



# Hydraulic piston pumps

Transfer manure with minimum maintenance.



# Hydraulic piston pumps are built to last

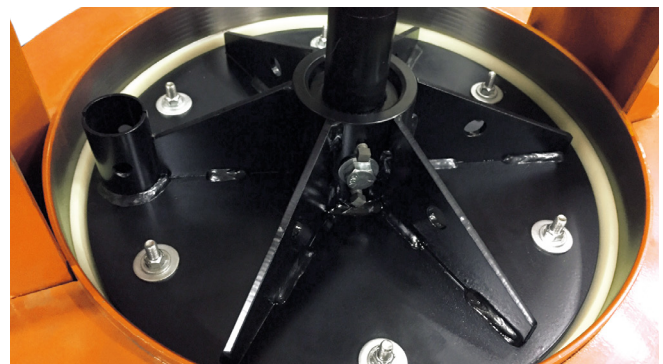
Valmetal hydraulic piston pumps provide smooth, quiet transfer of manure. The low-speed action and the simple design ensure maximum life and minimum maintenance.



**Tough jobs need tough equipment. Manure is hard on machinery so Valmetal piston pumps are built heavy, and easy-service features keeps them running like new.**

## Simple system with multiple benefits

- Easy to install and maintain.
- Extremely reliable choice for long hours of use.
- Low horsepower requirements.
- Long pumping distance.
- Models for all manure conditions.
- Few moving parts.



### Pumping chamber

The reinforced pumping chamber starts with a 1/4" (6 mm) thick stainless steel wall that is machined for perfect roundness, then honed for smoothness. The piston head in this 20" (51 cm) diameter cylinder travels a 48" (122 cm) stroke, moving big volumes in every cycle.

# Which type of hydraulic piston pump to choose?

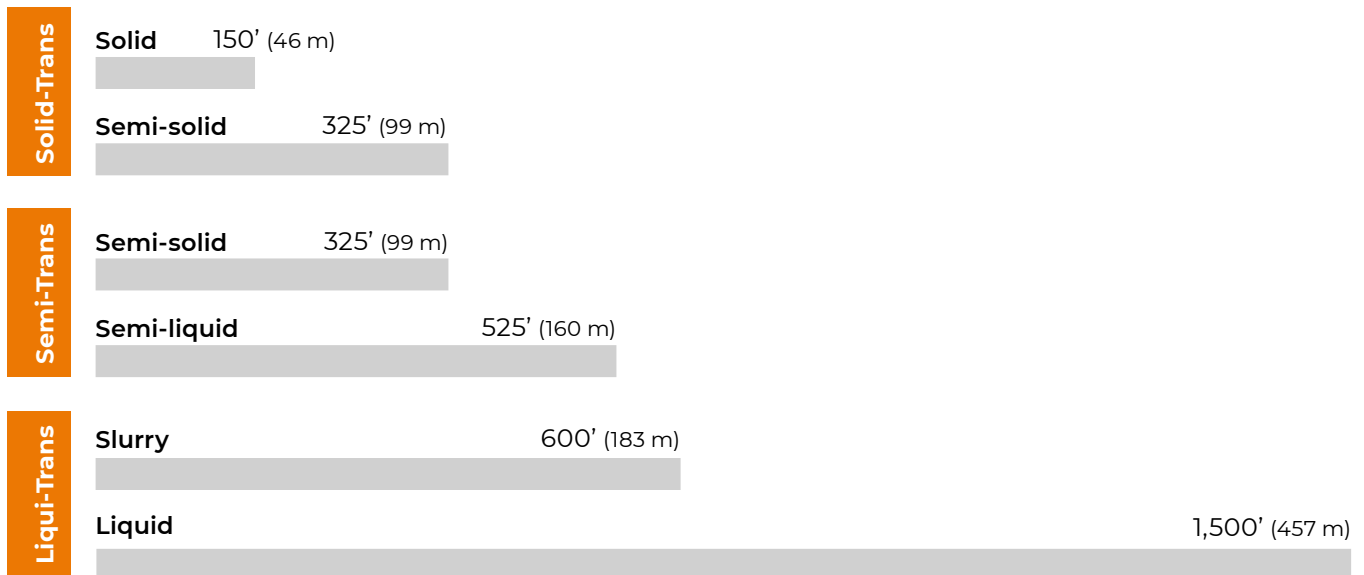


## Elements to consider

- Type of livestock
- Type of manure
- Type and amount of bedding used
- Distance from outside pit
- Barn layout
- Elevations

While all of these factors influence the pump selection, your dealer will perform a manure **consistency test** and our engineers will make a **discharge pressure calculation** to pinpoint the ideal choice for your needs.

## Typical pumping distance according to manure type\*



\*Actual pumping distance may be greater or less, depending on actual manure consistency.

## Type of manure by model

Model	Manure composition	Manure consistency
<b>Liqui-Trans</b>	<ul style="list-style-type: none"> <li>• Highly flowable liquid manure.</li> <li>• Bedding should be short and well mixed with the manure.</li> </ul>	1/2" to 2" (1 cm to 5 cm)
<b>Semi-Trans</b>	<ul style="list-style-type: none"> <li>• Manure well-mixed with sand bedding or very short organic bedding.</li> <li>• Not for use with medium or long organic bedding.</li> </ul>	<p><b>With suction inlet:</b> 3/4" to 3" (2 cm to 8 cm)</p> <p><b>With hopper:</b> 1-1/2" to 5" (4 cm to 13 cm)</p>
<b>Solid-Trans</b>	<ul style="list-style-type: none"> <li>• For semi-flowable to thick manure.</li> <li>• For use with long or short bedding without mixing.</li> </ul>	2" to 5" (5 cm to 13 cm)

## Liqui-Trans

# Hydraulic piston pump

The Liqui-Trans piston pump is the ideal choice to transfer liquid manure from a reception pit to a storage lagoon, a separator, or a digester. The Liqui-Trans model is designed to work with well-mixed slurries and short bedding.

### Benefits

- ✓ Can transfer thicker liquid manure than centrifugal pumps.
- ✓ Low speed operation with low operating cost.
- ✓ The compact size and easy floor mounting makes planning simple and works well in smaller manure rooms.
- ✓ The 8" (20 cm) inlet easily handles debris, providing reliable operation in automated systems.
- ✓ Easy to install and to maintain.



**Inlet suction pipe for standard floor mount.**

### Features

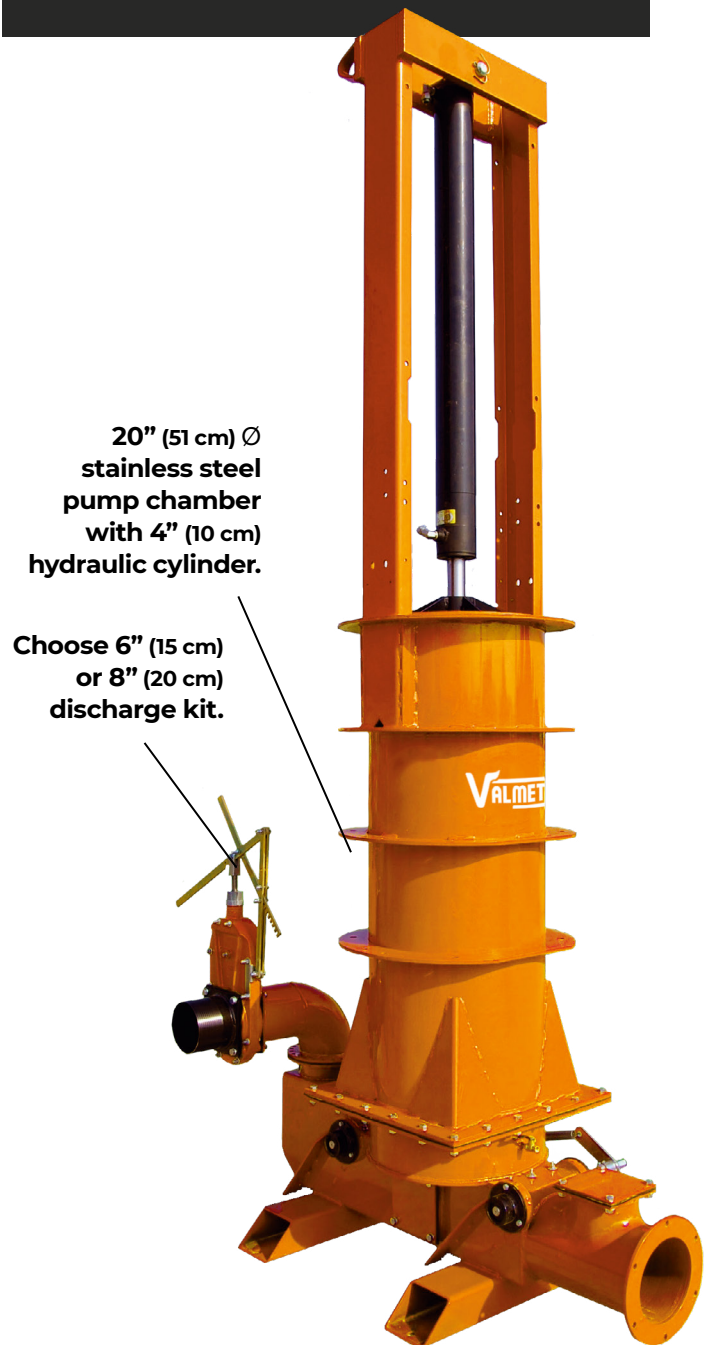
Bearing mounted flapper doors

8" (20 cm) Ø inlet kits for floor-level or pit installation

6" or 8" (15 cm or 20 cm) Ø discharge kits for PVC or HDPE transfer pipe

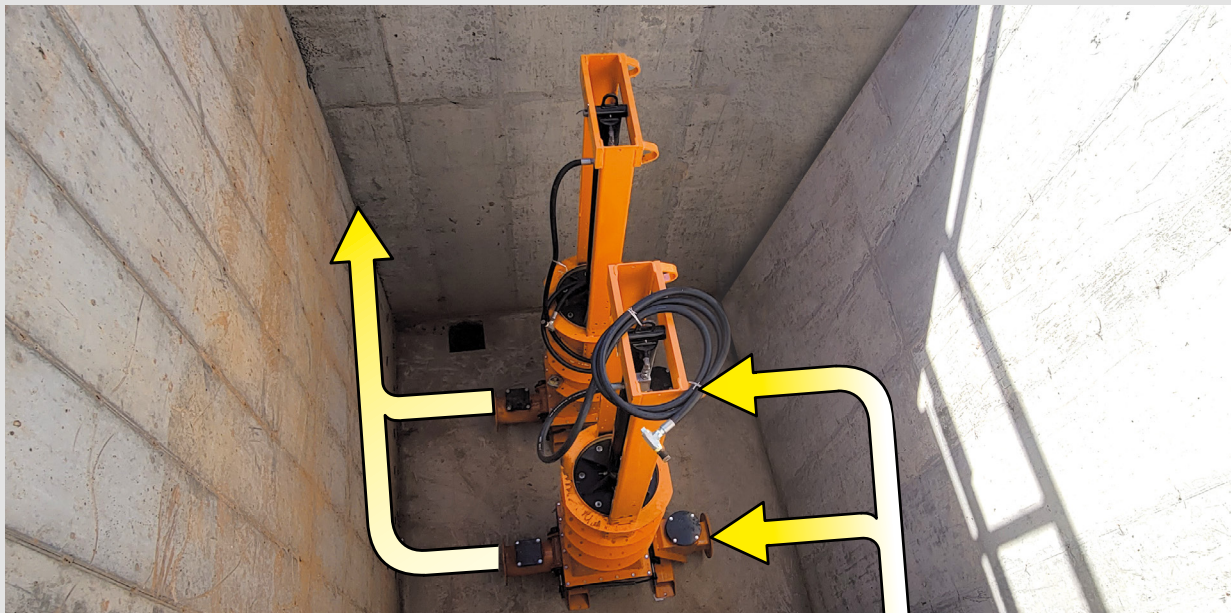
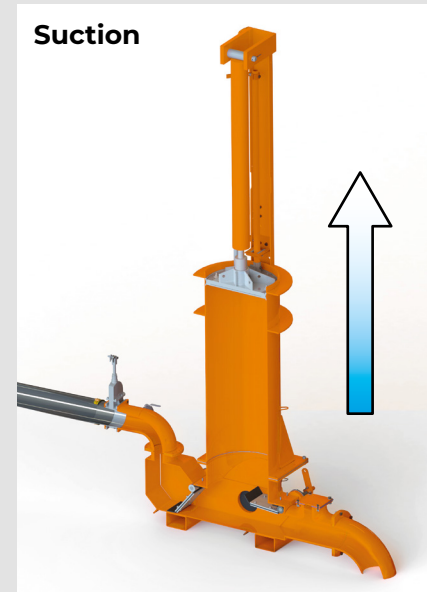
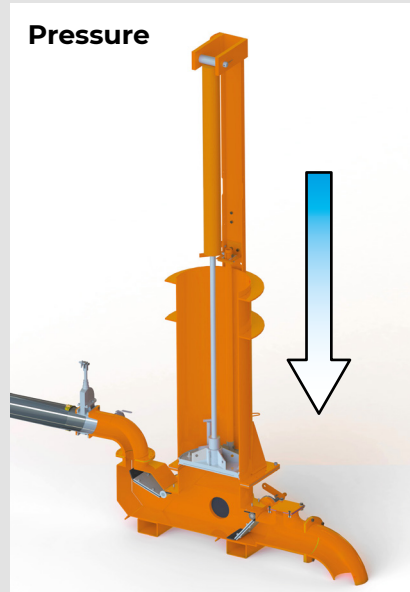
5 HP, 7.5 HP or 10 HP power unit

4" (10 cm) Ø cylinder for maximum transfer distance



## Synchronized operation

Valmetal Liqui-Trans piston pumps can operate as synchronized pairs, so one pump is always delivering manure while the other is on the up-stroke. This provides a constant delivery rate, ideal for sand separation systems or filling digesters.



## Long running hours capacity

The simplicity and reliability of the Liqui-Trans are important in applications such as manure separators or digester loading, where long running hours are the norm.

## Semi-Trans

# Hydraulic piston pump

The Semi-Trans hydraulic piston pump transfers semi-solid manure over long distances while consuming little energy. It is the best choice for farms with sand or very short bedding.

### Benefits

- ✓ Low maintenance, even in sand bedding.
- ✓ Extremely reliable choice for long hours of use.
- ✓ Rugged construction and extra durability needed to deal with tough conditions.
- ✓ Pressure-activated reversing switch provides smooth and gentle reversing with maximum reliability.

**The sand specialist!**  
**The Semi-Trans is the pump of choice for sand-bedded barns, with the heavy construction and extra durability needed to handle these tough conditions.**

### Features

7.5 or 10 HP hydraulic unit

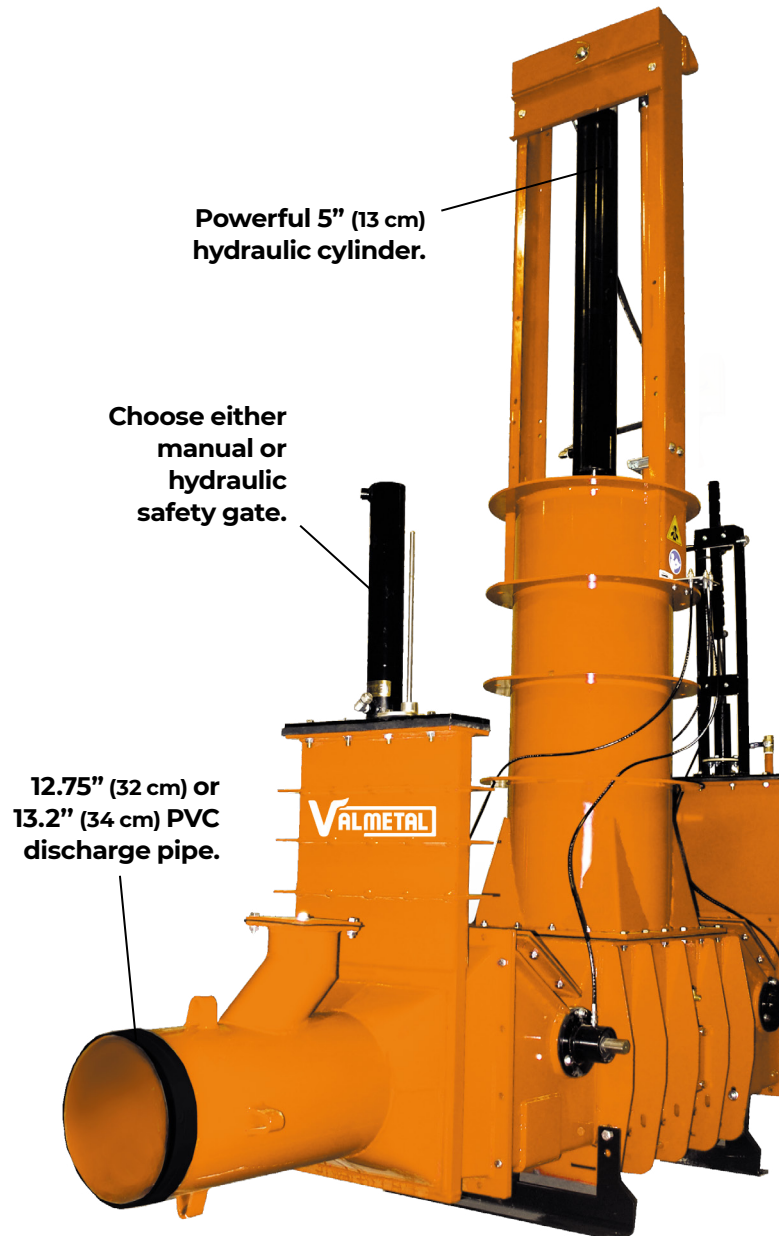
Bearing-mounted flapper doors

20" (51 cm) Ø machined stainless steel pumping chamber

16" (41 cm) suction inlet from pre-pit, or 20" (51 cm) hopper inlet

12" (31 cm) outlet for DR25 or DR26 PVC

Top access doors for easy rock removal





**This pump can be mounted in a dry pit with a suction pipe extending into a reception pit when working with flowable manure. Construction is easy, with the wet pit and dry pit floors on the same elevation.**

# Solid-Trans

# Hydraulic piston pump

The Solid-Trans hydraulic piston pump transfers bedded manure long distances with only a 7.5 HP motor. The powerful knife gates make the Solid-Trans the best choice for tie-stall barns or for freestall barns that may have long bedding, hay or pen pack mixed into the manure.

## Features

7.5 or 10 HP hydraulic unit

20" (51 cm) hopper or 16" (41 cm) suction inlet from pre-pit

16" (41 cm) Ø discharge pipe for steel or PVC pipe

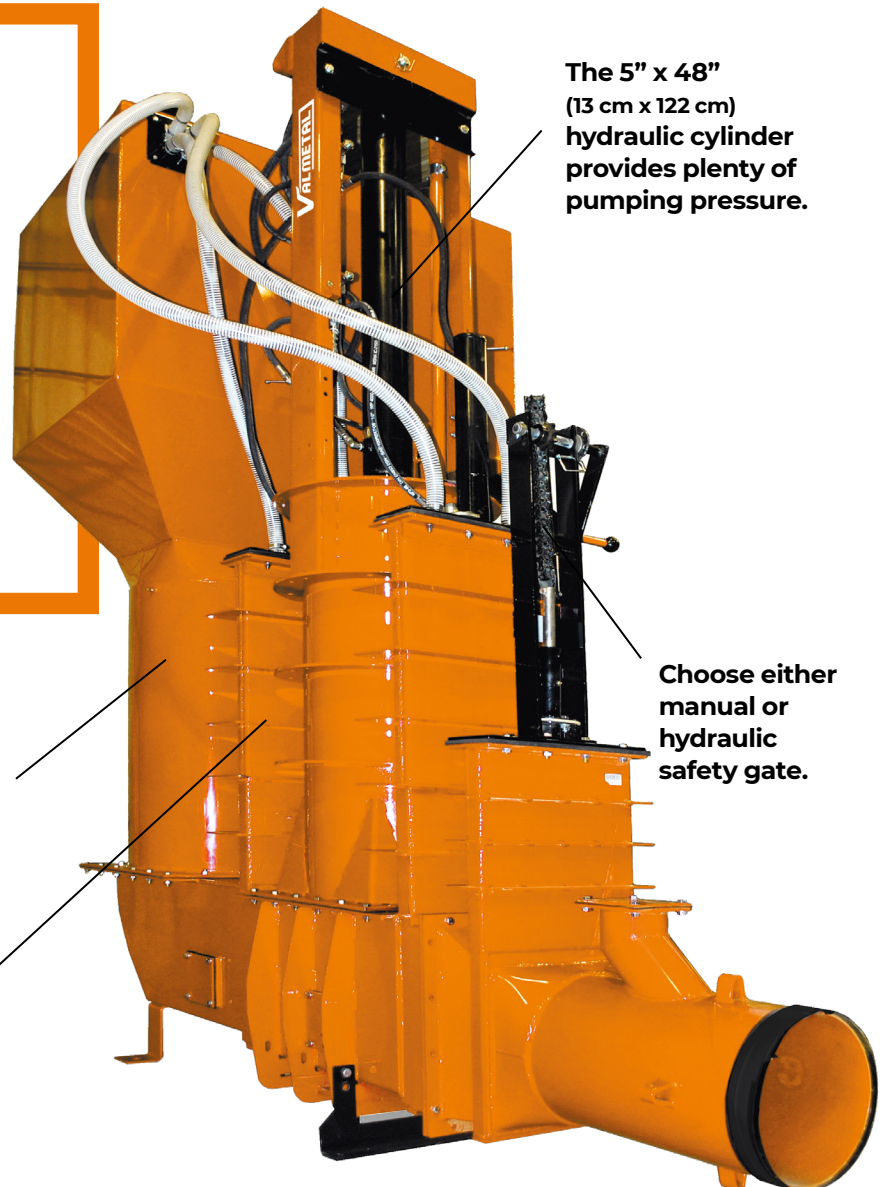
20" (51 cm) Ø machined stainless steel pumping cylinder

Pumping chamber with thick guillotine doors

Replaceable hopper

## Benefits

- ✓ Transfers thick manure with long bedding, no pre-mixing required.
- ✓ Low energy consumption.
- ✓ Pressure-activated reversing switch provides smooth reversing with maximum reliability.
- ✓ Wide range of hoppers to suit all barn configurations.



The 5" x 48" (13 cm x 122 cm) hydraulic cylinder provides plenty of pumping pressure.

Choose either manual or hydraulic safety gate.

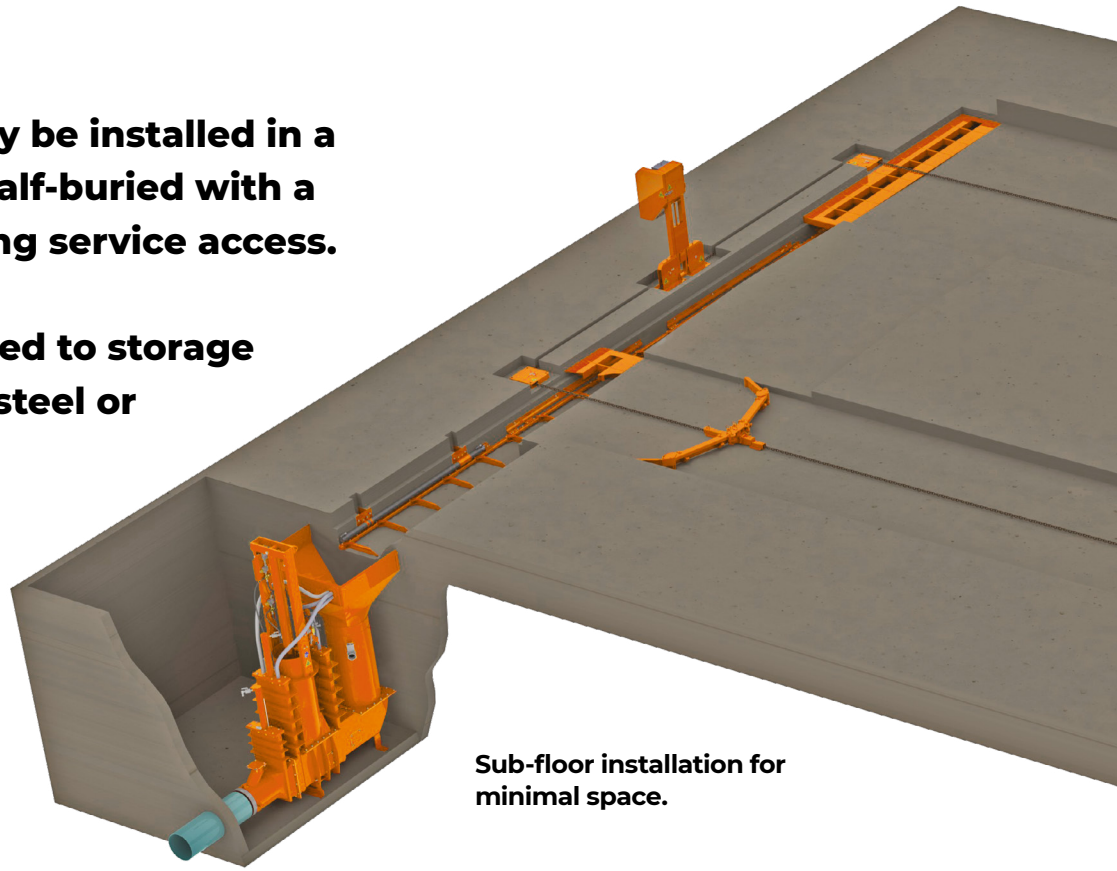
Bedded manure passes easily through the 20" (51 cm) round inlet tube.

The heavy knife gates power through the toughest bedding.



**The Solid-Trans may be installed in a dry pit or may be half-buried with a shallow pit providing service access.**

**Manure is transferred to storage through 16" (41 cm) steel or PVC pipe.**



**Sub-floor installation for minimal space.**



**Tall hoppers for free stall cross gutter eliminates risk of flooding.**

# Accessories

Every installation needs the right accessories to ensure safe, trouble-free operation of your Valmetal hydraulic piston pump.



## Hydraulic unit

The hydraulic pump operates at high efficiency and completely silently. The pump is immersed in the oil reservoir, keeping it cool and clean. Sensors on the unit protect the pump from operating over-temperature or with low oil level. The removable tank allows easy access to the pump and filters.

**9 models of hydraulic units are available to maximize performance.**

## Reversing switch

Reversing of the hydraulic cylinder is smooth and gentle. The pressure-activated system ensures the motor cannot be overloaded or stalled, and eliminates the wear and adjustments of mechanical reversing systems for maximum reliability.

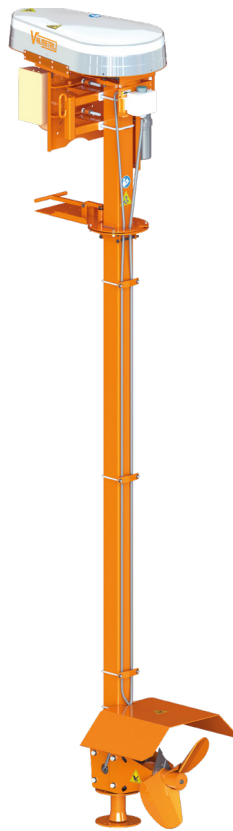


## Gutter cleaner

The Shuttle-Stroke hydraulic gutter cleaner is a perfect fit, able to run off the same power unit with any of the hydraulic piston pumps. Operates at full speed for transfer into reception pits or use the variable speed control to match the pump capacity when transferring into hopper-fed pumps. The Shuttle-Stroke is available in several widths for use either as a cross collection gutter in freestall barns or as a barn cleaner in tie-stall barns.

## Prop agitator

Electric Prop-Agitator is frequently used with Liqui-Trans or Semi-Trans pumps for chopping bedding or homogenizing manure in the reception pit.



## Inlet cleaner

This hydraulic-powered unit rotates to prevent bedding material from blocking the Liqui-Trans inlet pipe.



# Pipes & Fittings

Matching the correct size and quality of pipe to the application is critical. Valmetal manufactures fittings and adapters for a wide range of pipes.

Our clamp kits prevent pipe joints from separating. These are strongly recommended for transfer of heavily bedded/ solid manure and for any pipe where air flushing will be employed.



**Pipe adapter with clamp kit**

## Air flushing kits

Air flushing is a method of preventing sediment accumulation in pipes and is a normal maintenance when transferring sand-laden manure. A large volume of high-pressure air is discharged into the pipe, causing the manure load to push forward and scour the pipe clean. Air flush riser pipes are placed at the pump outlet and intermittently along the pipe.



# Automate your manure handling system

With our vast selection of products, Valmetal can create the perfect system for your needs. Whether manure collection, transfer, separation, or treatment, Valmetal has the expertise and experience to fully automate the complete process, reducing labor time & expense while producing a clean environment for you and your animals.

All our controls are developed and manufactured in our own facilities, ensuring perfect compatibility with the equipment, and supported by our in-house technical staff.

## Features & accessories for professional users:

- Level monitoring & flow controls
- Load sensing and adjustment
- Service scheduling
- Remote management and reports
- Remote alerts



Schedule, operate,  
and monitor your  
system using the  
Valmetal app.

Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without prior notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.



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