

D.L. George & Sons Mfg.

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Vertical Lift Hydraulic Crowd Gate



When we decided to build a crowd gate to complement the efficiency of our milking parlors, we spent a lot of time listening to dairymen to find out what features they were looking for. We found that every situation was unique and no one design would meet every requirement. So we designed a basic framework that could easily be adapted to almost any situation and allowed for a wide variety of optional

The Basics

The Vertical Lift Hydraulic Crowd Gate is designed to assist the operator in moving cows through the parlor to maximize efficiency. Many dairymen tell us that a crowd gate may be the most cost-effective means to increase cow throughput in today's dairy operations.

This crowd gate is built tough. The carriage is made of a structural steel I-beam and heavy structural angles. After fabrication the steel is coated with the same thermal spray galvanizing process that is used in many naval ships. The carriage moves backwards and forwards on UHMW rollers with stainless steel axles. The gate itself is made of high tensile strength square galvanized tubing.

A low maintenance hydraulic power unit is mounted right on the crowd gate carriage. The power unit turns a hydraulic motor to move the crowd gate backwards and forwards and also extends a cylinder to raise and lower the gate. A positive chain drive prevents slipping. The chain lays in the crowd gate track and is fastened at both ends and looped over a sprocket. The drive shaft spins sprockets on both sides of the crowd gate to keep the crowd gate moving evenly. Of course, there is an adjustable pressure relief valve on the power unit to prevent injury to the cows.

A single cylinder mounted horizontally on the carriage is connected to the gate by roller chain. By putting a sprocket on the end of the cylinder and looping the chain over the sprocket we are able to achieve a 66" cow clearance with a 24" stroke cylinder. The basic controls package includes dual controls - one set for in the parlor and one set on the crowd gate carriage itself.

The Options

Timer to bring the crowd gate forward automatically or the crowd gate can be synchronized with parlor entrance gates.

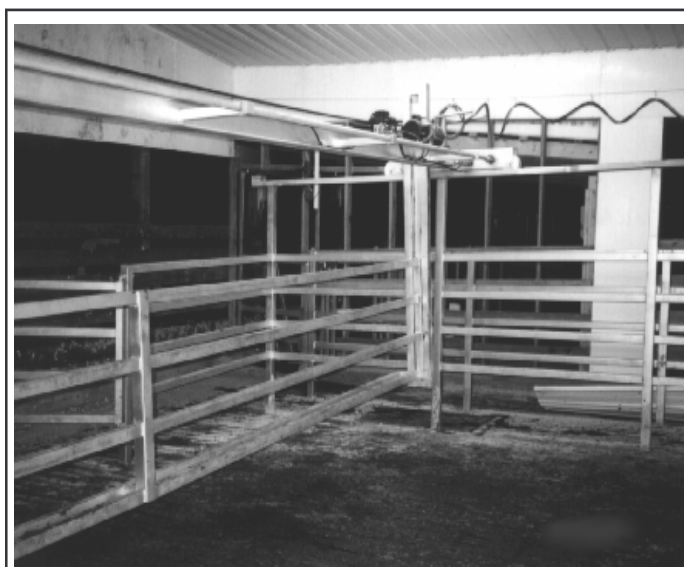
Buzzer or electric fence to help train cows.

Galvanized sheet to separate cows for wash pen applications.

Scraper to help clean the holding area.

Customized galvanized holding area fencing - the top rail is the channel to carry the crowd gate.

Two piece gate for low headroom situations.



Efficiency gains are made by keeping the operator in the pit. This crowd gate makes it easy to bring a group of cows into the holding area, lower the gate and crowd the cows into the parlor. Then bring the next group of cows in behind the first and after the first group is milked raise the gate up, run it back over the second group and lower the gate behind them and bring them into the parlor.



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Key Design Specifications

Materials:

All 2" and 3" square tubing on the gate is 12 ga, with galvanized finish
Carriage cross member is Structural I-Beam with thermal spray galvanized finish

All other steel components have either thermal spray galvanized finish -or- 2 part corrosion resistant paint finish

Minimum Headroom Recommended	132" (11 feet)
Minimum Headroom Recommended for scraper w/double slider	120"
Minimum Height For Standard Configuration	90"
Crowd Gate Track Height recommended	78"
Clearance under Gate in raised position (standard)	66"
* Note: there is considerable flexibility in dimensions - tell us what you need	
Track required on each side of the holding area	5" Channel x 6.7 lbs per foot
Crowd Gate travel distance maximum	200'
Crowd Gate width maximum	45'

Options available (custom pricing)

Buzzer and Electric Fencer
Galvanized sheet on gate for wash pen applications
Scraper to help clean holding area
Customized gates for low headroom or high clearance applications

Customized holding area fencing
Custom controls packages

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Features and Benefits

<u>Feature</u>	<u>Benefit</u>
Dual Chain Drive	Mechanical simplicity, positive drive with no slipping, Gate moves forward and backwards evenly
Hydraulic Power Unit	Lower maintenance than air drive motors, No clutches like electric motors
Adjustable Pressure Relief Valve	Shunts oil past hydraulic motor to prevent putting too much pressure on cows
Adjustable Flow Control	Controls speed of travel
Lift Cylinder on Carriage	Cylinder is away from dirt, only one cylinder is required to lift the gate and keep it level
Structural Steel Carriage	Long term durability
UHMW Rollers/Stainless Axles	Low maintenance
High tensile strength square tubing on gate	Better strength and corrosion resistance than 2" pipe, since tubing is square it is much easier to weld than round pipe and you can expect greater durability at weld joints.
Factory supervised installation option	Ease of installation, reduced installation cost.

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**Vertical Lift Hydraulic
Crowd Gate**



PRE WIRE PACKAGE INCLUDES

- 1.) Turn off switch at crowd gate.
- 2.) Contactor and overload relay.
- 3.) Switches on crowd gate and in parlor.
- 4.) Boxes on crowd gate.
- 5.) Flex conduit on Crowd Gate.
- 6.) Surge suppressor.
- 7.) 4 wire power chord to parlor + 5'.
- 8.) 16 ga. 8 wire switch chord.
- 9.) Completely wired and ready to plug in.

* Customer to provide wire from parlor to breaker box and any breakers.

OPTIONS

- 1.) Bell wired and connected to crowdgate
- 2.) 0 to 10 second timer with relay wired preset to 5 seconds attached to crowdgate junction box.
- 3.) Auto gate forward when entrance gates are lifted.