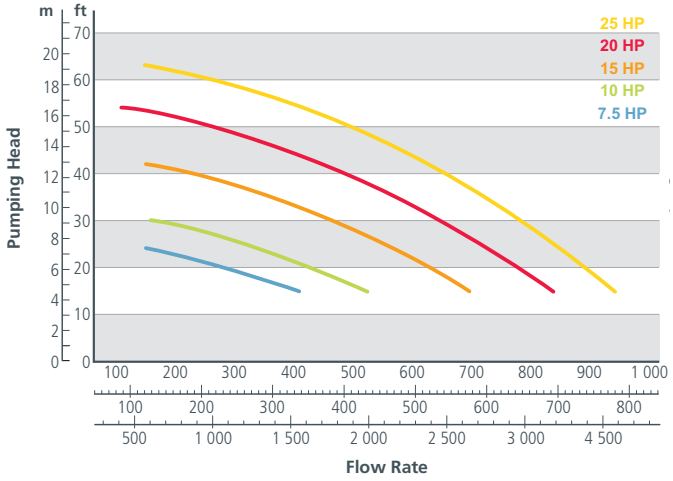
4" in-line dairy manure pump

Pump specifically designed for dry pit installation. This model manages the same type of material as the original.

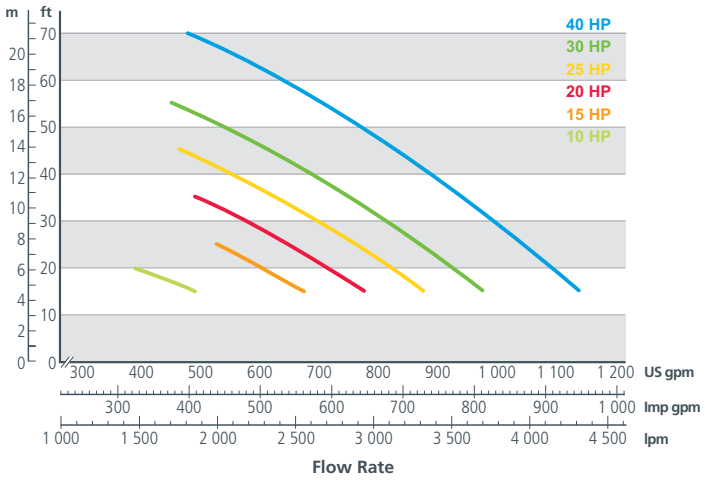
Dairy manure containing very little bedding	
Maximum consistency	**1/2" (13 mm)**

Performance charts

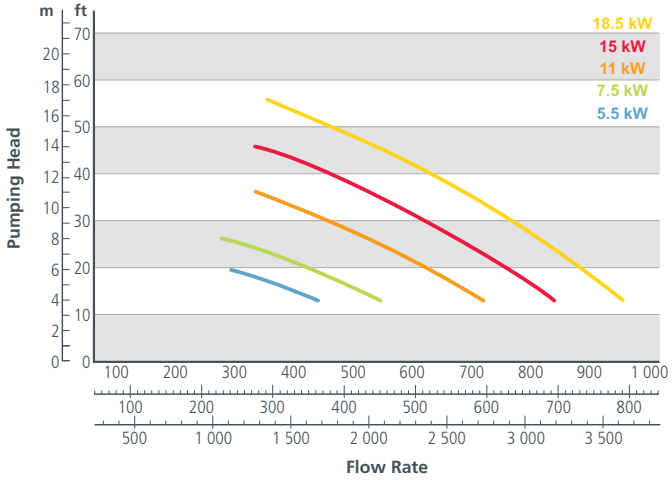
60-Hz motor / 12" impeller



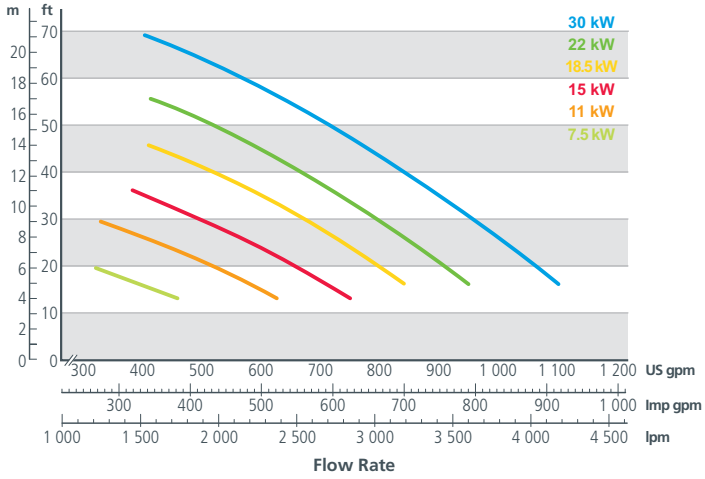
60-Hz motor / 16" impeller



50-Hz motor / 305-mm impeller



50-Hz motor / 406-mm impeller



Performance charts are based on tests in water. Performance may vary depending on pump configuration and application.

4" hog manure pump

An ideal pump to transfer low-consistency liquid when a high flow rate and high pressure are needed.

Agitates and transfers hog slurry or dairy wastewater from the reception pit to the main storage.

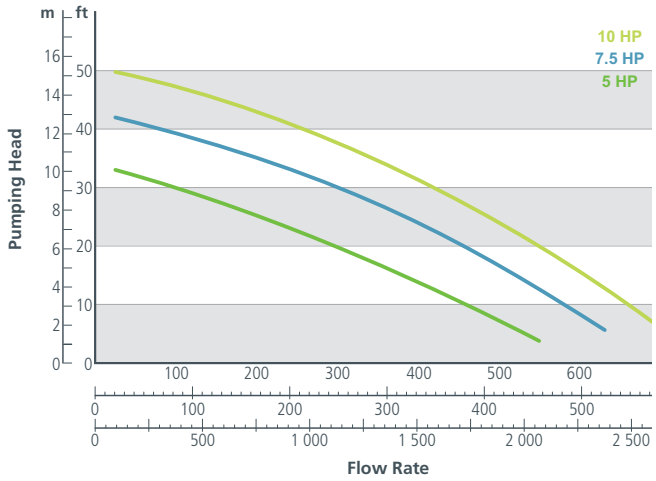
- 4" (100 mm) diameter discharge;
- Available motors: 5, 7.5 or 10 HP (3.7, 5.5 and 7.5 kW);
- For pit depths of 4 to 18 feet by two-feet increments (1.2 to 5.5 m by 0.6 m increments);
- Steel impeller with four curved blades;
- 5" (127 mm) intake;
- Agitation nozzle with 235° horizontal rotation and up-and-down articulation. The nozzle is easily removed for maintenance while leaving pump in place;
- Pump discharge available below ground level at a minimum of 36" (914 mm) from the bottom of the pit.

Manure with no bedding and dairy wastewater

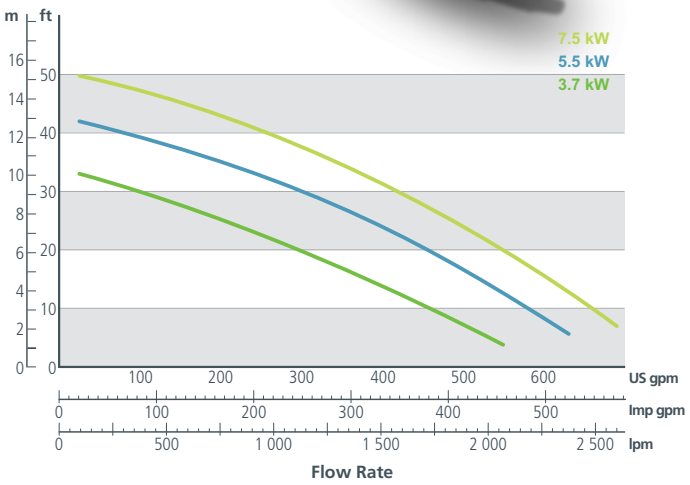
Maximum consistency	3/8" (10 mm)

Performance charts

60-Hz motor



50-Hz motor



Performance charts are based on tests in water. Performance may vary depending on pump configuration and application.

3" high pressure pump

A belt-driven pump for use with 50-Hz motors.

Used to transfer hog slurry or dairy wastewater over relatively long distances from reception pit to main storage when high head pressure is required.

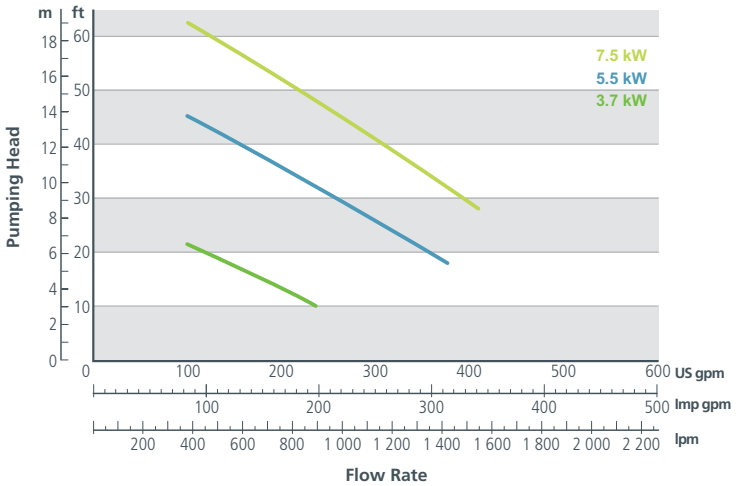
- 3" (80 mm) I.D. discharge pipe to connect on a 3½" (90 mm) I.D. diameter flexible hose;
- Available motors: 3.7, 5.5 or 7.5 kW;
- For pit depths of 4 to 18 feet by two-feet increments (1.2 to 5.5 m by 0.6 m increments);
- Centrifugal pump with progressive housing and impeller with three curved blade to create pressure for a superior pumping head;
- 5" (127 mm) intake;
- Agitation nozzle with 235° horizontal rotation and up-and-down articulation;
- Pump discharge available below ground level at a minimum of 36" (914 mm) from the bottom of the pit.

Liquid manure with no bedding and dairy wastewater

Maximum consistency	**1/8" (3 mm)**

Performance chart

50-Hz motor only



Performance chart is based on tests in water. Performance may vary depending on pump configuration and application.

3" high pressure pump

Powerful and economical direct-drive pump for high pumping head applications.

Used to transfer hog slurry or dairy wastewater over relatively long distances from the reception pit to main storage when high head pressure is required.

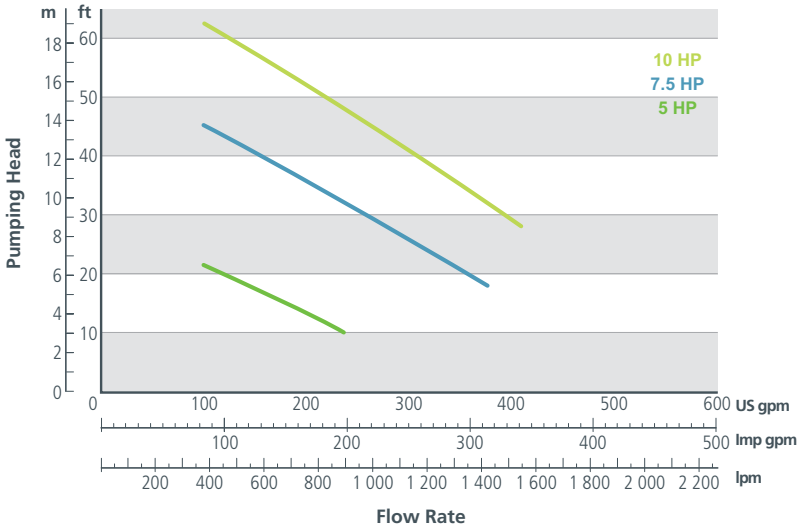
- 3" (80 mm) I.D. discharge pipe to connect on a 3½" (90 mm) I.D. diameter flexible hose;
- Available motors: 5, 7.5 or 10 HP;
- For pit depths of 4 to 20 feet by two-feet increments (1.2 to 6.1 m by 0.6 m increments);
- Centrifugal pump with progressive housing and impeller with three curved blades to create high pressure for a superior pumping head;
- 5" (127 mm) intake;
- Chain-coupled direct drive;
- Agitation nozzle with 235° horizontal rotation and up-and-down articulation;
- Pump discharge available below ground level at a minimum of 36" (914 mm) from the bottom of the pit;
- Stainless steel model available for pit depths of 6, 8, 10 and 12 ft. (1.8, 2.4, 3 and 3.7 m).

Liquid manure with no bedding and dairy wastewater	
Maximum consistency	**1/8" (3 mm)**

The 3" high pressure pump on pontoon is reliable and effective for pumping liquid from the surface of a lagoon or pit and to fill flush tanks. Direct drive with jaw coupling.

Performance chart

60-Hz motor only



Performance chart is based on tests in water. Performance may vary depending on pump configuration and application.

3" pump

Economical pump for transferring hog slurry or dairy wastewater from the reception pit to the main storage.

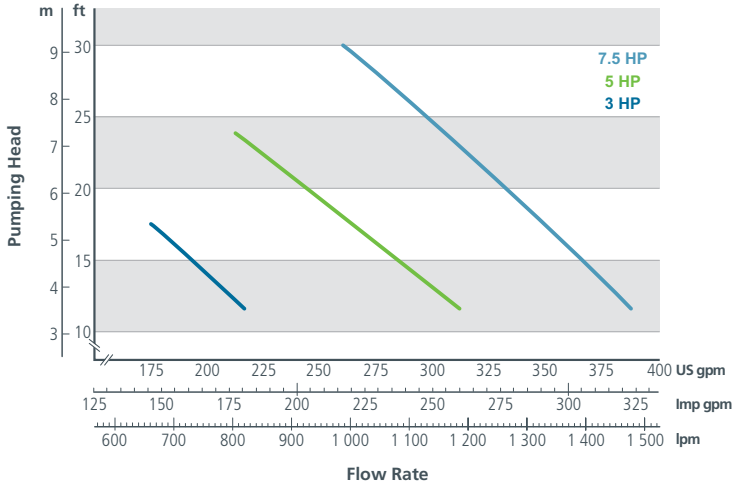
- 3" (80 mm) I.D. discharge pipe to connect on 3½" (90 mm) I.D. diameter flexible hose;
- Available motors: 3, 5 or 7.5 HP;
- For pit depths of 4 to 20 feet by two-feet increments (1.2 to 6.1 m by 0.6 m increments);
- Impeller with two blades for 3- and 5-HP motors, and 4 straight blades for 7.5 HP motor;
- 4" (102 mm) intake;
- Chain-coupled direct drive;
- Optional 285° horizontal rotation rigid agitation nozzle. Nozzle can also be supplied with up-and-down articulation;
- Pump discharge available below ground level at a minimum of 36" (914 mm) from the bottom of the pit.

Liquid manure with no bedding and dairy wastewater

Maximum consistency	**1/4" (6 mm)**

Performance chart

60-Hz motor only



Performance chart is based on tests in water. Performance may vary depending on pump configuration and application.

Compact 3" pump

As reliable as the 3" pump, this compact version offers performance and efficiency where space is limited.

This pump is used to transfer hog slurry or dairy wastewater from reception pit to the main storage.

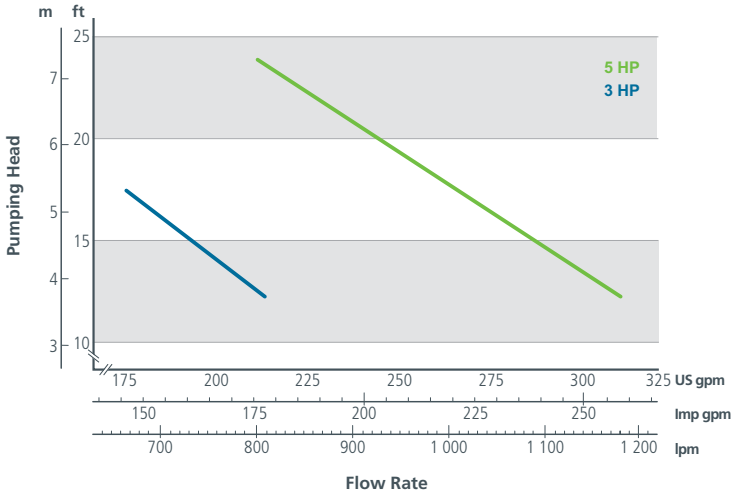
- 3" (80 mm) I.D. discharge pipe to connect on a 3½" (90 mm) I.D. diameter flexible hose;
- Available motors : 3 or 5 HP;
- For pit depths of 4 to 20 feet by two-feet increments (1.2 to 6.1 m by 0.6 m increments);
- Two sharp-edged impeller blades;
- 4" (102 mm) intake;
- Chain-coupled direct drive.

Liquid manure with no bedding and dairy wastewater

Maximum consistency	**1/4" (6 mm)**

Performance chart

60-Hz motor only



Performance chart is based on tests in water. Performance may vary depending on pump configuration and application.

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