



Customer :

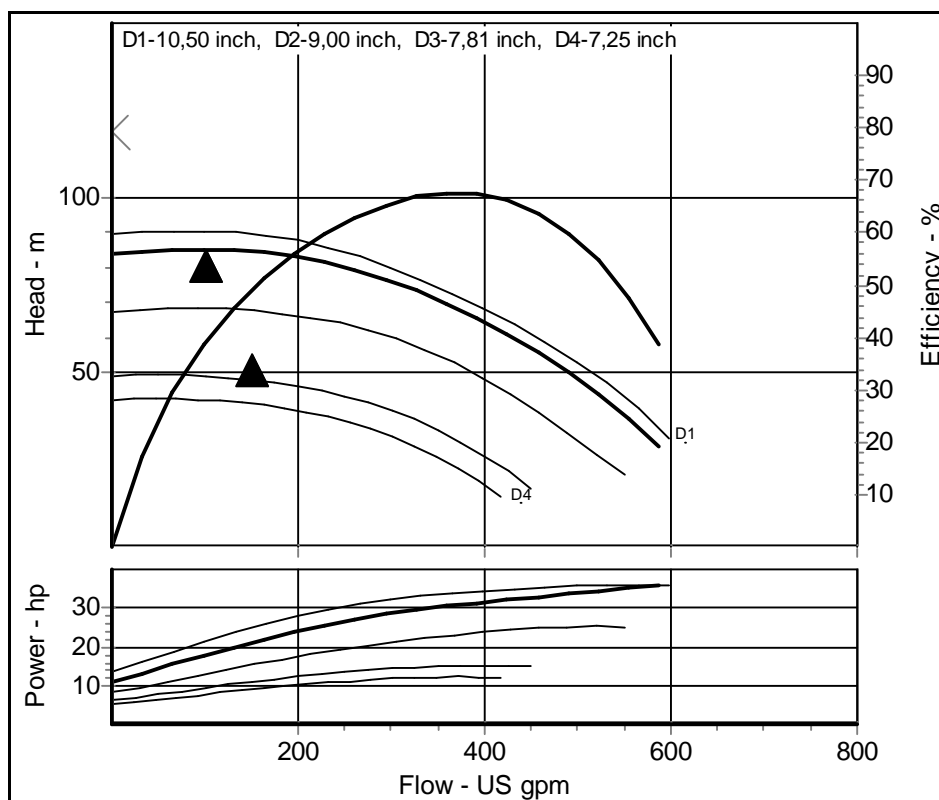
Project : Re Cotizacion Metro Linea 4
Quote No. : EDB-01-07-2016

Page No : 3

Contact :
Phone :
Fax :
Date : Thursday, 07 de January de 2016

Type: PVF - In-Line Close Coupled Fire
Pump Model: Peerless - 3PVF11-Packed
Nom. Speed: 2950 RPM, 50 Hz Electric
Impeller Dia.: 10,06 inch
Curve No.: 3116063
Market : FM/UL/ULC Listed Fire Pump

Item : RCI Electrica
Impeller No.: 2692719
Fluid: Water
Temperature: 104 °F
Viscosity: 0,661 cSt
Sp. Gravity: 0,994
Your Ref. :



Rated Flow	100 US gpm
Rated Head	85,1 m
Imp. Dia.	10,06 inch
Rated Power Required	17,9 hp
Rated Efficiency	39,2 %

NFPA Limits:	
140% Head at shutoff	119,1 m
65% Head at 150% flow	55,3 m
Flow at 150%	150 US gpm
Head at 150%	84,6 m
Power Req. at 150%	21,2 hp
Efficiency at 150%	49,3 %
Peak Power	36 hp
Closed Valve Head	84 m
Approval/Listing	FM/UL

Comments
 Performance curve represents typical performance. NPSH data is

Flow (US gpm)	Head (m)	Efficiency (%)	Power Required (hp)	NPSH Required (ft)
0,0	84,0	0,0	11,0	
73,4	84,9	32,0	16,0	
146,9	84,6	48,8	21,0	
220,3	82,0	59,1	25,2	
293,8	76,6	65,3	28,4	
367,2	68,7	67,6	30,7	
440,7	58,3	65,1	32,5	
514,1	45,2	56,1	34,1	
587,6	28,7	38,6	36,0	



Customer :

Project : Re Cotizacion Metro Linea 4
Quote No. : EDB-01-07-2016

Page No : 4

Contact :
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Date : Thursday, 07 de January de 2016

Fax :

Item: RCI Electrica
Model : Peerless - 3PVF11-Packed

Flow (US gpm)	Head (m)	Eff. (%)	Power (hp)	Speed (RPM)
100	85,1	39,2	17,89	2950
Liquid	Temp. (°F)	Sp. Gravity	Visc. (cSt)	Dia. (inch)
Water	104	0,994	0,661	10,06

Technical Information:

Technical Information: **PVF**

Pump Model	3PVF11-Packed
Casing Suction Design	Single
Casing Volute Design Radially Split	Single
Maximum Suction Pressure PSI	100
Max Work Press PSI NPT or 125# Disc <=150° F	175
Max Work Press PSI 250# Disc <=150° F	250
Motor Frame 143-215JM Shaft Slv Inch Dia	NA
Motor Frame 143-184JP Shaft Slv Inch Dia	1.25
Motor Frame 213-326JP Shaft Slv Inch Dia	1.75
Motor Frame 254-326JM Shaft Slv Inch Dia	NA
Motor Frame 364-365JP Shaft Slv Inch Dia	2.25
Motor Frame 143-215JM 143-184JP Shaft Inch Dia Imp bore	NA
Motor Frame 254-326JM 213-326JP Shaft Inch Dia Imp Bore	NA
Motor Frame 364-365JP Shaft Inch Dia Imp Bore	1.62
Pkd Stuffing Box Bore Inches 143-184JP	2.03
Pkd Stuffing Box Bore Inch 213-326JP	2.5
Pkd Stuffing Box Bore Inch 364-365JP	3
Pkd Stuffing Box Depth Inch 143-326JP	2.62
Pkd Stuffing Box Depth Inch 364-365JP	3
Stuffing Box Square Packing Inch	0,375
Stuffing Box Packing Rows with Lantern Ring	5
Stuffing Box Packing Rows without Lantern Ring	6
Eye Area Sq Inches	8,76
Minimum Operating Speed	2925



Customer :

Project : Re Cotizacion Metro Linea 4

Quote No. : EDB-01-07-2016

Page No : 5

Contact :

Phone :

Fax :

Date : Thursday, 07 de January de 2016

Maximum Operating Speed	3600
Minimum Impeller Diameter Inches	7,81



Customer :

Project : Re Cotizacion Metro Linea 4
Quote No. : EDB-01-07-2016

Page No : 6

Contact :
Phone :
Date : Thursday, 07 de January de 2016

Fax :

Item: RCI Electrica
Model : Peerless - 3PVF11-Packed

Flow (US gpm)	Head (m)	Eff. (%)	Power (hp)	Speed (RPM)
100	85,1	39,2	17,9	2950
Liquid	Temp. (°F)	Sp. Gravity	Visc. (cSt)	Dia. (inch)
Water	104	0,994	0,661	10,06

Typical Specification:

Typical Specifications for PVF InLine Fire Pumps

General: The pumps furnished for fire protection service shall be supplied with the specified drivers, controls and pump accessory items by the pump manufacturer. The pump, driver and control shall be

- () Underwriters Laboratories (UL) Listed
- () Underwriters Laboratories-Canada (ULC) Listed

for fire protection service. The pumping equipment shall be installed as recommended in the National Fire Protection Association (NFPA) Pamphlet 20, Standard for the Installation of Centrifugal Fire Pumps.

- The fire pump shall be designed to deliver **100 US gpm** at a total differential pressure of **85,1 m**.
- The fire pump shall also be capable of delivering not less than 150% of rated flow at not less than 65% rated head.
- The fire pump(s) shall be a Peerless Pump Company model **3PVF11-Packed** and shall be furnished with driver, controllers and accessories as detailed in this specification.
- Pump manufacturer shall have unit responsibility for the proper operation of the complete unit assembly as indicated by field acceptance tests.

Manufacturer's Factory Tests: Each individual pump shall be hydrostatically tested and run tested prior to shipment. The pump shall be hydrostatically tested at a pressure of not less than one and one-half times the no flow (shut off) head of the pump's maximum diameter impeller plus the maximum allowable suction head but in no case less than 250 psig.

Field Acceptance Test: A field acceptance performance test shall be conducted upon completion of pump installation. The test shall be made by flowing water through calibrated nozzles, approved flow meters or other such accurate devices as may be selected by the authority having jurisdiction. The test shall be conducted as recommended in NFPA Pamphlet 20 by

- () the installing contractor
- () the owner
- () the owner's representative
- () (other)_____ in the presence of the authority having jurisdiction and with that authority's final approval and acceptance. Failure to submit documentation of factory and field tests will be just cause for equipment

Project : Re Cotizacion Metro Linea 4
Quote No. : EDB-01-07-2016

Page No : 7

Contact :
Phone :
Date : Thursday, 07 de January de 2016

Fax :

rejection.

Vertical In-Line Centrifugal Pumps: The fire pump shall be a Peerless Pump Company model **3PVF11-Packed** vertical in-line fire pump. The suction and discharge flanges shall be of identical dimensions and shall be displaced 180% with centerlines concentric on the same horizontal plane. The pump shall be specifically labeled for fire service and shall be connected to the (fire standpipe) (fire sprinkler) (underground fire main) system. The suction supply for the fire pump shall be from a (public service water main) (elevated storage tank) (ground storage tank) (underground reservoir) at a maximum pressure of _____ pounds per square inch (psi) and a minimum pressure of psi. The pump casing shall be cast iron with _____ in ch 125 pound rating suction and _____ inch (125)(250) pound rating discharge flanges machined to American National Standards Institute (ANSI) dimensions.

Shaft Sealing shall be accomplished by:

() *UL, ULC* At least five rings of a suitable non-asbestos packing. The stuffing box shall be equipped with a lantern ring with water supplied to the stuffing box by a tap line connected to the discharge side of the pump.

() *ULC only* A face type mechanical seal with Ni-resist stationary seat, carbon washer, Buna rubber flexible members, brass metal parts and 18-8 stainless steel spring. Seal shall be mounted over a bronze shaft sleeve.

Electric Motors: The pump driver shall be an H.I./NEMA JM/JP frame, ODP induction motor close coupled to the driven pump. The motor shall be rated _____ horsepower, 3 phase, (50)(60) Hertz with open drip-proof NEMA enclosure for operation on _____ volt service. The motor locked rotor current shall not exceed the values stated in NFPA Pamphlet 20.

Electric Motor Controllers: The automatic electric motor controller shall be (UL listed)(FM approved) specifically for fire pump service. The controller shall be designed for

- () limited service
- () full voltage
- () part winding
- () primary resistance reduced voltage
- () wye-delta open transition
- () wye-delta closed transition
- () auto-transformer

type starting. The controller shall be rated for the horsepower specified in this specification's electric motors section. The controller shall be capable of interrupting a short circuit current at least equal to the available short circuit current in the controller supply circuit. This fire pump controller installation requires an interrupting capacity of not less than _____ amps RMS symmetrical at an operating voltage of _____ volts.

The controller shall be floor or wall mounted for electrical connection to the motor by the equipment installer.

Fittings: The pump manufacturer shall furnish piping accessory items for the pump installation which will adapt the pump connections to the fire protection system and test connection as follows. Fittings subjected to pump discharge pressure shall be ANSI (125)(250) pound rating. Fittings subjected to suction pressure shall be ANSI 125 pound rating.

Project : Re Cotizacion Metro Linea 4

Quote No. : EDB-01-07-2016

Page No : 8

Contact :

Phone :

Fax :

Date : Thursday, 07 de January de 2016

-
- () eccentric tapered suction reducer
 - () concentric tapered discharge increaser
 - () hose valve test head
 - () hose valves with caps and chains
 - () pump casing relief valve
 - () automatic air release valve
 - () hose valve head drain valve
 - () suction and discharge pressure gauges



Customer :

Project : Re Cotizacion Metro Linea 4
Quote No. : EDB-01-07-2016

Page No : 9

Contact :

Phone :

Fax :

Date : Thursday, 07 de January de 2016

Item: RCI Electrica
Model : Peerless - 3PVF11-Packed

Flow (US gpm)	Head (m)	Eff. (%)	Power (hp)	Speed (RPM)
100	85,1	39,2	17,9	2950
Liquid	Temp. (°F)	Sp. Gravity	Visc. (cSt)	Dia. (inch)
Water	104	0,994	0,661	10,06

Spare Parts:

Item	Part No	Description	Weight (lb)	Unit Price (\$)	Qty	Total Price (\$)
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Terms of Payment:

Total: (\$): 0,00

Shipment Terms (INCOTERM)

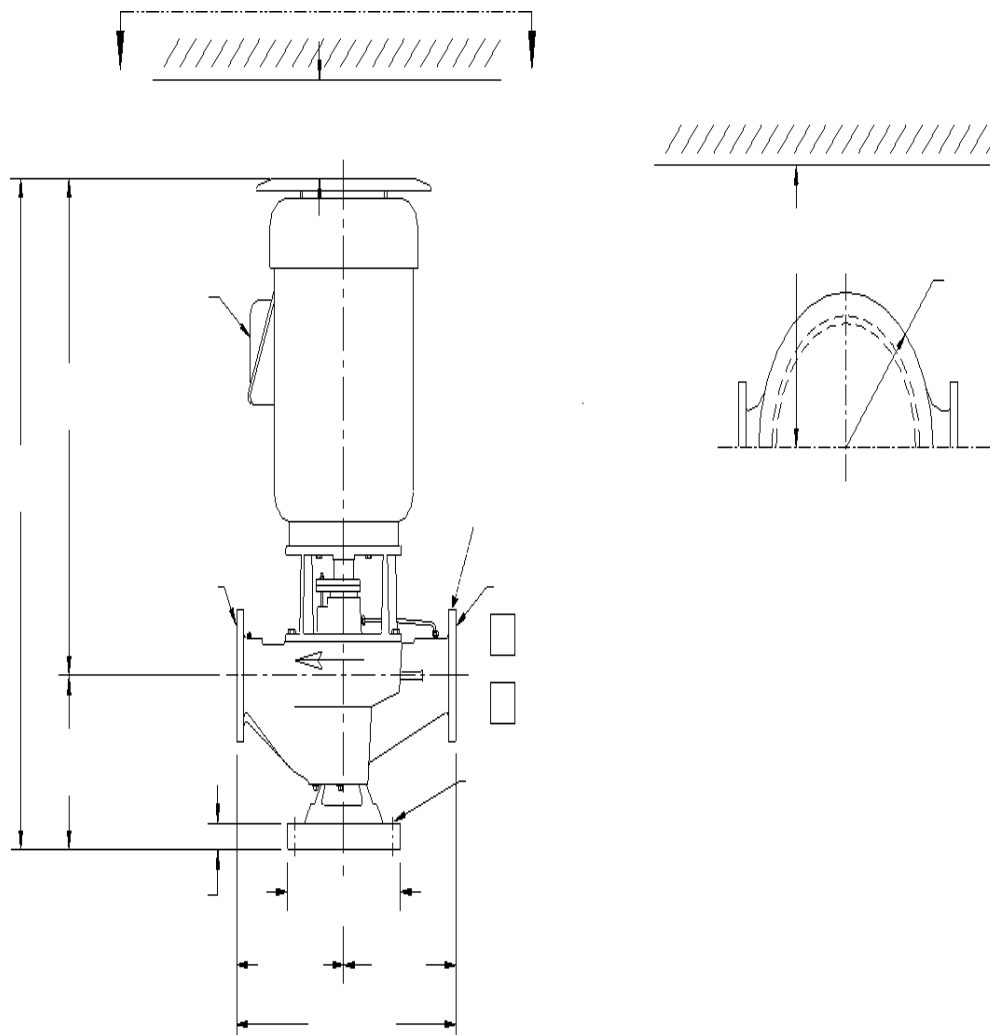
Estimated Schedule (week[s]): 14

Net Weight Total (lb): 0

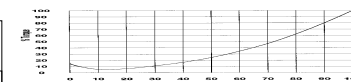
Payment Terms:

Plus Applicable Taxes

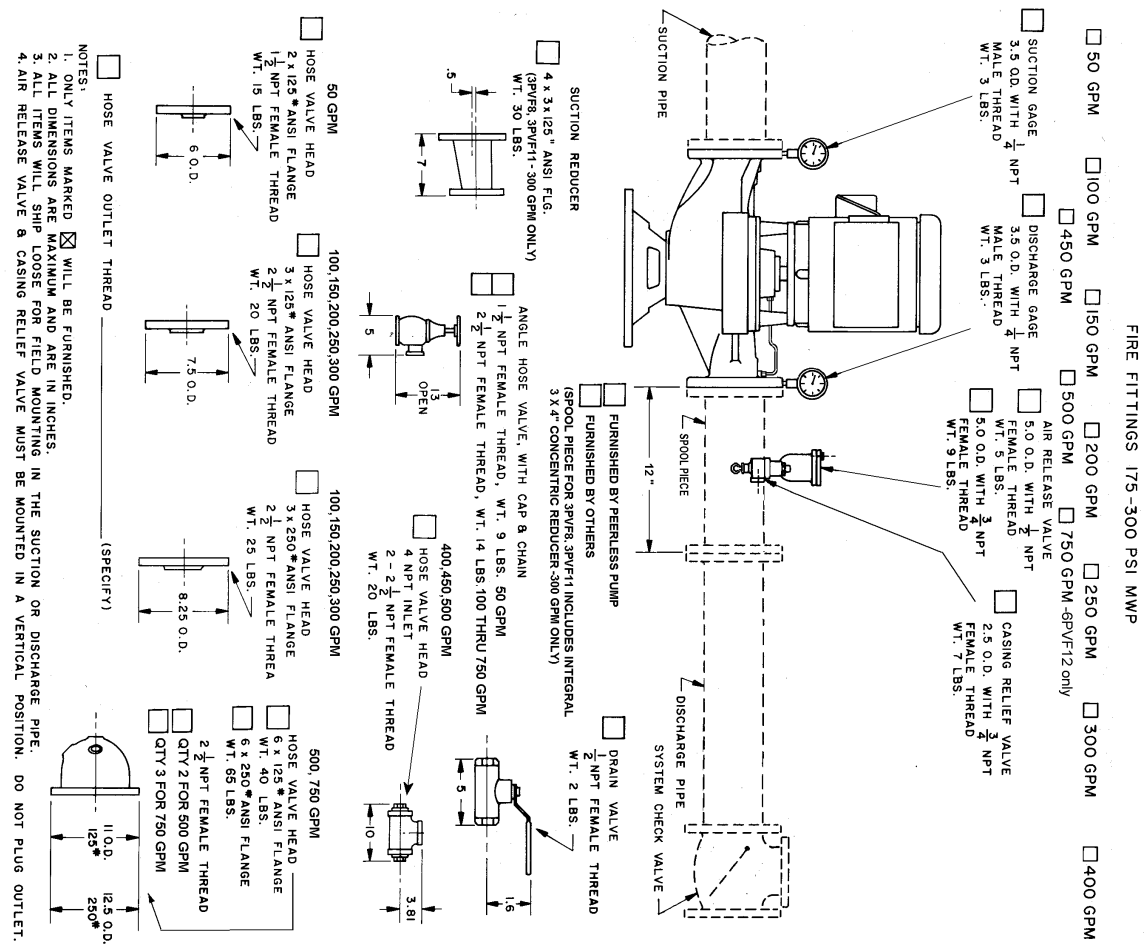
Prices quoted subject to acceptance of the Company's
Terms, Conditions, Warranty and our acceptance within 30 days
from the date quoted herein.



Project :	Re Cotizacion Metro Linea 4	Capacity:	100 (US gpm)	Frame/Model:	324JPV
Customer:		Total Head:	85,1 (m)	Elec. Spec.:	3 Ph. 380 V. 50 Hz
Item No.:	RCI Electrica	Pump Speed:	2950 (RPM)	Service Factor:	1,15
Quote No. :	EDB-01-07-2016	Impeller Dia.:	10,06 (inch)	Rotation:	Clockwise
Pump Model:	Peerless - 3PVF11-Packed	Power:	40 (hp)	Enclosure/Type:	ODP



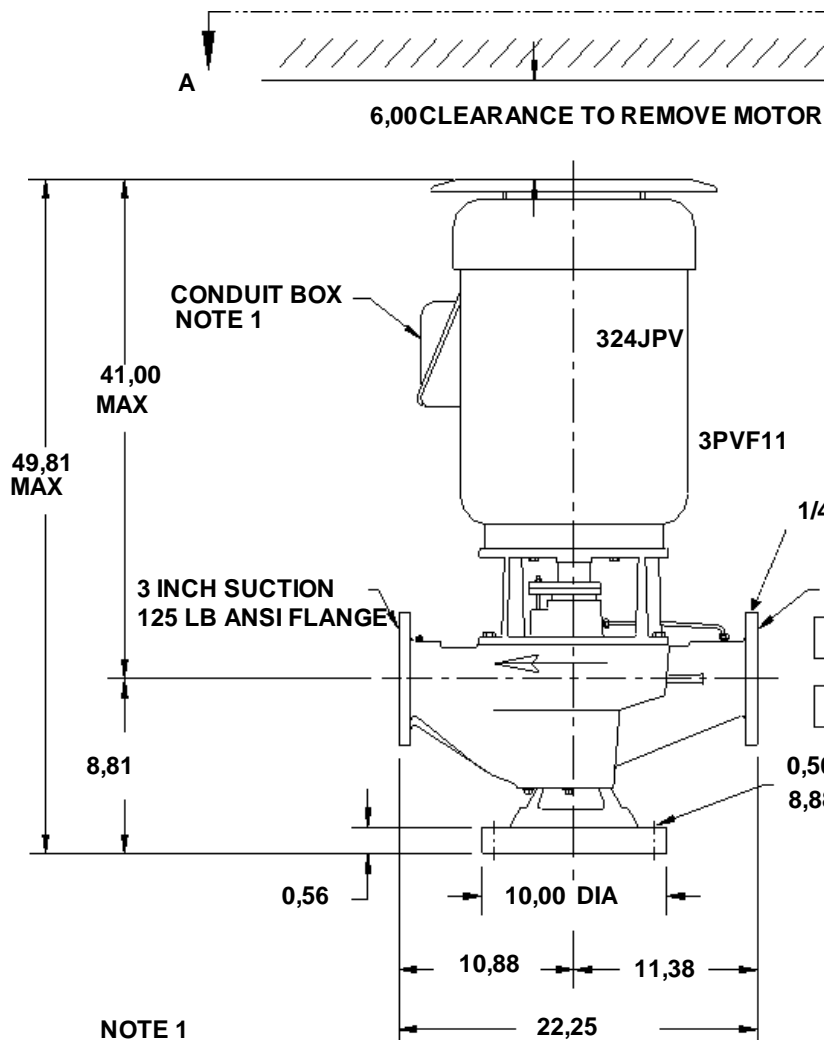
Date : Thursday, 07 de January de 2016
Page No : 10



Project :	Re Cotizacion Metro Linea 4	Capacity:	100 (US gpm)	Frame/Model:	324JPV
Customer:		Total Head:	85,1 (m)	Elec. Spec.:	3 Ph. 380 V. 50 Hz
Item No.:	RCI Electrica	Pump Speed:	2950 (RPM)	Service Factor:	1,15
Quote No. :	EDB-01-07-2016	Impeller Dia.:	10,06 (inch)	Rotation:	Clockwise
Pump Model:	Peerless - 3PVF11-Packed	Power:	40 (hp)	Enclosure/Type:	ODP

GRUNDFOS 

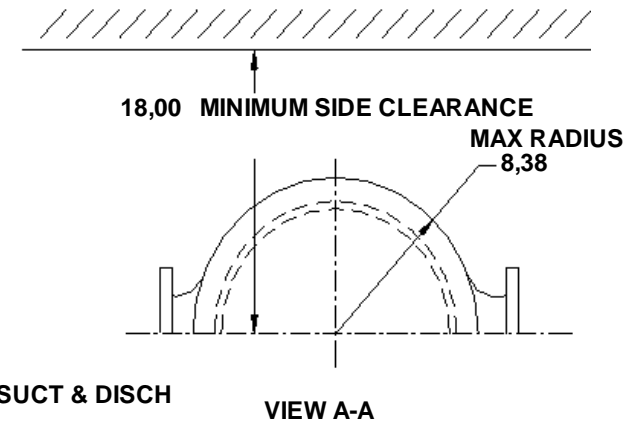
Date : Thursday, 07 de January de 2016
Page No : 11



NOTE 1
CONDUIT BOX IS LOCATED 45 DEG FROM SUCT WHEN VIEWED FROM TOP AND MAY BE ROTATED IN 90 DEG INCREMENTS

AGENCY APPROVAL/LISTING:FM/UL

INSTALLING CONTRACTOR (S) TO INSTALL EQUIPMENT IN ACCORDANCE WITH LATEST EDITIONS OF NATIONAL ELECTRIC CODE, LOCAL CODES AND NFPA PAMPHLET NO. 20 APPLICABLE TO FIRE PUMP INSTALLATIONS

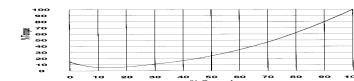


WEIGHTS:

PUMP	162 lb
MOTOR &	804,2 lb
TOTAL	966 lb

Dimensions in (inch)

Project :	Re Cotizacion Metro Linea 4	Capacity:	100 (US gpm)	Frame/Model:	324JPV
Customer:		Total Head:	85,1 (m)	Elec. Spec.:	3 Ph. 380 V. 50 Hz
Item No.:	RCI Electrica	Pump Speed:	2950 (RPM)	Service Factor:	1,15
Quote No. :	EDB-01-07-2016	Impeller Dia.:	10,06 (inch)	Rotation:	Clockwise
Pump Model:	Peerless - 3PVF11-Packed	Power:	40 (hp)	Enclosure/Type:	ODP



Date : Thursday, 07 de January de 2016
Page No : 12

FIRE FITTINGS 175-300 PSI MWP

☐ 50 GPM ☐ 100 GPM ☐ 150 GPM ☐ 200 GPM ☐ 250 GPM ☐ 300 GPM ☐ 400 GPM

☐ 450 GPM ☐ 500 GPM ☐ 750 GPM -6P/VF12 only

☐ SUCTION GAGE 1 3.5 O.D. WITH 1/4" NPT MALE THREAD WT. 3 LBS. ☐ DISCHARGE GAGE 3.5 O.D. WITH 1/4" NPT MALE THREAD WT. 3 LBS. ☐ AIR RELEASE VALVE 5.0 O.D. WITH 1/2" NPT FEMALE THREAD WT. 5 LBS. ☐ CASING RELIEF VALVE 2.5 O.D. WITH 3/4" NPT FEMALE THREAD WT. 7 LBS. ☐ 5.0 O.D. WITH 3/4" NPT FEMALE THREAD WT. 9 LBS.

SUCTION PIPE **DISCHARGE PIPE** **SYSTEM CHECK VALVE**

SPOOL PIECE **12"**

FURNISHED BY PEERLESS PUMP **DRAIN VALVE** 1/2" NPT FEMALE THREAD WT. 2 LBS.

SUCTION REDUCER 4 x 3.125" ANSI FLG. (3PVF8, 3PVF11-300 GPM ONLY) WT. 30 LBS. **ANGLE HOSE VALVE, WITH CAP & CHAIN** 1 1/2" NPT FEMALE THREAD, WT. 9 LBS. 50 GPM 2 1/2" NPT FEMALE THREAD, WT. 14 LBS. 100 THRU 750 GPM 3 x 4" CONCENTRIC REDUCER-300 GPM ONLY

HOSE VALVE HEAD 2 x 1.25" ANSI FLANGE 1 1/2" NPT FEMALE THREAD WT. 15 LBS. **HOSE VALVE HEAD** 3 x 1.25" ANSI FLANGE 2 1/2" NPT FEMALE THREAD WT. 20 LBS. **HOSE VALVE HEAD** 3 x 2.50" ANSI FLANGE 2 1/2" NPT FEMALE THREA WT. 25 LBS. **HOSE VALVE HEAD** 6 x 1.25" ANSI FLANGE WT. 40 LBS. 6 x 2.50" ANSI FLANGE WT. 65 LBS. 2 1/2" NPT FEMALE THREAD QTY 2 FOR 500 GPM QTY 3 FOR 750 GPM

50 GPM **100, 150, 200, 250, 300 GPM** **100, 150, 200, 250, 300 GPM** **500, 750 GPM**

NOTES:
 1. ONLY ITEMS MARKED ☒ WILL BE FURNISHED.
 2. ALL DIMENSIONS ARE MAXIMUM AND ARE IN INCHES.
 3. ALL ITEMS WILL SHIP LOOSE FOR FIELD MOUNTING.
 4. AIR RELEASE VALVE & CASING RELIEF VALVE MUST BE MOUNTED IN A VERTICAL POSITION. DO NOT PLUG OUTLET.

HOSE VALVE OUTLET THREAD _____ (SPECIFY)

Dimensions in (inch)

Project :	Re Cotizacion Metro Linea 4	Capacity:	100 (US gpm)	Frame/Model:	324JPV
Customer:		Total Head:	85,1 (m)	Elec. Spec.:	3 Ph. 380 V. 50 Hz
Item No.:	RCI Electrica	Pump Speed:	2950 (RPM)	Service Factor:	1,15
Quote No. :	EDB-01-07-2016	Impeller Dia.:	10,06 (inch)	Rotation:	Clockwise
Pump Model:	Peerless - 3PVF11-Packed	Power:	40 (hp)	Enclosure/Type:	ODP



Date : Thursday, 07 de January de 2016
Page No : 13

Introducing COMPLETE ORDER ENTRY WITHIN RAPID.

Please see Project Items and Order Information Button for Order Entry Availability!

RAPID Order Entry is the preferred method of sending in product orders.

RAPID order entry requirements/instructions detailed as follows:

To use this electronic order entry feature simply select your pump including pump configuration and accessories. A detailed listing of these items will be displayed in the DETAILED QUOTATION within RAPID. Please thoroughly check this listing before submitting order as, **WHAT YOU HAVE SELECTED IS WHAT YOU WILL GET!** After your quotation becomes an order be sure to reset pricing to Dealer Net (D/N).

Ensure all commercial and Project information is filled out in the Project area of RAPID. This will be information like: Pump project name, Customer/End User details, Ship to and Sold to Address, Freight, Terms, Market codes, Application, Order write up information, Accounts receivable numbers, Pricing, Concession and Commission information, Sales credits, Shipping details, Special order requirements, etc...

The new **Order Information Button** is located in the Project Area of RAPID (Project button, then Project Items tab and Order Information Button). A pump must be selected first, this will then activate the corresponding order information document for the selected product range.

After all information has been entered in the Order Entry document of RAPID, you can view and/or print the order from the Support Docs tab in RAPID. This tab has the Order Header information and the Technical Data sheet information this with the detailed quotation is a complete order write up. However, to ensure that it is a clean and complete order, ensure that all the information is populated. It is recommended that you print these documents and review them completely prior to sending in your order. If your order is received with incomplete information the order will be delayed until clarifications are made.

Remember you make the selections and this information is what is used to configure the products and select the accessories. Therefore, it is crucial that accurate application and site information is input at the time of product selection and order entry. If the pump you quoted is not EXACTLY the pump you received an order for, then you will have to make the required adjustments prior to sending in the order. Failure to do this will cause additional delays and cost in getting the correctly configured equipment to the site to meet your pumping application requirements. **Input criteria/application information like: NPSH, Suction pressure, Rotation, Site temperature, Site altitude, Fluid properties, etc... are all REQUIRED INFORMATION for ACCURATELY selecting a pump.**

After you have completed and confirmed your order write up within RAPID, you can electronically send your RAPID project file to your regional sales office or factory for order entry. Factory order entry email is ppucs@grundfos.com.

Document Requirements and Locations

RAPID detailed quotation form with pricing set to D/N (Located in the Quotation area of RAPID)

RAPID Order Header Form (S83) for order entry (Input Located in the Project area of RAPID)

RAPID Order Header Form (S83) for order entry (Output Located on the Support Docs tab of RAPID)

RAPID Technical Data Verification Sheet (TDS) (Output Located on the Support Docs tab of RAPID)



Peerless Pump Company. - Indianapolis, IN 46207-7026

ELECTRIC MOTOR DRIVER Performance and Data Sheet

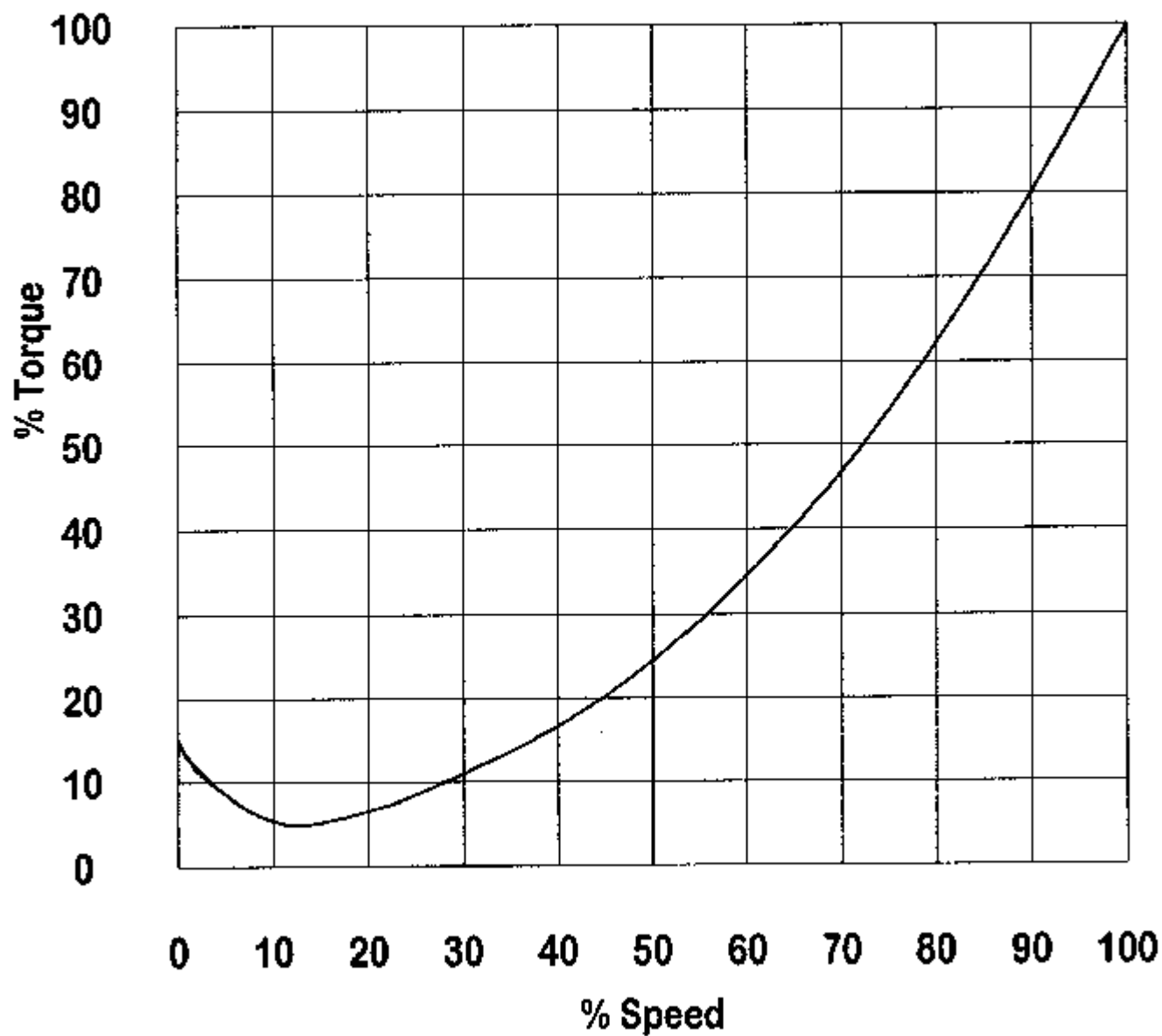
Manufacturer	Nidec
Catalog No.	FF50E1DV
Type	
Motor Hp	40
Synch Rpm	3000
Motor Frame	324JPV
Low Voltage	0
High Voltage	380
Phase	3
Hertz	50
Motor Type	SCI
NEMA Design	B
Enclosure	ODP
Class Insulation	F
Service Factor	1,15
Type Starting	WYE-DELTA
Type Motor Efficiency	Energy Eff
Construction	Rolled Steel Frame
Full Load Rpm	2950
Full Load Efficiency %	0
Full Load Power Factor %	0
Low Voltage Full Load Amps	0
High Voltage Full Load Amps	0
Low Voltage Locked Rotor Amps	0
High Voltage Locked Rotor Amps	0
Maximum Altitude in Feet	3300
Rotation Facing Opposite Shaft End	Clockwise

The above data are not certified being extracted from manufacturer's published catalog data sheets and are subject to change without notice. Peerless Pump is not responsible for incorrect data. For certified motor data refer to the factory.



Peerless Pump Company - Indianapolis, IN 46207-7026

**SPEED TORQUE CURVE
FOR PUMP 3PVF11-Packed**



Pump Flow	100 US gpm
Pump Head	85,1 m
100% Speed = True running speed (RPM)	2950 RPM
100% Torque Based on Bhp Closed Valve Starting @100% Speed	19,66 Ft-Lbs
100% Torque Based on Bhp Open Valve Starting @100% Speed	31,83 Ft-Lbs
WR^2 for pump only	Lb-Ft^2 bronze wet impeller

