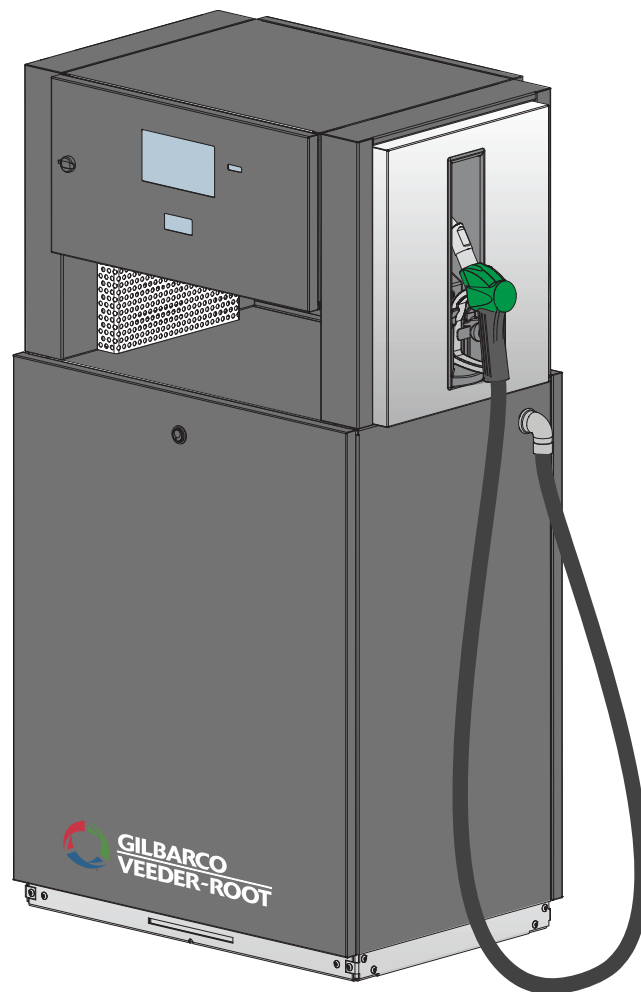


Gilbarco®

Pumps & Dispensers Series Frontier™ EU

Site Preparation



Document not subject to updating service

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1 Read Me 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: -

1. 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: (e.g. PETROL PUMPS - EMERGENCY STOP)
2. On the forecourt readily accessible to fire-fighters 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: (e.g. 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. Please 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 EC Machinery Directive in respect of user friendly software between the operator and the control system.

DANGER FROM MOVING PARTS : The electrical power to this equipment must be removed prior to any installation or maintenance work being carried out.

WARNING: THE UNIT BEING THE SUBJECT-MATTER OF THIS MANUAL SHALL BE INSTALLED AND COMMISSIONED BY TRAINED PERSONNEL.

Trained personnel means people with the appropriate technical education and experience required to:

- carry out operations in areas accessible by technical assistance staff,
- be aware of the dangers involved in carrying out the operations, and be instructed about the measures required to minimise those dangers

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

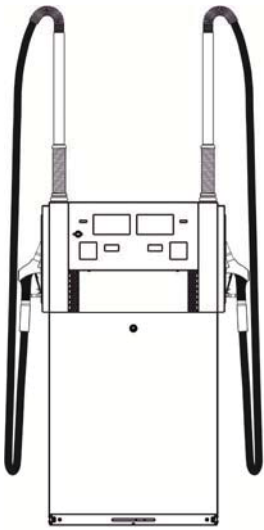
When cleaning the GRP panels on your pump, always use a soft damp cloth, NEVER clean with dry cloth.

Only genuine Gilbarco parts should be used on this equipment.

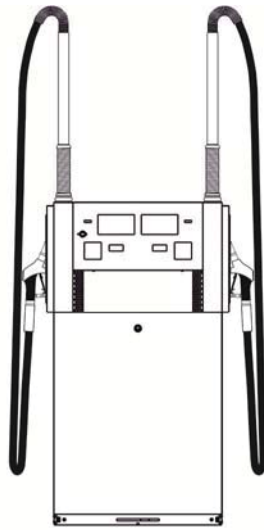
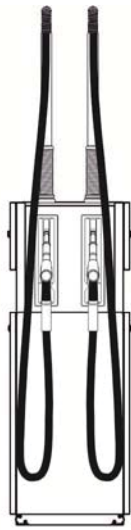
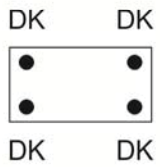
All equipment connected to the Control, Data or Point of Sale terminals of this Dispenser must comply with SELV (Safety Extra Low Voltage) requirements as defined in Standard EN60950.

The dispenser is in accordance with the directive measuring instruments 2004/22/EG. The approval number is T10055 SK700-2 xxx (xxx=Frontier EU).

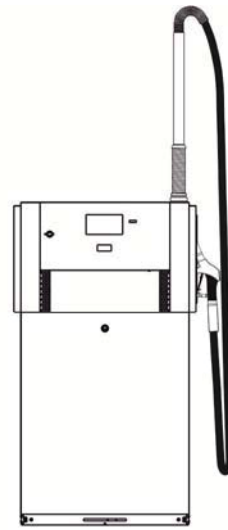
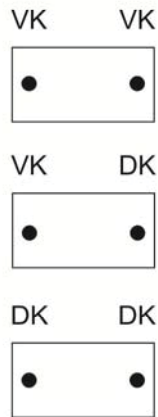
2 Type Overview



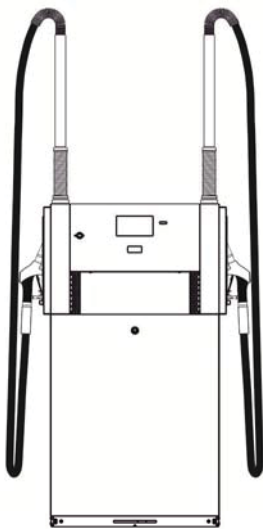
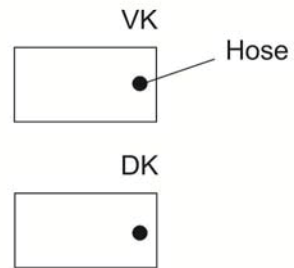
Frontier EU/120-2/40-2



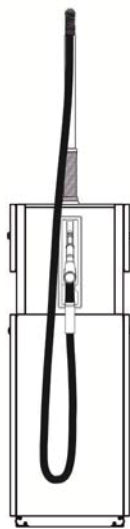
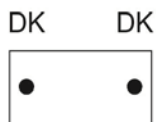
Frontier EU/2



Frontier EU/1



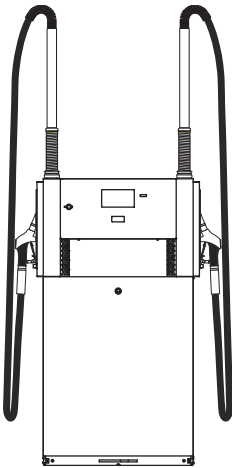
Frontier EU/120-1/40-1
Frontier EU/120-1+40-1
Frontier EU/120-2



Side 1 = Filter side!

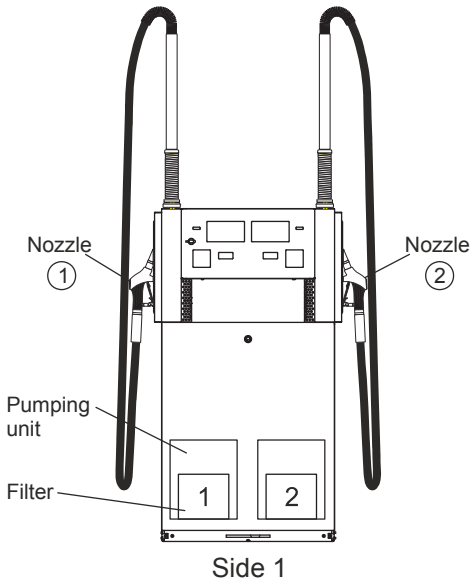
3 General Description

The Frontier EU is a grouped hose dispenser with hose mast. It is capable of dispensing Petrol, Diesel or Ethanol E85 and can be supplied as a self-contained pumping unit or as part of a Pressure fed dispenser (STP) installation. Both sides of the dispenser can dispense fuel simultaneously, acting as two independent fuelling positions. The Frontier EU can operate in 'Stand-Alone' mode or they can be used as part of a complete Self-Service forecourt installation. They can communicate with any other approved Self-Service control console via Gilbarco 2Wire, IFSF - Lon protocol, ER3, ATCL, or PUMA LAN. Dispensers may be fitted with up to 4 hoses and are supplied as complete assemblies ready to be secured to the island and connected to the fuel supply pipes and the mains electrical supply cable. All internal connections, i.e. wiring, hydraulics and vapour recovery piping, are already assembled, in position and ready for installation. High-Flow versions are available which can deliver up to 120 litres per minute. Two speed versions are also available. A wide range of optional features are available, including Vapour Recovery.



3.1 Dispenser Orientation

The diagram shows the connection between the pumping unit and the corresponding hose. If the side with the filter facing to you, then you are on the side 1 of the dispenser.

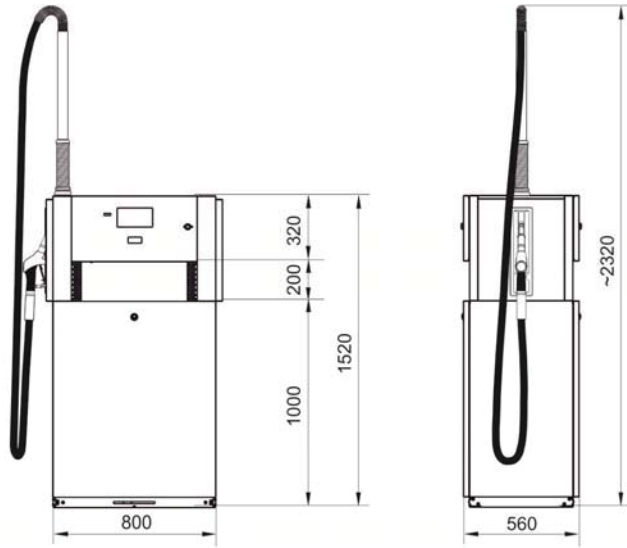


3.2 Grade Locations

The numbers by the nozzles and on the pumping units represent, how grades are mapped and referred to in the programming sequences

4 Overall Dimensions 1 Product

1 Product, 40 l/min, Suction or STP, with Vap. Rec.

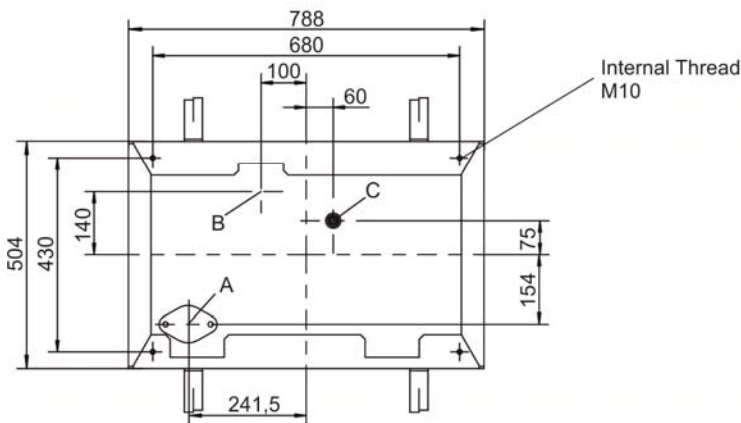


All Dimensions
in Millimetres

Option: Suction connection kit
140826683

Footprint Details

Side 2



Side 1 = Filter side

Key to Symbols
A - Grade 1
B - Cable Riser
C - Vapour Recovery
M - Meter
H - Hose

Subframe
Part No. - 141013551

It is recommended that Vapour Recovery return pipes
are installed where this may be a future requirement.

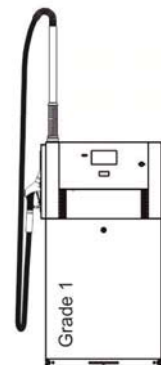
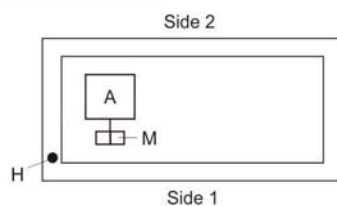
Module Configuration and Maximum Current

Suction Pump

Motor supply, maximum current
1 Phase Versions, 230V = 7,0 Amps
3 Phase Versions, 230V = 5,0 Amps
3 Phase Versions, 400V = 3,5 Amps
Electronic supply, maximum current
All Versions = 6,0 Amps

Submersible Turbine Pump (STP)

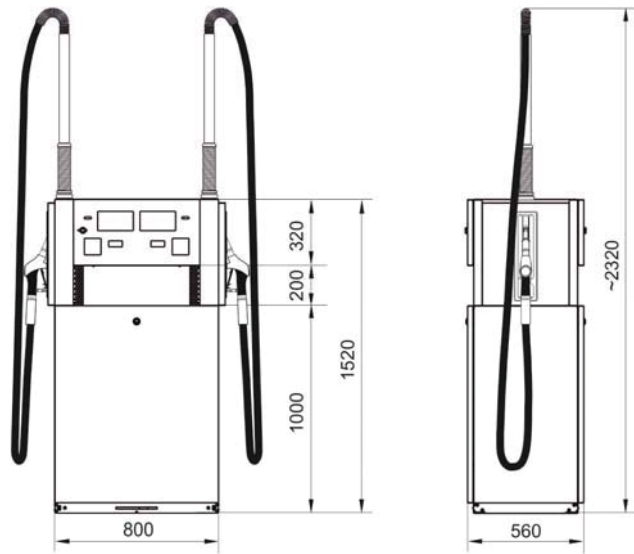
Vapour Recovery, maximum current
3 Phase Motors = 1,0 Amps
1 Phase Motors = 3,0 Amps
Electronic supply, maximum current
All Versions = 6,0 Amps



Side 1 = Filter side

5 Overall Dimensions 2 Products

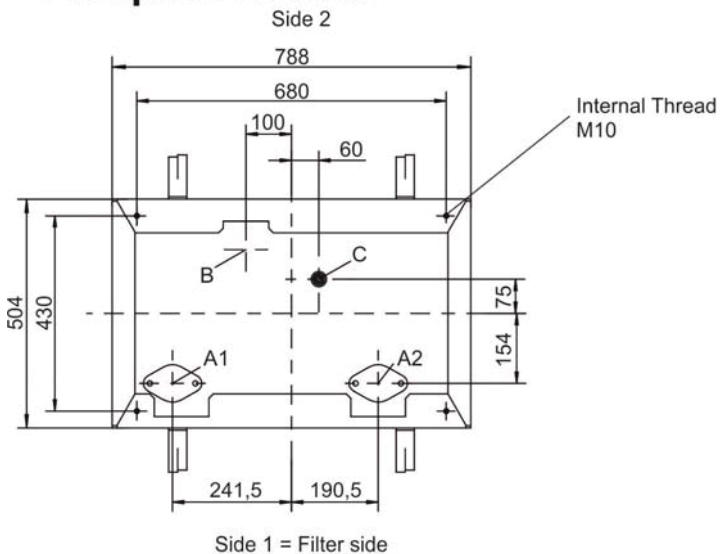
2 Products, 40l/min, Suction or STP, with Vap. Rec.



All Dimensions
in Millimetres

Option: Suction connection kit
140826683

Footprint Details



Key to Symbols	
A1, A2	- Grade 1, 2
B	- Cable Riser
C	- Vapour Recovery
M	- Meter
H	- Hose

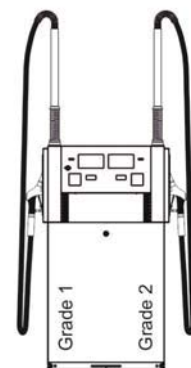
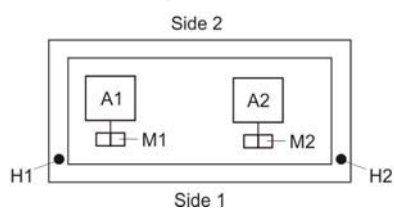
Subframe
Part No. - 141013551

It is recommended that Vapour Recovery return pipes
are installed where this may be a future requirement.

Module Configuration and Maximum Current

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

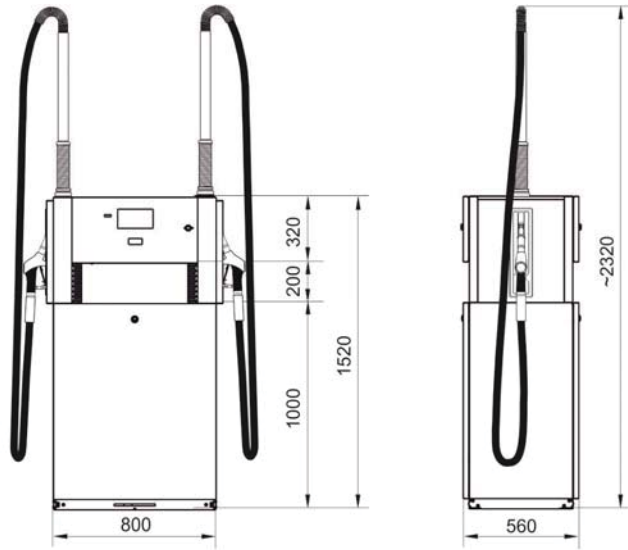
Submersible Turbine Pump (STP)
Vapour Recovery, maximum current
3 Phase Motors = 1,0 Amps
1 Phase Motors = 3,0 Amps
Electronic supply, maximum current
All Versions = 6,0 Amps



Side 1 = Filter side

6 Overall Dimensions 1 Product

1 Product, UHF 120-1/40-1 l/min. Suction or STP

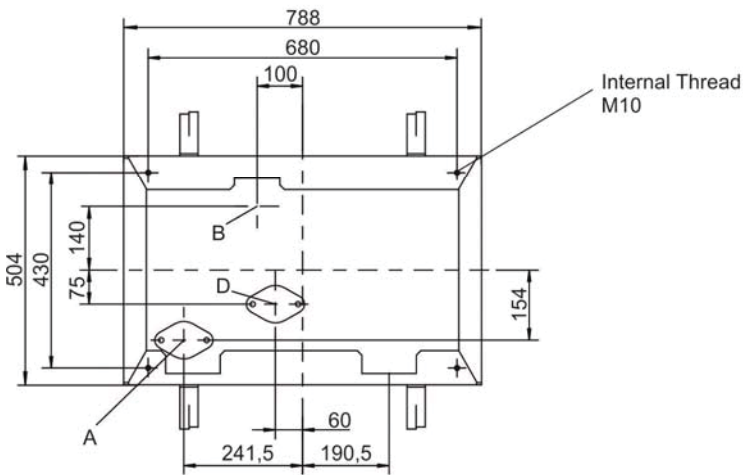


All Dimensions
in Millimetres

Option: Suction connection kit
140826683

Footprint Details

Side 2



Key to Symbols	
A	Grade DK 120 / 40 L/min
B	Cable Riser
C	Vapour Recovery
D	Satellite
M	Meter
H	Hose

Side 1 = Filter side

Subframe
Part No. - 141013551

It is recommended that Vapour Recovery return pipes
are installed where this may be a future requirement.

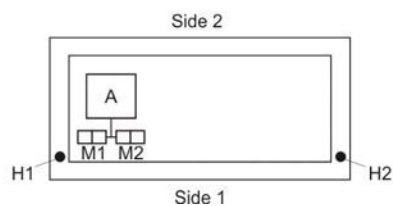
Module Configuration and Maximum Current

Suction Pump

Motor supply, maximum current
 1 Phase Versions, 230V = Not used
 3 Phase Versions, 230V = 7,0 Amps
 3 Phase Versions, 400V = 4,0 Amps
Electronic supply, maximum current
 All Versions = 6,0 Amps

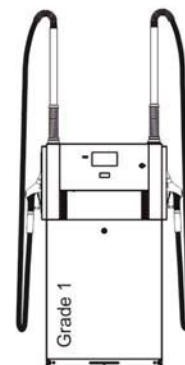
Submersible Turbine Pump (STP)

Vapour Recovery, maximum current
 3 Phase Motors = 1,0 Amps
 1 Phase Motors = 3,0 Amps
Electronic supply, maximum current
 All Versions = 6,0 Amps



Hose 1
120L/min

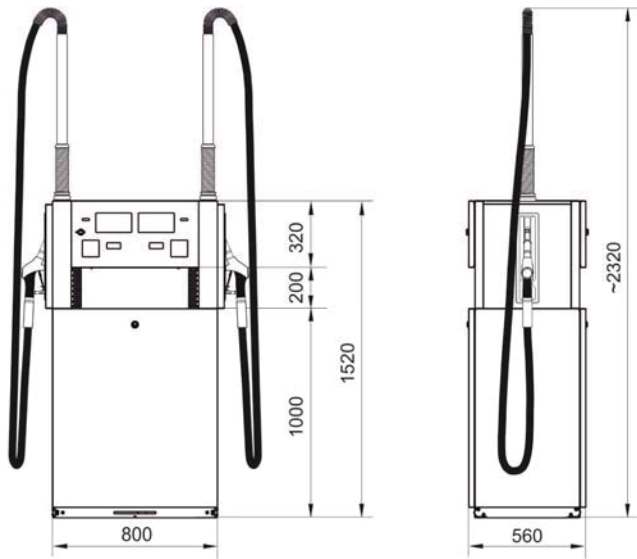
Hose 2
40L/min



Side 1 = Filter side

7 Overall Dimensions 2 Products

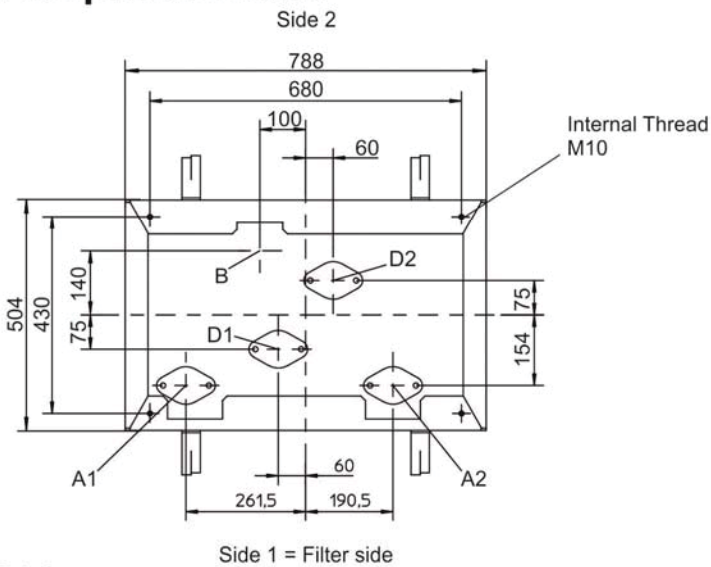
2 Products, UHF 120l/min, Suction or STP, SAT-Connection (optional)



All Dimensions
in Millimetres

Option: Suction connection kit
140826683

Footprint Details



Key to Symbols	
A1, A2	- Grade DK 120L/min
B	- Cable Riser
C	- Vapour Recovery
D	- Satellite
M	- Meter
H	- Hose

Subframe
Part No. -141013551

It is recommended that Vapour Recovery return pipes
are installed where this may be a future requirement.

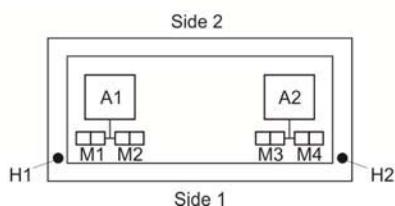
Module Configuration and Maximum Current

Suction Pump

Motor supply, maximum current
 1 Phase Versions, 230V = Not used
 3 Phase Versions, 230V = 14,0 Amps
 3 Phase Versions, 400V = 8,0 Amps
Electronic supply, maximum current
 All Versions = 6,0 Amps

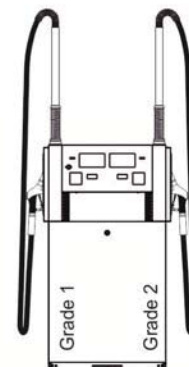
Submersible Turbine Pump (STP)

Vapour Recovery, maximum current
 3 Phase Motors = 1,0 Amps
 1 Phase Motors = 3,0 Amps
Electronic supply, maximum current
 All Versions = 6,0 Amps



Hose 1
120L/min

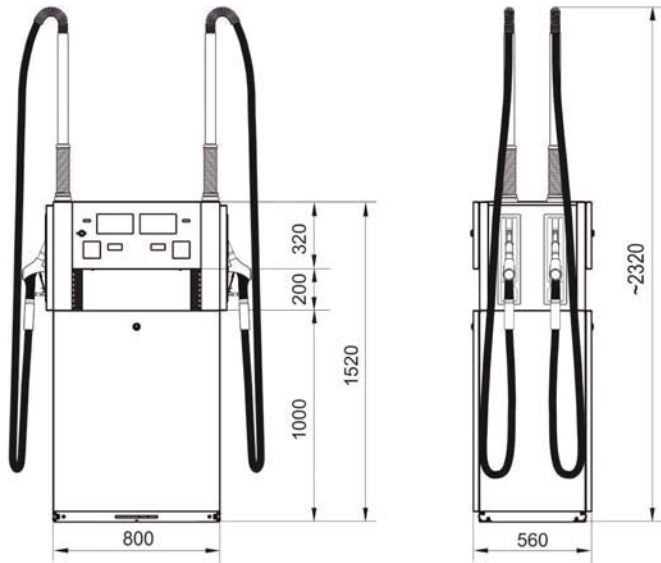
Hose 2
120L/min



Side 1 = Filter side

8 Overall Dimensions 2 Products

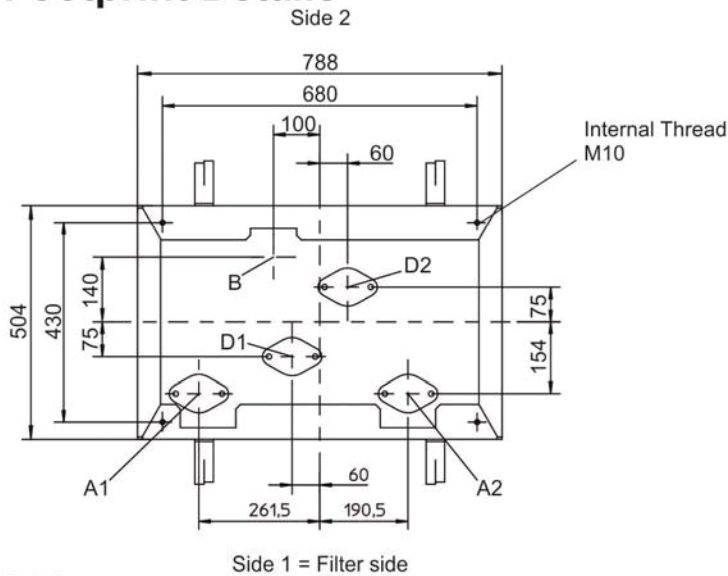
2 Products, UHF 120-2/40-2 l/min, Suction or STP



All Dimensions
in Millimetres

Option: Suction connection kit
140826683

Footprint Details



Key to Symbols

- A1, A2 - Grade DK 120 / 40 L/min
- B - Cable Riser
- C - Vapour Recovery
- M - Meter
- H - Hose

Side 1 = Filter side

Subframe
Part No. - 141013551

It is recommended that Vapour Recovery return pipes
are installed where this may be a future requirement.

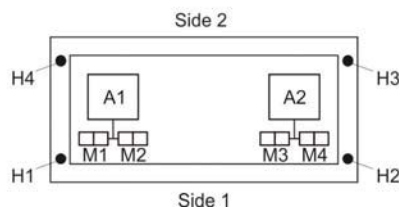
Module Configuration and Maximum Current

Suction Pump

Motor supply, maximum current
1 Phase Versions, 230V = Not used
3 Phase Versions, 230V = 14,0 Amps
3 Phase Versions, 400V = 8,0 Amps
Electronic supply, maximum current
All Versions = 6,0 Amps

Submersible Turbine Pump (STP)

Vapour Recovery, maximum current
3 Phase Motors = 1,0 Amps
1 Phase Motors = 3,0 Amps
Electronic supply, maximum current
All Versions = 6,0 Amps

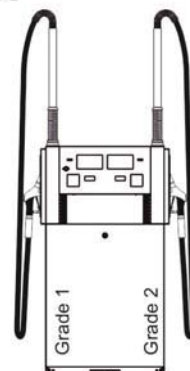


H 4 (Side 2)
40L/min

H 1 (Side 1)
120L/min

H 3 (Side 2)
120L/min

H 2 (Side 1)
40L/min



Side 1 = Filter side

9 Junction Box Wiring

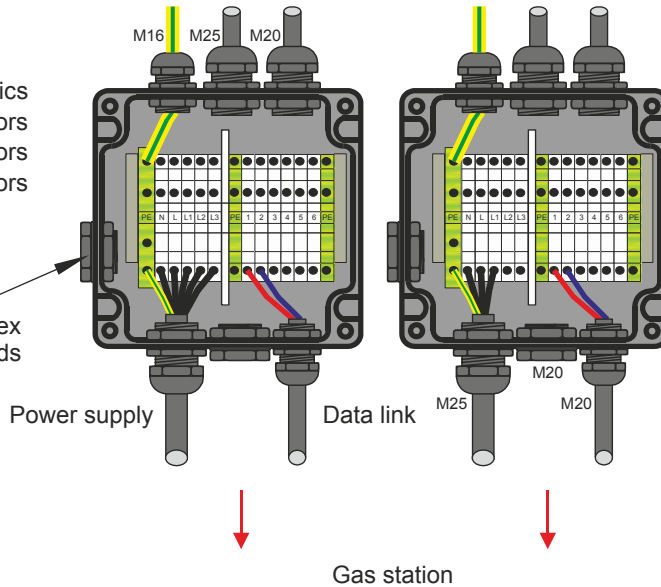
Three Phase Supply

400V ± 10% , 50Hz ± 2Hz
230V +10% -15%, 50Hz ± 2Hz

Power supply

- PE - Main Earth
- N - Neutral
- L - Live for Electronics
- L1 - Phase 1 for Motors
- L2 - Phase 2 for Motors
- L3 - Phase 3 for Motors

Blind plug
For the use with Atex certified cable glands (Size M25)



Single Phase Supply

230V +10% -15%, 50Hz ± 2Hz

Power supply

- PE - Main Earth
- N - Neutral
- L - Phase for Electronics
- L1 - Phase for Motors

The supply overcurrent protection devices should have a Break Capacity of not less than 4000A

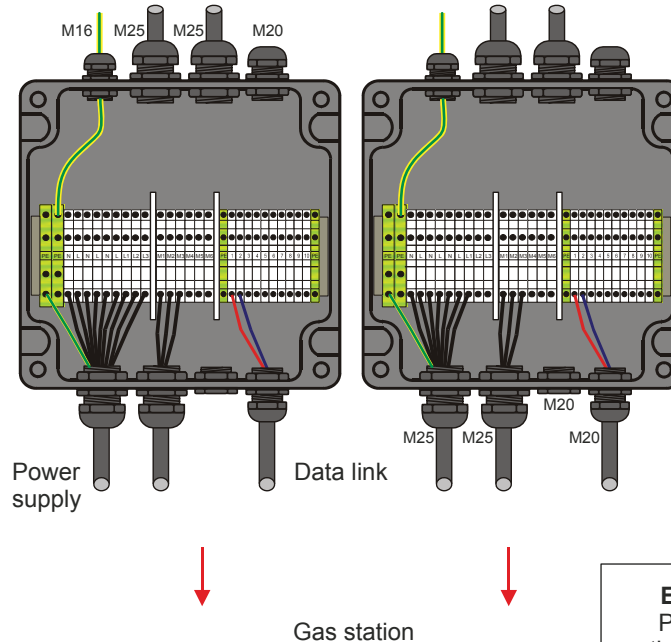
Gas station

Three Phase Supply for STP and Crind

400V ± 10% , 50Hz ± 2Hz
230V +10% -15%, 50Hz ± 2Hz

Power supply

- PE- Main Earth
- N- Neutral Crind
- L- Live for Crind
- N- Neutral Heater
- L- Live für Heater
- N- Neutral Calculator
- L- Live for Calculator
- L1- Phase 1 VRC- Motor
- L2- Phase 2 VRC- Motor
- L3- Phase 3 VRC- Motor
- M1 - STP Grade 1
- M2 - STP Grade 2
- M3 - STP Grade 3
- M4 - STP Grade 4
- M5 - STP Grade 5
- M6 - STP Grade 6



Single Phase Supply for STP and Crind

230V +10% -15%, 50Hz ± 2Hz

Power supply

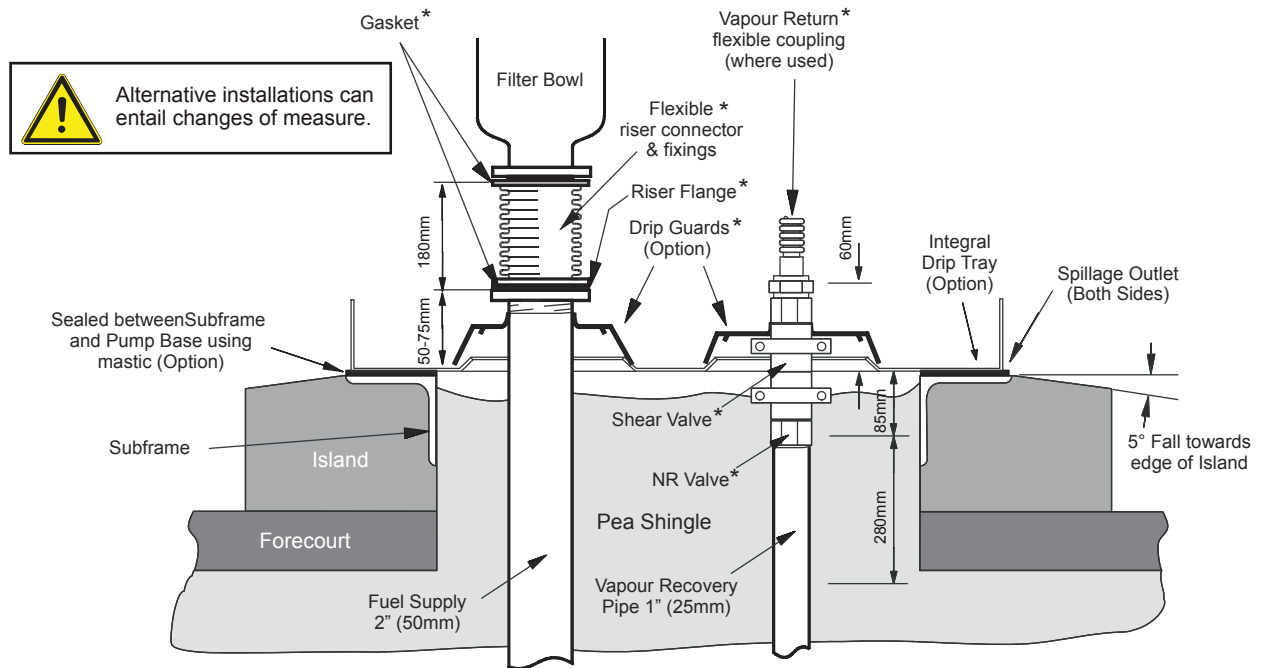
- PE- Main Earth
- N- Neutral Crind
- L- Live for Crind
- N- Neutral Heater
- L- Live für Heater
- N- Neutral Calculator
- L- Live for Calculator
- L1- Phase 1 VRC- Motor
- M1 - STP Grade 1
- M2 - STP Grade 2
- M3 - STP Grade 3
- M4 - STP Grade 4
- M5 - STP Grade 5
- M6 - STP Grade 6

Electrical connection
Please note the local & national regulations regarding electrical installations. Electrical cables must be oil and fuel resistant.

Gas station

10 Proposal for suction dispenser fuel & vapour connections

(With Vapour Line Impact Check Valve, Steel Pipework)



* Items supplied by Gilbarco (optional)

10.1 Subframes

Gilbarco recommend that dispensers be mounted on subframes that have been installed prior to the installation of the dispenser. In some cases a pre-fabricated island with integral subframe may be installed. Subframes are set into the island during the forecourt preparation work and must be sealed to the island surface using a fuel and water resistant compound. They should stand proud of the finished surface of the island (inc. tiles where used) up to a maximum of 2mm. The surface of the subframe should be flat and level, however the island surface should be designed with at least 5° fall toward its outer edge. This is to ensure that any internal leakages dispersed through the base of the dispensers are directed away from the dispenser base and onto the forecourt.

The dispenser subframes are designed for use with 2" (50mm) Product Riser pipes and 1" (25mm) Vapour Recovery return pipes.

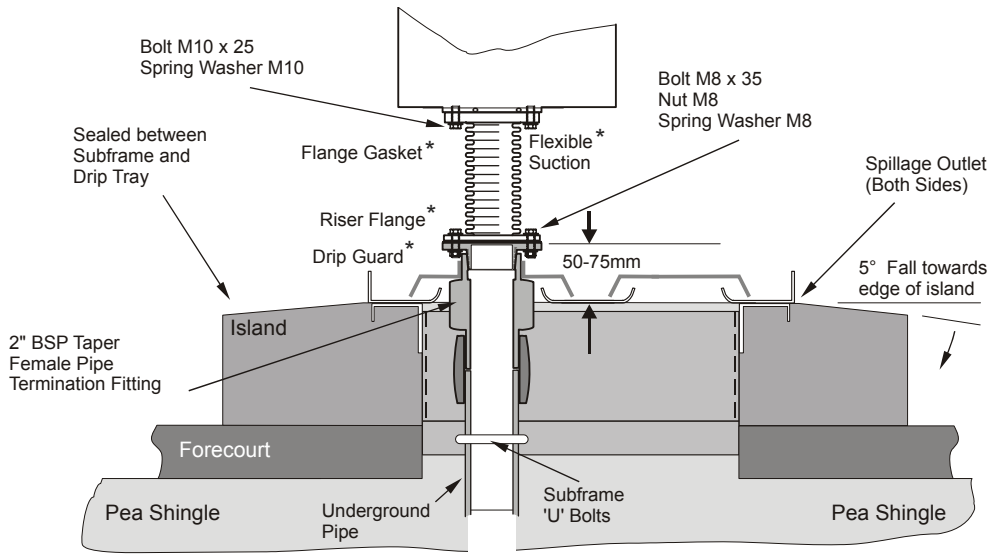
10.2 Drip Guards

Drip Guards are to be fitted as shown, so that in the event of a spillage or leak, the excess fuel will be directed away from the riser position and onto the integral Drip Tray, it will then flow towards the apertures in the base of the dispenser frame and onto the surface of the forecourt. This clearly indicates that a leak is present and that repair is necessary.

10.3 Vapour Recovery Pipes

Where used, Vapour Recovery pipes should be installed using a non return or check valve before the shear valve. The break point of the VR shear valve should be set level with the top face of the island. This means that the top of the VR riser pipe needs to be set 85mm below the top of the subframe. The riser pipe should terminate with a 1" BSPT male thread with a minimum of 20mm of thread engagement.

**10.4 Proposal for suction dispenser fuel connections
(Plastic Pipework)**



* Items supplied by Gilbarco (optional)



After Sales & Technical Support

Local Market
GVR Distributor

International Tel: +49 5258 130
Fax: +49 5258 13262