

Introduction

Purpose

This manual provides instructions on preparing the site for installation of Frontier MPD®.

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Read This First

If equipment is to be used to dispense Petrol, then the words ‘PETROL’ (or PETROLEUM SPIRIT), HIGHLY FLAMMABLE, NO SMOKING and SWITCH OFF ENGINE should be positioned so that the warnings and instructions are brought to the attention of customers immediately on their arrival at the dispensing equipment.

At attended self-service and attendant operated filling stations, the following devices should be installed:

- At a location readily accessible for quick operation by an attendant at the control point - an Emergency Stop push button switch or switches for switching off all fuel dispensers and other electrical equipment within the hazardous zone, with a prominent adjacent notice (for example, PETROL PUMPS - EMERGENCY STOP)
- On the forecourt readily accessible to firefighters but out of reach of the general public - an Emergency Switch which will isolate all fuel dispensers and other electrical equipment within the hazardous zone, with a prominent adjacent notice (for example, PETROL PUMPS - SWITCH OFF HERE).

Note: These switches should NOT turn off the forecourt lighting.

It is also recommended that for self-service filling stations a public address system for communicating with customers is installed. Please refer to any national or local regulations for more details on the specific requirements with respect to petrol dispensing.

At unattended filling stations, special safety provisions will be necessary. Refer to any relevant national or local regulations that may be in force.

Any dispensing areas of the forecourt should be adequately lit for safety purposes at all times of use. The illuminance at ground level and the read-out level of displays should not be less than 100 lux.

Any 'third-party' self-service equipment used with this dispenser should comply with the requirements of the European Commission (EC) Machinery Directive in respect of user-friendly software between the operator and the control system.



WARNING

DANGER FROM MOVING PARTS

The electrical power to this equipment must be removed prior to any installation or maintenance work being carried out. All installation and maintenance work on Gilbarco® equipment must be carried out by competent technicians who have received the required training.

In addition, for Gilbarco dispensers whose assembly is completed on site (e.g. Euroline), the installation technicians should have received Gilbarco approved training and be employed by a company who operate an ISO9000 approved quality system.

After any installation, maintenance work or switch-off by the air separator in the pumping unit, check for leaks on the hydraulic circuits!

When cleaning the panels on your unit, always use a soft damp cloth, NEVER clean with dry cloth. Only genuine Gilbarco parts should be used on this equipment.

Related Documents

Document Number	Title	GOLD SM Library
MDE-5077	Frontier Owner's Manual	Frontier
MDE-5150	Frontier Installation Manual	<ul style="list-style-type: none"> • Frontier • Frontier Installers
PT-1968	Frontier Pumps and Dispensers MPD Series Illustrated Spare Parts Manual	<ul style="list-style-type: none"> • Frontier • Parts Manual

Abbreviations and Acronyms

Term	Description
ATCL	Automatic Transfer Control Logic
EC	European Commission
GOLD	Gilbarco Online Documentation
IFSF	International Forecourt Standards Forum
J-box	Junction Box
LAN	Local Area Network
LON	Local Operating Network
MPD	Multi-Product Dispenser
PUMA	Protected User Mode Audio
STP	Submersible Turbine Pump

Important Safety Information

Note: Save this Important Safety Information section in a readily accessible location.

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.


Preliminary Precautions


You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain or service this equipment.

Emergency Total Electrical Shut-Off

The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

⚠ WARNING

 The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.

 You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

Total Electrical Shut-Off Before Access

Any procedure that requires access to electrical components or the electronics of the dispenser requires total electrical shut off of that unit. Understand the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gilbarco equipment.

Evacuating, Barricading and Shutting Off

Any procedure that requires access to the pump/dispenser or STPs requires the following actions:



- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

Read the Manual

Read, understand and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call a Gilbarco Authorized Service Contractor or call the Gilbarco Support Center at +91-22-6637-9000/9099/9089.

It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations

Relevant national regulations related to installation, inspection, maintenance, and service must be observed. Where a regulation may conflict with information in this manual, the regulation must be followed.

Replacement Parts

Use only genuine Gilbarco replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gilbarco replacement parts could create a safety hazard and violate local regulations.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol



This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words

These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury or damage to the equipment:



DANGER: Alerts you to a hazard or unsafe practice which will result in death or serious injury.



WARNING: Alerts you to a hazard or unsafe practice that could result in death or serious injury.



CAUTION with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires

Fuels and their vapors will explode or burn, if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially dangerous vapors in the vicinity of the dispenser or island.

No Open Fire



Open flames from matches, lighters, welding torches, or other sources can ignite fuels and their vapors.

No Sparks - No Smoking



Sparks from starting vehicles, starting, or using power tools, burning cigarettes, cigars, or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuel vapors. Every time you get out of a vehicle, touch the metal of your vehicle, to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual and OSHA documentation.

Working With Electricity Safely

Ensure that you use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion, or electrical shock. Ensure that grounding connections are properly made. Take care that sealing devices and compounds are in place. Ensure that you do not pinch wires when replacing covers. Follow OSHA Lockout/Tagout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth.

WARNING

The pump/dispenser contains a chemical known to the State of California to cause cancer.

WARNING

The pump/dispenser contains a chemical known to the State of California to cause birth defects or other reproductive harm.

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on)

WARNING



Gasoline/DEF ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open. Oxygen may be needed at scene. Seek medical advice immediately.

WARNING

DEF generates ammonia gas at higher temperatures. When opening enclosed panels, allow the unit to air out to avoid breathing vapors. If respiratory difficulties develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

WARNING



Gasoline inhaled may cause unconsciousness and burns to lips, mouth, and lungs. Keep airway open. Seek medical advice immediately.

WARNING



Gasoline/DEF spilled in eyes may cause burns to eye tissue. Irrigate eyes with water for approximately 15 minutes. Seek medical advice immediately.

WARNING



Gasoline/DEF spilled on skin may cause burns. Wash area thoroughly with clear water. Seek medical advice immediately.

WARNING

DEF is mildly corrosive. Avoid contact with eyes, skin, and clothing. Ensure that eyewash stations and safety showers are close to the work location. Seek medical advice/recommended treatment if DEF spills into eyes.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards. Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

Overview

The Frontier is a high-hose H-frame dispenser. It is capable of dispensing petrol and diesel. It can be supplied as a self-contained pumping unit or as part of a pressure fed dispenser i.e. the Submersible Turbine Pump (STP) installation. Both sides of the dispenser can dispense fuel simultaneously, acting as two independent fueling positions.

Frontier can operate in stand-alone mode or can be used as part of the complete self-service forecourt installation. Frontier units can communicate with any other approved self-service control console via Gilbarco Two-wire, International Forecourt Standards Forum (IFSF) - Local Operating Network (LON) protocol, ER3, Automatic Transfer Control Logic (ATCL), or Protected User Mode Audio (PUMA) Local Area Network (LAN).

Frontier units may be fitted with up to eight hoses and are supplied as complete assemblies ready to be secured to the island and connected to the fuel supply pipes and the main power supply cable. All internal connections, for example wiring and hydraulics piping are already assembled, in position and ready for installation.

Figure 1: Frontier High-hose H-frame Dispenser



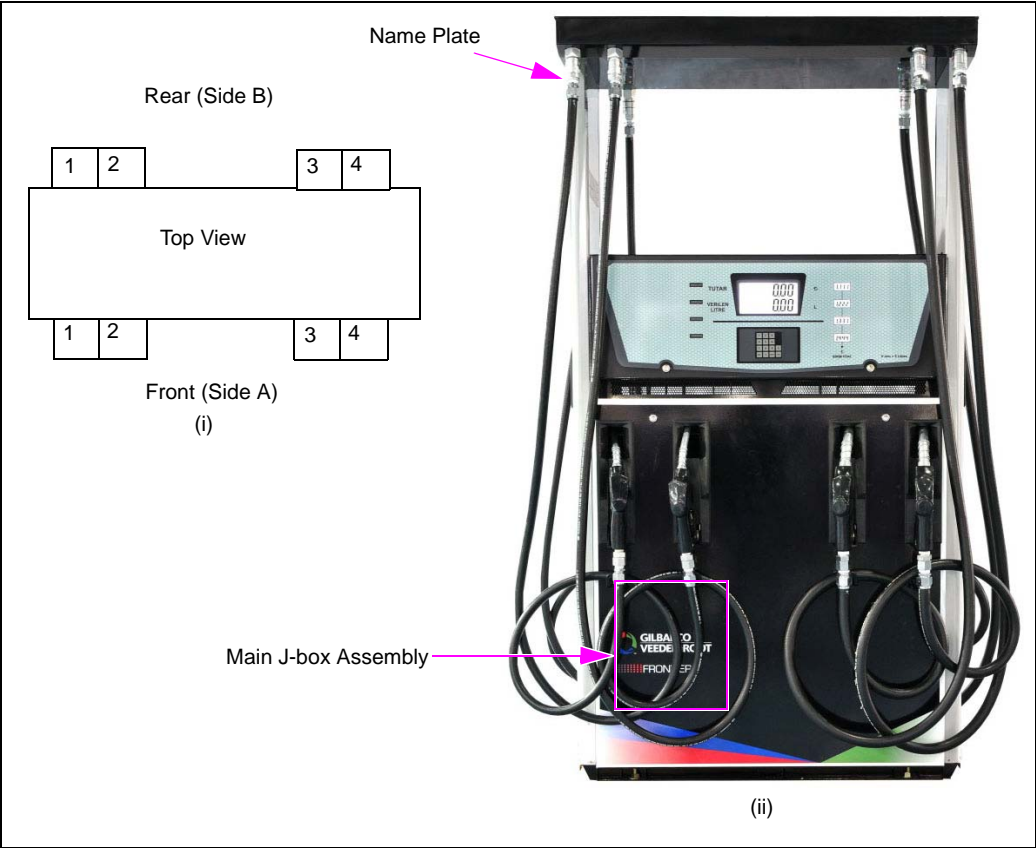
Dispenser Orientation

Figure 2 shows the grade layout inside the dispenser and also shows how to identify which side of the dispenser that you are working. The dispenser front side is defined with the location of the main Junction Box (J-box) assembly on the frame left side as indicated in Figure 2.

Grade Locations

The grades identification is as shown in the Figure 2.

Figure 2: Grade Identification

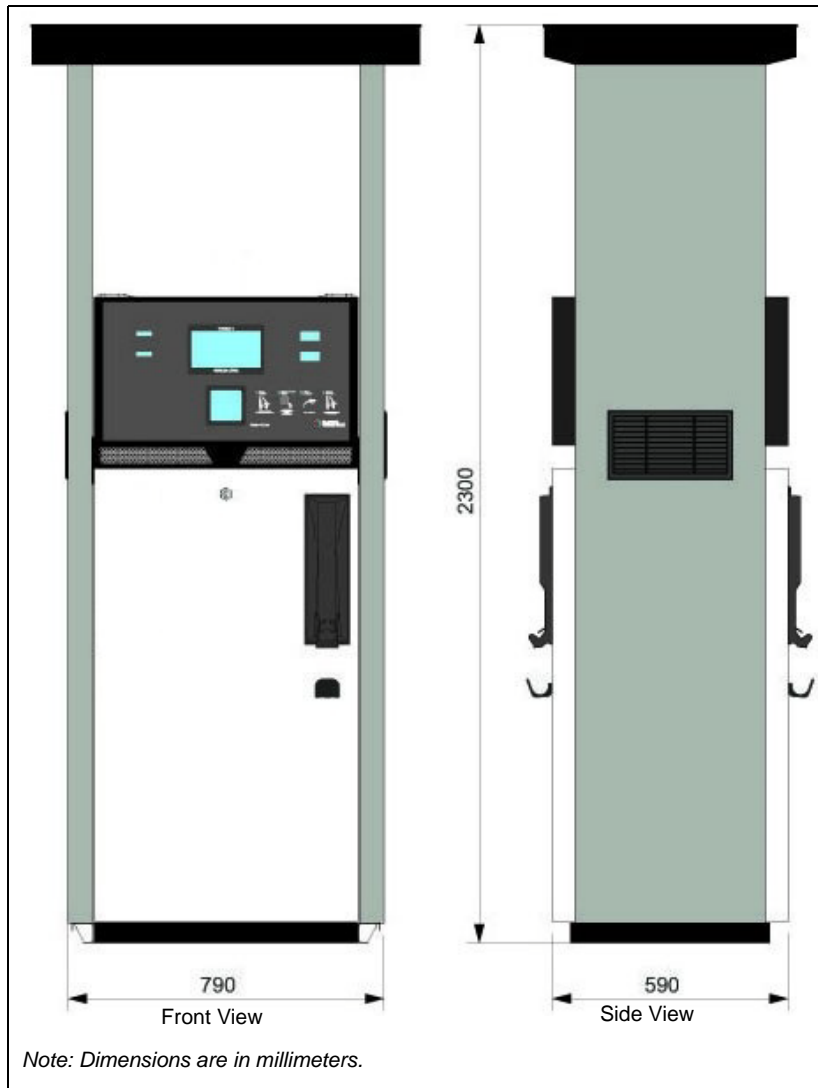


One-Product MPD, Suction or Dispenser

Overall Dimensions

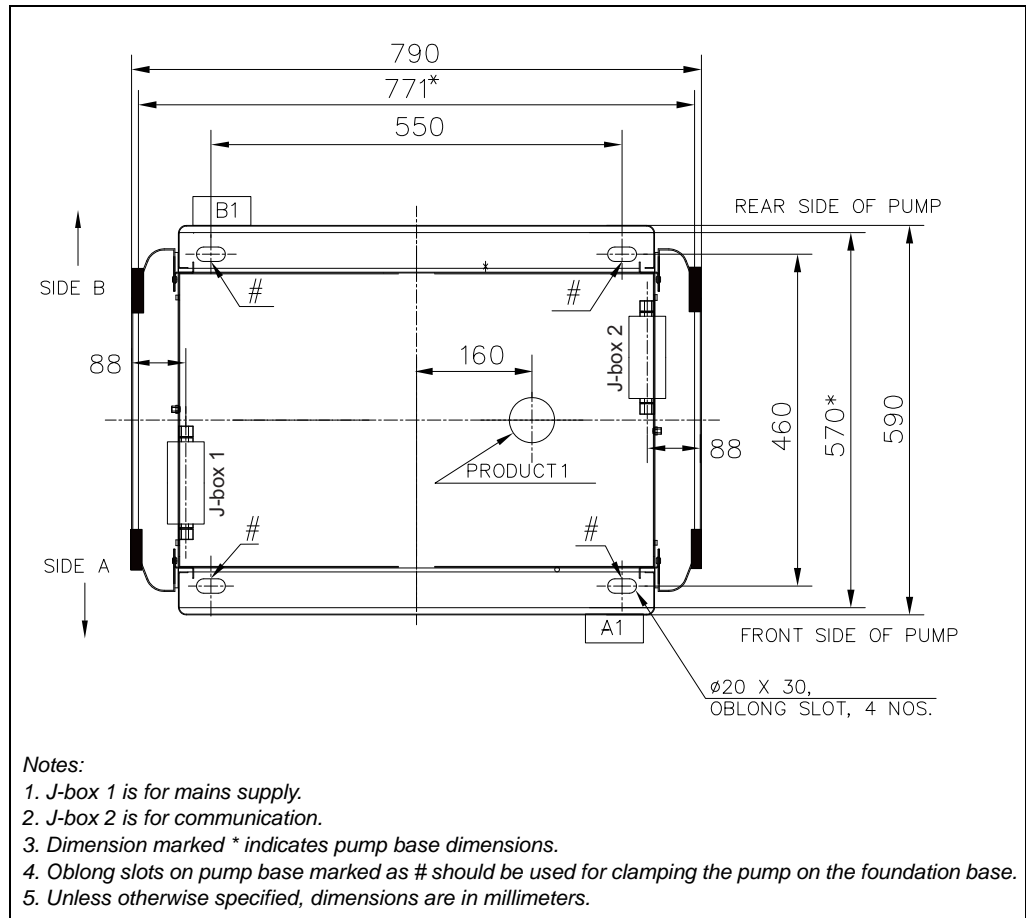
Figure 3 shows the overall dimensions of the one-product MPD, suction or dispenser.

Figure 3: One-Product MPD, Suction or Dispenser



Footprint Details

Figure 4: Footprint Details



Module Configuration and Maximum Current

Figure 5: Module Configuration and Maximum Current

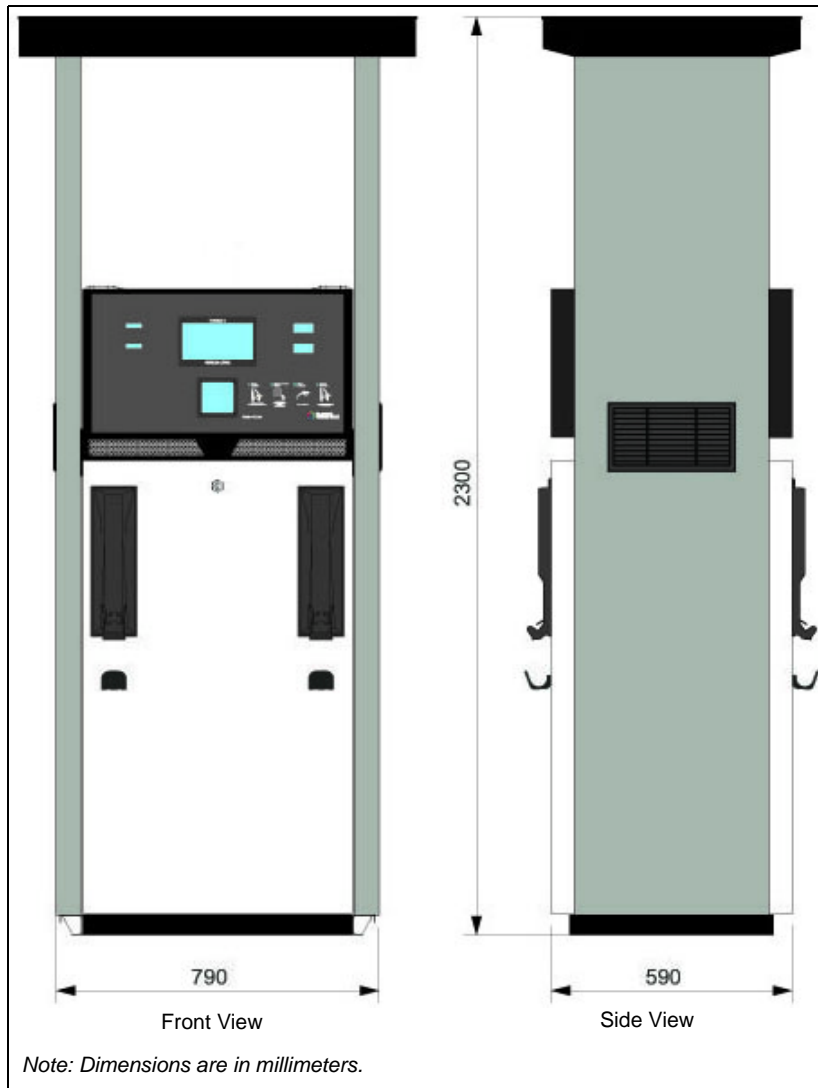
Suction Pump	
<u>Motor supply, maximum current</u>	
1 Phase Versions, 230V	= 12,5 Amps
3 Phase Versions, 230V	= 10,5 Amps
3 Phase Versions, 400V	= 6,0 Amps
<u>Electronic supply, maximum current</u>	
All Versions	= 3,0 Amps

Two-Product MPD, Suction or Dispenser

Overall Dimensions

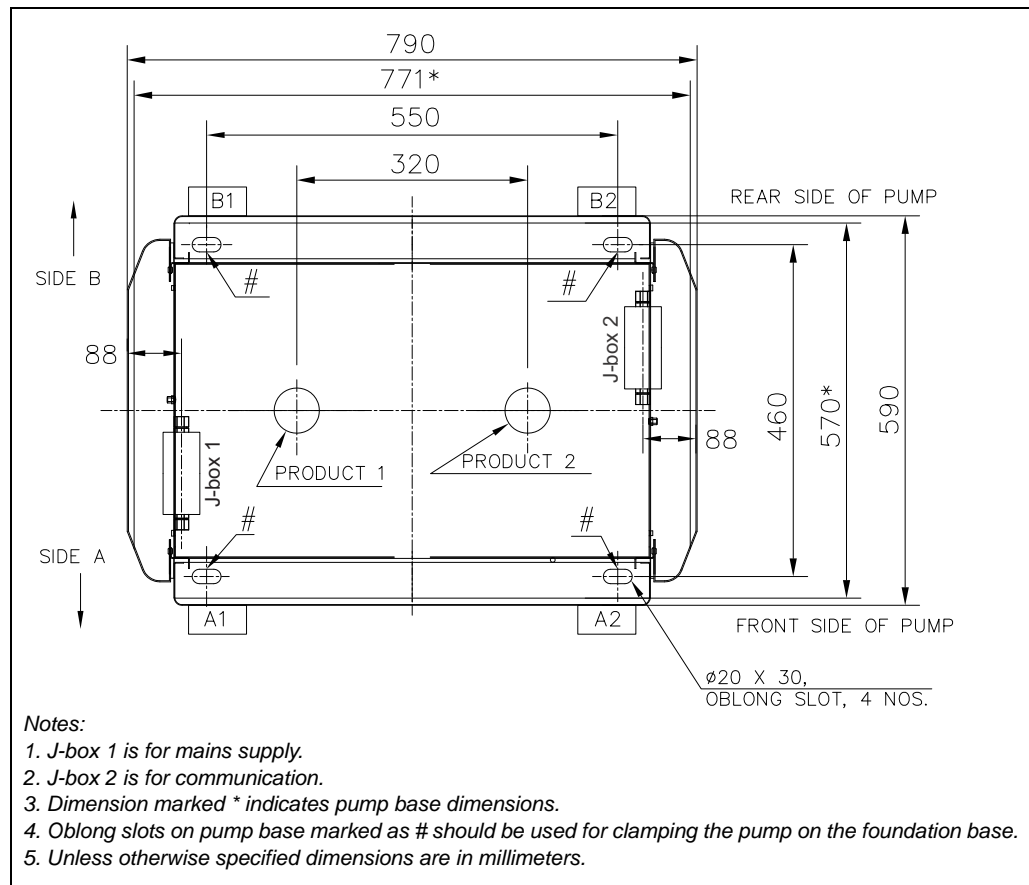
Figure 6 shows the overall dimensions of the two-product MPD, suction or dispenser.

Figure 6: Two-Product MPD, Suction or Dispenser



Footprint Details

Figure 7: Footprint Details



Module Configuration and Maximum Current

Figure 8: Module Configuration and Maximum Current

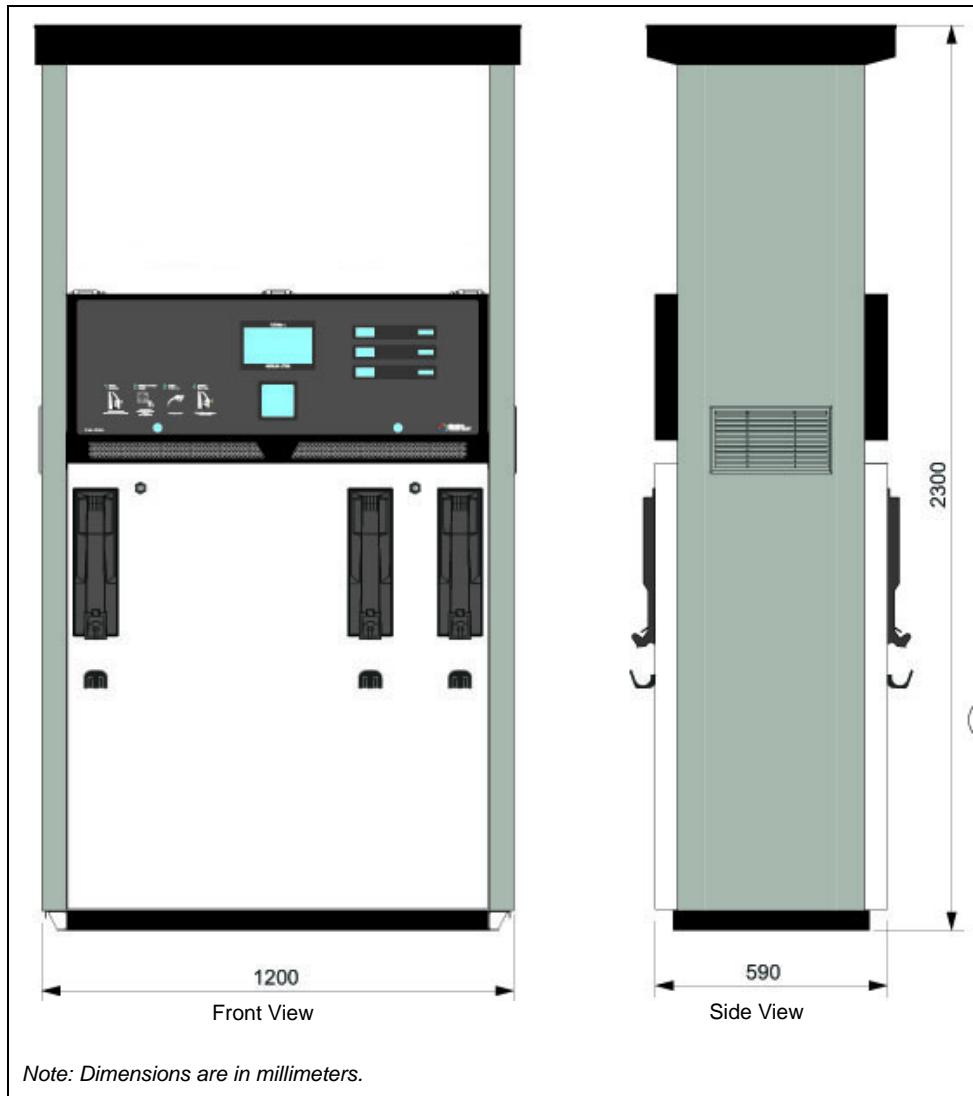
Suction Pump	
<u>Motor supply, maximum current</u>	
1 Phase Versions, 230V	= 12,5 Amps
3 Phase Versions, 230V	= 10,5 Amps
3 Phase Versions, 400V	= 6,0 Amps
<u>Electronic supply, maximum current</u>	
All Versions	= 3,0 Amps

Three-Product MPD, Suction or Dispenser

Overall Dimensions

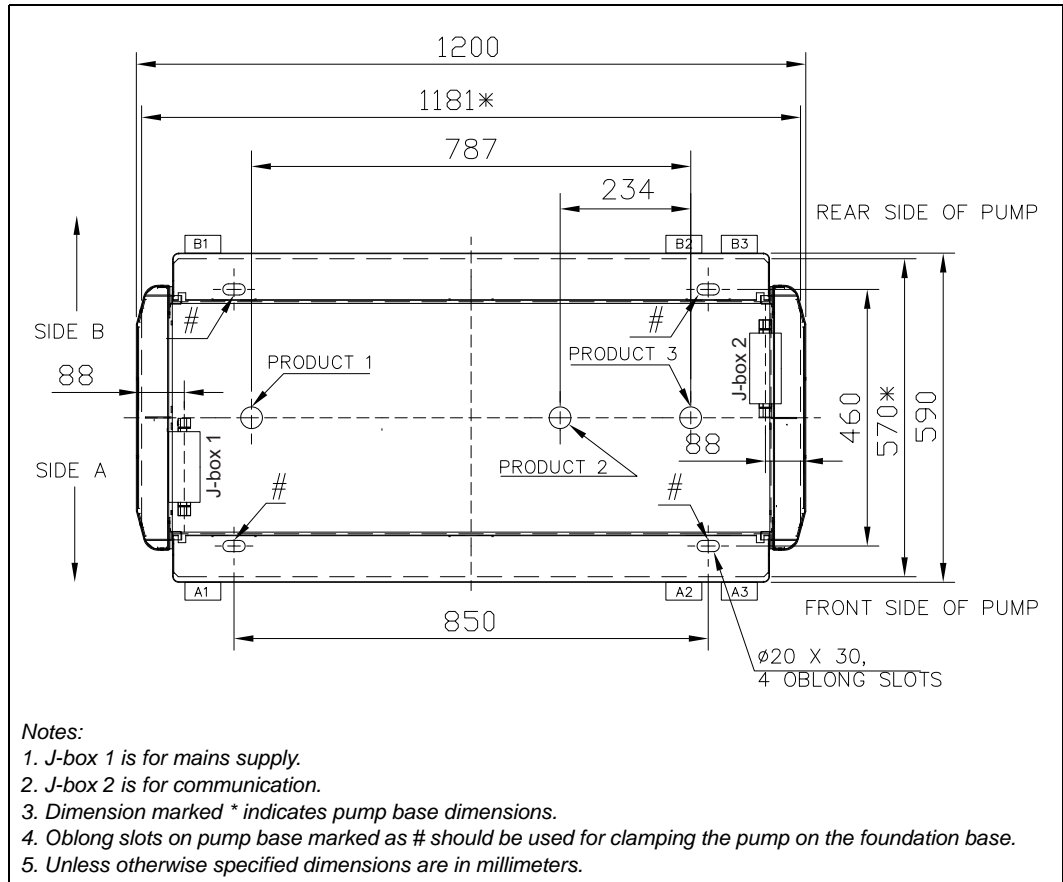
Figure 9 shows the overall dimensions of the three-product MPD, suction or dispenser.

Figure 9: Three-Product MPD, Suction or Dispenser



Footprint Details

Figure 10: Footprint Details



Module Configuration and Maximum Current

Figure 11: Module Configuration and Maximum Current

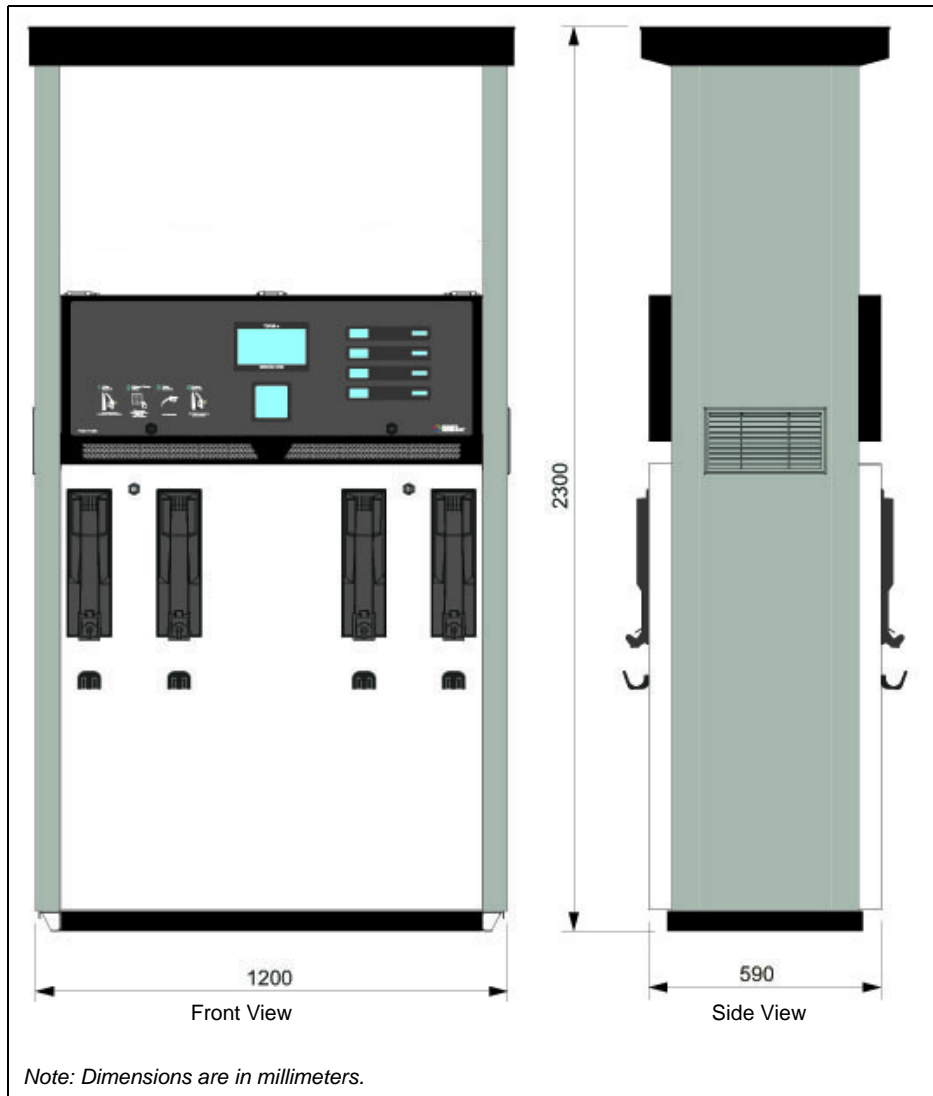
Suction Pump	
<u>Motor supply, maximum current</u>	
1 Phase Versions, 230V	= 12,5 Amps
3 Phase Versions, 230V	= 10,5 Amps
3 Phase Versions, 400V	= 6,0 Amps
<u>Electronic supply, maximum current</u>	
All Versions	= 3,0 Amps

Four-Product MPD, Suction or Dispenser

Overall Dimensions

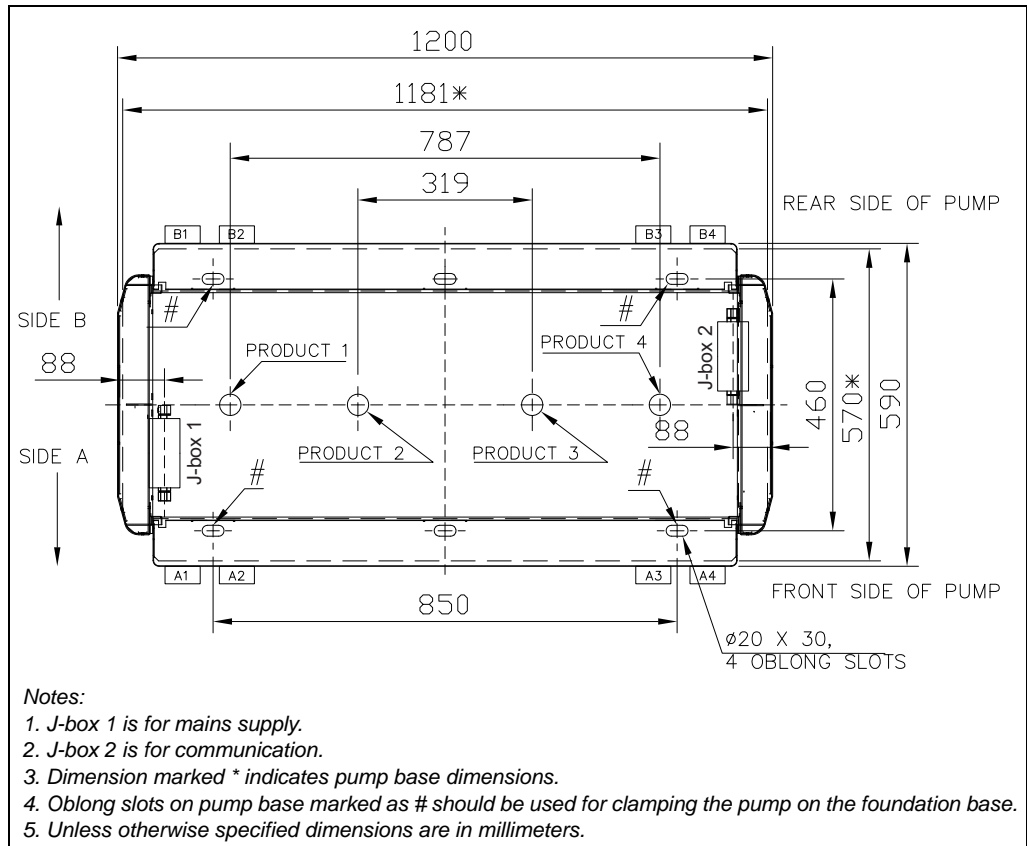
Figure 12 shows the overall dimensions of the four-product MPD, suction or dispenser.

Figure 12: Four-Product MPD, Suction or Dispenser



Footprint Details

Figure 13: Footprint Details



Module Configuration and Maximum Current

Figure 14: Module Configuration and Maximum Current

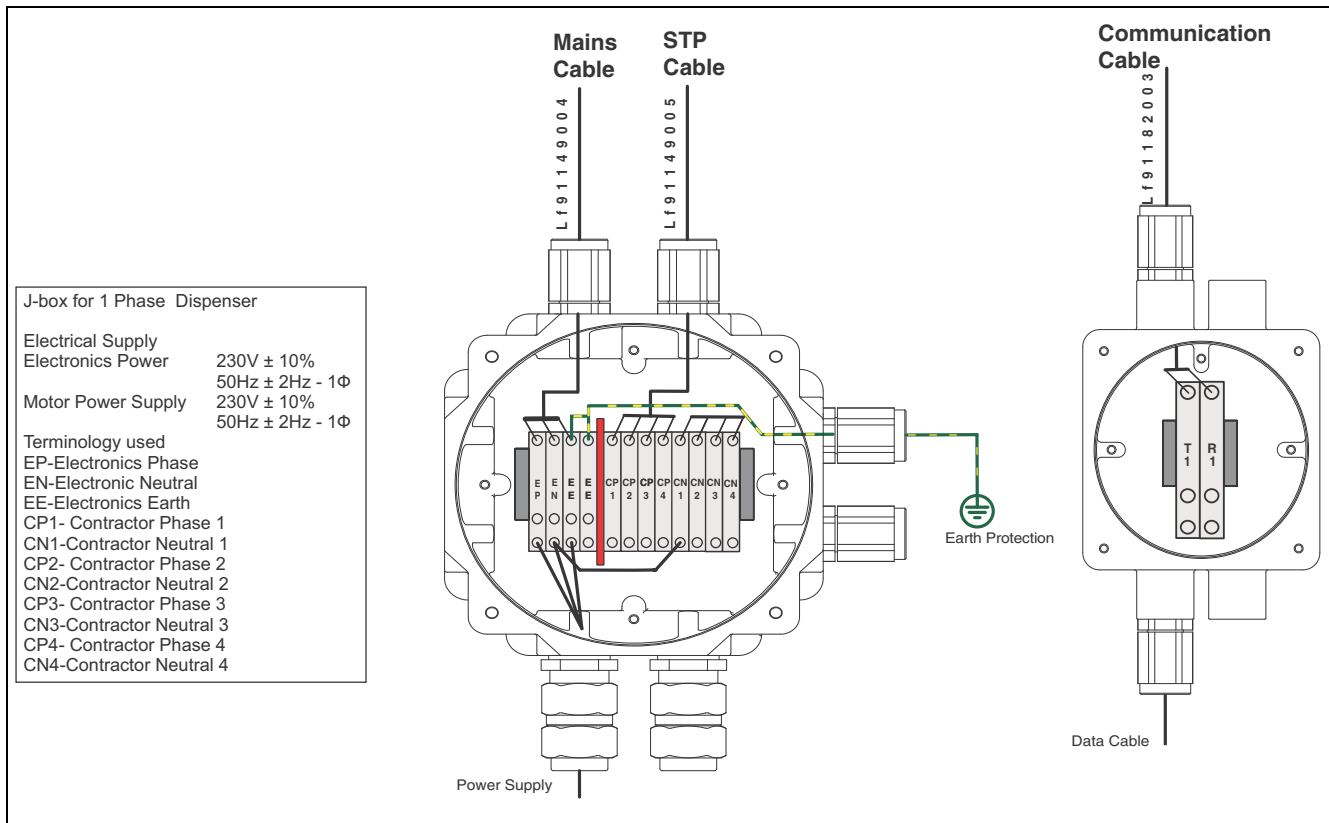
Suction Pump	
<u>Motor supply, maximum current</u>	
1 Phase Versions, 230V	= 12,5 Amps
3 Phase Versions, 230V	= 10,5 Amps
3 Phase Versions, 400V	= 6,0 Amps
<u>Electronic supply, maximum current</u>	
All Versions	= 3,0 Amps

Frontier J-box Connection for Single Phase Supply

Figure 15 shows the Frontier J-box connection for single phase supply.

230 V ± 10%, 50 Hz ± 2 Hz

Figure 15: J-box Connections for Single Phase Supply



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