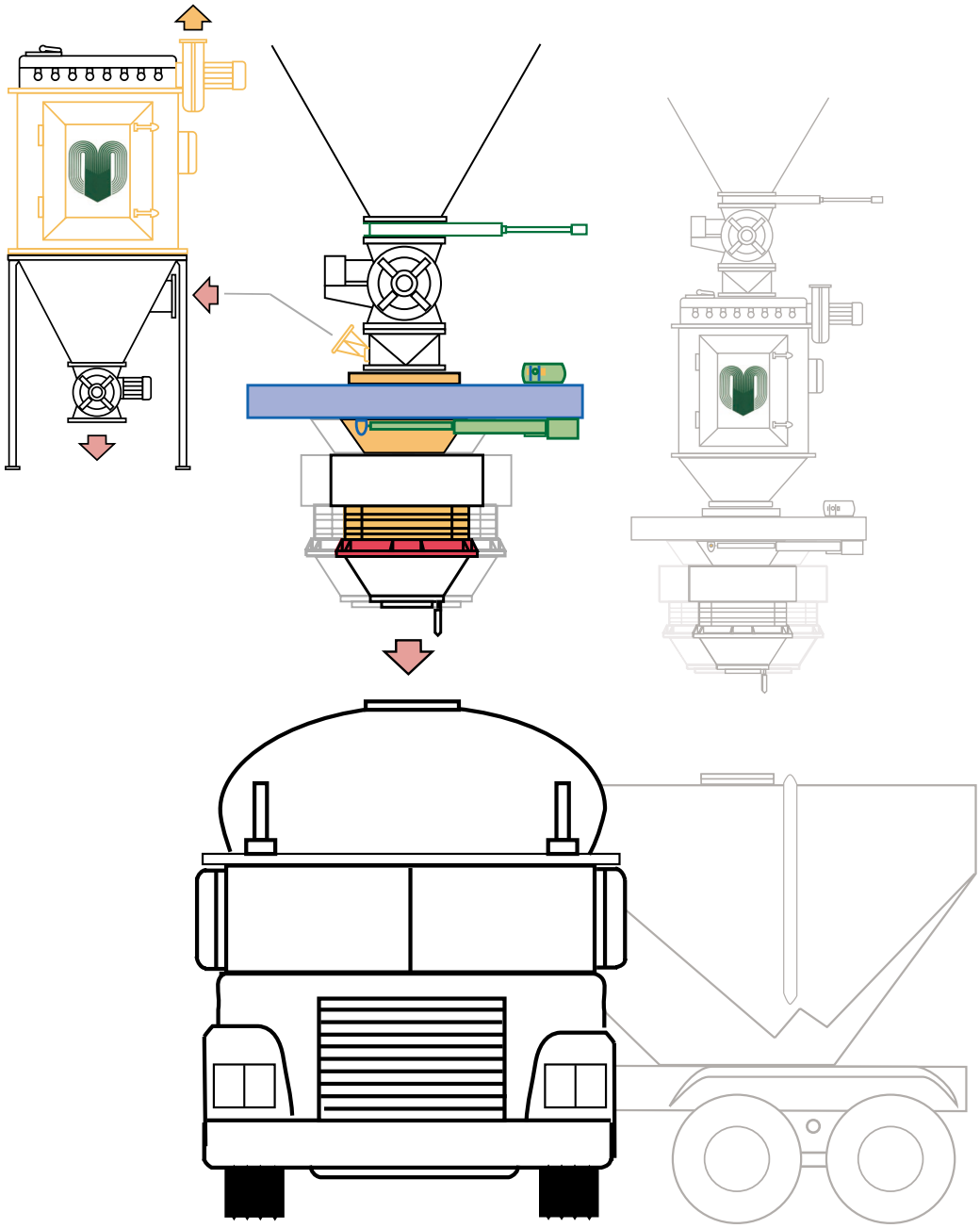

1000TPH*

SERIES
300-2
450-2

MEPV

TECHNICAL SPECIFICATIONS

MIDWEST International INTERNALLY VENTED FLATTOP™ TWO DIRECTION FOUR WAY SPOUT POSITIONER

TECHNICAL SPECIFICATIONS
PARAGON™ SERIES FLATTOP™
Interally Vented Two Direction (4) Way Spout Positioner

DESIGN CRITERIA: The equipment described in this technical specification is designed to load enclosed trucks and to be used with a MIDWEST Paragon™ Internally Vented Retractable Bulk Loading Spout for positioning the spout discharge over the hatch of enclosed trucks to facilitate loading. This combination can significantly reduce the loading time by positioning the spout discharge instead of moving the vehicle.

DESCRIPTION: The MIDWEST Internally Vented Flattop™ Spout Positioner with MV22-EV or MV30-EV Paragon™ Series Internally Vented Loading Spout connected to the lower flange of the positioner or with a Vaculoader® or Compactuloader™ located on top, is designed to load vehicles in up to half the normal loading time and dust free if applied, installed and operated properly. *This system is designed to load up to 1000 TPH of 60 PCF dry free flowing moderately aerated fines or the equivalent capacity of granular products. Because of its internally vented feature the complete stack up of modules or "system" is placed under a negative pressure or vacuum which will not allow dust to escape to the atmosphere. Using this MIDWEST system, the operator can horizontally position the MFPV series internally vented loading spout discharge back and forth and also front to back over an open hatch which is not centered under the spout. NOTE: Refer to optional spout accessory PAL™ Programable Automated Locator, automatic open hatch finder.

MIDWEST MFPV FLATTOP™ SPOUT POSITIONER TRAVELS AVAILABLE

MFPV 300-2	**(12x12)**	**MFPV 300-2**	**(12x12)**
MFPV 300/450-2	**(12x18)**	**MFPV 300/450-2**	**(12x18)**
MFPV 300/600-2	**(12x24)**	**MFPV 300/600-2**	**(12x24)**
MFPV 450/600-2	**(18x24)**	**MFPV 450/450-2**	**(18x18)**
MFPV 600/600-2	**(24x24)**	**MFPV 450/600-2**	**(18x24)**
MFPV 600-2	**(24x24)**		

MAIN PAN: ASTM-A-36 carbon steel 1/4" thick all welded box construction with square product inlet, refer to MIDWEST Sales Drawing showing structural steel support angles and vertical corner support plates (4), located on top to provide a variety of installation and leveling support options. Underside of main pan is lined with 316L bright finish (2B) stainless steel providing low coefficient of friction between spring compressed felt labrinth hopper seal and main pan.

PRODUCT INLET: Flanged 18"x18" square inlet will accept a MIDWEST Vaculoader® or Compaculoader™ for a complete internally vented system or 12" high inlet transition, 18"x18" with 6" or 8" diameter flanged dust outlet which can be connected to a suitable dust collector, bag house or scrubber. NOTE: This MIDWEST system is internally vented and requires no flexible duct.

DRIVE: Two (2) actuators, 1/4 HP, TENV 120V or 240V, 1 PH reversible one mounted on top of the main pan and one mounted under the main pan.

PRODUCT DISCHARGE VENTURI: This venturi is an extention of the inner hopper and passes through the MV Paragon™ Series loading spout and is sized by MIDWEST to accomodate the throughput capacity required for enclosed truck loading. Refer to classes of construction available.

POSITIONER TRAVEL: Horizontal travel in all directions about the center line, ie; 12"x12", 12"x18", 12"x24" 18"x18", 18"x24", or 24"x24" front to back and/or left to right. Contact factory for longer travel Flattop™ positioners or for information on the MIDWEST Roundabout™ Series Multiple Direction Spout Positioners.

HOPPER: Positioner hopper is 11GA and includes double wall construction to provide smooth flow of product from the inlet venturi into and through the Paragon™ MV Series Bulk Loading Spout. Specify Class of construction IA, II, III, IIIA, IV or V available. Hopper top seal includes (4) part labyrinth felt seal 1" x 1" captivated in a rectangular cavity built into the top of the hopper on top of spring loaded flat wafer springs which apply seal pressure against stainless steel surface under main pan. Hopper includes exclusive MIDWEST heavy duty cam rollers with adjustable up/down eccentrics to allow future field adjusting of hopper seal against main pan.

HOPPER OUTLET: Bolts to top of MV Series Retractable Bulk Loading Spout. Hopper support angles on some models provide additional support for MV Series loading spout and allows for field leveling.

SUPPORT SYSTEM: MIDWEST provides standard structural steel angle supports (refer to drawing) and additional support plates located on each of (4) corners of the main pan assembly. These are to be used to support the main frame and also level the main structure in both directions.

CLASSES OF CONSTRUCTION AVAILABLE:

Class I	*Abrasive Fines (High-density AR cross-linked polymer) to 176° F and -40° F
Class I (FG)	*Abrasive Fines (Same as Class I except White Food Grade)
Class I A	Mildly Abrasive Granules (A36 carbon steel)
Class I B	*Contamination Free Fines and Pellets (6061 T6 aluminum)
Class II	Abrasive Granules (250 BHN AR steel)
Class III	Stainless Steel Product Flow Area only (304 furnished as standard, 316 available)
Class III (FG)	Food Grade Products (Same as class III with ground and polished welds)
Class III A	Stainless Steel all Fabricated Metal Components (304 furnished as standard, 316L available)
Class III A (FG)	Corrosive or Non-Contaminate Environment (Same as Class III A with stainless steel fastings)
Class IV A	High Temperature 177° F to 400° F
Class IV B	High Temperature to 1000° F

Class V	Abrasive Lumps High Impact (400 BHN AR steel)
Class V A	Abrasive Lumps High Impact (400 BHN AR steel Venturi, with integral rockbox to reduce wear)
Class V T	Abrasive Lumps High Impact (Triten™ Hard Coat)

*(NOT AVAILABLE)

PAINT: Mechanical Clean with (3) mils white two part epoxy standard. Consult factory for optional paint systems.

ASSEMBLY: The MIDWEST Internally Vented Flattop™ Spout Positioner is factory tested and shipped completely assembled. Refer to MIDWEST Instruction Manual.

ESTIMATED MECHANICAL FIELD ERECTION: Four (4) hours excluding dust piping and structural modifications. NOTE: When lifting the Flattop™ Series Spout Positioner during installation, care must be taken to not bend, twist or hump the main pan assembly especially diagonally opposite each corner. This could result in damage to the stainless steel hopper seal plate.

ESTIMATED ELECTRICAL FIELD WIRING: Two (2) hour with power available within 7 feet providing prewiring option is purchased.

FIELD SUPERVISION: Erection and/or start up assistance by MIDWEST is available at a per diem cost. Consult factory for prices.

INSTRUCTION MANUALS: MIDWEST provides two Installation Operating and Maintenance Manuals, one shipped with equipment and one forwarded to the Purchasing Department at time of shipment. Additional copies can be purchased at additional cost.

CAUTION: Many dry bulk products contain explosive dust. MIDWEST offers explosion proof (XP) electrics as an option for all eletrical components and PLC controls. Intrinsically safe barriers are also available for hazardous areas. Consult factory for additional information and pricing.

OPTIONS AVAILABLE:

INLET VENTING TRANSITION: Adds 12" to overall height. This inlet venting transition is for use without Vaculoader® or Compaculoader™. Installed inside the venting transition, the product venturi is sized to accommodate the product flow from the silo discharge, Airflo™ Air Gravity Conveyor or Multiflo™Screw Conveyer. Specify Class IA, II, III, IV, or V construction. Factory engineered product venturi diameter assures the flow into the positioner hopper of 10% less than the flow through the MIDWEST Paragon™ Series Retractable Bulk Loading Spout reducing the possibility of aerated product pressurizing the positioner hopper.

AUTOMATIC RETURN TO CENTER KIT: With appropriate push button installed in opertor control panel or pendant the spout positioner can automatically be returned to the center position after each loading has been complete.

PAL™ PROGRAMABLE AUTOMATED LOCATOR: This optional PAL™ automatic hatch finder is located on the Paragon™ series loading spout and automatically seeks and locates an open truck hatch. Operator actuated, this hatch finder will "hunt" for an open hatch in both directions of travel. When activated, the Paragon™ Series Bulk Loading Spout will lower down to a point 6" above the truck hatch and begin seeking an "opening". When found the loading spout will lower down and into the hatch. Slack cable limit switch contact will inform the operator that the silo withdrawal valve can be opened and loading can begin. Optional green "ready to load" light can be included in the control panel or pendant or the system can be completely automatic with the slack cable limit switch signals automatically opening the product withdrawal valve.

PREWIRING/PREPIPING: MIDWEST Internally Vented Spout Positioner accessories, can be prewired to a common NEMA 4X junction box with a numbered terminal strip located on side of main pan. The (2) linear actuators are not prewired unless actuator priwiring is purchased.

PREWIRING OF ACTUATORS: Two (2) TENV 120V or 240V, 1PH actuators with full travel limit switches and over travel clutch can be prewired to a seperate NEMA 4X junction box usually located on side of main pan assembly. This option includes (2) sets of reversing capacitors with relays, all prewired to a numbered terminal strip.

MOTOR CONTROLS, (MCC): Electric motor starter can be provided for the Paragon™ Series Retractable Bulk Loading Spout. NEMA 4 or 4X enclosure standard, NEMA 7/9 (XP) available.

ACCESSORIES AVAILABLE:

NOTE: Accessory items are shipped in kit form to be field installed however, can be factory installed if MIDWEST Prewiring Option is purchased.

AIR VIBRATOR KIT: Two (2), (3), (4) or (5) pneumatic piston type air vibrators can be located on each side of positioner hopper, and/or under the flanged dust outlet (non Vaculoader® or Compaculoader™ systems), to vibrate loose product from inside product area and dust withdrawal surfaces during or after loading. Vibrators are controlled by a 120 VAC NEMA 4X solenoid valve (standard) and are connected by a flexible air line festooned on the outside of hopper. Air supply and field connection to the MIDWEST solenoid valve are the customers responsibilities. Dry air consumption 6 CFM @ 45 to 100 PSI (intermittant) required for peak performance. Consult factory for additional information. NOTE: Vibrators are piped in series ie; exhaust of one feeds inlet of next, etc.

FILTER REGULATOR LUBRICATOR (FRL): This FRL unit is used for effective operation of pneumatic vibrators and includes a 1/2" or 3/4" NPT maintenance valve with lockout feature for maintenance.

NOTE: Positioner hopper includes two (2) vibrator mounting pads as standard.

• • •

EQUIPMENT INDICATED IN SOLID COLOR IS INCLUDED IN THIS TECHNICAL SPECIFICATION.

EQUIPMENT OUTLINED IS AVAILABLE. CONSULT MIDWEST FOR DETAILS.

MIDWEST International
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105 Stover Road
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USA
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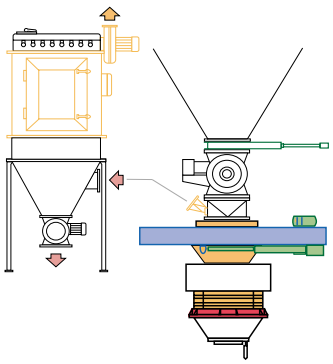
Fax: (231) 547-9453
International Fax: (231) 547-0269
Web Site: www.midwestmagic.com
"e" mail: midwest@freeway.net

I N T E R

LTD

An
Air
Ecology
Company



Form: 1247
Revised: 24 Jan. 2002
Run Date: 24 Jan. 2002

TECHNICAL DATA

MFPV PARAGON™ SERIES INTERNALLY VENTED FLATTOP™ TWO DIRECTIONAL SPOUT POSITIONER

Loading Capacities

PRODUCT	TEMP	DENSITY (PCF)	LOAD STPH	RATE MTPH

SCREEN ANALYSIS

☐ % ☐ IN/MM ☐ % ☐ IN/MM

MODEL	TRAVEL	WEIGHT
☐ MFPV 300-2	12”x 12”	1,050 LBS (476) KG
☐ MFPV 450-2	18”x 18”	1,450 LBS (658) KG
☐ MFPV 600-2	24”x 24”	2,710 LBS (1229) KG
☐ MFPV 300-450-2	12”x 18”	1,015 LBS (461) KG
☐ MFPV 300-600-2	12”x 24”	2,150 LBS (975) KG
☐ MFPV 450-600-2	18”x 24”	2,710 LBS (1229) KG
☐ Other		

Standard shipping container shipped completely assembled and upright, strapped to wood skid.

Classes of Construction Available:

Class I	☐	**Abrasive or Corrosive Fines:** *(High-density AR Cross-Linked Polymer) Temperature Rating: to +176 F, -40 F. Product Flow Area.*
Class I FG	☐	**Abrasive Fines:** *Same as Class I except White Food Grade Polymer.*
Class IA	☐	**Non-Abrasive Fines:** *A36 Carbon Steel Product Flow Area.*
Class IB	☐	**Contamination Free Fines and Pellets:** *Aluminum Construction 6061-T6 Castings, Extrusions and/or Machined (spun).*
Class II	☐	**Abrasive Granules:** *250 BHN AR Steel, Product Flow Area.*
Class III	☐	**Corrosive Fines, Granules, Soft Lumps:** *Stainless Steel Product Flow Area, 304 SS, 316 SS, 316 L (2B or 4B) available (specify).*
Class III FG	☐	**Food Grade Products:** *Same Construction as Class III with Ground and Polished Welds.*
Class IIIA	☐	**Corrosive or Non-Contaminate Environment:** *Stainless Steel Fabricated Components 304 SS, 316 SS, 316 L 2B and 4B available (specify) Non-Product Flow Area.*
Class IIIA/FG	☐	**Corrosive or Non-Contaminate Environment:** *Same as Class IIIA with Stainless Steel Fastenings. Non-Product Flow Area.*
Class IVA	☐	**Hot Materials:** *Temperature of Product being loaded, 177 F to 400 F, High Temp Rhinoflex™ Flexible Outer Spout “Orange” Color.*
Class IVB	☐	**Hot Materials:** *To 1000 F, Rhinoflex™ Fiberglass, “White” Color.*
Class V	☐	**Abrasive Granules and Lumps with Sharp Edges:** *High Impact 400 BHN AR Steel.*
Class VA	☐	**Abrasive Granules and Lumps with Sharp Edges:** *High Impact 400 BHN AR Steel with Rock Box. Applicable to Loading Spout Venturies or (NSP) Inlet Transitions Only.*
Class VT	☐	**Abrasive Lumps and High Impact:** *Triten™ Hard Coat*

CAUTION: Many dry bulk products contain explosive dust. Midwest offers explosion proof (XP) electrics as an option for all electrical components and PLC controls. Intrinsically safe barriers are also available for hazardous areas. Consult factory for additional information and pricing.

NOTE: All standard fastenings are zinc plated to resist surface rust. Stainless steel and grade 8 high strength fastenings are available. Contact factory for (NSP) cost.

Important

Loading capacities are based on product bulk density of 60 PCF fines and 12 FT/SEC vertical entry velocity. Variations in density and lump size will affect loading capacity. Variations in entry velocity and trajectories other than vertical product entry could cause premature wear in product flow areas. Midwest recommendations for classes of construction are based on product samples supplied.

Electric Actuation

Actuators (2) .25 HP ☐ 120V ☐ 220V
(1) Phase, ☐ 60 Hz, ☐ 50 Hz
Actuators Include Limit Switches for End Travels.

Accessories

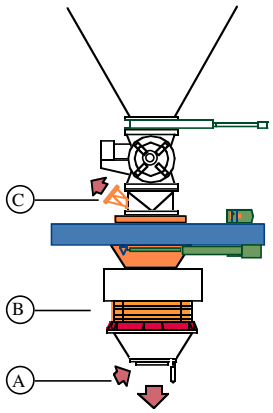
☐ Air Vibrator Kit: (6 CFM @ 45 to 80 PSIG) NEMA 4x Solenoid Valve ☐ 120 V, ☐ 220V
☐ Filter, Regulator, Lubricator .5” NPT With Maintenance Valve
☐ Regulator, Lubricator .5” NPT (For Assemblies With Vaculoader® or Compaculoader™)

Options

☐ Inlet Venting Transition With Flow Control Venturi
☐ Prewiring, Prepiping of Accessories
☐ Prewiring of Actuators NOTE: Includes Reversing Capacitors in NEMA 4x enclosure
☐ Automatic Return to Center Feature
☐ Pal™ Programable Automated Locator
☐ Hydraulic Actuation with Hydraulic Pump Motor Resevoir ☐ Volts 3 Phase ☐ Hz ☐ HP
☐ Motor Prewiring: Intermediate, for Loading Spout Motor

Air Withdrawl Guide

Consult Midwest for verification
MFPV Internally Vented Spout Positioner



Refer to MV Series Technical Specification Air Withdrawal Guide for CFM, Velocity, Static Pressure, and Capture Velocity Values for “A” , “B”, and “C”

*Based on 60 PCF fines. Add air gravity conveyor aeration and 50% of silo aeration air if applicable.

Revised: 17 Oct. 2001