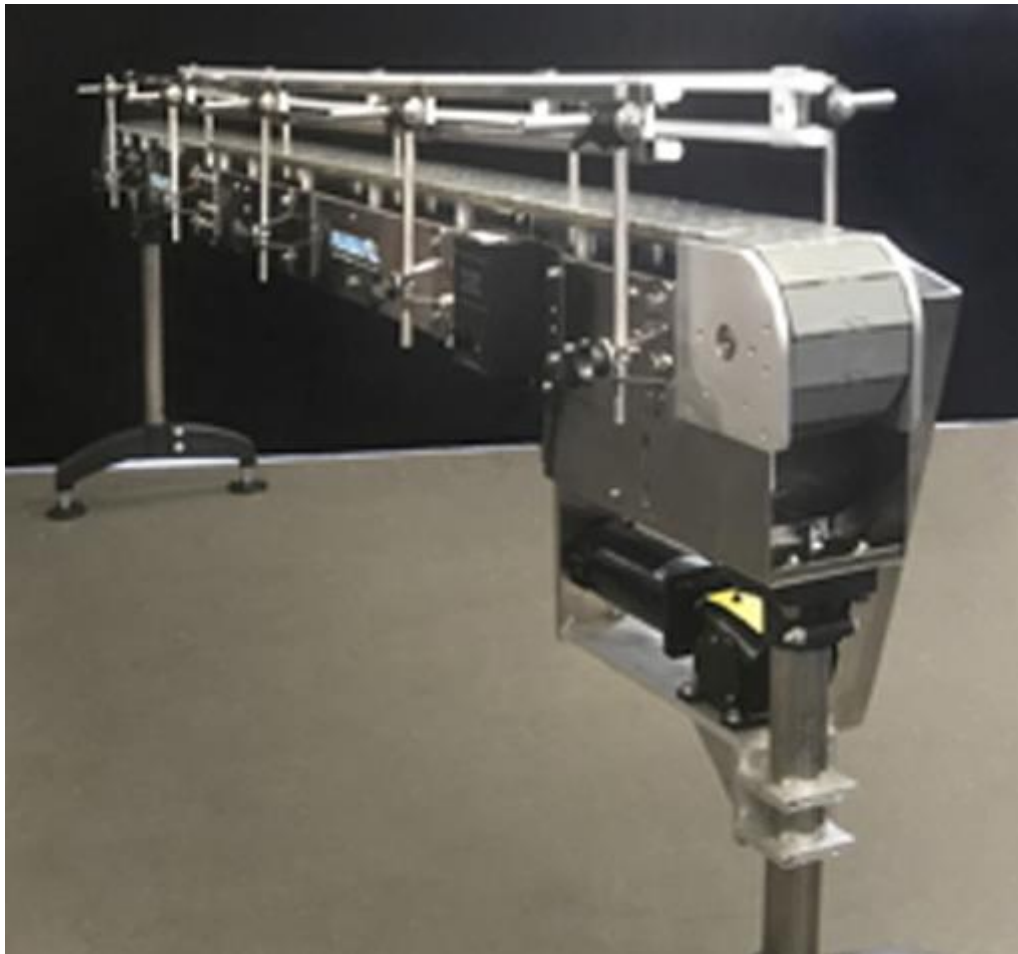




## User Manual



## Model CV4.5 CONVEYOR UNIT

CONTENTS

- 1. General Illustrations..... pgs x
- 2. Safety Reminder..... 2
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- 4. Specifications ..... 5
- 5. Installation and Commissioning
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  - 6.1. Features And Capabilities ..... 7
- 7. Technical Information
- Index of Technical Notes/Drawings ..... 1

**Section 2 - SAFETY REMINDER**



**Warning**



**This machine contains moving parts and operates automatically. This may present a hazard to personnel.**

**Never operate this machine with any covers or guards removed or any guard switches or safety devices removed or bypassed.**

**Only people who have been correctly trained should operate or clean this machine.**

**Only people who are correctly qualified and trained should carry out maintenance, installation, or any other service work.**



**Never clean or service the machine without isolating the electrical supply and isolating the air supply.**



**Always test for the presence of voltage before touching or working on electrical components.**

**Note that there might be other requirements that could apply.**

**Refer to the manuals supplied by the component manufacturers for further safety instructions.**

### **Section 3 - INTRODUCTION**

Thank you for purchasing a Pharmafill Model CV4.5 Conveyor. We at Deitz Company hope you will find that the Model CV4.5 meets or exceeds your expectations and requirements for an affordable, reliable, and innovative addition to your packaging operation.

Pharmafill products are designed and manufactured by Deitz Company Inc., in Wall, NJ, USA. We have manufactured machinery for the bottle filling industry since 1966 and started our Pharmafill line in 1993. We are a small (but growing) family-owned business that emphasizes quality, innovation, and superior customer service.

If you have any questions or comments, please contact us by phone or visit our website. Chances are someone whose last name is Deitz will handle your inquiry personally.

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Wall, NJ, USA 07719

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Fax 732-681-8468

E-mail  
[sales@pharmafill.com](mailto:sales@pharmafill.com)

Web site [deitzco.com](http://deitzco.com) or  
[pharmafill.com](http://pharmafill.com)

The operation manual is designed to make it easier for you to know the machine and to make use of its intended range of operation. It contains important instructions on how to operate the machine safely, adequately, and economically. Observing these instructions helps to avoid risks, to reduce cost for repair work and machine downtime, and enhances the machine's operational reliability and lifetime.

The operation instructions are to be supplemented by further instructions due to existing national regulations on accident prevention and environmental protection.

### **Section 3 – INTRODUCTION (cont'd)**

If used in compliance with the instructions contained in this manual and if safety devices are regularly maintained and properly working, this machine is not dangerous to the operator.

This manual is to be kept accessible to all operators using this machine and it is assumed that, before use, the operator will read fully and understand this manual and will follow instructions stated within.

As this machine may be used in the packaging of hazardous substances the operator should be aware of the precautions required for these substances.

In addition to the operating instructions and the binding regulations on accident prevention valid in the country where the machine is being used and at its operational site, the recognized technical rules on safe and proper working must be observed as well.

These operating instructions and the information contained therein have been compiled with due care and attention. However, DEITZ COMPANY does not take any responsibility for misprints, translation errors or other errors and any resulting damage.

DEITZ COMPANY retains the right to make changes to the described products to improve functionality, reliability, and other design considerations. The measurements or data shown on schematics, sketches and photos are not binding. They are for description purposes.

The information and drawings found in the operation manual are the intellectual property of DEITZ COMPANY and may not be copied or given to third parties.

LEGAL NOTICE: DEITZ COMPANY™, PHARMAFILL™ and any graphic representations of the same are legal trademarks of Deitz Company Inc. and may not be used by others without specific written permission from Deitz Company.

## **Section 4 - SPECIFICATIONS (Also see technical information in Section 7)**

### **GENERAL**

Model	AD0959 CV4.5 Conveyor
Type	4-1/2" wide belt motorized conveyor
Product Capability	Designed to move bottles at a rate of zero to @90 ft/min, with adjustable rail guides from fully closed to a width of 4-1/2".

### **INPUTS**

Voltage	110 VAC
Cycles	50/60 HZ
Phase	1
Amperage	2.0A
Compressed Air	Not required

### **DIMENSIONS**

Floor Footprint	Overall length 12', 6" Width 7.5" Bi-pod leg base Width @21"
Height	Belt height is 36", with +/-3" adjustment Overall height is 3-1/2" – 5" above the belt height
Weight	200 lbs (90 Kg)

### **ELECTRICAL COMPONENTS (all CE, CSA or C-UL rated)**

Disc drive motor	LEESON #M1135038.00 gear motor, right angle, 1/8 hp, 90 VDC, 40:1 ratio, 62 rpm, 1.4 amps, UL, CSA, CE
Speed Control	Ironhorse GSD3 Series DC Drive Input: 120 VAC +/-10% Output: 0-90 VDC Rated: 3 ADC UL, C-UL, CE, ROHS Compliant

## **Section 5 - INSTALLATION AND COMMISSIONING**

### 5.1 Unpacking

- ❑ Carefully remove the walls and lid from the pallet.
- ❑ Remove all packing materials and any additional boxes that may be inside.
- ❑ Cut the hold down straps that hold the machine to the pallet.
- ❑ Carefully remove all screws and wood braces.
- ❑ Remove any shrink-wrap, bubble wrap and/or protective cardboard inserts.
- ❑ Inspect all supplied equipment for damage.
- ❑ If any damage is present, please notify DEITZ COMPANY immediately.
- ❑ Some components may need to be assembled. Please refer to the procedures on the following pages for assembly.

## **Section 6 - GENERAL INFORMATION**

### 6.1 Features and Capabilities

The model CV4.5 belt width motorized conveyor unit is designed to move bottles or products from a speed of zero to @90 ft/min. up to 4-1/2" in width.

The unit is constructed of 303 stainless steel, 304 stainless steel, anodized 6061 aluminum, acetal conveyor belt chain, and Valu-Guide adjustable guide rails of 14-gauge stainless steel back & low friction UHMW guiding surface (FDA & USDA accepted). Other plastic and plated steel components are used in the support legs, gear motor, speed control unit, and other non-bottle contact areas.

The unit is designed with an elevated conveyor chain for ease in cleaning.

The conveyor product chain is driven by a 90 VDC gear motor through a set of sprockets and roller chain. The roller chain is guarded.

The power to the gear motor is turned on and off by the control switch on the speed control unit. The speed can be set by turning the speed control potentiometer from "0" to "100" percent as needed.

The adjustable rails guides are in pairs of which there is a set at the front and rear side of the conveyor. The front or rear rails can be adjusted independently from fully open to a fully closed position and to any desired positions in between. Adjustments are made by loosening the black ratcheting knobs at the top of the rail adjusting posts.

The rail adjusting posts are shipped in the lowest position and can be raised as needed by loosening the knob that holds the post to the mounting bracket on the conveyor section. The posts can be raised @2" from the lowest point. These post assemblies can be repositioned at various points along the conveyor (in most cases – depending on associated equipment).



## **Section 7 – Technical Information**

### 7.1 Index of Technical Notes/Drawings (document section begins after this page)

<u>Doc. No.</u>	<u>Title</u>	<u>No. of Pages</u>
AD955-66A_REV G	Conveyor Starter Section	1
AD955-66B_REV F	Typical CV4.5 Cross Section	1
TD0024	Extension Section Assembly	1
TN0061B	Cross Section of Conveyor, Posts and Rails	1
4Z527 E	Motor Speed Control Operating Instructions & Parts Manual	12

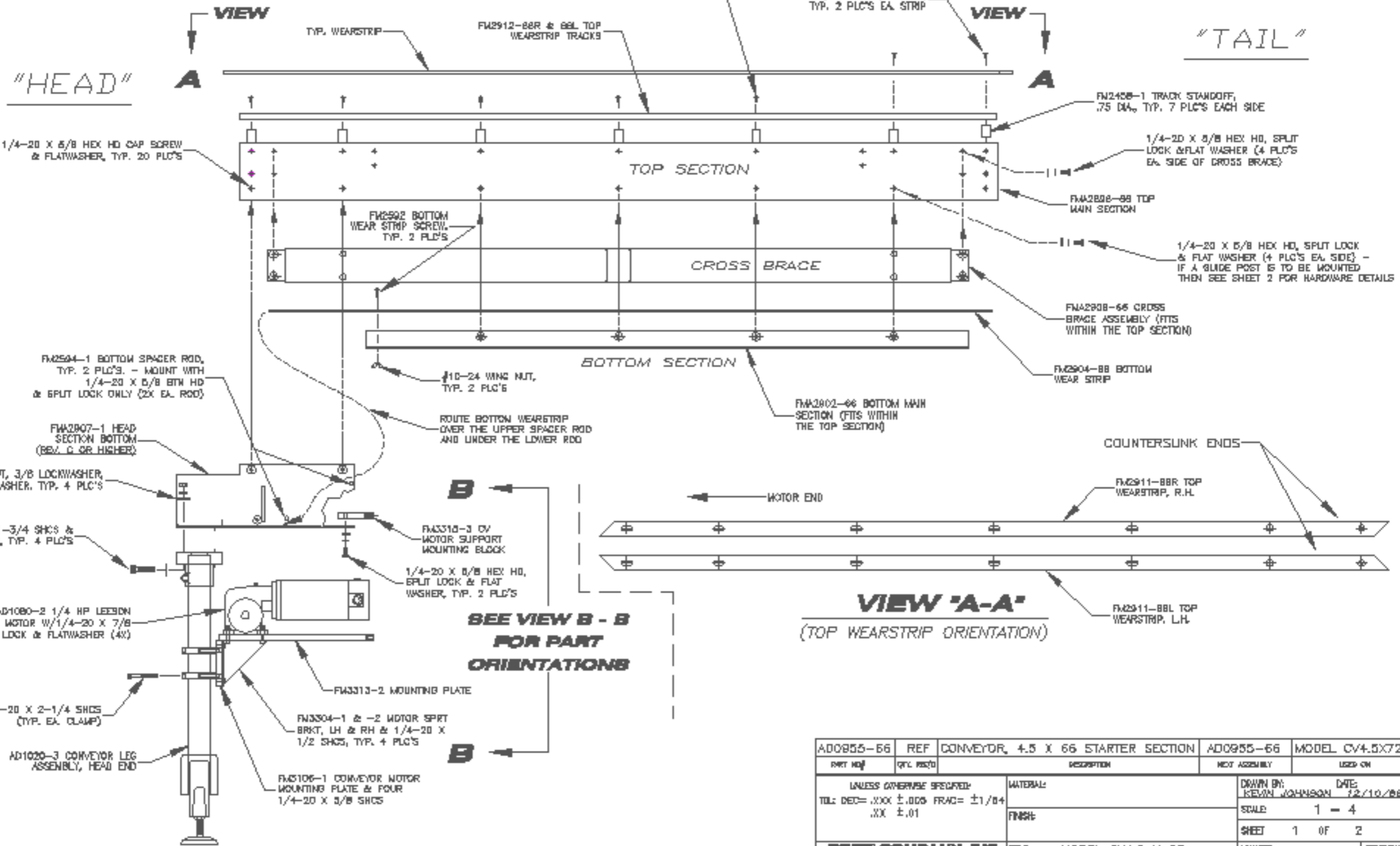
Addendums or additional technical data

_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__

NOTE	NO.	DESCRIPTION	DATE
A		SUPPORT LEG DESIGN CHANGED - SEE REV. FOR OLD DESIGN/DRAWINGS	3/12/01
B		AD1080-1 BEARING WAS BEARING-1, ADDED FMA2901 STRAP BRACKETS	1/28/04
D		PROPOSED FOR NEW MOUNTING MOTOR - SEE REV. "D" FOR OLD MOUNT	7/24/04
D		REMOVED FMA2901 STRAP BRACKETS - STANDOFFS ARE NOW MADE OF ALUM.	1/24/05
E		VIEW A-A HAS SHOWN BRACKETS, ADDED HARDWARE NOTES	8/26/12
F		MOTOR HAS 1/2 HP, NEW 1/4 HP, AD1080-2 HAS "-1", FMA2902-2 HAS "-1", FMA2903-2 HAS "-1"	11/28/18
G		FMA2903-2 SUPPORT MTP BRACK WAS FMA2902-2 MTP BRACKET	8/2/20

#8-32 X 1/2 BHMS TYP. ON TOP OF STANDOFFS,  
#8-32 X 1/2 BHMS AND INT. TOOTH LOCKWASHER  
TYP. ON BOTTOM OF STANDOFFS

#8-32 X 1/2 FHMS  
TYP. 2 PLC'S EA. STRIP



"HEAD"

"TAIL"

TOP SECTION

CROSS BRACE

BOTTOM SECTION

**VIEW 'A-A'**  
(TOP WEARSTRIP ORIENTATION)

**SEE VIEW B - B  
FOR PART  
ORIENTATIONS**

PART NO.	QTY. REQ'D	DESCRIPTION	NEXT ASSEMBLY	USED ON
AD0855-66	REF	CONVEYOR, 4.5 X 66 STARTER SECTION	AD0955-66	MODEL CV4.5X72

UNLESS OTHERWISE SPECIFIED: TOL: DEC= .XXX ±.005 FRACTION = ±1/64 .XX ±.01	MATERIAL:	DRAWN BY: KEVIN JOHNSON	DATE: 12/10/09
	FINISH:	SCALE:	1 = 4
		SHEET:	1 OF 2

<b>DEITZ COMPANY, INC.</b> ROUTE 34, WALL, N.J.	TITLE: MODEL CV4.5 X 66 CONVEYOR STARTER SECTION (72')	NUMBER: AD0955-66	REVISION G
--	---	----------------------	---------------

# 'HEAD' END

FW2787 TABLETOP CHAIN DRIVE SPROCKET CENTERED BETWEEN THE PLATES - THERE SHOULD BE  $1-7/8$  SPACE ON EACH SIDE OF THE SPROCKET

TWO FW2910-2 HEAD END PLATES (FIT WITHIN TDP SECTION), MOUNT WITH  $5/16-18 \times 3/4$  HEX HEAD BOLTS, SPLIT LOCK & FLAT WASHER (2X EA. PLATE)

FW2754 ROLLER CHAIN DRIVE SPROCKET (MOUNT WITH TEETH TOWARDS PLATE)

$1/4-20 \times 1/2$  HEX HD. SPLITLOCK & FLAT WASHER, TYP. 2 PLCS

FWA2811-1 DRIVE CHAIN GUARD

PS107 1" NYLON CAP PLUG, TYP. 2 PLCS

FWA3033-3 MOTOR DRIVE ROLLER CHAIN (NOT SHOWN)

TWO #F3337 1" FLANGE BEARINGS, MOUNT WITH TWO  $5/16-18 \times 1$  HEX HD BOLTS, SPLIT LOCK WASHER & TWO FLAT WASHERS EA. BEARING

FW2883-1 CONVEYOR HEAD SHAFT

FW3075-9 10.75" VERTICAL POST

$1L 7/8$  FROM THE BOTTOM OF THE CV SECTION TO THE BOTTOM OF THE MOTOR PLATE

FW3314-1 MOTOR SUPPORT BRACKET,  $1/4-20 \times 3/8$  SHCS, SPLIT & FLAT WASHER (4X)

P8825  $5/8"$  I.D. 22T SPROCKET (MOUNT WITH TEETH TOWARDS MOTOR)

FW3053 RAIL MOUNTING BRACKET & FW3075-8  $4-1/4"$  ADJUSTING ROD

#F1189 VALU-GUIDE 90° ANGLE CLAMP

THE SIDE WITH THE HEX NUT SHOULD FACE TOWARDS THE 'TAIL' END

ALL PARTS MAKE UP AN AD1007-3 REV A RAIL MOUNTING POST & BRACKET ASSEMBLY

INSERT  $1/4-20 \times 3/8$  STD HD SCREWS INTO ANY UNUSED HOLES

P1107 TABLETOP CHAIN

TURNTABLE MOUNTING POINTS, TYP. EACH END

#F1188 VALU-GUIDE MOUNTING ROD BRACKET W/10NCB. MOUNT WITH  $1/4-20 \times 3/4$  HEX HD. SPLIT LOCK & FENDER WASHERS (2X EA. BRACKET) IF INSTALLED AT ANY TAIL OR SUPPORT LEG ADD FENDER WASHER BEHIND UPPER HOLE OF BRACKET AS A SHW

# 'TAIL' END

P8810 TABLETOP CHAIN IDLER SPROCKET AND TWO P1708 1" SHAFT CLAMPING COLLARS (THERE SHOULD BE APPROX.  $1-1/8$  SPACE AT EACH SIDE OF THE SPROCKET)

FW2583-2 CONVEYOR TAIL SHAFT, MOUNT WITH TWO  $5/16-18 \times 1$  HEX HD. SPLIT LOCK & FLAT WASHERS

TWO FW2910-1 TAIL END PLATES (FIT WITHIN TDP SECTION) - MOUNT WITH  $5/16-18 \times 3/4$  HEX HD BOLT, SPLIT LOCK & FLAT WASHERS, 2X EACH PLATE

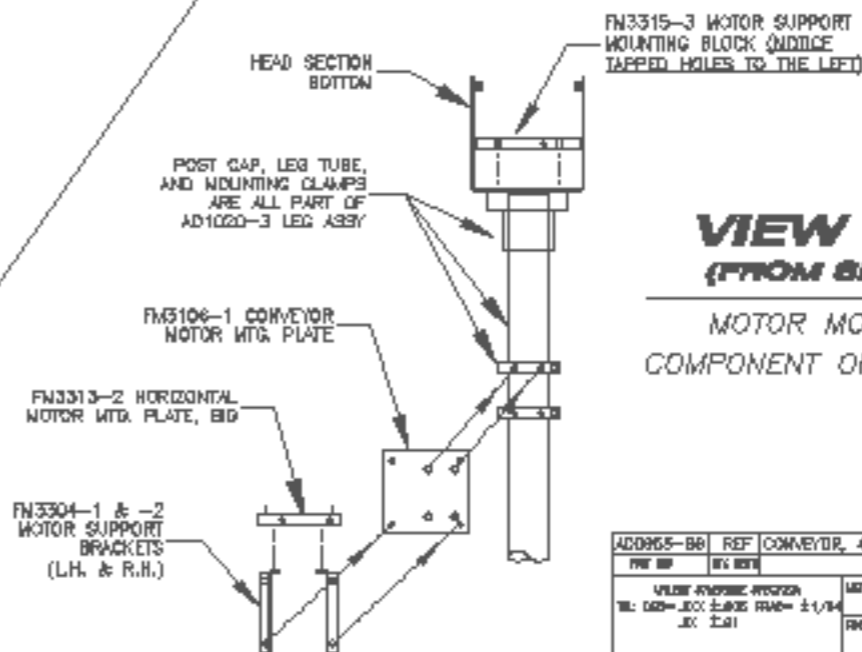
IF A TAIL LEG BRACKET IS TO BE INSTALLED HERE USE  $1/4-20 \times 1/2$  HEX HD, FLAT WASHER OUTSIDE & INSIDE AND A  $1/4-20$  NYLON HEX NUT (TYP. EA. SIDE)

**LEAVE THESE COMPONENTS OFF IF THIS CONVEYOR IS TO HAVE ANY EXTENSION SECTIONS ADDED**

# VIEW 'B-B'

(FROM SHEET 1)

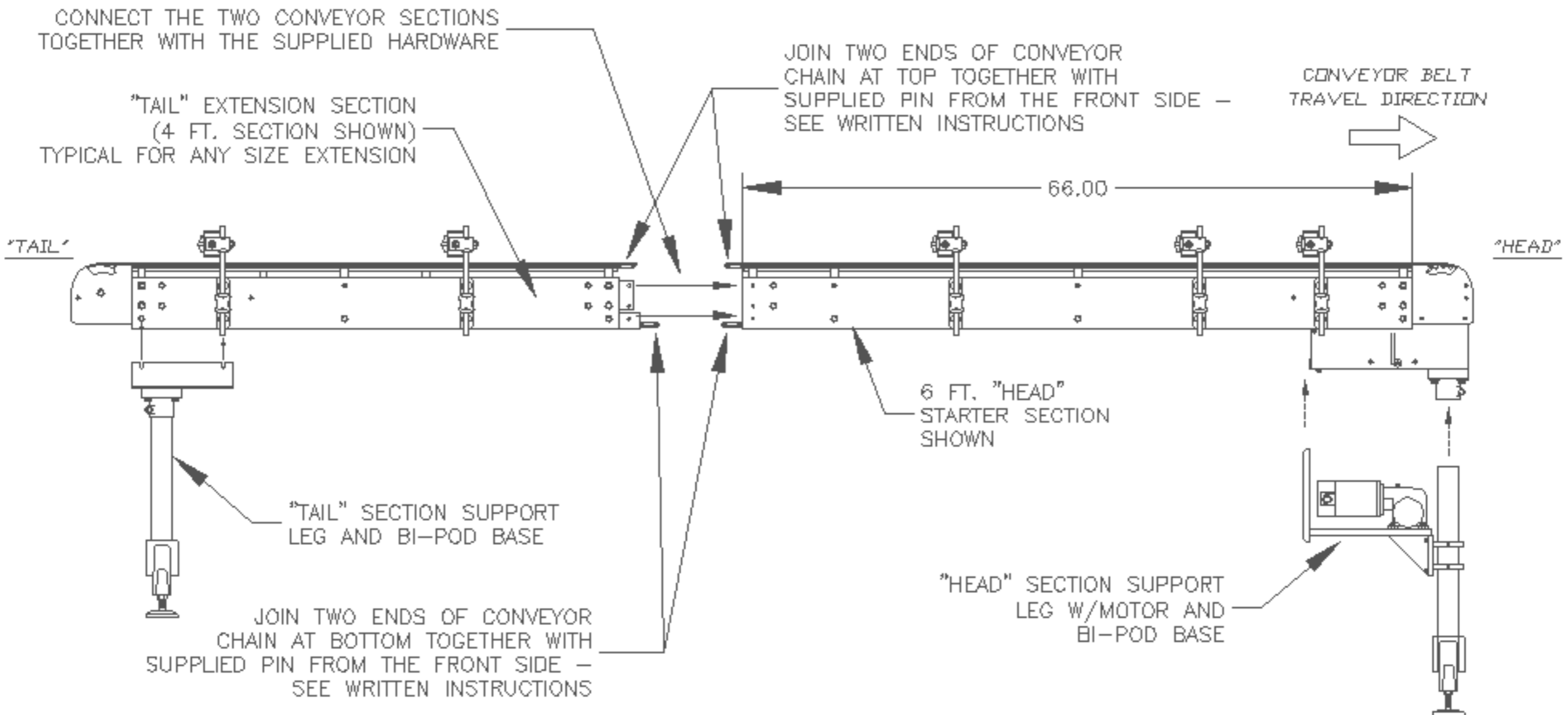
MOTOR MOUNTING COMPONENT ORIENTATIONS



NOTE	REV	DESCRIPTION	DATE
A		CONVEYOR LEG RE-DESIGNED - SEE REV. FOR OLDER VERSIONS/COMPONENTS	3/12/01
B		HEAD END REDESIGNED FOR HEAVY MOUNTED MOTOR - SEE OLD REV 7C FOR OLD VERSION	7/18/04
D		REPLACED P8810 & P8814 SPROCKET & TORQUE LIMITER WITH P8825 SPROCKET	1/24/05
D		CHANGED TO NEW WALL-GUIDE HARDWARE AND POSTS, ADDED HARDWARE INFO	8/7/12
E		MOTOR WAS 1/2 HP, NOW 1/4 HP. FW3313-2 WAS "1", 1/4 HP MOTOR NOW SHOWN	11/22/16
F		NEW FW3315-3 MTD BLOCK & REUSED FW3314-1 BRKT SHOW, ADDED $11-7/8"$ SPECIFICATION	8/2/20

ADD955-68	REF CONVEYOR, 4.5 X 88 STARTER SECTION	ADD955-68	MODEL CVA.002
REV 01	REV 01	REV 01	REV 01
VALUE ENGINE NUMBER WL 000-000-0000 REV- 21/14 JK 001		SERIAL: REV:	DATE OF MANUFACTURE: 2/10/00 BLD: 1 = 1 DWT 2 W 2
DATE COMPANY, INC. ROUTE 64, WALL, PA		WTC: MODEL CVA5 X 88 CONVEYOR STARTER SECTION (72)	SHEET: ADD955-68 REV: F

NOTE	REV	DESCRIPTION	DATE
	-	-	-

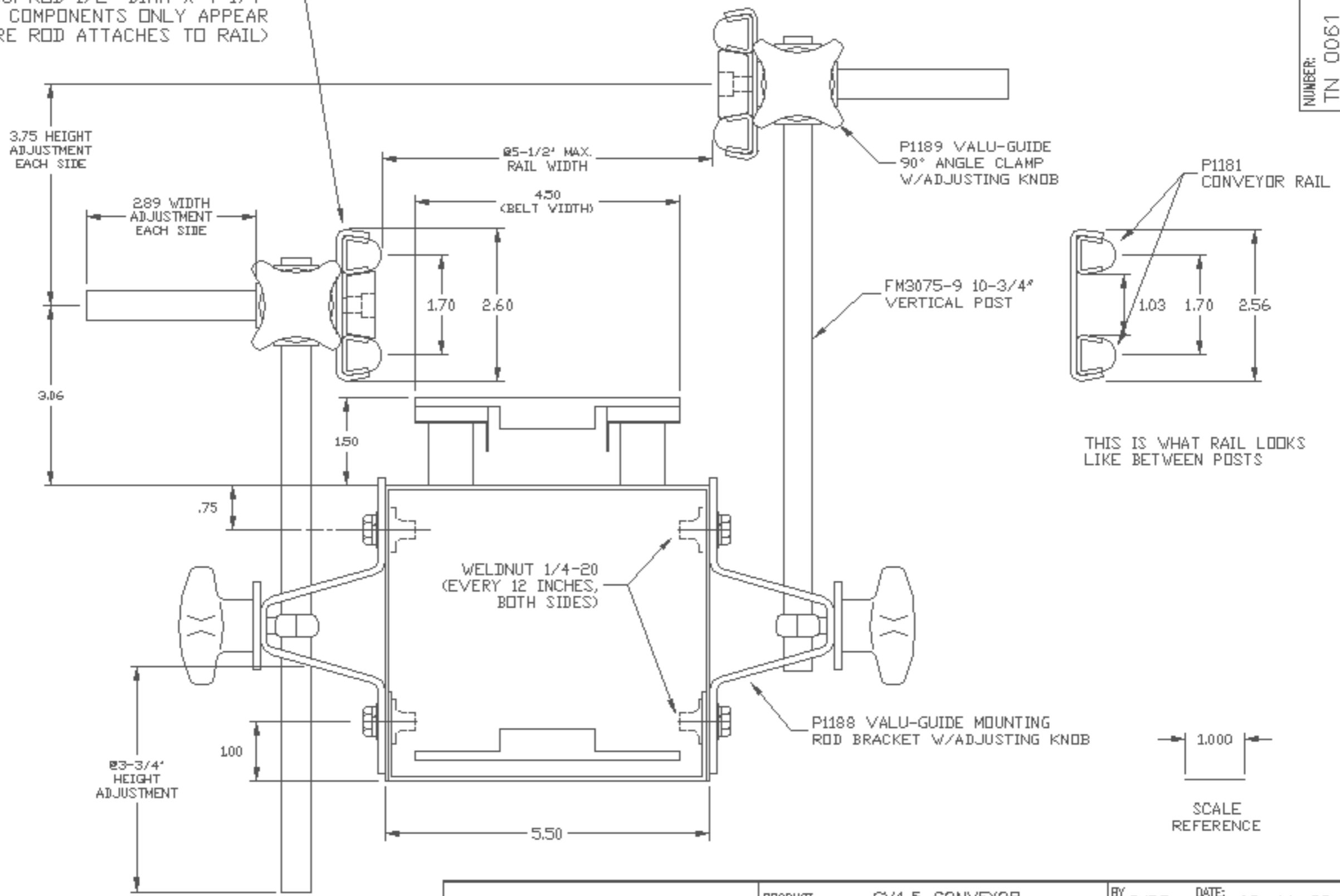


TD0024	-	CV4.5 CONVEYOR STARTER & EXT'N SECTION ASSEMBLY	----	MODEL CV4.5
PART NO#	QTY	DESCRIPTION	NEXT ASSEMBLY	USED ON
UNLESS OTHERWISE SPECIFIED:		MATERIAL:	DRAWN BY:	DATE:
TOL: DEC- .XXX ±.005 FRAC- ±1/64		---	KEVIN JOHNSON	4/28/23
.XX ±.01		FINISH:	SCALE:	1 = 1
		---	SHEET	1 OF 1
<b>DEITZ COMPANY, INC.</b>		TITLE: CV4.5 CONVEYOR STARTER & EXTENSION SECTION ASSEMBLY	NUMBER:	REVISION
<b>ROUTE 34, WALL, N.J.</b>			TD0024	-

NOTE	REV	DESCRIPTION	DATE
-	A	UPDATED TO SHOW NEW CLAMPING BLOCK	6/2004
-	B	REVISED TO SHOW CURRENT RAIL MOUNTING HARDWARE	12/3/15

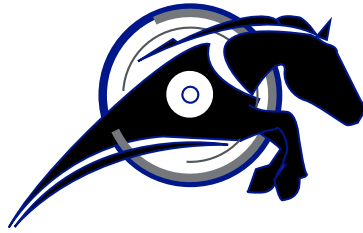
REVISION B  
NUMBER: TN 0061

AD1007-3: RAIL MOUNTING ASSEMBLY INCLUDING ADJ. ROD 1/2" DIAM X 4-1/4" LENGTH (THESE COMPONENTS ONLY APPEAR WHERE ROD ATTACHES TO RAIL)



NUMBER: TN 0061  
REVISION B

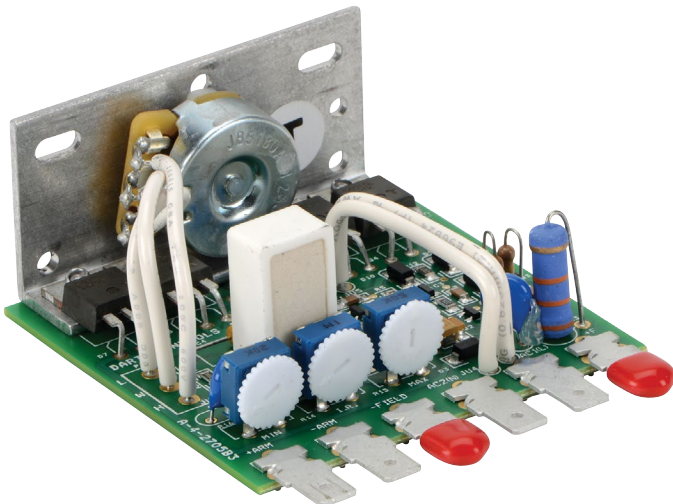
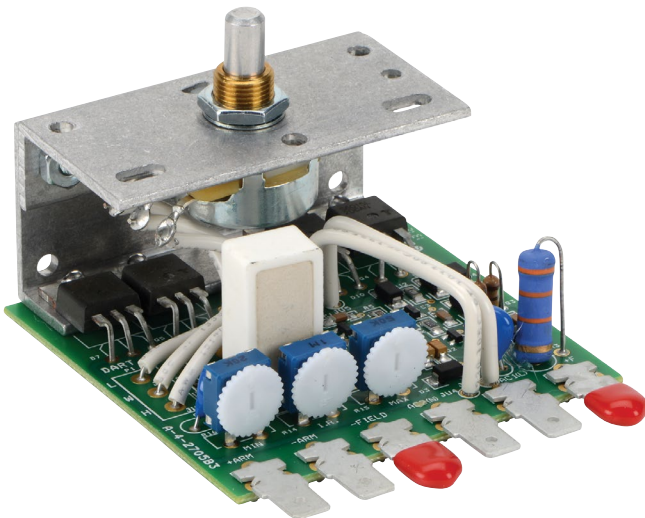
<b>DEITZ COMPANY, INC.</b> <b>ROUTE 34, WALL, N.J.</b> TECHNICAL DRAWING - PRODUCT INFO	PRODUCT CV4.5 CONVEYOR	BY SJD2 DATE: 12-11-02
	TITLE CROSS-SECTION OF CONVEYOR, POSTS AND RAILS	SHEET 1 OF 1
	NUMBER TN 0061-2	REVISION B



# IRONHORSE<sup>™</sup>

GSD3 Series DC Drives User Manual

User Manual Number: IH-GSD3-User-M



## ~ WARNING ~

Thank you for purchasing automation equipment from Automationdirect.com®, doing business as Automation-Direct. We want your new automation equipment to operate safely. Anyone who installs or uses this equipment should read this publication (and any other relevant publications) before installing or operating the equipment.

To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and usually change with time. It is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation is in compliance with the latest revision of these codes.

At a minimum, you should follow all applicable sections of the National Fire Code, National Electrical Code, and the codes of the National Electrical Manufacturer's Association (NEMA). There may be local regulatory or government offices that can also help determine which codes and standards are necessary for safe installation and operation.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

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Installation and Wiring	7
Trim Pot Adjustments	8

## GSD3 DC Drives User Manual Overview

### Overview of this Publication

The IronHorse GSD3 Series DC Drives User Manual describes the installation, configuration, and methods of operation of the GSD3 Series DC Drives.

All information contained in this manual is intended to be correct. However, information and data in this manual are subject to change without notice. AutomationDirect (ADC) makes no warranty of any kind with regard to this information or data. Further, ADC is not responsible for any omissions or errors or consequential damage caused by the user of the product. ADC reserves the right to make manufacturing changes which may not be included in this manual.

### Who Should Read This User Manual

This manual contains important information for those who will install, maintain, and/or operate any of the GSD3 Series DC Drives.

### Technical Support

By Telephone: 770-844-4200 (Mon.–Fri., 9:00 a.m.–6:00 p.m. ET)

On the Web: [www.automationdirect.com](http://www.automationdirect.com)

Our technical support group is glad to work with you in answering your questions. If you cannot find the solution to your particular application, or, if for any reason you need additional technical assistance, please call Technical Support at 770-844-4200. We are available weekdays from 9:00 a.m. to 6:00 p.m. Eastern Time.

We also encourage you to visit our web site where you can find technical and non-technical information about our products and our company. Visit us at [www.automationdirect.com](http://www.automationdirect.com).

### Special Symbols




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*When you see the “notepad” icon in the left-hand margin, the paragraph to its immediate right will be a special note.*

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***WHEN YOU SEE THE “EXCLAMATION MARK” ICON IN THE LEFT-HAND MARGIN, THE PARAGRAPH TO ITS IMMEDIATE RIGHT WILL BE A WARNING. THIS INFORMATION COULD PREVENT INJURY, LOSS OF PROPERTY, OR EVEN DEATH (IN EXTREME CASES).***

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# IronHorse GSD3 Series DC Drives General Information




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*Carefully check the DC Drive for shipping damage. Report any damage to the carrier immediately. Do not attempt to operate the drive if visible damage is evident to either the circuit or to the electronic components.*

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## Standard Features

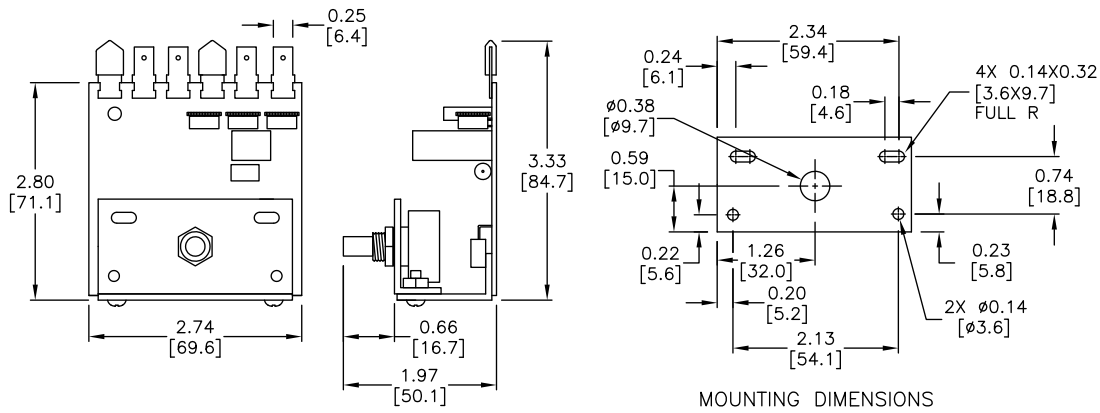
- Dual voltage models of 12/24 VAC or 120/240 VAC input.
- Full wave bridge power supply.
- Adjustable minimum and maximum speeds.
- Adjustable IR Compensation.
- Fixed Acceleration (0.5 seconds).
- ~~NVBSR000GVNREGDOE000~~
- 25:1 speed range; 1% speed regulation.
- ~~60GVXSOSR00~~
- Overload capacity of 200% for 1 minute.
- Transient voltage protection.
- ~~3R0IIV0R0VR0RQ\~~
- AC line fuse (120/240 VAC enclosed model GSD3-240-3N4 only)
- Enclosed models (GSD3-xxx-3N4) are rated NEMA 4.

# Selection and Specifications

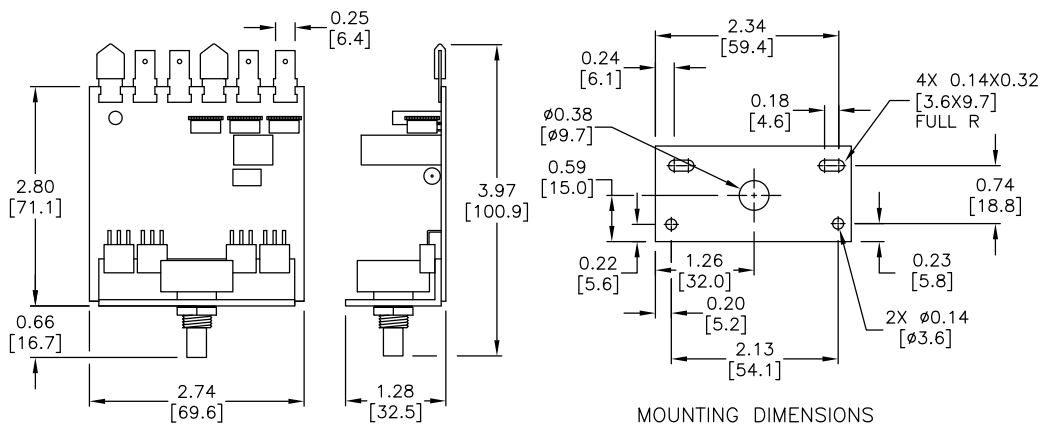
GSD3 Series DC Drives – Selection & Specifications						
Model	GSD3-24A-2CJ	GSD3-24A-2CL	GSD3-24A-3N4	GSD3-240-2CJ	GSD3-240-2CL	GSD3-240-3N4
Package Configuration	open frame		NEMA 4	open frame		NEMA 4
Power Quality Form Factor	1.4					
Input Voltage (@ 50/60 Hz)	12 or 24 VAC ±10%			120 or 240 VAC ±10%		
Output Voltage	0–12 or 0–24 VDC			0–90 or 0–180 VDC		
Shunt Field Voltage & Current	10 VDC @ 12 VAC 20 VDC @ 24 VAC (1A max)	10 VDC @ 12 VAC 20 VDC @ 24 VAC (0.75A max)	100 VDC @ 120 VAC 200 VDC @ 240 VAC (1A max)	100 VDC @ 120 VAC 200 VDC @ 240 VAC (0.75A max)		100 VDC @ 120 VAC 200 VDC @ 240 VAC (0.75A max)
Output Rating (hp)	1/50 – 1/40 @ 12V 1/25 – 1/20 @ 24V	1/50 – 1/25 @ 12V 1/25 – 1/12 @ 24V	1/50 – 1/6 @ 90V 1/25 – 1/3 @ 180V	1/50 – 1/3 @ 90V 1/25 – 2/3 @ 180V		1/50 – 1/3 @ 90V 1/25 – 2/3 @ 180V
Output Current (continuous)	150 mA to 2A (DC)	150 mA to 3A (DC)	150 mA to 2A (DC)	150 mA to 3A (DC)		150 mA to 3A (DC)
Current Overload Capacity	200% for 60s					
Current Limit	n/a					
Transient Protection	Metal Oxide Varistor (MOV)					
I.R. Compensation	adjustable – full range					
Speed Adjustment	<b>NSRWHQWLRPHWHU</b>					
Speed Range	25:1					
Speed Regulation	±1% of base speed					
Maximum Speed	adjustable from 40% to 120% of base speed					
Minimum Speed	adjustable from 0% to 30% of maximum speed					
Acceleration	0.5s (fixed)					
Deceleration	0.5s (fixed)					
Dynamic Braking	no					
Plugging Capability **	no					
Electrical Connections	spade connector lugs					
External Fusing Required	Internal fusing is included which is adequate for GSD3-240-3N4 120 VAC line and neutral inputs. Refer to “Fusing” (page 7) and “Wiring Diagrams” (page 7) for external fusing requirements for other wiring configurations.					
Operating Temperature	-10 to 45 °C [14 to 113 °F]	-10 to 40 °C [14 to 104 °F]	-10 to 45 °C [14 to 113 °F]	-10 to 40 °C [14 to 104 °F]		-10 to 40 °C [14 to 104 °F]
Thermal Protection	none					
Mounting Orientation	can be mounted in any orientation					
Corrosive Gases	NOT compatible with any corrosive gases					
Weight	2.9 oz [83g]	2.6 oz [75g]	20.3 oz [575g]	2.9 oz [83g]	2.6 oz [75g]	20.3 oz [575g]
Agency Approvals	RoHS			cUL <sub>US</sub> Listed (E333109), RoHS		
<b>Optional Accessories *</b>						
Replacement Potentiometer	GSDA-5K					
Manual Reverse Switch	GSDA-MREV***					
* For accessories details, please visit <a href="http://www.AutomationDirect.com">www.AutomationDirect.com</a> .						
** Plugging is a method of rapidly changing motor direction by reversing motor armature polarity, while the motor is still running.						
*** To meet NEMA4 requirements, GSDA-MREV requires a user provided external enclosure.						

# Dimensions

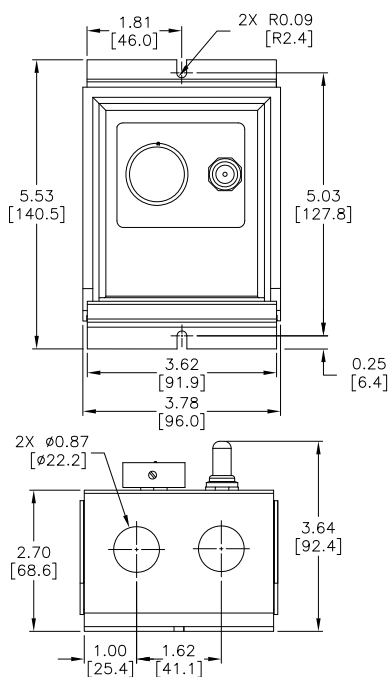
## GSD3-24x-2CJ (dimensions = in [mm])



## GSD3-24x-2CL (dimensions = in [mm])



## GSD3-24x-3N4 (dimensions = in [mm])



# Installation and Wiring



Install open-frame drives in an enclosure with a volume at least three times the volume of the open-frame drive.



Do not mount GSD3-24x-2Cx DC drive where ambient temperature is outside the range of -10 to 45 °C (14 to 113 °F).

Do not mount GSD3-24x-3N4 DC drive where ambient temperature is outside the range of -10 to 40 °C (14 to 104 °F).



**IMPROPER INSTALLATION OR OPERATION OF THIS DC DRIVE MAY CAUSE INJURY TO PERSONNEL OR DRIVE FAILURE. THE DRIVE MUST BE INSTALLED IN ACCORDANCE WITH LOCAL, STATE, AND NATIONAL SAFETY CODES. MAKE CERTAIN THAT THE POWER SUPPLY IS DISCONNECTED BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENTS!!! IF THE POWER DISCONNECT POINT IS OUT OF SIGHT, LOCK IT IN DISCONNECTED POSITION AND TAG IT TO PREVENT UNEXPECTED APPLICATION OF POWER. ONLY A QUALIFIED ELECTRICIAN OR SERVICE PERSONNEL SHOULD PERFORM ANY ELECTRICAL TROUBLESHOOTING OR MAINTENANCE. AT NO TIME SHOULD CIRCUIT CONTINUITY BE CHECKED BY SHORTING TERMINALS WITH A SCREWDRIVER OR OTHER METAL DEVICE.**



**BEFORE ATTEMPTING TO WIRE THE DC DRIVE, MAKE SURE ALL POWER IS DISCONNECTED. RECHECK CODE DESIGNATION TO ASSURE PROPER VOLTAGE IS PRESENT FOR THE DC DRIVE. CAREFULLY SELECT PROPER WIRE SIZE FOR CURRENT AND VOLTAGE DROP. LIMIT THE VOLTAGE DROP THROUGH THE WIRING TO 5% OF THE LINE VOLTAGE AT FULL LOAD.**



**CAUTION!! TURN POWER OFF WHILE MAKING WIRING CONNECTIONS.**



**CAUTION!! DO NOT ATTEMPT TO PERFORM A HI-POT TEST ACROSS THE AC LINES WITH THE DC DRIVE IN THE CIRCUIT. THIS WILL RESULT IN IMMEDIATE OR LONG-TERM DAMAGE TO THE DRIVE.**

## Fusing

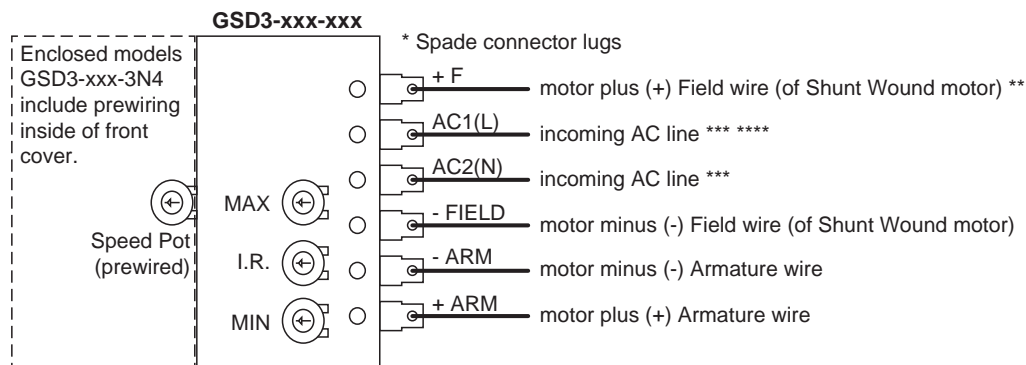
Refer to the wiring diagram for fusing information.

## Terminals

GSD3 Wiring Terminals			
GSD Model	Type	Wire Range	Tightening Torque
GSD3-xxx-xxx	Spade connector lugs	n/a	n/a

## Wiring Diagram

GSD3-xxx-xxx Wiring Diagram



\* For wiring connections, use customer-supplied Sta-Kon 0.25 in x 0.25 in spade connectors or similar.

\*\* +F connection is only for Shunt Wound motor; NOT for Permanent Magnet motor. For motors with dual voltage field, i.e. 50/100V or 100/200V, connect the highest value.

\*\*\* Use normal-blow fuses in series with all ungrounded (hot) AC inputs, rated to 125% of motor current. NOTE: Fuse both AC input lines for 240 VAC input, where both lines are hot. For line-to-neutral circuits, fuse the hot input line and connect it to AC1.

\*\*\*\* GSD3-240-3N4 drives include a replaceable built-in fuse wired in line with AC1. (Fuse is 250VAC, 6.3A Littlefuse 21606.30 or equivalent.)

## Trim Pot Adjustments

*Before the power is applied*, the speed potentiometer and trim pots should be preset as follows:

### TRIM POT PRESET

- 1) 3
- 2) 50
- 3) 5
- 4) 5
- 5) 5
- 6) 5

### TRIM POT ADJUSTMENT

The IR COMP trim pot is used as a regulation adjustment. If better motor regulation is needed between minimum and maximum loads, then adjust the IR COMP trim pot as follows:

- 1) 5
- 2) 50
- 3) 5

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Literature Number: LT134

Drawing Number: A-5-3901C