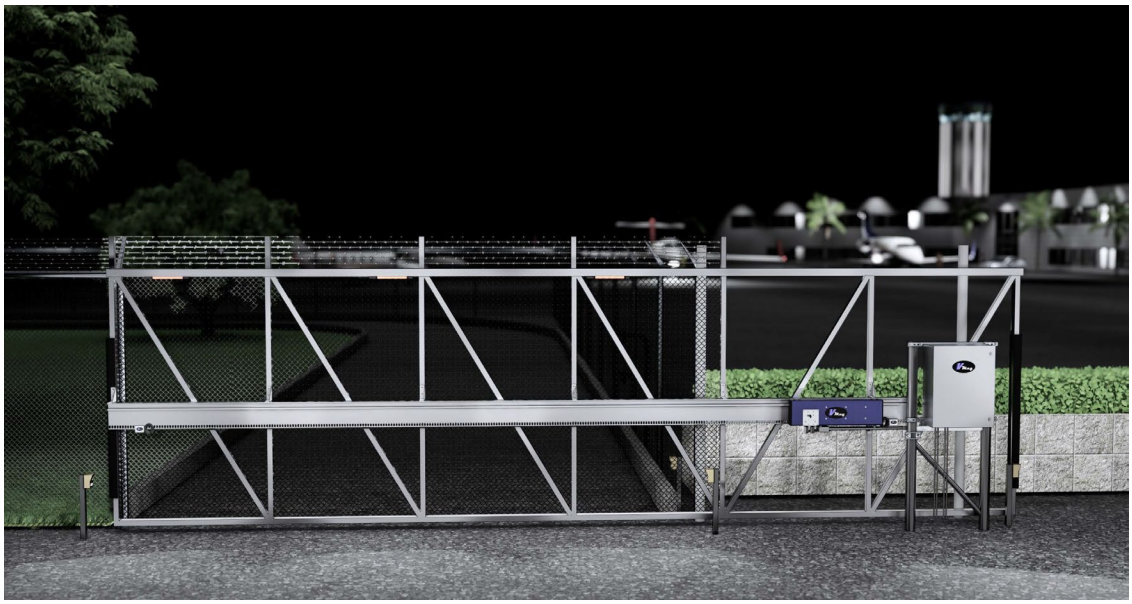
YEAR: 2026

Product Descriptions & Specifications

Quotation No.:

Project:



For: General Evaluation

Work Order No.:

Contract No.:

Purchase Order No.:

Description:

Please direct inquiries to: Patrick O'Connor.
Ph.: (210) 495-3000; email: pat@vmagtech.com

High Velocity Magnetic
Gate Operators

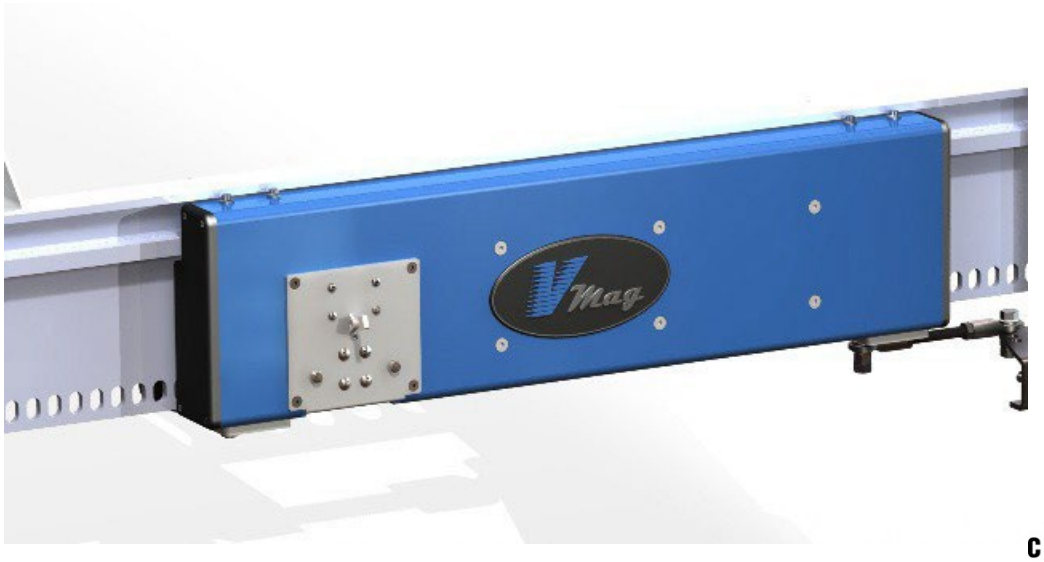
Introduction

VMAG High Velocity Magnetic Gate Operators are the world's fastest and most reliable because they are the first and only to incorporate electro-magnetic "Linear Induction Motor" (LIM) technology. The contact-less drive eliminates chains, hydraulic pinch wheels, gears, fluids & lubricants and is capable of speeds up to 8 feet per second.

The VMAG operator is designed to enhance physical security for government, critical infrastructure, commercial and industrial applications where its programmable speed control offers dramatic enhancements in vehicle throughput and is an effective deterrent against unauthorized access and tailgating.

VMAG's industry leading XCP ™ (*Xtreme Corrosion Protection*) materials and special coatings, with marine grade options, provide additional protection in coastal regions, industrial areas, or other corrosive environments. The unique floating design and self-calibrating feature adapt to any application and the integrated locking mechanism is virtually impossible to defeat. Additional equipment options and upgrades are available to accommodate a variety of operational and environmental requirements.

The standard VMAG operator consists of a control cabinet, linear induction motor assembly, aluminum reaction fin and mounting hardware for a standard 20' opening. Additional reaction fin sections and hardware are available separately to accommodate larger openings, while the standard LIM assembly will handle most openings up to 30'. Custom operator configurations for larger openings, heavier gates, crash-rated gates or other special designs are available upon request. The aluminum reaction fin is mounted to the gate using supplied brackets and hardware. The control cabinet can be mounted on a post, an adjacent wall or factory recommended controller stand. The LIM operator assembly is also typically secured to the controller stand using the provided motor linkage assembly. Additional options for securing the LIM assembly are available contingent upon factory consultation and approval. A licensed electrician is required for proper electrical hook up and a factory authorized and trained installer is required to supervise the installation. VMAG gate operator models VM1220 & VM1420 are UL325 listed with certification and independent testing by Underwriters Laboratories according to UL-325 standards. VMAG gate operators must be installed with appropriate safety and entrapment devices according to current UL-325 guidelines.



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High Velocity Magnetic
Gate Operators

Operator Models

VM1220 - (208-240 VAC, Single or 3-Phase)
VM1420 - (440-480 VAC, 3-Phase)
VM1425 - (480 VAC, 3-Phase)

Operators include reaction fins and mounting hardware for a standard 20' gate opening.

Model VM1220 (208-240 VAC, 1 or 3-Phase, Min. 20A Ckt.; 30A Ckt. required with V UPS): Accommodates most standard gate openings and is compatible with the optional V UPS battery back-up system.
Model VM1420 (440-480 VAC, 3-Phase, Min. 30A Ckt.): Recommended for maximum performance, heavy gates, and/or openings of 25' - 30' or more.
VM1425 (480 VAC, 3-Phase, Min. 30A-40A Ckt.): Recommended for large openings and gates with significant mass. Step-up transformers may be necessary depending on available power and the desired level of performance.
Models VM1220 and VM1420 are UL-325 listed and certified for Class III & IV applications.
Model VM1425 is functionally compliant with UL-325 safety standards but is NOT UL-325 listed. Installation of external entrapment protection devices is required, for all operators, to meet UL-325 and industry safety guidelines.

Linear Induction Motors
Type: Linear Induction with internal thermal protection
Winding Insulation: Class H 1800C (3550F)
Class F 1550C (3100F)
Protection class: IP60

Required Electrical Supply

VM1220 * 208-240 VAC, 1 or 3 Ph, 50-60 Hz, Min. 20A Ckt.
VM1420 * 440-480 VAC, 3 Ph, 50-60 Hz, Min.30A Ckt.

** Model selection is based on gate mass, size of opening and desired level of performance.*

Shipping Specifications – (Complete Operator Package): VM12XX, VM14XX*
Complete operator package for standard 20’ opening includes LIM assembly, control cabinet and (3) full RF1 reaction fins, (1) RF1RHK right hand end kit, (1) RF1LHK left hand end kit, (6) HB1 hangar brackets and all necessary mounting hardware.
Operator Pallet: (L x W x H) 42” x 42” x 19”, Wt: 425 lbs.
Reaction Fin Pallet: (L x W x H) 86” x 10.5” x 17”, Wt: 200 lbs.
***** Add 20 lbs. to Operator Pallet for VM14XX models.

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High Velocity Magnetic
Gate Operators

Model VM1220

VM1220 - (208-240 VAC, 1 or 3-Phase)

Optimal performance for gate openings up to 24' and 1,200 lbs.
Model VM1220 HD with HD Stop Kit recommended for openings 25'+

- Linear Induction Motor (LIM) gate operator (Variable 3.0 / 5.0 HP)
- Programmable operating speeds from 1 to 8 FPS (Independent programming for OPEN & CLOSE)
- Operators include Reaction Fins and mounting hardware for clear openings up to 20 ft.
- Additional sections of Reaction Fin added for openings exceeding 20 ft.
- Optional V UPS "Uninterruptible Power Supply," equipment and finishes
- 5-Year limited warranty (Parts & Workmanship)
- UL-325 listed for Class III & IV applications
- May be used for gate openings exceeding base specifications (call for sales consultation)

Step-up transformers may be necessary depending on available power and the desired level of performance.
Installation of external entrapment protection devices required to meet UL-325 and industry safety guidelines.

Linear Induction Motors
Type: Linear Induction with internal thermal protection
Winding Insulation: Class H 1800C (3550F)
Class F 1550C (3100F)
Protection class: IP60

Required Electrical Supply
VM1220 * 208-240 VAC, 1 or 3 Ph, 50-60 Hz, Min. 20A Ckt. (30A Ckt Required for V UPS)

** Model selection is based on gate mass, size of opening and desired level of performance.*

Shipping Specifications – (Complete Operator Package): VM12XX, VM14XX*
Complete operator package for standard 20' opening includes LIM assembly, control cabinet and (3) full RF1 reaction fins, (1) RF1RHK right hand end kit, (1) RF1LHK left hand end kit, (6) HB1 hangar brackets and all necessary mounting hardware.
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Model VM1220 HD

VM1220 - (208-240 VAC, 1 or 3-Phase)

Optimal performance for gate openings from 25'- 30+' and 1,200 lbs.+
Includes heavy duty stop kit for heavier gates and longer openings.

- Linear Induction Motor (LIM) gate operator (Variable 3.0 / 5.0 HP)
- Programmable operating speeds from 1 to 8 FPS (Independent programming for OPEN & CLOSE)
- (2) Adjustable heavy duty physical stops for single or dual track gates
- Operators include Reaction Fins and mounting hardware for clear openings up to 20 ft.
- Additional sections of Reaction Fin added for openings exceeding 20 ft.
- Optional V UPS "Uninterruptible Power Supply," equipment and finishes
- 5-Year limited warranty (Parts & Workmanship)
- UL-325 listed for Class III & IV applications
- May be used for gate openings exceeding base specifications (call for sales consultation)

Step-up transformers may be necessary depending on available power and the desired level of performance.
Installation of external entrapment protection devices required to meet UL-325 and industry safety guidelines.

Linear Induction Motors
Type: Linear Induction with internal thermal protection
Winding Insulation: Class H 1800C (3550F)
Class F 1550C (3100F)
Protection class: IP60

Required Electrical Supply
VM1220 * 208-240 VAC, 1 or 3 Ph, 50-60 Hz, Min. 20A Ckt. (30A Ckt Required for V UPS)

** Model selection is based on gate mass, size of opening and desired level of performance.*

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Model VM1420

VM1420 - (440-480 VAC, 3-Phase)

Optimal performance for gate openings from 24' - 45'+ and 1,200 lbs. - 3,500+ lbs.
Model VM1420 HD with HD Stop Kit recommended for openings 25'+

- Linear Induction Motor (LIM) gate operator (Variable 5.5 / 10.0 HP)
- Programmable operating speeds from 1 to 8 FPS (Independent programming for OPEN & CLOSE)
- Operators include Reaction Fins and mounting hardware for clear openings up to 20 ft.
- Additional sections of Reaction Fin added for openings exceeding 20 ft.
- Optional equipment and finishes
- 5-Year limited warranty (Parts & Workmanship)
- UL-325 listed for Class III & IV applications
- May be used for gate openings exceeding base specifications (call for sales consultation)

Step-up transformers may be necessary depending on available power and the desired level of performance.
Installation of external entrapment protection devices required to meet UL-325 and industry safety guidelines.

Linear Induction Motors
Type: Linear Induction with internal thermal protection
Winding Insulation: Class H 1800C (3550F)
Class F 1550C (3100F)
Protection class: IP60

Required Electrical Supply
VM1420 * (440-480 VAC, 3 Ph, Min. 30A Ckt.)

** Model selection is based on gate mass, size of opening and desired level of performance.*

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Model VM1420 HD

VM1420 HD - (440-480 VAC, 1 or 3-Phase)
Includes heavy duty stop kit for heavier gates and longer openings.

Optimal performance for gate openings from 24' - 45'+ and 1,200 lbs. - 3,500+ lbs.

- Linear Induction Motor (LIM) gate operator (Variable 5.5 / 10.0 HP)
- Programmable operating speeds from 1 to 8 FPS (Independent programming for OPEN & CLOSE)
- (2) Adjustable heavy duty physical stops for single or dual track gates
- Operators include Reaction Fins and mounting hardware for clear openings up to 20 ft.
- Additional sections of Reaction Fin added for openings exceeding 20 ft.
- Optional equipment and finishes
- 5-Year limited warranty (Parts & Workmanship)
- UL-325 listed for Class III & IV applications
- May be used for gate openings exceeding base specifications (call for sales consultation)

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Required Electrical Supply
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***** Add 20 lbs. to Operator Pallet for VM14XX models.

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High Velocity Magnetic
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Options & Upgrades

V RF FIN MIDDLE KIT – Reaction Fin (6.58 feet ea.) includes 2 RF1HB hangar brackets and mounting hardware.

The RF1 Reaction Fin is an integral part of VMAG's patented design and installs directly to new or existing gates using RF1HB Hangar Brackets. RF1 sections are connected using supplied hardware and may be added to accommodate gates of any length.

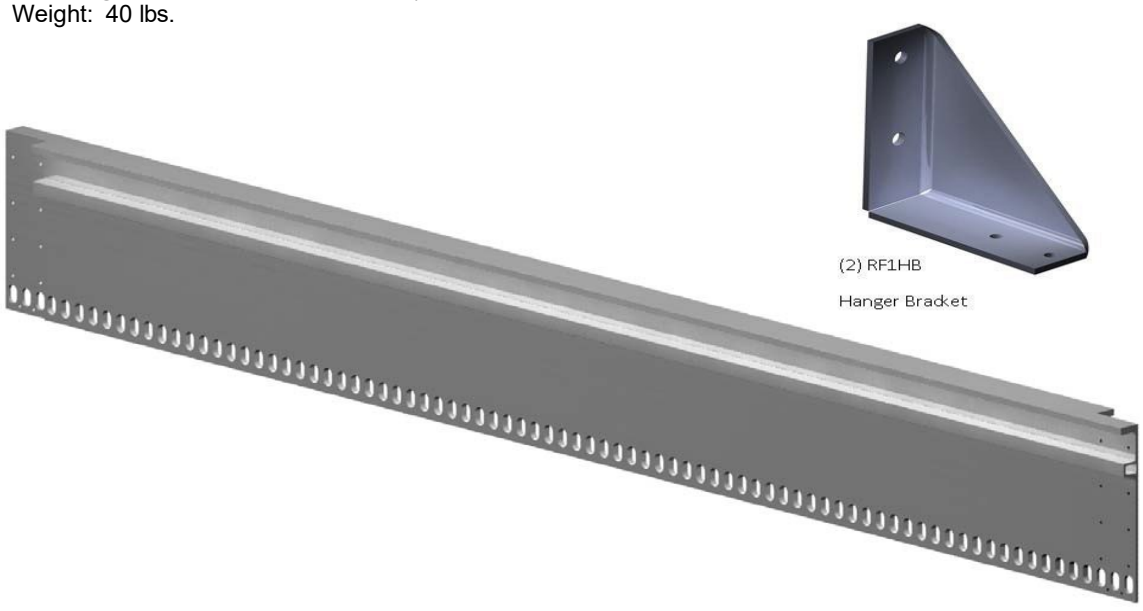
The RF1's precision machining also interacts with the LIM assembly's integrated locking mechanism making VMAG virtually impossible to defeat.

VMAG gate operators include: (3) RF1 Reaction Fins, (1) RFRHK right hand end kit, (1) RFLHK left hand end kit, (6) RF1HB Hangar Brackets and mounting hardware for a standard 20' gate opening.

Additional V RF Middle Kits required for clear openings exceeding 20'.
Formula for estimating total number of RF1 Reaction Fins required for installation:
(Total Feet of Clear Opening + 6 feet) Divided by 6.58 = Number of RF1s Required (Round up.)
Example: (24' Opening + 6') / 6.58' = 4.5 (Round up to 5 total Reaction Fins)

Material: 6061-T6 Aluminum Extrusion
Wt.: 37.55 lbs. ea. (approx. 5.3 lbs. per foot)
Length: 6.83 ft. (82") Overall
Width: Top 2.5," Main Fin 0.375"
Height: 9.78"
Finish: Aluminum

Shipping Specifications: (L x W x H): x 86" x 10.5" x 3.25"
Weight: 40 lbs.



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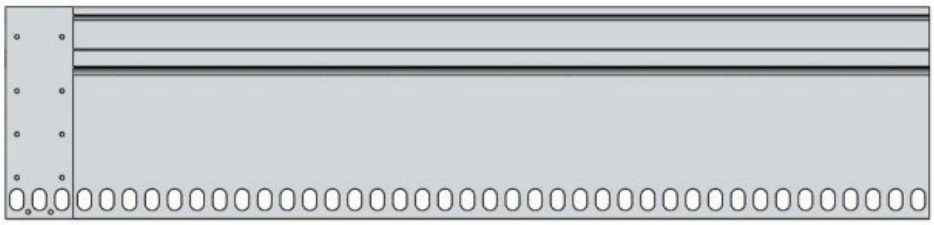
Options & Upgrades

V RF FIN RIGHT KIT - Reaction Fin End Kit Right Hand Side (Includes 1 RF1HB hangar bracket and mounting hardware.)

Material: 6061-T6 Aluminum Extrusion
Weight: 18.78 lbs.
Length: 38" (41") Overall
Width: Top 2.5," Main Fin 0.375"
Height: 9.78"
Finish: Aluminum

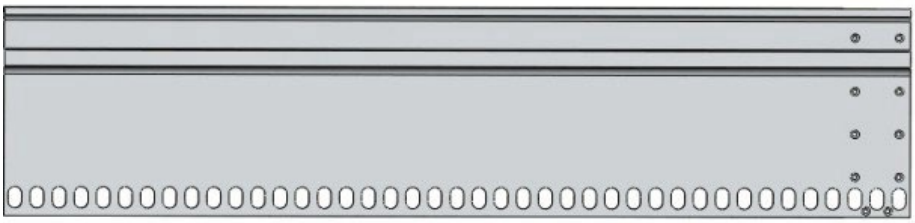
Shipping Specifications:
(L x W x H): 86" x 10.5" x 3.25"
Wt.: 20 lbs.



V RF FIN LEFT KIT - Reaction Fin End Kit Left Hand Side (Includes 1 RF1HB hangar bracket and mounting hardware.)

Material: 6061-T6 Aluminum Extrusion
Weight: 18.78 lbs.
Length: 38" (41") Overall
Width: Top 2.5," Main Fin 0.375"
Height: 9.78"
Finish: Aluminum

Shipping Specifications:
(L x W x H): 86" x 10.5" x 3.25"
Wt: 20 lbs.



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Options & Upgrades

V ENCL SS UPGRADE - 316 Stainless Steel NEMA 4X Control Cabinet Upgrade

The VMAG 316 stainless steel control cabinet is marine grade and provides maximum protection for coastal regions, industrial areas, or other corrosive environments. Upgrading to the optional VMSSCC316 Control Cabinet completes VMAG's industry leading XCP ™ (*Xtreme Corrosion Protection*) materials package.

Material: 14 gauge, 316-stainless steel.
Weight: 43 lbs.
Control box dimensions: 24" wide x 30" height x 13 depth
Mounting hole dimensions: Four 3/8" holes on 28.5" x 22.5" centers

Allow room for door to open (opens to left)

Listings:
UL 508 Types 3R, 4, and 12
CSA Type 3R, 4, and 12
Complies with:
NEMA Type 3R, 4, and 12
IEC 60529, IP66

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Options & Upgrades

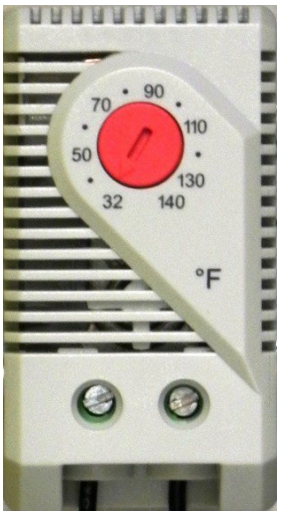
V HEATER KIT - Cabinet Heater w/Thermostat (Includes factory installation)

Recommended for environments where ambient temperatures may fall below the normal operating range of 0 degrees Fahrenheit.

Weights & Dimensions:

Heater
Weight: 1.6 lbs.
(L x W x H): 10” x 3” x 2”

Thermostat
Weight: 0.096 lbs.
(L x W x H): 2-21/2” x 1-1/2” x 1-1/2”



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High Velocity Magnetic
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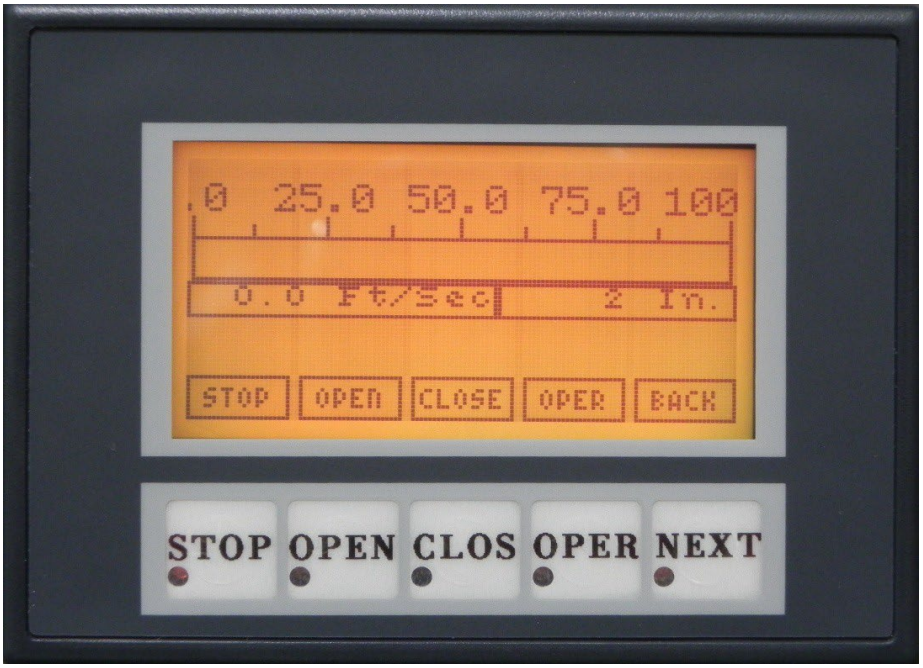
Options & Upgrades

V PROGRAMMER - Programmer with Cable (Certified Installers & trained end-users only)

The VMAG Programmer allows direct interface with the operator control unit for initial set-up, variable speed control, system diagnostics and other advanced settings for customizing gate operation. Physical push buttons and touch screen controls.

Weight: 0.368 lbs.
(L x W x H): 4-1/2" x 3-1/2" x 1-1/5"



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Options & Upgrades

V KEEP ALIVE - Retains operator settings during brief disruptions in power or generator switching

Vmag, LLC

Keep Alive

Eliminates the need to relearn the Vmag after power interruptions or backup generator switch over.

The Keep Alive maintains power to the programmable logic controller and proximity sensors in the event of a power loss or drop. The kit includes two 12VDC rechargeable batteries, battery bracket, control module and wire for field installation or may be factory installed if requested.

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High Velocity Magnetic
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Options & Upgrades

V UPS - Uninterruptable Power Supply

The V UPS provides instantaneous back-up power, for Model VM 1220 Gate Operator and other electrical equipment, for continued operation during power outages. The V UPS is a versatile uninterruptable power supply that uses single phase 208-230 VAC 50/60Hz input power and produces a pure sine wave output of 120/230 VAC.

- 4,000 watts continuous power output with pure sine wave
- Includes Two 12 Volt 75 ampere hour, deep cycle sealed AGM batteries
- 120VAC Duplex power outlet
- Door mounted led panel light illuminates when operating on batteries
- Dry relay contact output for remote monitoring when operating on batteries
- Designed for outdoor and indoor use
- Optional equipment and finishes include NEMA 4X 316-Stainless Steel enclosure, heater kit and thermal insulation.

Note: Compatible with Operator Model VM1220 (208-240). 30A Ckt. Required. Buck/Boost Transformer required for 208V.

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Options & Upgrades

V EMERG RELEASE - Emergency Remote Manual Release

VRMR - Vmag Remote Manual Release

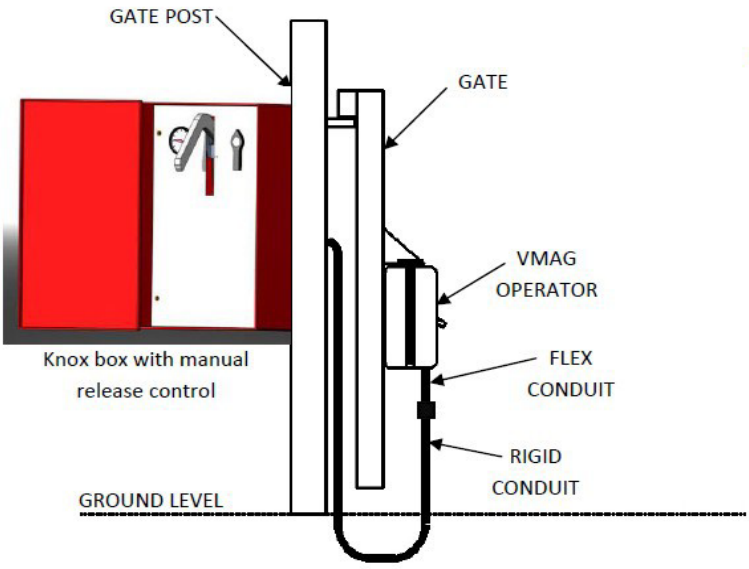
The VRMR remote manual release allows emergency access for manual gate operation in the event of a power outage.

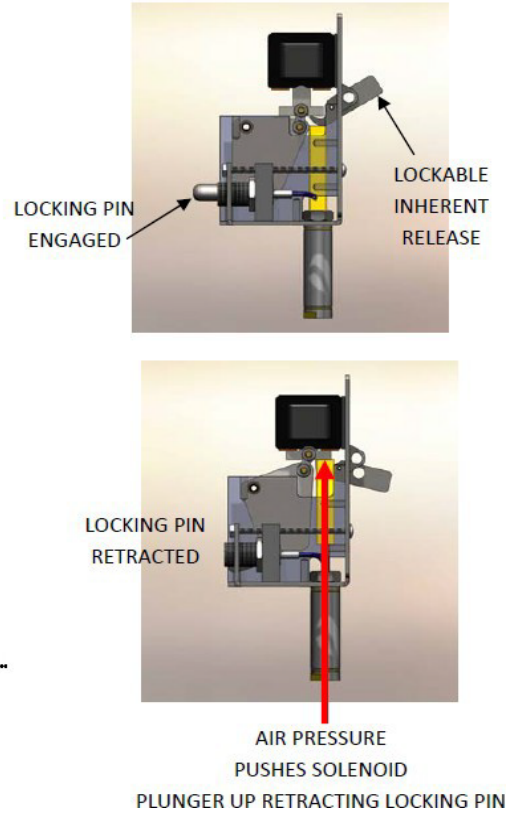
Normal emergency access is achieved through a limit switch sending an OPEN command to the gate operator when the EMERGENCY Knox box door is opened. In the event of a power outage a manual lever located inside of the Knox box is activated by sending pneumatic pressure to a stainless steel cylinder mounted to the operator which mechanically pushes the lock solenoid up thereby retracting the locking pin allowing the gate to be opened manually. Once the pressure is relieved the locking pin will drop back to a normal condition.

The remote manual release overrides the inherent operator manual release whether it is secured with a padlock or not.

The pneumatic line from the Knox box to the operator should be run through rigid 1/2" conduit on the unsecured side but must be continued to the operator with flex conduit on the secured side to allow the operator to float with the gate movement.

Periodic tests should be performed to assure proper operation.





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Options & Upgrades - **V DE-ICE KIT - De-Icing Option (VM1-IOEXP required for this option.)**

VMDEICE
De-Icing Package

Prevents ice & snow accumulation on the motor assembly, lock assembly and reaction fin in the vicinity of the motor assembly when icing conditions exist. Can be retrofitted in the field or factory installed when ordered as an option.

Available for VM1220, VM1420, VM1425 slide gate operators.

Requires PLC & Programmer version 021415.01 or later.
Requires I/O Expansion Module – specified with option and included with operator build.

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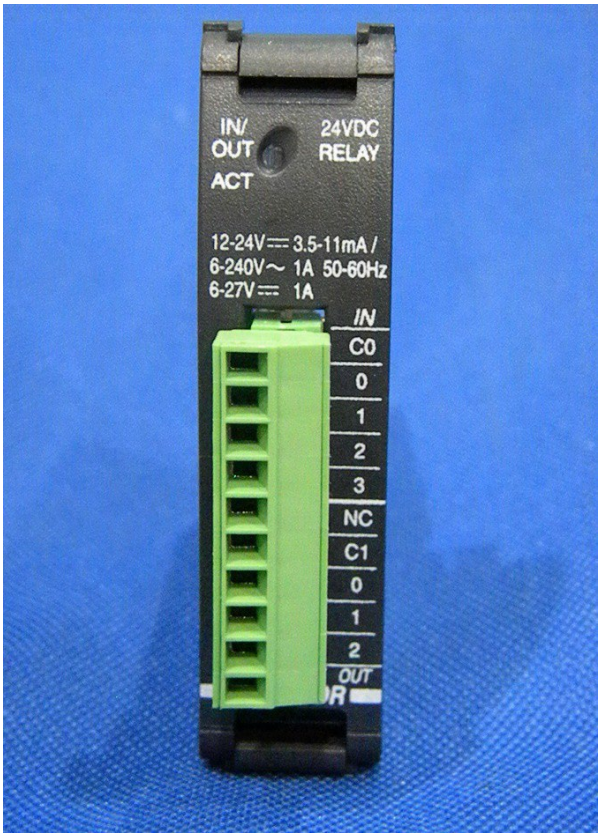
Options & Upgrades

V I/O EXPANSION MODULE



I/O Expansion Module (*Required for certain optional equipment & functionality.)

- V DE ICE KIT
- V KLOCK Interface for OEM locking mechanisms.
- E-CLOSE Emergency Close Override.
- Other optional equipment or functionality.

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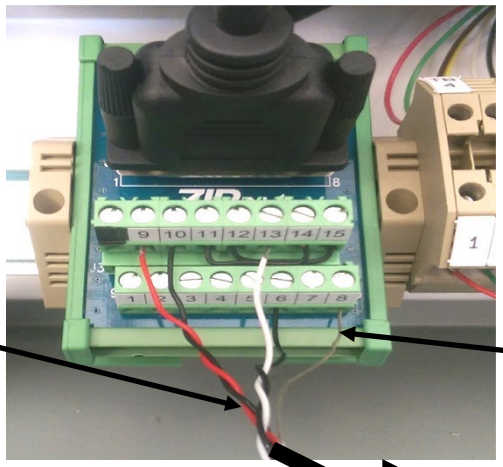
Options & Upgrades

V DUAL KIT - Dual Gate Interface Kit (One kit required for dual gate system) *Requires Belden Cable 8102 & Conduit Not Included)

DUAL GATE CONFIGURATION OPTION

The Vmag VMDIK Dual Interface Kit consists of (2) interface modules and (2) internal cables. The factory installed cable connects the interface module to the PLC.
Both gates are connected using **Beldon 8102 or equivalent to be supplied by the installer**.
The cable should be run in buried conduit from controller to controller. This cable is a low capacitance communications cable and should only be substituted *(if necessary)* with cable that has equivalent specifications.
The P1 Programmer will operate only the controller it is connected to. Use **FREE EXIT** TB2 –9 & -10 to test dual operation.



Jumpers Required
Factory Installed
11 ↔ 14
12 ↔ 15

Beldon 8102 Cable
(Not included)

Drain (ground) wire must be connected

Master Interface shown

To Slave Gate

Note: RED & BLACK must be a twisted pair
WHITE & BLACK must be a twisted pair

MASTER Interface Module		**SLAVE Interface Module**	
9	RED	6	BLACK
10	BLACK	13	RED
8	SHIELD	8	SHIELD
13	WHITE	10	BLACK
6	BLACK	9	WHITE

Using the programmer go to SYSTEM
Set the master side to **DUAL/MASTER** & the slave side to **DUAL/SLAVE** with the programmer
If the auto close feature is required, the **AUTO CLOSE** timer must be **ENABLED** on both gates.
The **MASTER** determines the close time.

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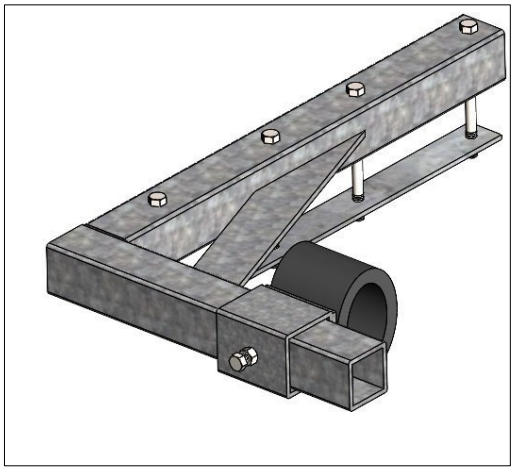
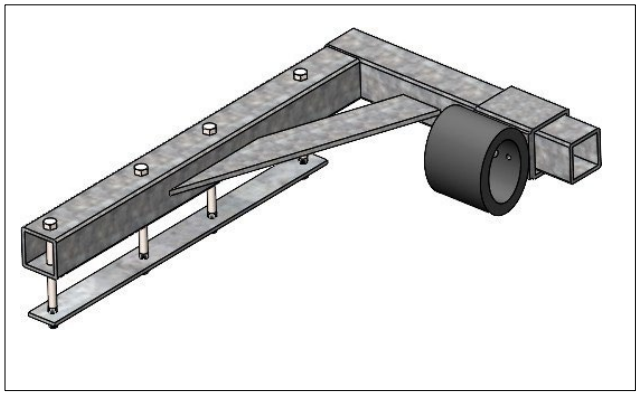
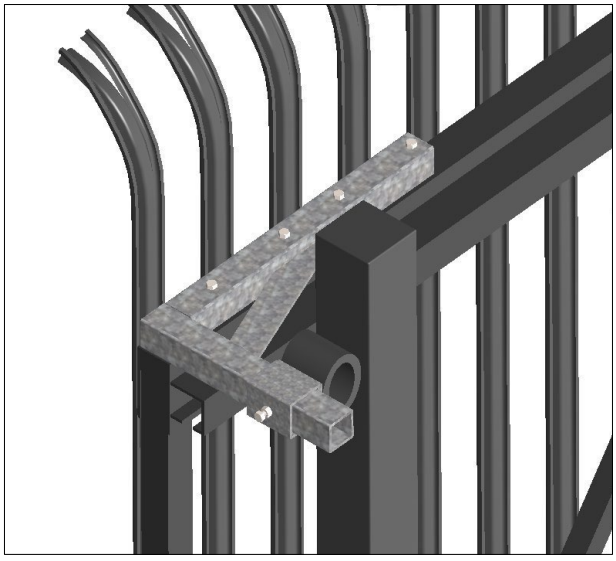
Options & Upgrades

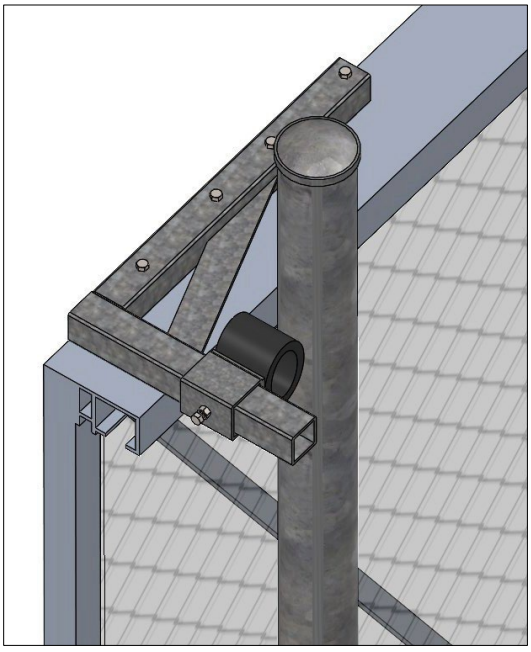
V HDU STOP KIT - Heavy Duty Universal Stop Kit for single or dual track gates and box frame gates (requires two kits). HD Stops are recommended for gates > 1,000 lbs. and/or operated at VMAG operating speeds > 50% capacity.

- *Universal design for heavier gates*
- *Includes all mounting hardware*
- *Includes 1/2" spacers for lock pin adjustments*
- *Hot dipped galvanized finish*
- *Adjustable width*
- *Welded nuts on bottom plate*









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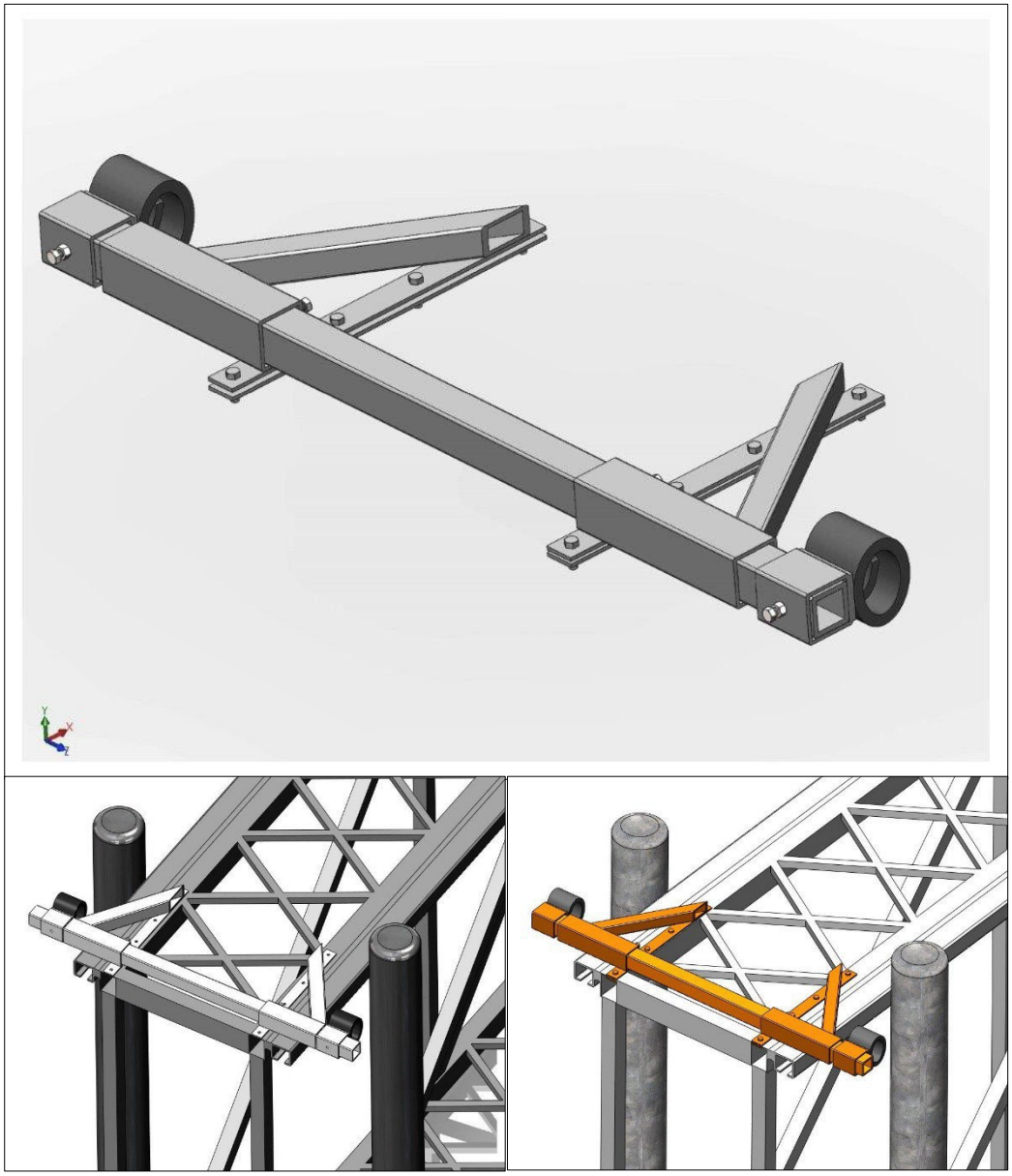
High Velocity Magnetic
Gate Operators

Options & Upgrades

V HD STOP KIT BOX

Heavy Duty Stop Kit for Box Frame Gates (Inc. 2 adjustable stops.)



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High Velocity Magnetic
Gate Operators

Options & Upgrades

V PBS-3

NEMA 1 Three Button Control Station

Interior Surface Mount Control Station
Momentary Contact: OPEN-CLOSE-STOP

Factory Installed inside VMAG Controller Enclosure
Or available separately

- METAL ENCLOSURE
- BUTTON: 5 amp @ 120VAC
- 240VAC MAX GENERAL PURPOSE
- OPEN: NORMALLY OPEN
- CLOSE: NORMALLY OPEN
- STOP: NORMALLY CLOSED
- UL LISTED

WIRING

OPEN: NORMALLY OPEN
CLOSE: NORMALL OPEN
STOP: NORMALLY CLOSED

DIMENSIONS

HT: 5’
BACK WIDTH: 2-3/8”
FACE WIDTH: 2”
DEPTH: 1-13/16”

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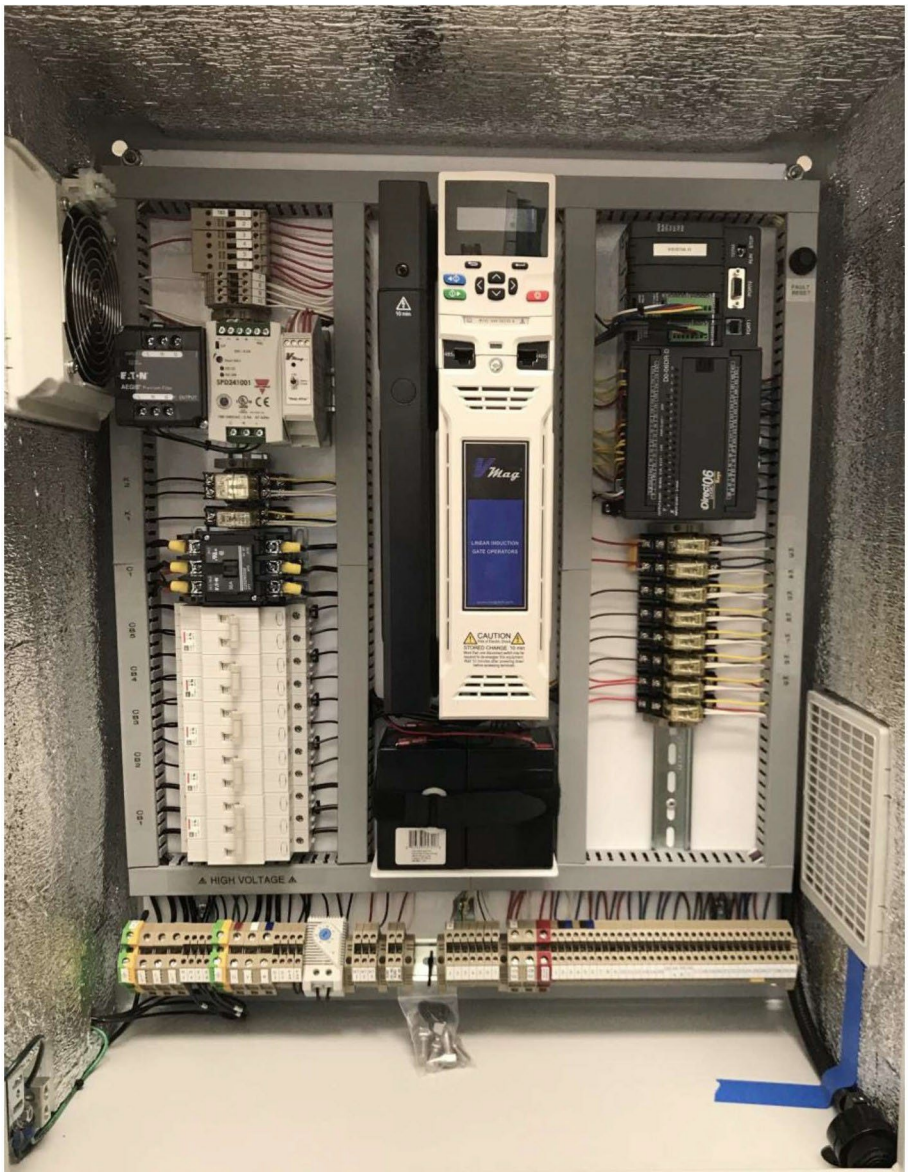
High Velocity Magnetic
Gate Operators

Options & Upgrades

V ENCL THERMAL PKG

Thermal Insulation Upgrade for Control Cabinet and V UPS Enclosures.
Factory installed thermal barrier for extreme hot or cold climates.



(Photograph is for thermal insulation reference only and may not accurately represent certain details and features for other applications)

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INSTALLATION QUESTIONNAIRE

Please submit a separate form for each installation and submit to: Patrick O'Connor pat@vmagtech.com

Phone: 210 495-3000 fax: 210 455-1994

Date:_____

Customer Information:

Company:_____ **Contact**:_____ **Telephone or email**: _____

Location of job: _____ **Project Name**: _____

Proposed date of installation:_____ *(Please allow 6-8 weeks upon submittal of Purchase Order)*

Gate Information:

Overall length of gate:_____ **Gate type:** ☐Ground Track ☐Cantilever ☐Other ☐Box Frame *(Box frame and heavier gates require **VSTOPHD** kit)*

Length of opening: _____ **Gate material:** ☐Steel ☐Aluminum **Gate frame:** ☐Round ☐Square/Rectangular

Gate Manufacturer: _____ **Approximate weight**: _____ **Dual:** ☐Master/Slave *(requires Dual Option and communications cable)*

Gate Installation: ☐New ☐Existing **Operation:** ☐Standard ☐Vmag automation services for custom control of multiple gates

Usage Information:

Desired speed of operation for OPEN cycle :_____ **Desired speed of operation for CLOSE cycle** :_____

Estimated average number of gate cycles (open/close) - *total per day* :_____

Estimated average number of gate cycles (open/close) - *peak per hour* :_____

Electrical:

Available power: ☐208-240 VAC ☐440-480 VAC ☐Single Phase ☐Three Phase

(Proper grounding required and dedicated circuit should be stable with minimal voltage fluctuations)

Proposed Vmag Model:

☐ **VM1220** *(208-240VAC) (lighter gates i.e., aluminum frame up to 20' and 1200 lbs.)*

☐ **VM1420** *(440-480VAC) (heavier gates over 24' and 1,200 lbs.)*

Options:

☐ **P1** Programmer - one required for initial Vmag installation *(Programmer may be used on any Vmag installation)*
☐ **VMSSCC** Marine Grade 316 Stainless Steel Enclosure
☐ **RF1M** Additional Reaction Fins qty_____ Formula: (Opening Distance (ft.) + 6) / 6.58 = # of reaction fins required (*round up*)
☐ **VMHP** Heater package for controller
☐ **VMDEICE** Prevents ice buildup on reaction fin around the motor assembly (I/O Expansion Module required for this option.)
☐ **VMKA** Keep Alive Option *(Eliminates the need to re-learn during short power outages or generator back up switch over)*
☐ **VMUPS** Battery backup for VM1220. *(Standard or stainless enclosure available. Heater package should be considered for colder climates)*
☐ **VMDIK** Dual Option Kit *(For dual gate operation. Beldon 8102 communication cable to be provided by installer)*
☐ **VMER1** Emergency Remote Release
☐ **VSTOPHD** Heavy duty stop kit required for box frame and heavier gates
☐ **V ECLOSE** Emergency close with override of all safety devices. For specified high level security applications only. (I/O Expansion Module required for this option.)
☐ **V KLOCK** K-Lock Control Interface for operating OEM/3rd. party locking devices (I/O Expansion Module required for this option.)
☐ **CUSTOM** Custom Option to be specified: HD Stop Kit for single panel gates, special functionality, or other requested feature for consideration.
Please include details for request: _____

Installation Consideration Checklist:

☐ Is there proper clearance for a Vmag operator?
☐ Is there appropriate entrapment protection as per ANSI/UL 325-2019?
☐ Is this installation for vehicular traffic only? *ANSI/UL 325-2019 mandates that pedestrian traffic must use a separate walkway gate.*
☐ If a backup generator is not used is there an alternate plan for vehicular access and emergency vehicles in the event of a power outage?
☐ Does the gate installation meet the ANSI/UL 325-2019 requirements for Class III or Class IV?
☐ Does the gate construction meet ASTM F2200? Contact the gate manufacturer for more info.

VMAG Operators are compliant with ANSI/UL 325-2019 standards when correctly installed using compatible OEM safety & entrapment devices.

Linear Induction Gate Operators

VMAG is the world's most advanced slide gate operator with unrivaled speed and reliability

Unique technology and innovative features include:

Linear Induction Technology: The VMAG operator is the first and only to use proven linear induction motor (LIM) technology, which is entirely electro-magnetic. Gate operation is achieved using a contact-less direct transfer of energy without mechanical processes. No pinch wheels, chains, gears, etc.

Unmatched Speed: Propels gates 6 to 8 ft/second making it the world's fastest slide gate operator. Effectively deters unauthorized access and "tailgating" while dramatically enhancing through-put efficiency for authorized vehicles. A variable range of speed may also be programmed to meet the specific needs of each installation.

Unmatched Reliability: Drive force is created using a 100% solid-state design, without moving parts, making it the most dependable gate operator ever developed. VMAG's "maintenance-free" design eliminates hydraulic fluids, lubricants, hoses, gears, sprockets, chains, or cables and is not subject to the inherent maintenance and reliability issues commonly associated with these items.

Positive Locking Feature: Positive locking mechanism is virtually impossible to defeat and automatically engages in both the open and closed positions and may also be manually disengaged during power loss or emergencies.

Floating Design: Operator and reaction fin mount directly to gate eliminating the need for critical alignment and exposure to ground level risks. The operator can be mounted at virtually any height and its ability to "float" with the gate accounts for minor variances in gate movement.

Self-Calibrating: Operator automatically calibrates itself at start-up with no limits to adjust.

Eco-Friendly: Only clean, efficient, electro-magnetic coupling is used for operation without the environmental risks commonly associated with hydraulic fluids, lubricants, or other chemicals.

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SPECIFICATIONS

Operator

Listings: **VM 1420 & VM 1220 ETL** UL325, UL991 and CAN/CSA C22.2#247

Required Electrical Supply

Volts: **VM 1220** 208-240 VAC 50/60 Hz, 1* or 3 phase, minimum 20 amps ** If used in conjunction with V UPS, minimum 30 Amp service required. See V UPS specifications*

VM 1420 440-480 VAC 50/60 Hz, 3 phase, minimum 30 amps *(single phase not recommended)*

Controller Enclosure

Listings: UL 508 Types 3R, **4,** and 12

CSA Type 3R, 4, and 12

Complies with: NEMA Type 3R, IEC 60529, IP66

Dimensions: 30" W **x 24"** H x 12" D

Material: 14-gauge steel, ANSI-61 gray powder coat inside and outside

(Optional 316 marine grade stainless steel)

Reaction Fins

Material: 6061-T6 Aluminum

Weight.: 37.55 lbs. ea. *(approx. 5.3 lbs. per foot)*

Length: 6.83 ft. *(82'J* Overall

Height: 9.78"

Motor Housings/ Assembly

Material: 6061-T6 Aluminum

Weight: Motor assembly 130 lbs.

Length: 37"

Height: 10"

Width:

Finish: Blue Anodize - MIL-A-8625, Type II / **III,** Class 2

Motors

Type: Linear Induction with internal thermal protection

Winding Insulation: Class H 180°C *(355°F)*

Class F 155°C *(310°F)*

SPECIFICATION FOR LINEAR INDUCTION SLIDE GATE OPERATOR

1.0 OVERVIEW

1.1 This specification defines a slide gate operator utilizing linear induction motors (hereafter referred to as the LIM operator) as the drive force. The LIM operator shall consist of a control unit, dual linear induction motors and reaction fin sections.

2.0 OPERATION

2.1 The LIM operator shall use linear induction technology as the operating force. The LIM operator shall not use gears, belts, hydraulics, chain, pinch wheels or any other mechanical means of transferring the drive force to the gate.

3.0 TESTING

3.1 The LIM operator design shall have been tested for endurance and reliability for a minimum 1,250,000 cycles over a period of more than 10 years at an actual security-controlled installation.

3.2 All LIM operators shall be inspected and dynamically tested, as a complete system installed on a functioning gate, for a minimum of 1,000 complete cycles, prior to shipment from the manufacturer.

4.0 MANUFACTURING

4.1 The LIM operator shall be assembled within the United States of America.

4.2 All aluminum and steel parts shall be formed or extruded, machined, and finished within the United States of America.

4.3 All electrical and electronic components shall conform to U.L. standards and be listed with a Nationally Recognized Testing Laboratory.

5.0 CONSTRUCTION

5.1 All metallic components shall be of stainless steel, powder coated, corrosion protected steel, or aluminum. All fasteners shall be produced out of stainless steel, aluminum or have zinc plating.

5.2 The reaction fins shall be extruded 6061-T6 aluminum.

5.3 The controller enclosure shall comply with NEMA Type 3R, 4, and 12.

5.4 An optional controller enclosure upgrade meeting NEMA 4X, with a marine grade 316-stainless steel finish, will be specified for coastal regions, other corrosive environments or when a premium finish is desired.

6.0 SYSTEM ADAPTATION

6.1 The LIM operator shall interface with all standard access control devices.

6.2 The LIM operator shall interface and operate with entrapment and safety devices in accordance to U.L. 325 - 2016

6.3 The LIM operator shall interface with all vehicular detection devices.

6.4 The slide gate which the LIM will be installed on shall be reasonably level and in acceptable operating condition. The gate and installation shall conform to ASTM-F1184-16 standards for use with ASTM-F2200-05, #6 Vehicular Horizontal Slide Gates, Class III & Class IV applications.

7.0 ELECTRICAL

7.1 The LIM operator electrical supply standard shall be 208-240VAC, single or 3 phase 60Hz or 440-480VAC, 3 phase 60Hz.

7.2 A minimum 20 amp service shall be available at the installation site. Additional options and configurations may require higher current service.

7.3 All electrical supply shall be installed in accordance with the National Electrical Code (N.E.C.). Additional local codes may exist.

7.4 The LIM motors shall be encapsulated in an epoxy potting compound and have internal thermal protection.

7.5 A 24VDC 2A fused supply shall be available for auxiliary device power.

8.0 MANUAL OPERATION

8.1 A pad lockable mechanical release shall be provided in the event of a power failure or malfunction. The standard LIM operator shall be FAIL SECURE. An optional version shall be available for FAIL SAFE requirements.

9.0 OPTIONAL EMERGENCY MANUAL RELEASE

9.1 An emergency manual release option shall be available for fire departments, or other first responders, requiring remote public side access. The option shall provide an electronic switch for normal activation and a manual release for access during complete power outages.

10.0 ENVIRONMENTAL

10.1 The LIM operator shall have a normal ambient operating temperature range of 0^0F - + 120^0 F.

10.2 The LIM operator shall have provisions for employing heating or cooling elements required in geographical locations exceeding the normal ambient operating temperature range.

10.3 The LIM operator shall have provisions for employing an optional de-icing feature recommended in geographical locations prone to icing conditions.

11.0 INSTALLATION

11.1 The LIM operator shall be installed by a factory authorized and trained installer in accordance with the manufacturer's installation instructions and quality standards.

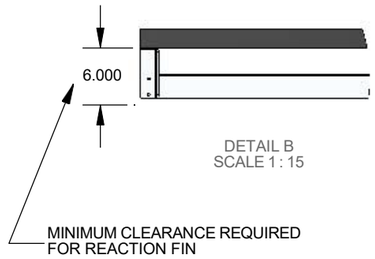
11.2 The LIM operator controller enclosure shall NOT be mounted on posts supporting the gate due to vibration from gate operation. Minimum specifications for gate posts shall be 4" OD Schedule 40, or square 1/4" wall thickness.

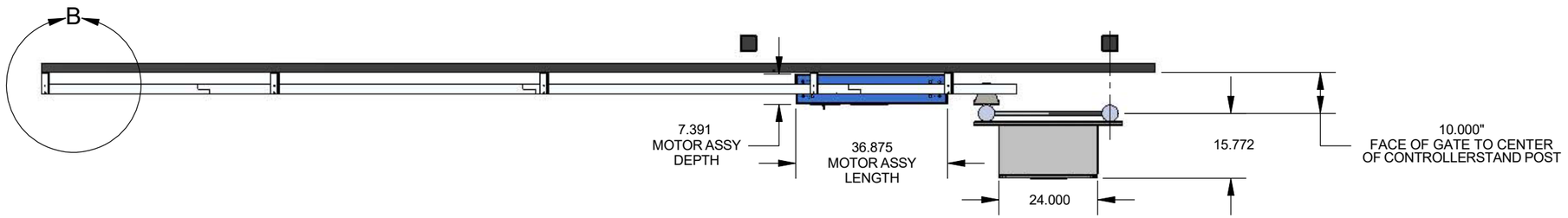
12.0 WARRANTY

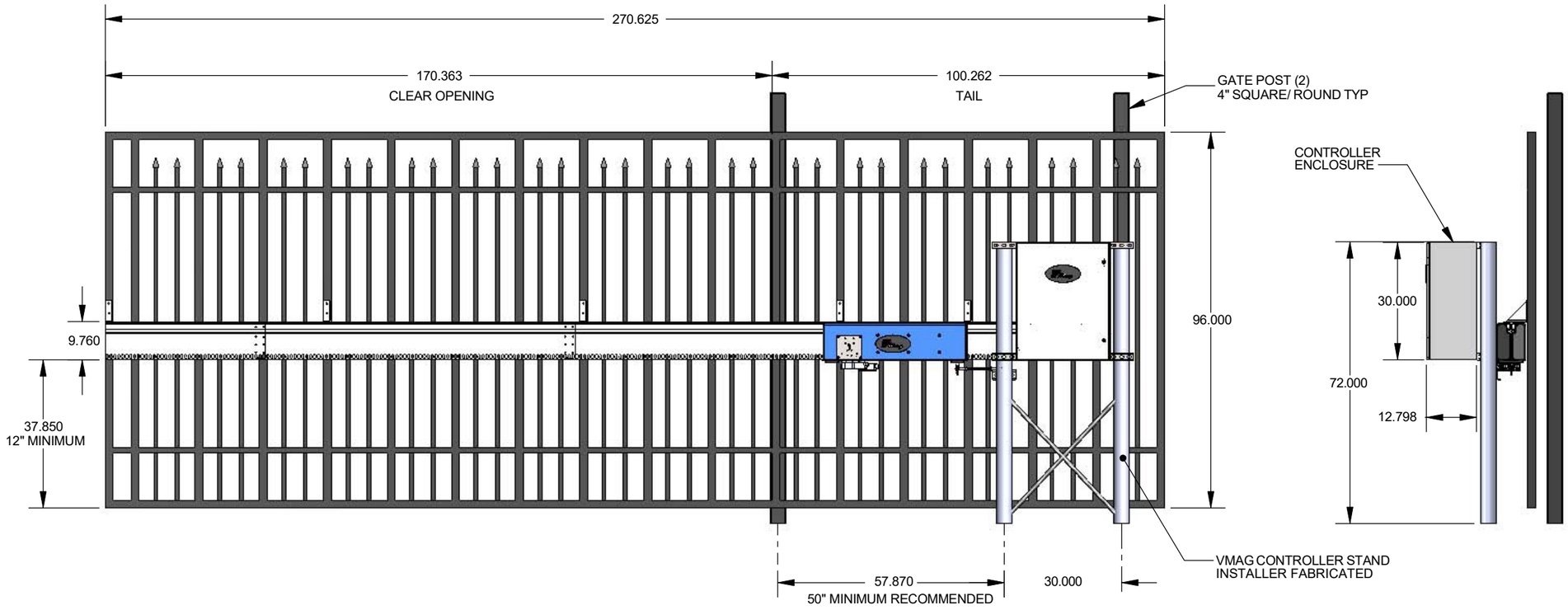
12.1 The LIM operator shall be warranted against defects and workmanship from the manufacturer for a period of five years.

EXAMPLE: 15 FOOT CLEAR OPENING GATE

NOTES:
1. BREAK ALL EDGES - Maximum Radius .015"







VIEW IS FROM THE SECURED SIDE.
GATE OPENING DIRECTION MAY BE REVERSED

Vmag P/N	DESCRIPTION	MFG.	MFG. SPEC.	FINISH

ZONE	DAT E	REV	REVISIONS	BY	CHK	APV D

INTERPRET DIMENSIONING AND TOLERANCING PER: ANSI Y14.5M-94

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±1/64
ANGULAR: MACH ±.5 BEND ±1°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.005

	NAME	DATE
DRAWN:		
CHECKED:		
ENG APPR.:		
MATERIAL:		

DESIGNER: D.LOOS DESIGN DATE: 08/30/15
MODEL No.: MODEL REV: MODEL REV DATE:
MODEL FILE:

DO NOT SCALE DRAWING

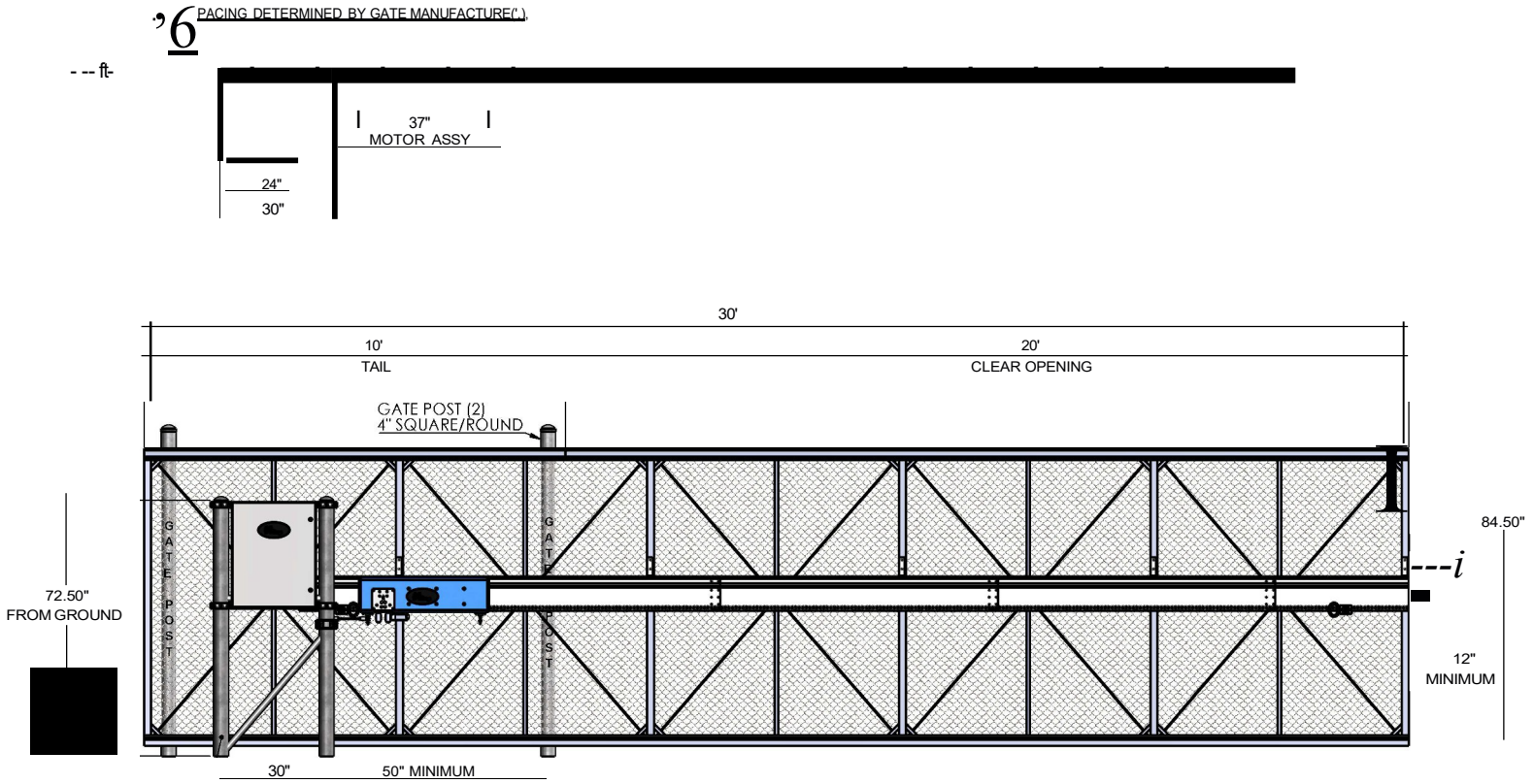
Vmag

TITLE:
VMAG INSTALLATION DIMENSIONS

DWG. NO. REV:

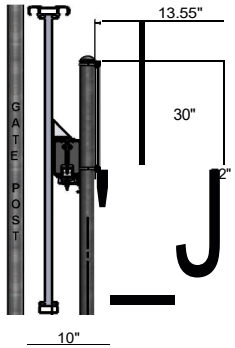
SCALE: 1:48 DWG. SIZE: B SHEET 1 OF 1

30' ALUMINUM CANTILEVER GATE

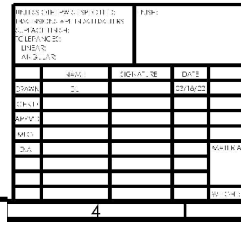


CONTROLLER STAND
CUSTOMER FABRICATED

VIEW IS FROM THE SECURED SIDE
GATE OPEN DIRECTION MAY BE REVERSED



INSIDE SURFACE OF
GA TE VERTICAL TO
CENTER OF
CONTROLLER POSTS



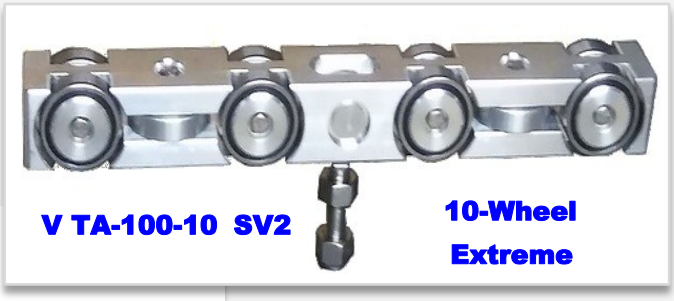
High Velocity Magnetic Gate Operators

High Speed Trucks For VMAG Operators

Direct replacement for OEM truck assemblies

V TA-100 SV2 & V TA-200 (6 wheel) & V TA100-10 SV2 (10 wheel) truck assemblies incorporate superior design and construction and are proudly manufactured in the USA. The V TA-100 SV2 & VTA-100-10 SV2 are compatible with the most popular size enclosed track including IGD, EMS and other standard 2-1/8"x 2-1/8" gate track. V TA-200 trucks are designed specifically for 2-1/2" x 1-5/8" track. VMAG tested high speed trucks are ideal for industrial applications or maximum performance when paired with VMAG Operators.

V TA-100 SV2 **6-Wheel Standard**



V TA-100-10 SV2 **10-Wheel Extreme**

V TA-200

FEATURES & BENEFITS

- **Truck body manufactured from a solid billet of 6061-T6511 aircraft grade aluminum**
- **Stainless Steel hardware & assembly rod with spherical bearing for self alignment**
- **Corrosion Resistant**
- **Static load rating (per truck): V TA-100 (2,600 lb.) V TA-200 (3,000 lb.) V TA-100-10 (7,000 lb.)**
- **Sealed roller bearings - captured (not pressed) with retainers for better seal protection**
- **Billet 6061-T6511 side rollers (not cast aluminum or plastic)**
- **Sealed captured bearing in side rollers**
- **Truck frame extends past side rollers to protect rollers from impact with gate end caps**
- **Model V TA-100 & V TA-100-10 compatible with standard (2-1/8" x 2-1/8") gate track and other OEM sizes.**
- **Model V TA-200 designed specifically for (2-1/2" x 1-5/8") track**
- **Ideal for OEM truck replacement or specifying tested performance with VMAG operators**
- **Made in the U.S.A.**
- **Limited Lifetime Warranty**
- **Authorized Installers Call (210) 495-3000 for referrals**

MADE IN USA

VMAG distributes truck assemblies for sale and installation through factory authorized installers. Please contact VMAG for more information or for an authorized installer in your area. Limited Warranty policy and claims administered by OEM.

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ON-GATE LIGHTING SYSTEM FOR SLIDE GATES

Introducing V-Lite... the first and only induction-powered lighting system engineered specifically for slide gates. Powered by a patented electromagnetic transfer system — without batteries, solar panels, or retractable cables, V Lite installs directly onto the gate and delivers enhanced visibility and safety, helping to alert traffic and significantly reduce costly gate accidents. V Lite is ideal for high-traffic commercial and industrial applications where safety isn't just improved — it's instantly visible, making every gate system smarter and more secure. **Only from VMAG - the trusted leader in high performance gate automation.**

Standard V Lite Kit for 20' Opening

Features & Benefits

- **The only induction-powered "on-gate" lighting system for automated slide gates.**
- **Improved driver awareness:** *Dual sided LED arrays for increased reaction time - night or day.*
- **Reduced liability:** *Lowers risk of collisions, downtime, and repair costs.*
- **Maintenance-free power transfer:** *No retractable cables, batteries or solar panels to repair or replace.*
- **Easy installation**: *Universal mounting brackets accommodate virtually any automated slide gate.*
- **Built for industry:** *Rugged IP-rated design for heavy-duty commercial and industrial use.*
- **Multiple options for LED activation:** *Variable flashing modes or constant activation.*

(210) 495-3000
sales@vmagtech.com

www.vmagtech.com/v-lite-gate-operator

Installing dealer & distributor inquiries welcome

Maintenance Schedule for Vmag Gate Operators

Maintenance is primarily checking gate and operator hardware for integrity.

6-month check (first check should be performed within first three months of operation).

Gate

⇒ Inspect and manually roll gate to verify unrestricted and smooth travel.

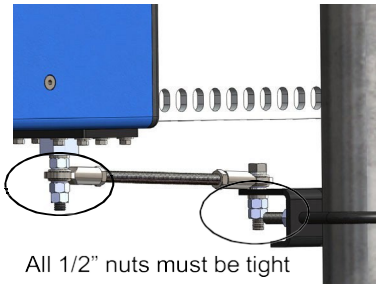
⇒ Inspect gate rollers (overhead trucks, cantilever rollers or V track hardware) for abnormal wear.

Vmag Operator

⇒ Check the fault code table page in the programmer for fault patterns that should be addressed.

⇒ Verify that the "JITTER" (diagnostics) is 500 +/- 2.

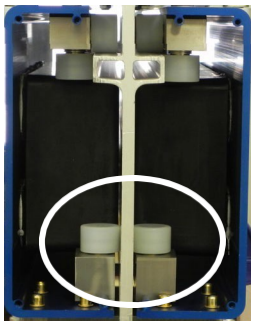
⇒ Check linkage assembly & post bracket hardware to ensure proper alignment & rigidity.


All 1/2" nuts must be tight

⇒ Remove motor assembly end caps to inspect cam rollers for excessive wear & proper reaction fin contact.

⇒ Check that the **bottom** 4 cam rollers contact the sides of the reaction fin. Cam rollers should touch the fin but not too difficult to turn by hand.

⇒ If adjustment is required, refer to page 19 for the proper adjustment procedure and recheck proximity sensor gap.



⇒ Test all vehicular and safety devices for proper operation. All safety devices should conform to UL325.

⇒ Inspect reaction fin holes and file down flush any protrusions found.

⇒ Visually inspect reaction fin assembly screws for integrity. Re-apply thread locker e.g. "Loctite" to any reaction fin screws that may have come loose.

⇒ Check & tighten reaction fin hanger bracket bolts. Torque to 11-foot pounds.

⇒ Ensure that the green light is illuminated on the surge filter. If not, the unit needs to be replaced.

⇒ Check Lock Assembly for freedom of operation. Lock plunger should fall freely when solenoid is de-energized. Lock assembly parts may be cleaned using electrical contact cleaner or brake cleaner that will dry without collecting dust and dirt. Do not use WD40 or any other type of lubrication.
- Remove lock assembly and wipe the encoder wheel surface with alcohol wipe to clean the contact area

⇒"Keep Alive Option" batteries should be replaced once every two years.

⇒Replace PLC clock battery every 5 years.