

21 SERIES

2-POST HYDRAULIC LIFT



MATERIAL HANDLING SOLUTIONS

www.pflow.com P (414) 352 9000 F (414) 352 9002 6720 N. Teutonia Ave. Milwaukee, WI 53209

Transports materials between two levels. Carriage remains level regardless of load placement.



- Lifts loads up to 8,000 lbs.
 Carriage sizes up to 12' x 10'.
- Vertical rise to 22'.
 Standard vertical travel is 24 FPM.
- · Straddle or cantilever.
- · Indoor or outdoor use.
- Lifetime structural warranty.
- ASME B20.1 compliant.

GENERAL

Principal components of the 21 Series are guide columns, carriage and hydraulic actuating mechanism.

STRUCTURE

Guide columns are 6" wide flange. Carriage is fabricated of heavy-duty structural members with steel deck plate. Other deck surfaces available. Straddle or cantilever carriage available, depending on application.

- Carriage is lifted and lowered by chain over sprockets actuated by column-mounted cylinders.
 Synchronized shaft ensures that carriage stays level at all times.
- Highly stable loading and unloading operations maintained by pressure switch that prevents carriage from drifting or sinking.
- Check valves hold carriage in place in event of power loss.
- Certified safety cams prevent carriage descent in the event of a chain failure.
- Velocity fuses prevent uncontrolled carriage descent in the event of a hose rupture.
- Field wiring costs greatly reduced by optional quickconnect cabling for push-button stations and gate interlocks.
- Optional hot-dipped galvanized or epoxy finish available for outdoor or wash-down environments.
- Explosion-proof components available for classified environments.
- DeckLock Safety System available for added security at critical upper levels.

OPERATION

Carriage is lifted and lowered by two hydraulic cylinders mounted on guide columns. Cylinders are actuated by a remote mounted hydraulic pump. Transmission of the lifting force is through roller chain attached to the cylinders and carriage. A torsion bar links the two cylinders to equalize the load and ensure carriage remains level at all times.













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ELECTRICAL

Standard power requirements are 208/230/460VAC, 3-phase (single-phase available). Control voltage is 24VAC. Push button stations and pump mounted prewired control panel are NEMA 12 rated. Push button stations provided at each level and include call/send operators and mushroom head emergency stop. Quick connect pre-wiring is optional.

SAFETY FEATURES

Upward travel of carriage limited by mechanical stops that ensure positive leveling with upper deck. Positive mechanical stops prevent overtravel. Pressure builds to "lock" carriage into position at upper level. NO RIDER signs posted at each point of operation. DeckLock Safety System available for added security at critical upper levels.

CARRIAGE SIDE GUARDS

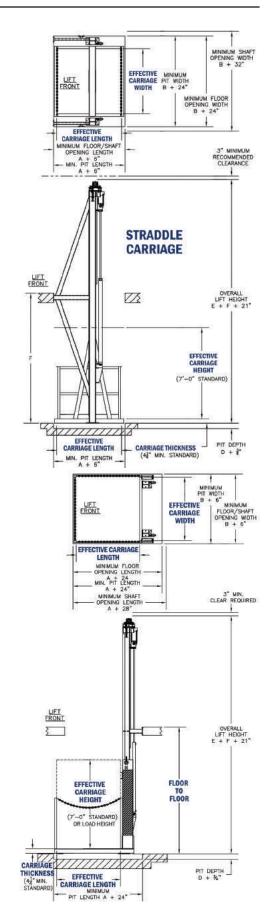
Carriage is equipped with safety rails on non-operating sides, and a safety chain, drop bars or gates on operating ends. Optional expanded metal or sheet metal carriage side guards are available.

SAFETY ENCLOSURES / GATES

Safety codes (ASME B20.1) require interlocked gates with enclosures on all sides of the lift. Enclosures must be a minimum of 8' high and reject a ball 2" in diameter.



- A Effective Carriage Length
- B Effective Carriage Width
- D Carriage Thickness
- E Upright Height or Load Height
- F Vertical Rise





PFlow Industries, Inc.



1. Product Name

■ PFlow Series 21 Hydraulic Vertical Lift

2. Manufacturer

PFlow Industries, Inc. 6720 N. Teutonia Avenue Milwaukee, WI 53209 Phone: (414) 352-9000

Fax: (414) 352-9002 Email: info@pflow.com Web: www.pflow.com

3. Product Description

PFlow Industries, Inc. has been an industry-leading provider of custom engineered vertical reciprocating conveyors (VRCs) for nearly 40 years. Today, with more than 16,000 vertical lift installations worldwide, PFlow Industries offers a full line of custom engineered hydraulic, mechanical and fully automated VRC systems.

Basic Use

PFlow Series 21 Hydraulic Vertical Lift is a cost-saving two-post vertical reciprocating conveyor that moves materials between two levels. Manufactured to ANSI/ASME B20.1 safety standards, PFlow Series 21 is capable of vertical rise heights to 22' and load capacities to 6000 lbs.

PFlow Series 21 Hydraulic Vertical Lift can be installed to mezzanine through-floor interior and exterior applications and is easily configured for load and unload from any one of the three operating sides. It is ideal for industrial facilities, warehouses and distribution centers that regularly move medium loads.

Materials, Composition

Each PFlow Series 21 Hydraulic Vertical Lift has guide columns, a moving carriage and hydraulic actuating mechanism. Both levels of the lift have NEMA 12-compliant control stations, allowing full call-and-send capability from either level.

Guide columns are 6" wide flange sections with two vertical columns. The carriage is fabricated of 4" or 6" structural members with a steel deck plate. Additional deck surfaces are available.

Cylinders, actuated by a remote mounted hydraulic pump, lift and lower the carriage. Transmission of the lifting force is through roller chain attached to the cylinders and carriage.



A torsion bar links the cylinders to equalize the load and ensure the carriage remains level.

Primary components of the Series 21 Hydraulic Vertical Lift are guide columns and the carriage.

Types

Two configurations are available:

- Straddle, with columns on each side of the carriage
- Cantilever, with both columns positioned at the back

Colors, Sizes

PFlow Series 21 is custom engineered to specific application and height requirements.

Benefits

- Moves material safely and quickly between levels
- Pre-wired lift motor pump and controls simplify installation
- Electrical components comply with NEC requirements
- Conforms to ANSI/ASME B20.1

Limitations

PFlow Series 21 is designed for the movement of materials only and should not be used as an elevator. The rated capacity must not be exceeded.

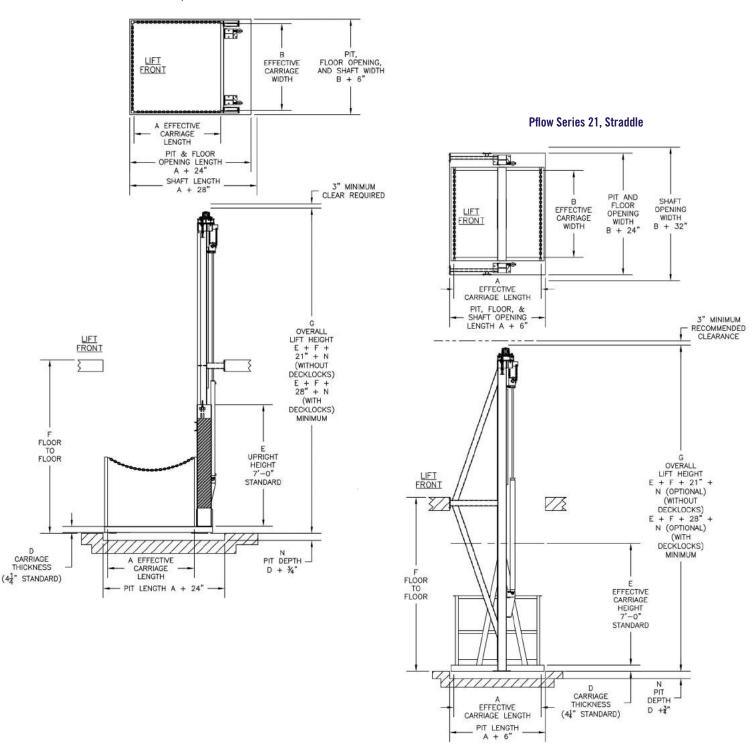






PFlow Industries, Inc.

Pflow Series 21, Cantilever









PFlow Industries, Inc.

Table 1 – Physical Properties					
Platform size	Unrestricted				
Maximum capacity	6000 lbs				
Carriage size	10' x 10' maximum				
Maximum vertical rise	22'				
Levels	2				
Travel speed	24 fpm (special order to 35 fpm)				
Power requirement	208V/230V/460V, 3 phase (single phase is optional)				
Control voltage	24V				
Maximum cycles	10 per hour				

Accessories, Options

- DeckLock Safety System
- Carriage gate
- Enclosures
- Expanded metal side guards
- Explosion proof
- Quick connect cabling
- Single phase motor
- Custom paint and colors

Applicable Standards

American National Standards Institute (ANSI)

ANSI B20.1 Safety Code for Conveyors, Cableways, and Related Equipment

National Electrical Manufacturer's Association (NEMA)

NEMA 12 Enclosures

National Electrical Code® (NEC)

NFPA 70 National Electrical Code

Physical Properties

See Table 1.

5. Installation

Preparatory Work

Perform all necessary site work, such as pit, floor opening, adequate bracing locations and shaftway openings. Ensure the site or building area has sufficient clearance to move the equipment into the storage and installation areas.

Transport products in manufacturer's original, unopened, undamaged containers with identification labels intact. A fork truck with a minimum 2000 lb capacity is required. Inspect upon delivery.

Weather/Ambient Conditions

PFlow Series 21 accommodates most weather conditions, and materials can be customized for climate need. Epoxy coating and galvanizing is available.

Methods

Install in compliance with the manufacturer's Series 21 Installation Manual.

Building Codes

Ensure the installation complies with the requirements of all applicable local, state and federal code jurisdictions.

6. Availability and Cost

PFlow Industries offers VRCs throughout the U.S. and internationally. Contact PFlow Industries for pricing information and availability in specific areas.

7. Warranty

Used and installed as directed, PFlow Industries warrants the Series 21 Hydraulic Vertical Lift beginning 30 days after shipment. PFlow components have a one-year warranty on parts and labor. Purchased components have a one-year parts warranty and a 90-day labor warranty.

8. Maintenance

To ensure system safety, the PFlow Series 21 Hydraulic Vertical Lift requires consistent minimal and basic attention. Standard preventative maintenance is within the capabilities of a plant maintenance person. See the PFlow Series 21 owner's manual for maintenance schedule details.

9. Technical Services

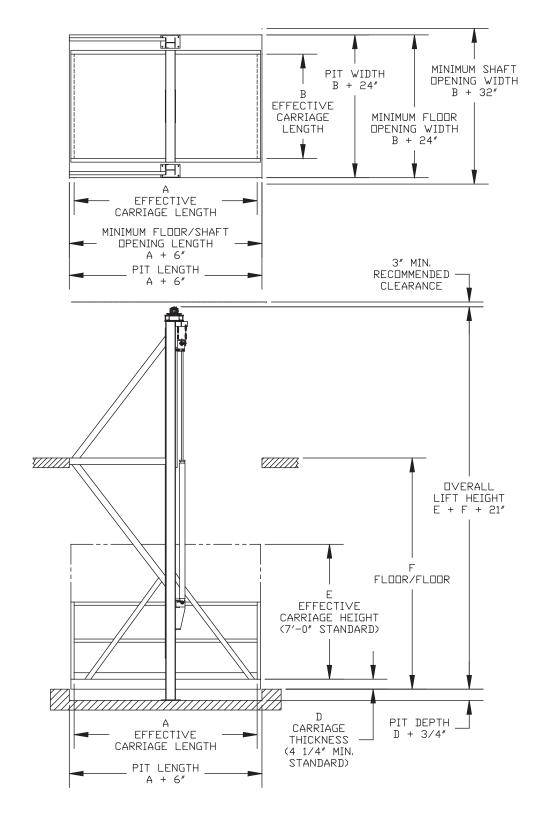
Technical assistance, including detailed information, product literature, test results, project lists, assistance in preparing project specification or installation supervision is offered by the manufacturer. For questions about specifications, code regulations, product usage or product installation, contact PFlow Industries, Inc.

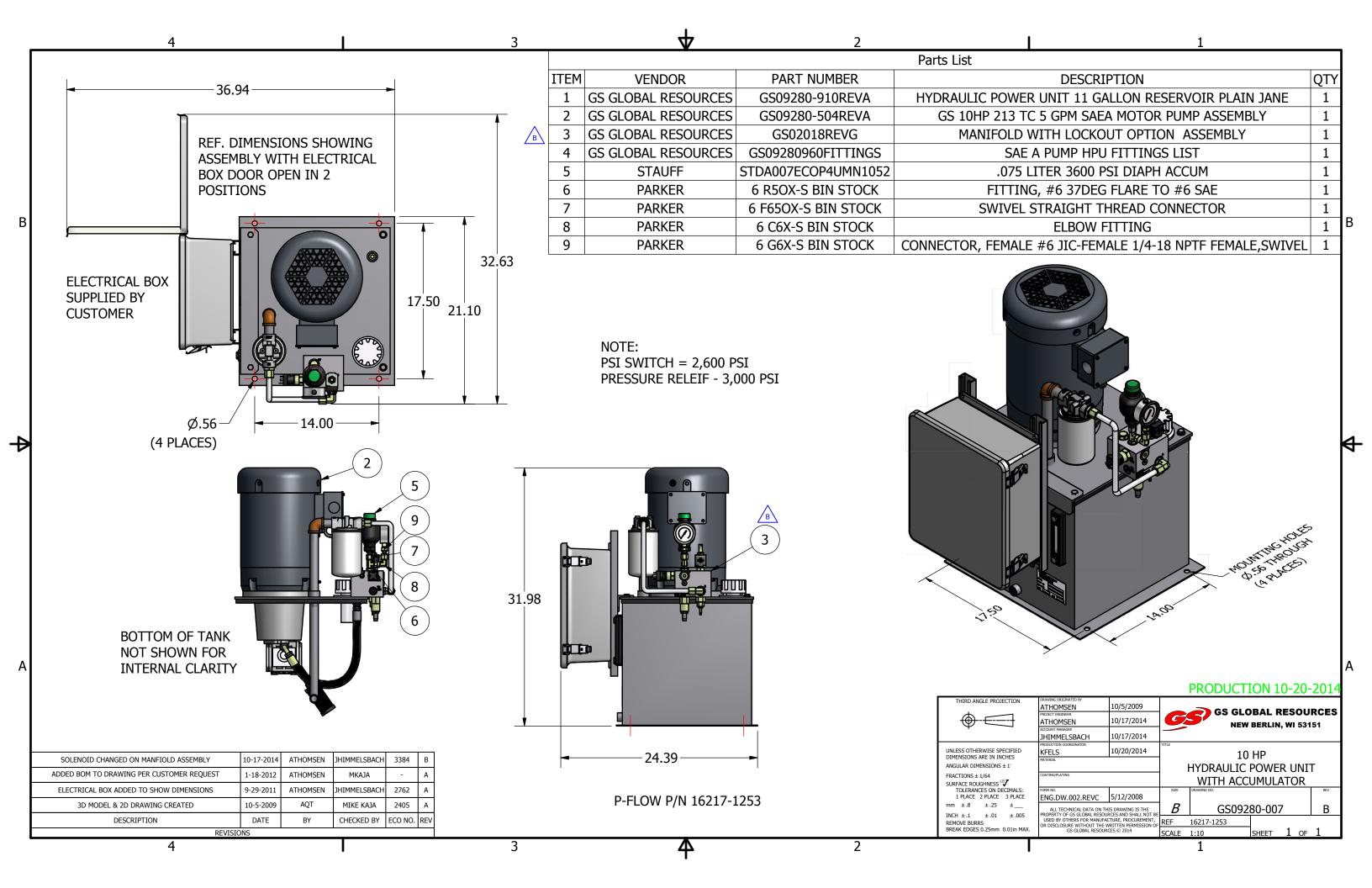
10. Filing Systems

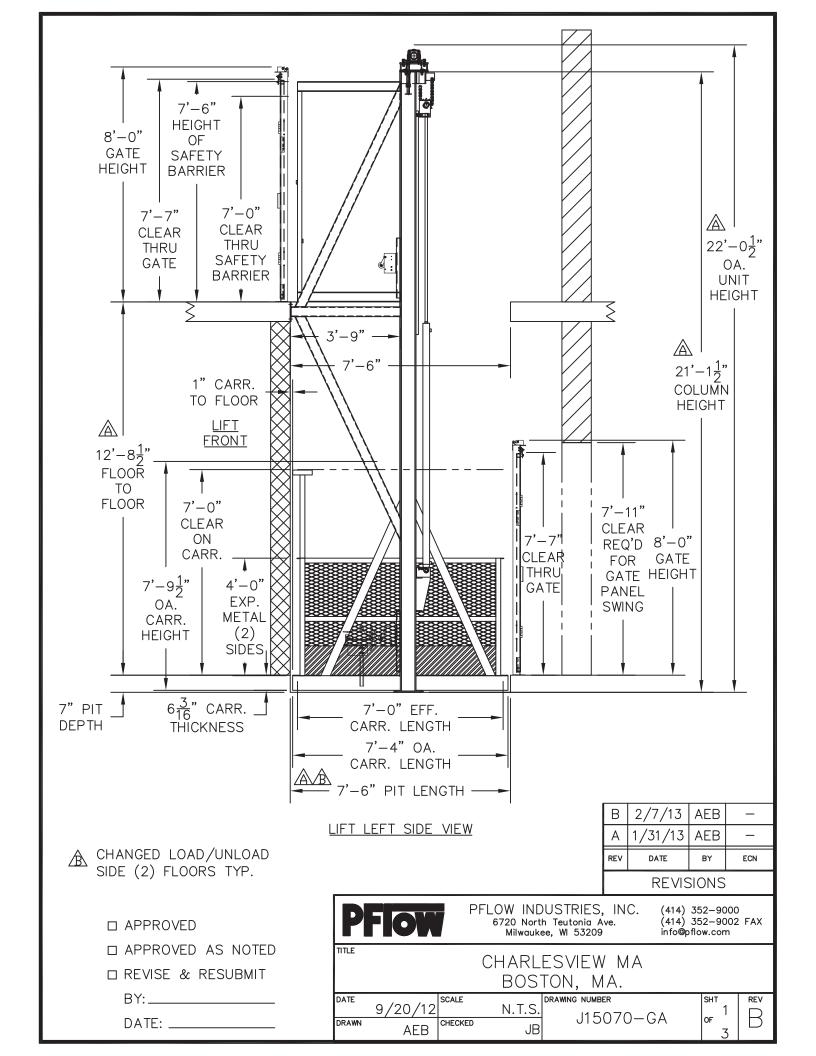
- CMD
- Additional product information is available from the manufacturer upon request ص

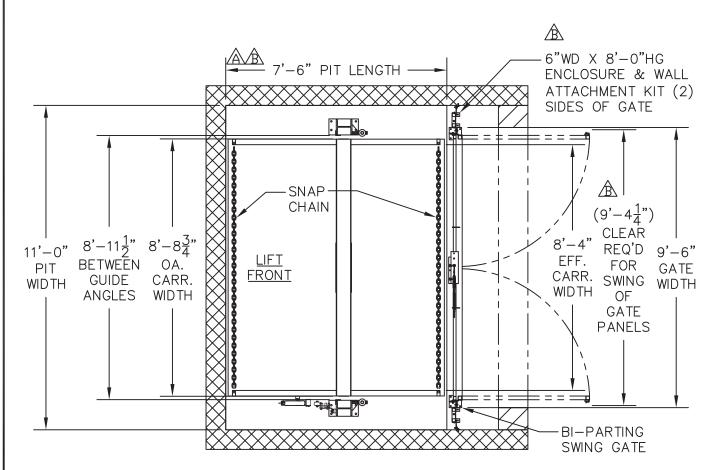












PLAN VIEW - GARAGE - LOWER LEVEL

22" WIDE X 24" LONG X 32" HIGH MOTOR/PUMP TO BE LOCATED WITHIN 10'-0" OF LIFT

В	2/7/13	AEB	_		
Α	1/31/13	AEB	_		
REV	DATE	BY	ECN		
REVISIONS					

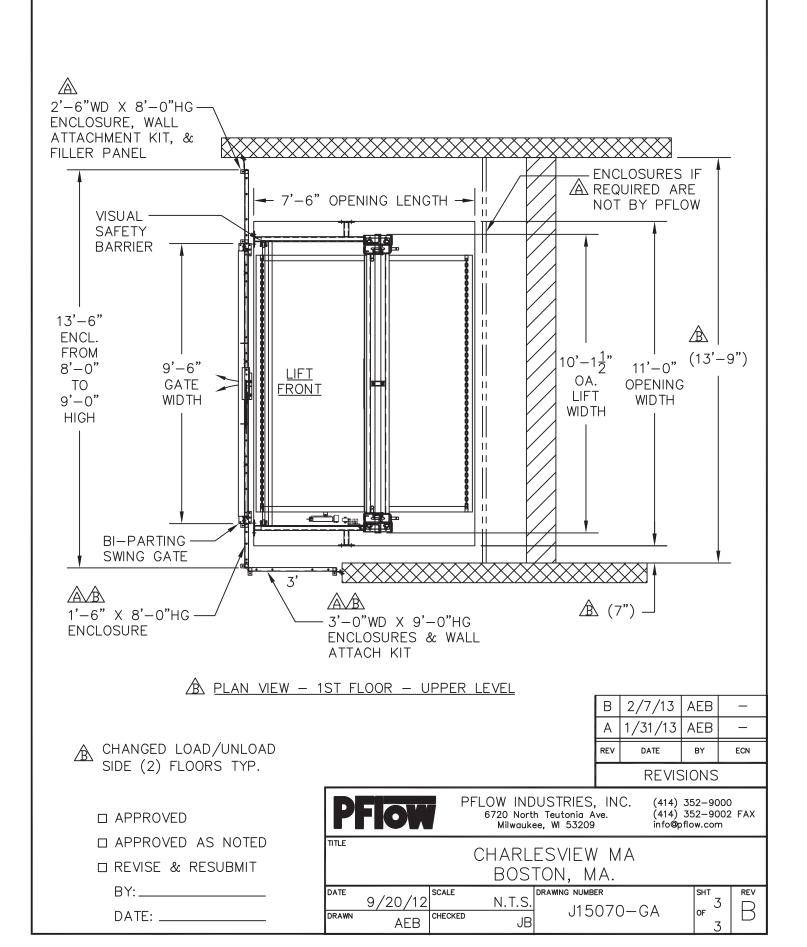
- □ APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE & RESUBMIT

BY:_____

DATE: _____

P	Flow	PI	6720 Nort	USTRIES, INC. h Teutonia Ave. ee, WI 53209	(414) 35 (414) 35 info@pflo	2-9002	
TITLE				ESVIEW MA TON, MA.			
DATE	9/20/12	SCALE	N.T.S.	DRAWING NUMBER J15070—G	٨	sнт 2	REV
DRAWN	AEB	CHECKED	JB	J13070-G	А	of 3	

EACH COLUMN REQUIRES BRACING IN BOTH FRONT TO BACK & SIDE TO SIDE DIRECTIONS (BY INSTALLER). BRACING SHOWN IS FOR REFERENCE ONLY — CONSULT INSTALLATION INSTRUCTIONS. BRACING MUST RESIST ALL DYNAMIC OPERATIONAL LOADS. FOR REFERENCE, THE VERTICAL CONVEYOR AS SHOWN IMPOSES APPROXIMATELY 730# OF STATIC LATERAL LOAD AT 2ND FLOOR ELEVATION.



PROPRETARY DOCUMENT — CONFIDENTIAL CONSTRUCTION, IS THE PROPERTY OF POLY NOUSTRIES, INC. AND MUST BE RETURNED ON DEMAND. AND MAY NOT BE USED ONE DIVULGED WITHOUT THE WRITTEN PERMISSION OF PELOW INDUSTRIES, INC. THE DESIGN AND PRINCIPLES OF AINED HEREON IS CONFIDENTIAL A MOTOR NO. PRINT, INCLUDING INFORMATION CONT. 1X HH

INCOMING FUSING:

PRIMARY VOLTAGE

208

208

230 230

460

460

460

460

208

230

208

230

2X

3X

REQUIRED SUPPLY <= 30 AMPS CLASS CC FUSES - 200,000 AMPS MINIMUM INTERUPTING RATING REQUIRED SUPPLY = > 30 AMPS CLASS J FUSES - 200,000 AMPS MINIMUM INTERUPTING RATING

MOTOR MIN. POWER F.L.A. CKT. WIRE AVG

HYDRAULIC PUMP MOTOR DATA (ALL BELOW 3 Ph/60 Hz)

MOTOR HP

3

5

3

5

3

5

7.5

10

7.5

7.5

10

10

26.0

DESCRIPTION

8

TB1 LAYOUT 12.75 -9.00 -CT1 LABEL5 C1 LABEL9 DL1 TR1 110 LABEL9 0.00 -00'0 3,50 10,88

ALL QUICK-CONNECT CABLES ARE TO BE LABELED AS FOLLOWS:

DATE

08-24-06

JWK

3.25 3-WIRE CABLES: "GATE INTERLOCK" 8-WIRE CABLES: "PUSH BUTTON STATION" 1.50 -0.00

1.50

LABEL81

LABEL6

LABEL2

LABEL3

L'ABEL22

LABEL4

LABEL10

LABEL7

LABEL1

9.5	12	15	100	9374-0001	BRADY CV44306
13.9	12	20	100	9374-0001	BRADY CV44306
8.6	12	12	100	9374-0002	BRADY CV44308
12.6	12	20	100	9374-0002	BRADY CV44308
4.3	12	6	100	9374-0003	BRADY CV44314
6.3	12	8	100	9374-0003	BRADY CV44314
9.3	12	12	100	9374-0003	BRADY CV44314
13.0	12	20	100	9374-0003	BRADY CV44314
20.6	10	30	100	9374-0001	BRADY CV44306
18.6	10	25	100	9374-0002	BRADY CV44308
28.8	8	40	100	9374-0001	BRADY CV44306

100

9374-0002

BRADY CV44308

DESIGNED BY:

35

VOLTAGE LABEL

PFLOW PART NO. 12130-VVWX NUMBER OF 8-PIN CONNECTORS
NUMBER OF 4-PIN CONNECTORS SEE MOTOR DATA CHART

08-24-06 CHECKED BY:

JWK 08-24-06 APPROVED BY:

JWK

VIRING NOTES:

1) ALL CABLE LABELS ARE TO BE MECHANICALLY PRINTED WITH BLACK CHARACTERS ON SELF LAMINATING WHITE LABELS.

2) ALL WIRE LABELS ARE TO BE MECHANICALLY PRINTED WITH BLACK CHARACTERS ON NON-SELF LAMINATING WHITE LABELS.

3) EACH CABLE IS TO BE LABELED ON BOTH ENDS.

4) EACH WIRE IS TO BE LABELED ON BOTH ENDS.

5) CONNECTORS WITH THE LEAST AMOUNT OF PINS ARE TO BE MOUNTED FIRST, STARTING IN POSITION 'A',

6) EACH JUMPER SHALL CONNECT ONLY TWO TERMINALS.

7) REMOVE JUMPERS AS REQUIRED WHEN CONNECTING CABLES TO TERMINAL STRIP.

0.00

2.00

3.75 -

1.06" DIA. HOLE HOLE PLUG-(2) PLACES

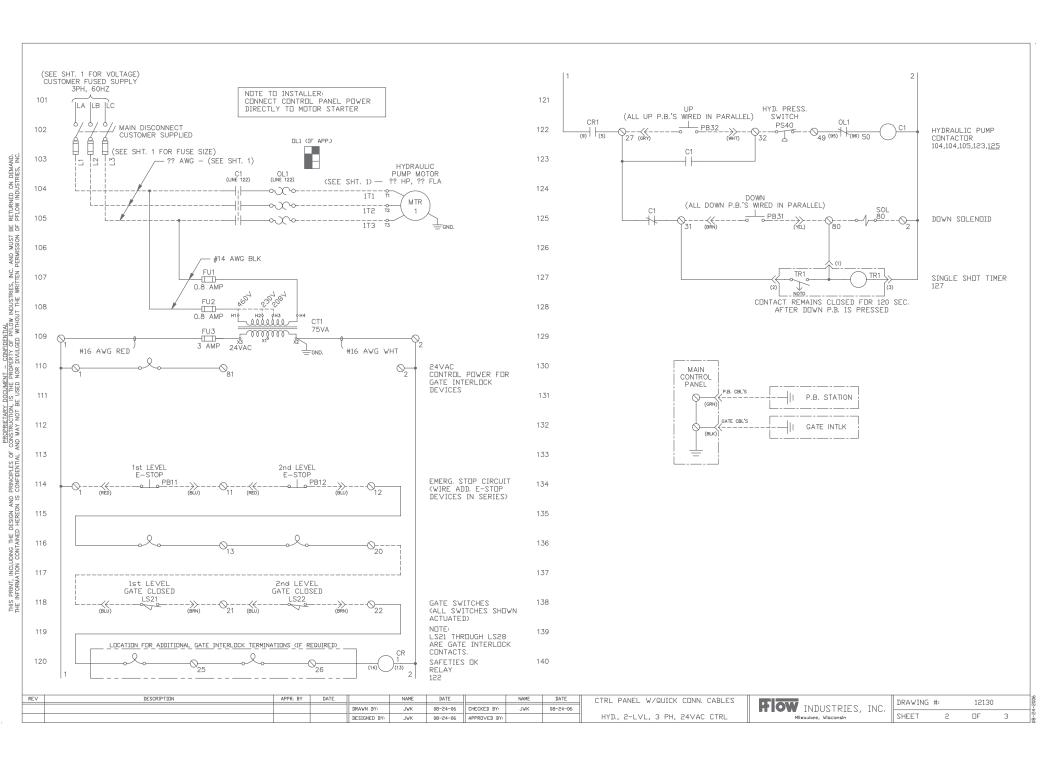
CTRL PANEL W/QUI

CTRL PANEL W/QUICK CONN. CABLES	FIOW INDUSTRIES, INC.
HYD., 2-LVL, 3 PH, 24VAC CTRL	Mlwaukee, Wisconsin

DRAWING #:		12130		
SHEET	1	OF	3	08-24

0.88" DIA. HOLE

HOLE FOR CUSTOMER SUPPLIED INCOMING SUPPLY VOLTAGE



DRAWN BY

DESIGNED BY:

JWK

08-24-06

JWK 08-24-06 APPROVED BY:

CHECKED BY:

DATE

08-24-06

CTRL PANEL W/QUICK CONN. CABLES

HYD., 2-LVL, 3 PH, 24VAC CTRL

Flow INDUSTRIES, INC.

Mlwaukee, Visconsin

DRAWING #:

SHEET

12130

ΠF

3

DESCRIPTION