

brookfield industries, inc. NB-5000

Vertical Lift Industrial Operator

Description:

The **NB-5000** Vertical Lift Industrial Operator has been designed, tested and is being manufactured by **brookfield industries, inc.** and complies with UL 325. The **NB 5000** will vertically raise and lower any industrial lead doors or heavy access panels weighing up to 2000 lbs. The maximum travel distance is 24" in one direction at a rate of 49 inches/min. This is accomplished with a 1 HP variable speed AC Brakemotor coupled to a helical in-line first stage (2.24:1) gear reduction. A second stage 6:1 worm gear reduction joins a 1" diameter machine screw jack to complete the drive train.

Door activation is via a (3) position-keyed switch. Safety features include the following: a maintained contact open and close keyed switch that is spring return to stop in both directions; end of travel limit switches (supplied) that will override the keyed switch when activated; adjustable forward and reverse current limit trimpots that allow the stall torque to be safely set slightly above the operating forces, which protects equipment as well as providing for another degree of safety.

The motor control, power supply hookup and low voltage limit switch hookup is housed in a NEMA 1 enclosure.

Manual operation during power interruption is accomplished by releasing the brake lever at the rear of the motor. Turning the input shaft of the screw jack in the proper direction will either raise or lower the door.

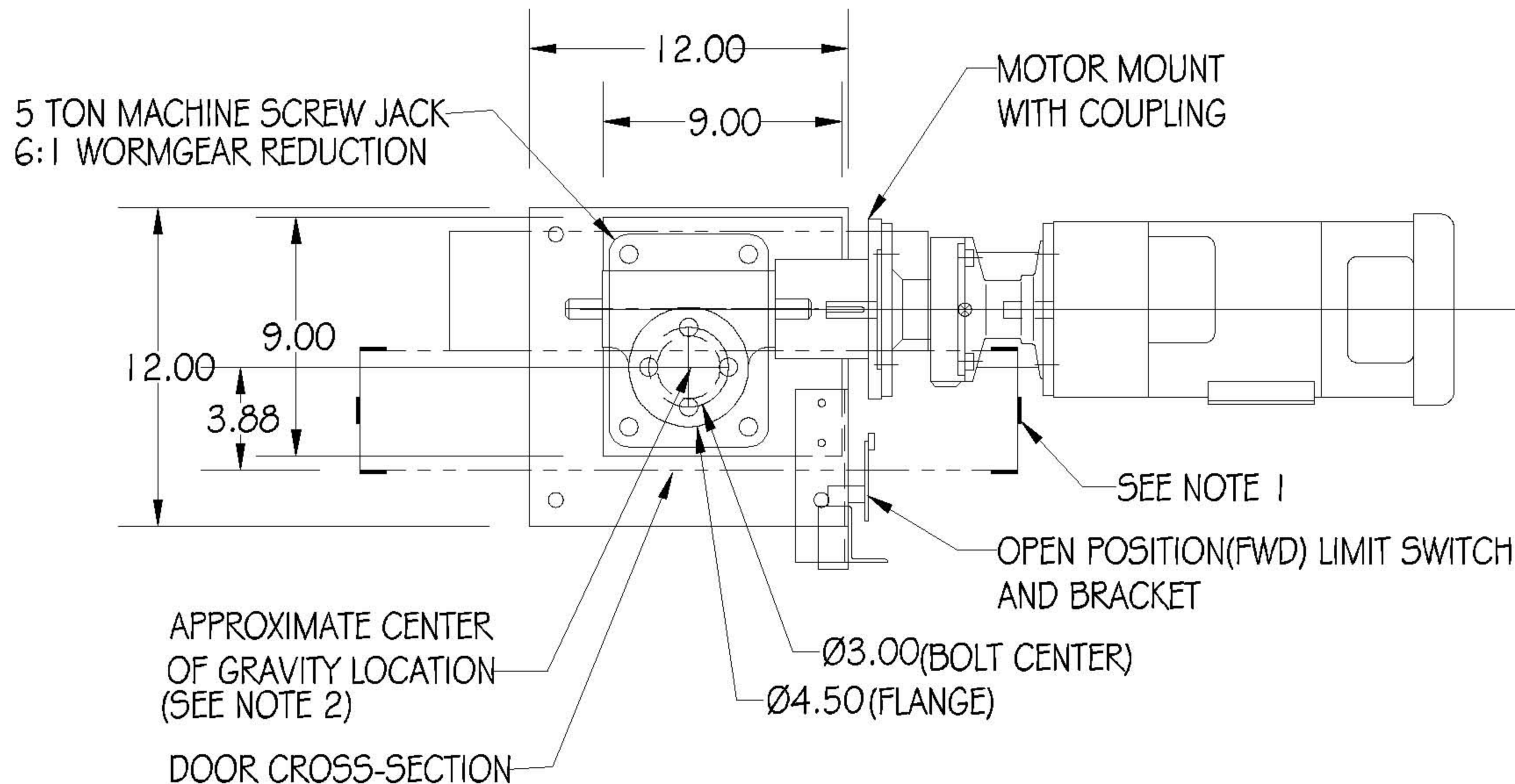
Custom designs can be provided for varying weights, travel distances and travel rates.

Guide system: Door to be guided in 2 directions by attaching 6 UHMV Polyethylene strips to the door

Ratings and Specifications:

Maximum weight=	2000 lbs
Maximum speed=	49 inches/min
Maximum stroke=	24.5 inches
Power supply=	115VAC50/60 Hz Single phase
Maximum AC Input Current=	16 Amps
Motor Control:	AC Inverter, 3 Phase 230 volts, Variable speed, Soft stop and start 200% startup torque, Motor overload protection, Low voltage switching
Logic Control:	Forward-Stop-Reverse Maintained contact Spring return, keyed switch End of travel limit switches
Mechanical:	1" diameter machine screw Jack x 0.375 inch lead 6:1 wormgear reduction Torque to raise 1 lb= 0.0376 lb-in 1 Hp 203-230 Volt 3 phase 60 Hz Brakemotor (1725 RPM) Helical In-line gear reduction 2.24:1 ratio, Maximum output torque= 140 lbs-in

RevNo	Revision note	Date	Signature	Checked
1	REDESIGN W/BRAKEMOTOR	12.02	KPK	
2	REDESIGN FOR FASTER TRAVEL	1/03	KPK	



PLAN VIEW OF OPERATOR

Drawing Notes:

1) GRIND GUIDE
STRIPS TO FIT FRAME


2)INSTALLER MUST
LOCATE FLANGE AT
DOOR'S C.G. TO
ASSURE PROPER
OPERATION

Tolerances

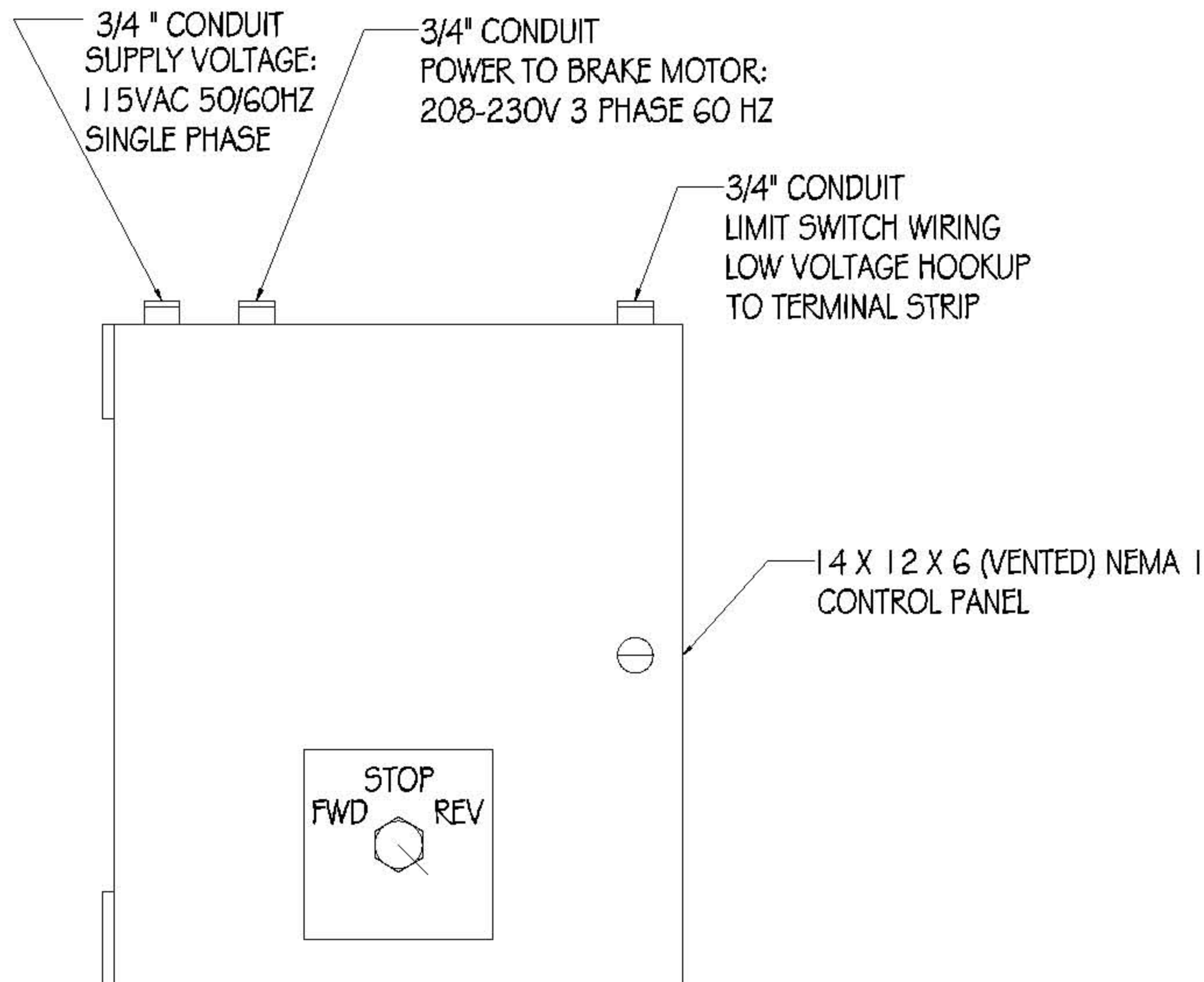
Decimal

Fractional + / - xxx

Angular + / - xxx

	VERTICAL LIFT 3000 LB CAPACITY		Drawn by KPK Checked by KPK	
	NB-5000 OPERATOR		Edition 0	
	Approved by - date	Material SEE SPECS	Date 9.19.02	Scale 1:1
	brookfield industries inc. 99 West Hillside Ave. : Thomaston, CT 06787 P: (860) 283-6211 F: (860) 283-6123 info@brookfieldindustries.com		www.brookfieldindustries.com	
			Drawing Number/File Name D024902R2	

RevNo	Revision note	Date	Signature	Checked
1	DECREASE DOOR WEIGHT, INCREASE TRAVEL	1/03	KPK	



CONTROL PANEL ELECTRICAL

GUIDE SYSTEM: DOOR TO BE GUIDED IN (2)
DIRECTIONS BY ATTACHING 6 UHMW POLYETHYLENE
STRIPS TO THE DOOR.

SPECIFICATION:

MAXIMUM WEIGHT = 2000 LBS
 MAXIMUM SPEED = 49 INCHES/MIN
 MAXIMUM STROKE = 24.5 INCHES
 POWER SUPPLY: 115VAC 50/60 HZ
 MAXIMUM AC INPUT CURRENT = 16 AMPS
 MOTOR CONTROL: AC INVERTER
 3 PHASE 230 VOLTS
 VARIABLE SPEED
 SOFT STOP AND START
 200 % STARTUP TORQUE
 MOTOR OVERLOAD PROTECTION
 LOW VOLTAGE SWITCHING

LOGIC CONTROL: FORWARD-STOP-REVERSE
 MAINTAINED CONTACT
 KEYED SWITCH
 END OF TRAVEL LIMITS


MECHANICAL: MACHINE SCREW JACK WITH 1 1/2"
 DIAMETER SCREW X0.375 INCH LEAD
 6:1 WORMGEAR REDUCTION
 TORQUE TO RAISE 1 LB = 0.0376(LB-IN)

1 HP 203-230 VOLT 3 PHASE 60 HZ
 BRAKEMOTOR (1725 RPM)
 HELICAL IN-LINE GEAR REDUCTION
 2.24:1 RATIO
 MAX. OUTPUT TORQUE = 140 LB-IN

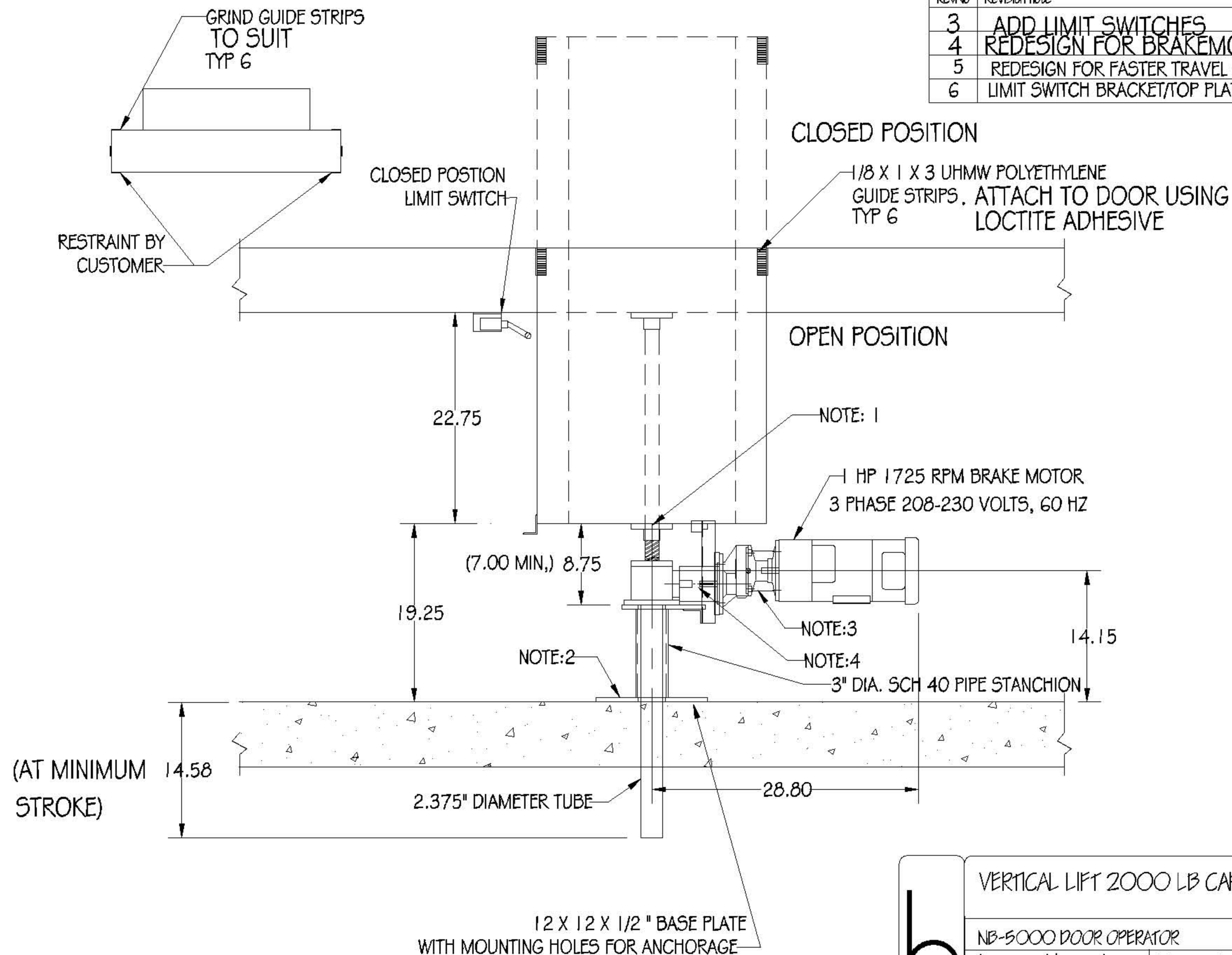
Drawing Notes:

1) REFER TO DRAWINGS:
 DO24902R1 #DO24902R2

Tolerances
Decimal
Fractional + / - xxx
Angular + / - xxx


	VERTICAL LIFT OPERATOR		Drawn by XXX	
			Checked by XXX	
	NB-5000 (CAPACITY 2000 LBS)		Edition 0	
	Approved by - date	Material SEE BOM	Date 12/04-02	Scale 1:1
	brookfield industries inc. 99 West Hillside Ave. : Thomaston, CT 06787 P: (860) 283-6211 F: (860) 283-6123 info@brookfieldindustries.com		www.brookfieldindustries.com	
		Drawing Number/File Name D024902R3		

RevNo	Revision note	Date	Signature	Checked
3	ADD LIMIT SWITCHES	11/02	KPK	
4	REDESIGN FOR BRAKEMOTOR	2/02	KPK	
5	REDESIGN FOR FASTER TRAVEL SPEED	1/8/03	KPK	
6	LIMIT SWITCH BRACKET/TOP PLATE CHGS.	6/3/03	KPK	



Drawing Notes:	
1)	SECURE FLANGE TO DOOR W/4 5/8" DIA. GRADE 5 BOLTS.
2)	(4) HOLES PROVIDED FOR 1/2" DIA. ANCHORAGE
3)	HELICAL GEAR REDUCTION 2.24:1 RATIO OUTPUT TORQUE = 140 LB-IN
4)	EXTEND MOTOR COUPLING 5/16" PAST END OF SHAFT. SET GEAR COUPLING FLUSH.
Tolerances	
Decimal	
Fractional + / - xxx	
Angular + / - xxx	

ELEVATION OF OPERATOR DOOR CLOSED/OPEN

		VERTICAL LIFT 2000 LB CAPACITY		Drawn by	KPK
		NB-5000 DOOR OPERATOR		Checked by	KPK
Approved by - date		Material	SEE SPECS	Date	9.6.02
brookfield industries inc.		Scale		1:1	
99 West Hillside Ave. : Thomaston, CT 06787		www.brookfieldindustries.com		Drawing Number/File Name	
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