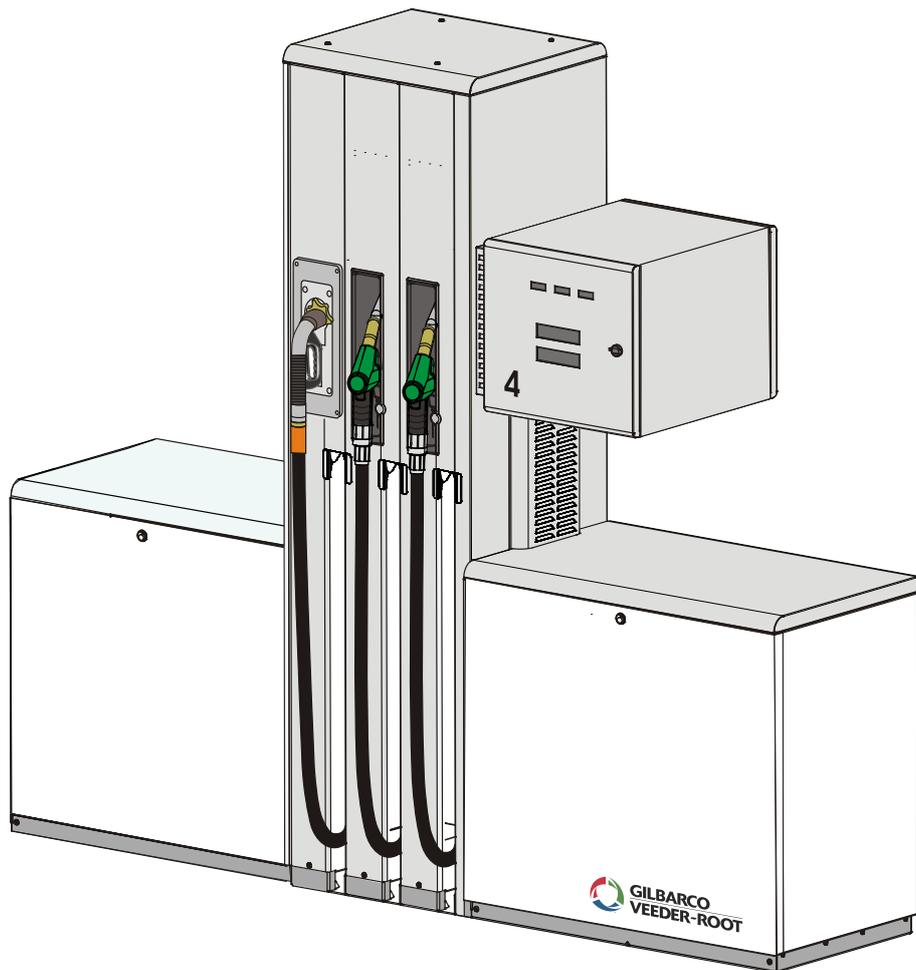


Gilbarco®

Pumps & Dispenser Series SK700-2™ with LPG

Site Preparation



Document not subject to updating service

Contents

Safety – Read me fist.....	1
General Description.....	2
Datasheet for 1 product, external hose guide for LPG	3
Datasheet for 3 products, external hose guide for LPG.....	4
Datasheet for 4 products, external hose guide for LPG.....	5
Datasheet for 5 products, external hose guide for LPG.....	6
Datasheet for 1 product, internal hose guide for LPG	7
Datasheet for 3 products, internal hose guide for LPG	8
Datasheet for 4 products, internal hose guide for LPG	9
Datasheet for 5 products, internal hose guide for LPG	10
Three Phase – and Single Phase Supply	11-13
Pipe work Installation.....	14-16

Read Me First

If equipment is to be used to dispense Petrol, then the words 'PETROL' (or PETROLEUM SPIRIT), LPG, 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 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: (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. All installation and maintenance work on Gilbarco equipment must be carried out by competent technicians who have received the required training.

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

Safety advance for LPG-Dispenser

The dispenser was build according to the state of the art and the admitted safety relevant rules. Nevertheless dangers for live and health of the personal or third and/or impairments at the dispenser or other real values can be originate .

The dispenser is to be used for the intended use only. Each offence against the intended use can entail an accident with death, heavy bodily injury and/or damage to property. Furthermore each offence against the intended use precipitates to a loss of any warranty claims.

Disturbances which can impair the security, are to be eliminated immediately.

If at the time of installation or maintenance work components must to be exchanged, or system sections or pressure pipes must be opened, the dispenser or the corresponding system section is to make pressure free and if necessary to inerting.

The high pressure hose of the dispenser as well as the filling nozzle and the shear valve, are to be checked and replaced in legal defined time intervals, if safety relevant defects are recognizable.

By outside effects like high temperatures, thermal radiation, impact and similar, pressurised dispenser parts can be effected negatively. The appropriate safety precautions are to be provide by the operator, so that an danger situation cannot occur.

By the use of liquid gas as operating medium, the possibility of an accident with death, heavy bodily injury and/or damage to property exists with leakage of the dispenser.

Safety devices may be removed only after final putting out of operation of the dispenser and after security against restarting operation.

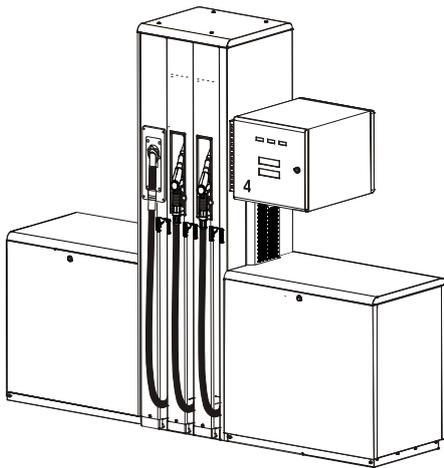
Before assembly, it is to be made certain that the lines are depressurised. Only connecting types are to be used which are certified for liquid gas.

To avoid damages, dispenser with frozen piston meter may not be operated or unfreeze/deice by artificial heat sources. Open armatures slowly to avoid freezing.

When the dispenser is ordered without emergency stop button, an EMERGENCY STOP system is to be installed in the proximity of the dispenser respectively in the escape route.

The function of the deadman button must be ensured to any time.

General Description



The SK700 is a grouped hose dispenser. It is capable of dispensing Petrol , Diesel or LPG 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 SK700 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 10 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.

Hi-Flow versions are available which can deliver up to 120 litres per minute. Two speed versions are also available.

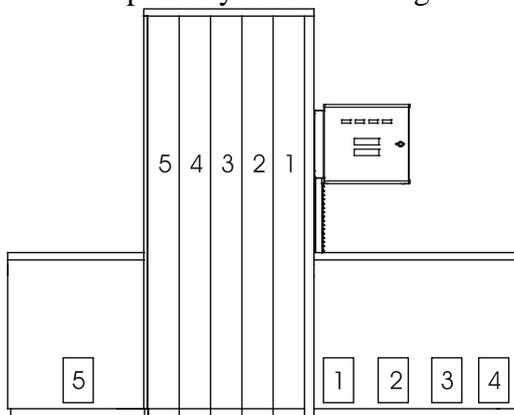
A wide range of optional features are available, including Vapour Recovery.

Dispenser Orientation

The diagram shows the grade layout inside the dispenser and also shows how to identify which side of the dispenser you are working from. Simply put, if the column is to the left of the main transaction display then you are on the left hand side (LHS) or

'Side 1' of the dispenser. If the column is on the right of the main transaction display you are on the right hand side

(RHS) or 'Side 2'.



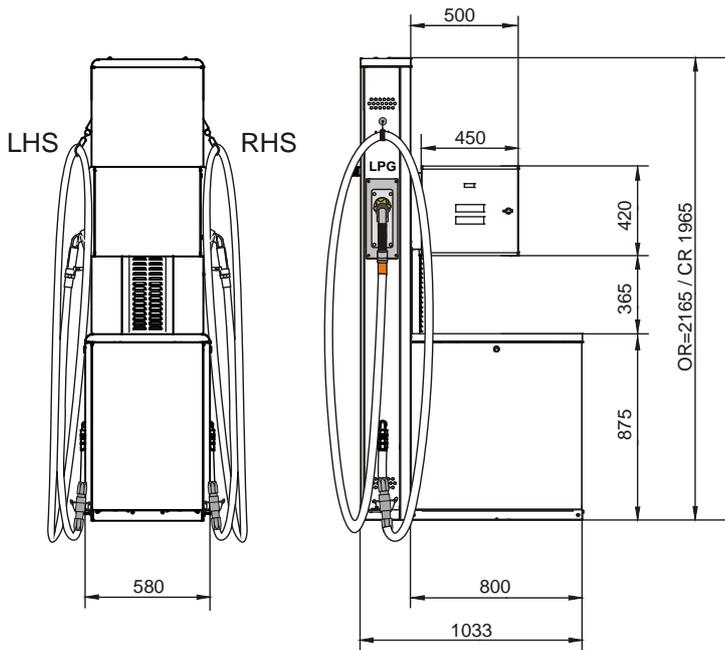
LHS or Side 1

Grade Locations

The numbers on the hose cabinets and on the monoblocks represent how grades are mapped and referred to in the programming sequences.

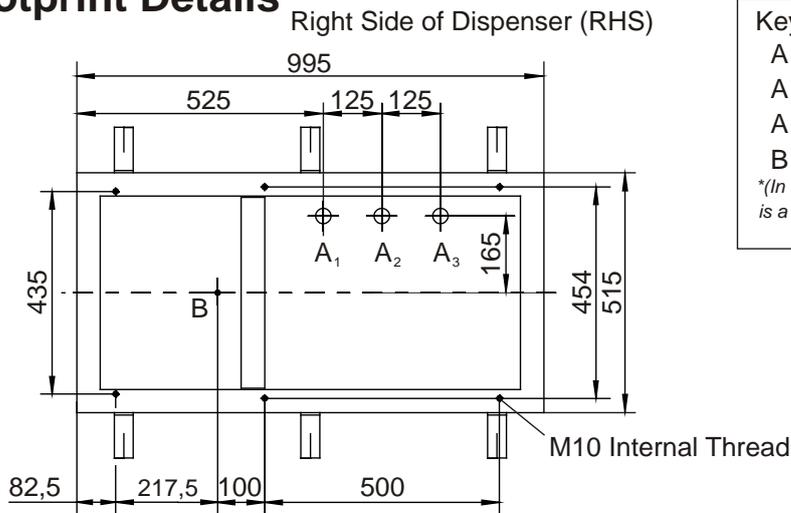
Overall Dimensions

1 Product liquid gas, external hose guide for LPG



All dimensions in millimetres

Footprint Details



Key to Symbols

- A₁ - Pressure Line LPG
- A₂ - Return Line LPG
- A₃ - Pressure Line LPG (Option)*
- B - Cable Riser

**(In double-sided dispensers, the pressure line A₃ is a standard by hydraulics of Petrolmeccanica!)*

Subframe
Part No. - 140 868 951

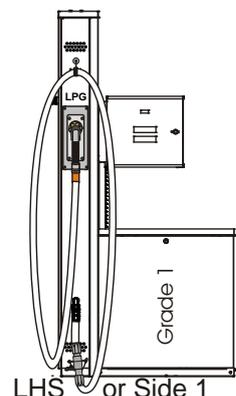
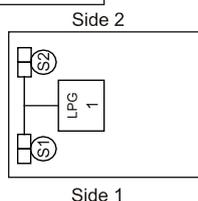
Left Side of Dispenser (LHS)

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

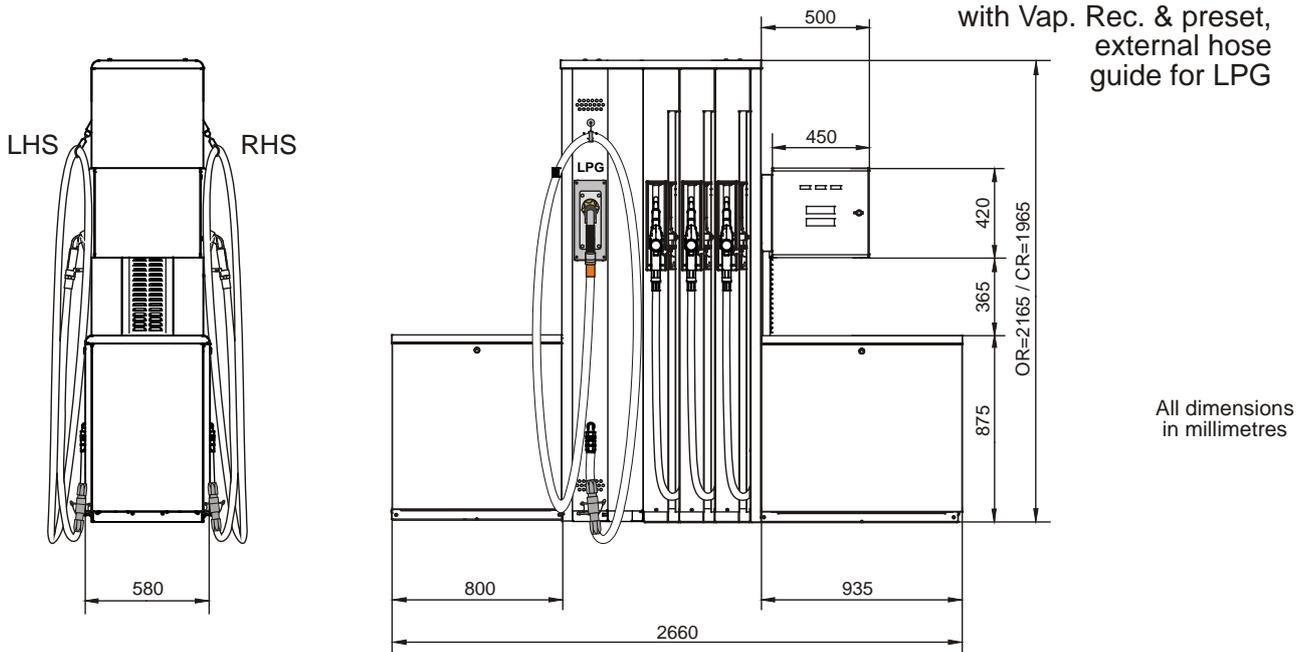
Module Configuration and Maximum Current

Suction Pump
Motor supply, maximum current
1 Phase Versions, 230V = 7,0 Ampere
3 Phase Versions, 230V = 5,0 Ampere
3 Phase Versions, 400V = 3,5 Ampere
Electronic supply, maximum current
All Versions = 3,0 Ampere

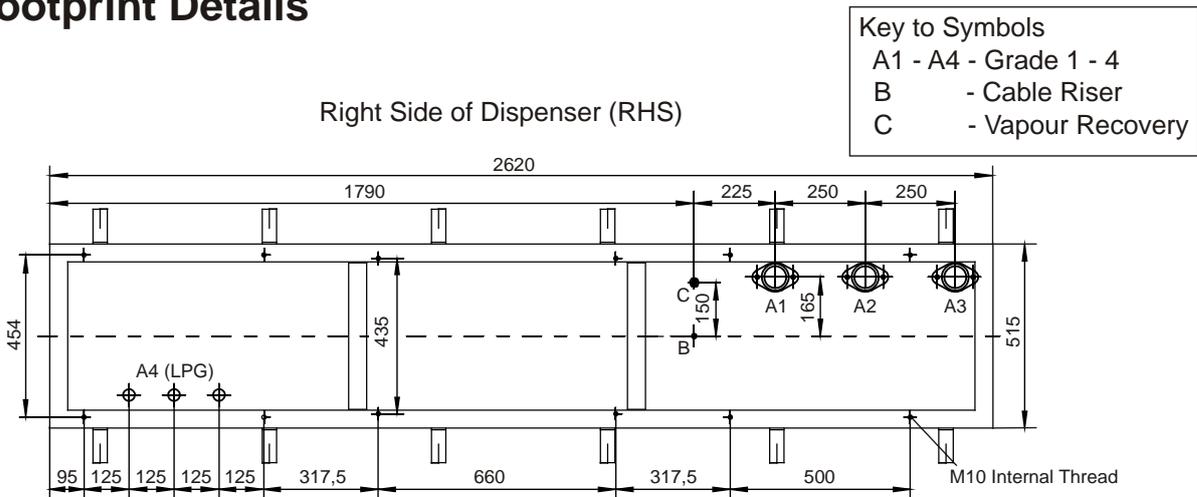
Submerge Turbine Pump (STP)
Vapour Recovery, maximum current
3 Phase Motors = 1,0 Ampere
1 Phase Motors = 3,0 Ampere
Electronic supply, maximum current
All Versions = 3,0 Ampere



Overall Dimensions



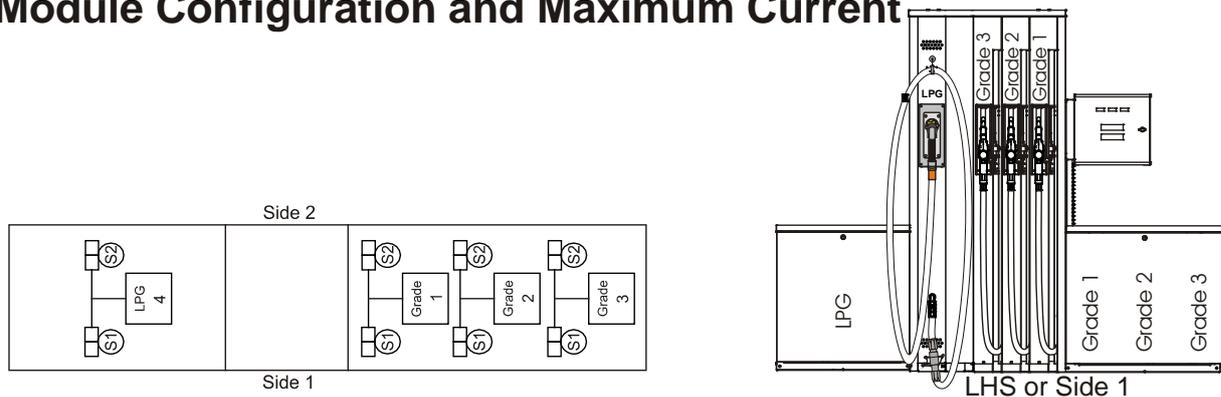
Footprint Details



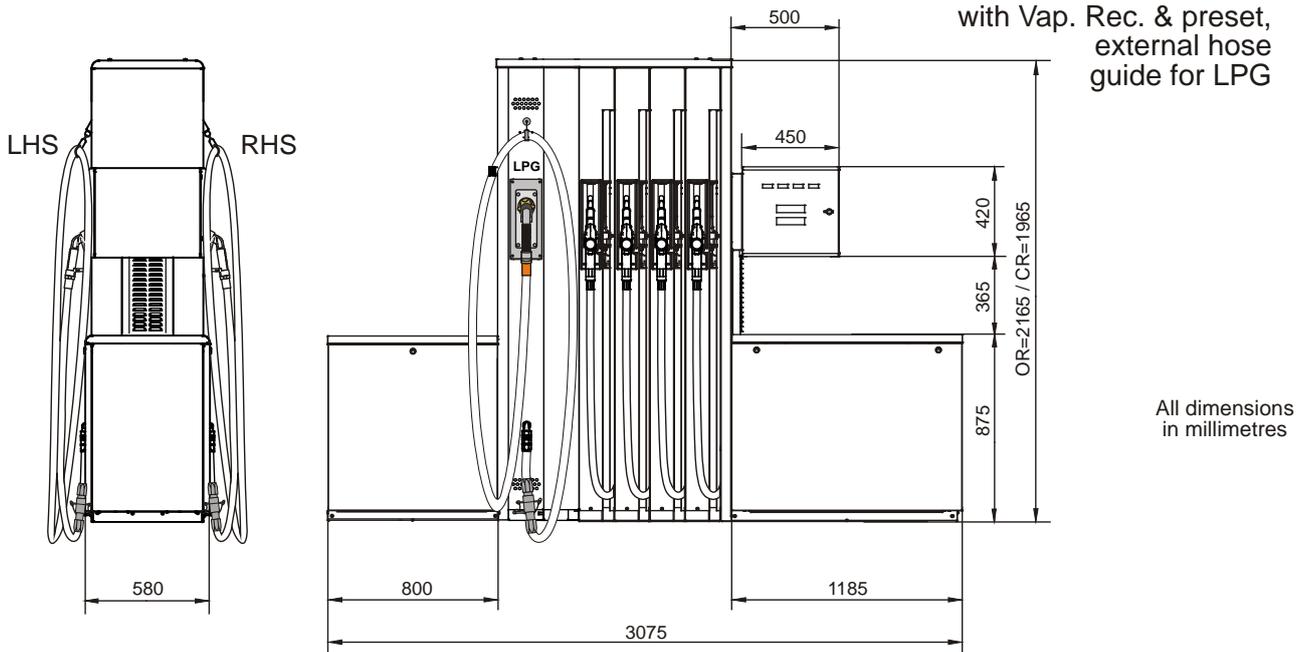
Subframe
 Part No. - 140 875 131
 Part No. - 140 908 342 (With installation material)

Left Side of Dispenser (LHS)
It is recommended that Vapour Recovery return pipes are installed where this may be a future requirement.

Module Configuration and Maximum Current

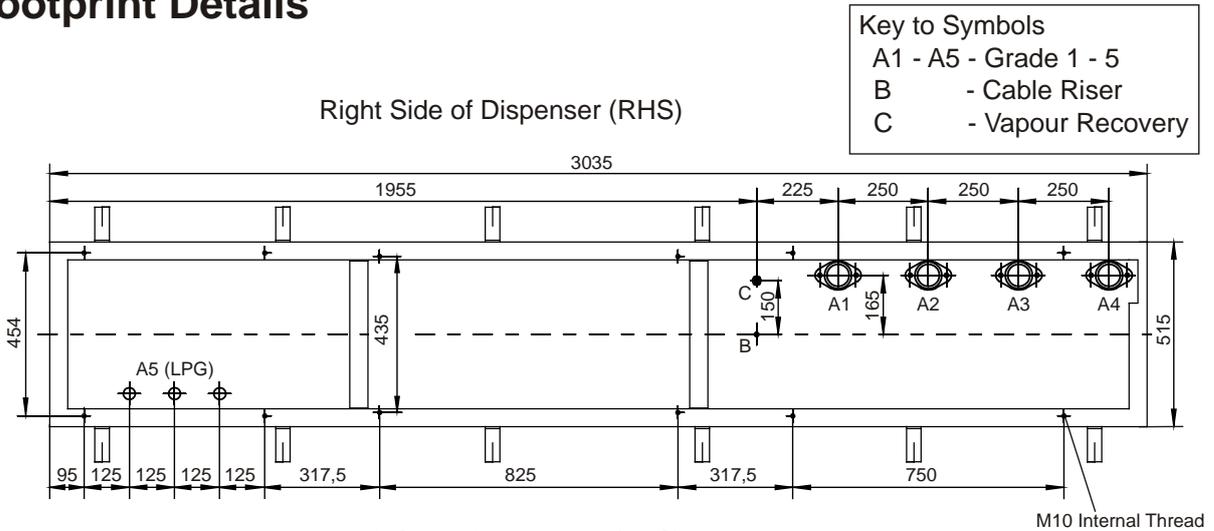


Overall Dimensions



Option: Suction connection kit
140 826 683 For GPU-90 & GPU-140

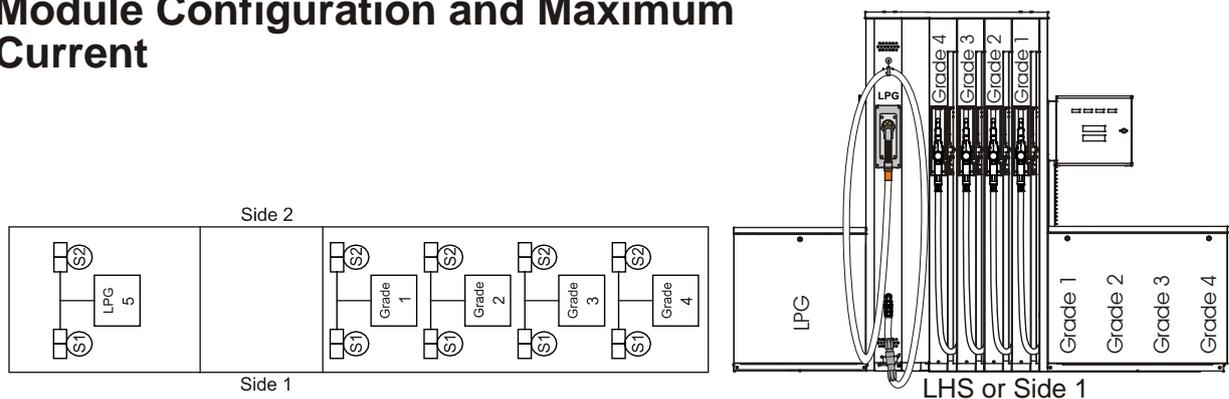
Footprint Details



Subframe
Part No. - 140 905 391
Part No. - 140 905 402 (With installation material)

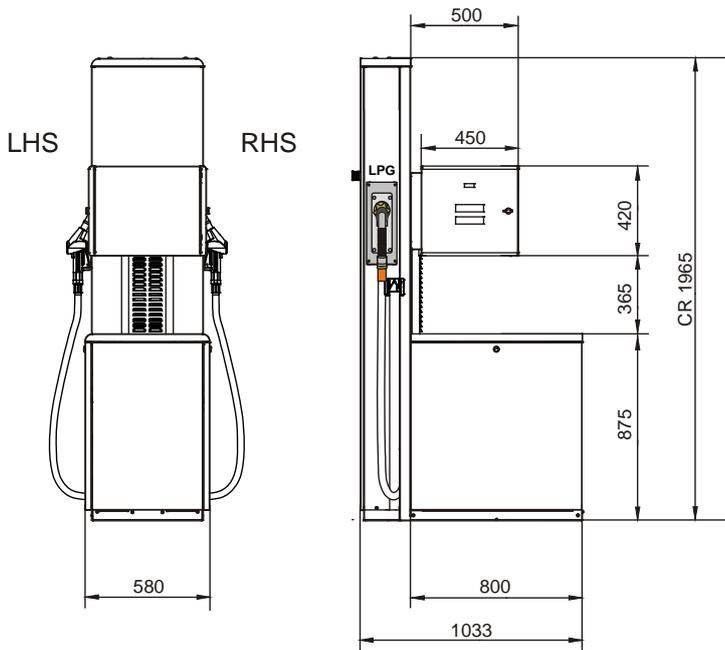
Left Side of Dispenser (LHS)
It is recommended that Vapour Recovery return pipes are installed where this may be a future requirement.

Module Configuration and Maximum Current



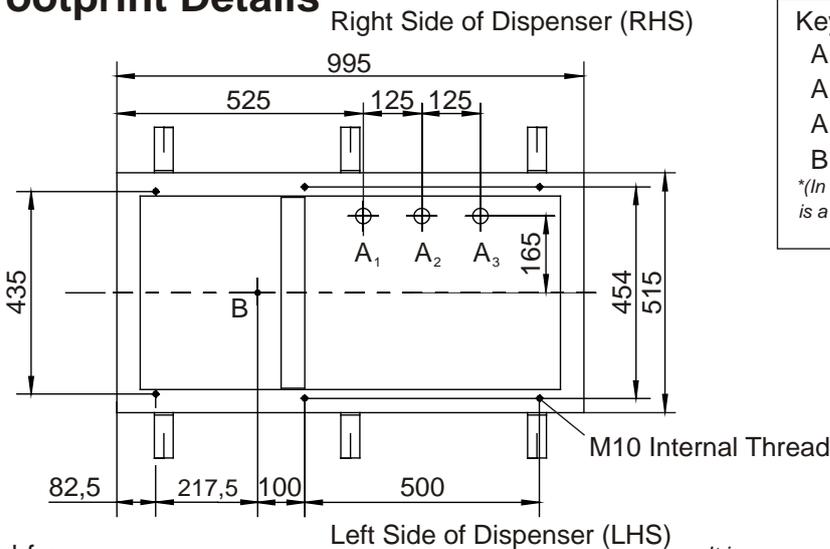
Overall Dimensions

1 Product liquid gas, internal hose guide for LPG



All dimensions in millimetres

Footprint Details



Key to Symbols

- A₁ - Pressure Line LPG
- A₂ - Return Line LPG
- A₃ - Pressure Line LPG (Option)*
- B - Cable Riser

**(In double-sided dispensers, the pressure line A₃ is a standard by hydraulics of Petrolmeccanica!)*

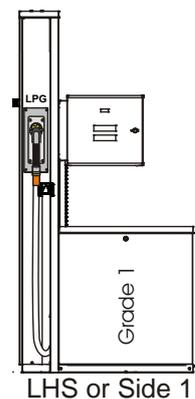
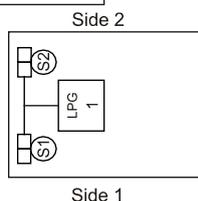
Subframe
Part No. - 140 868 951

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

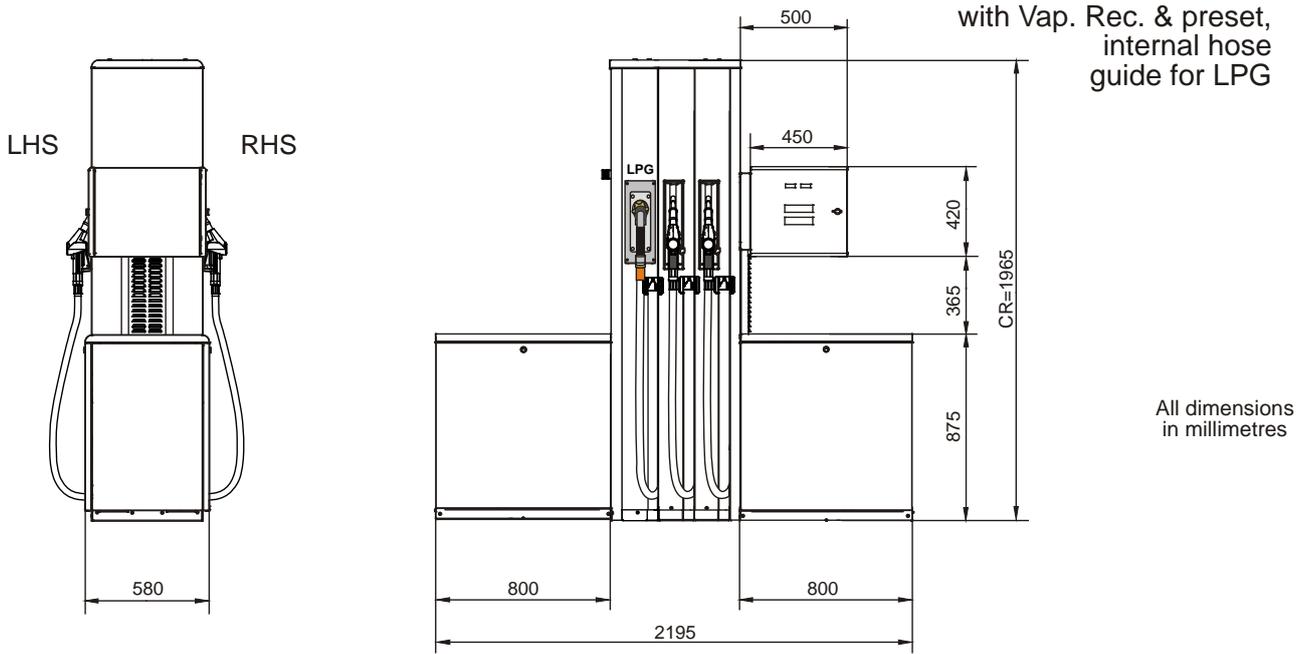
Module Configuration and Maximum Current

Suction Pump
Motor supply, maximum current
1 Phase Versions, 230V = 7,0 Ampere
3 Phase Versions, 230V = 5,0 Ampere
3 Phase Versions, 400V = 3,5 Ampere
Electronic supply, maximum current
All Versions = 3,0 Ampere

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

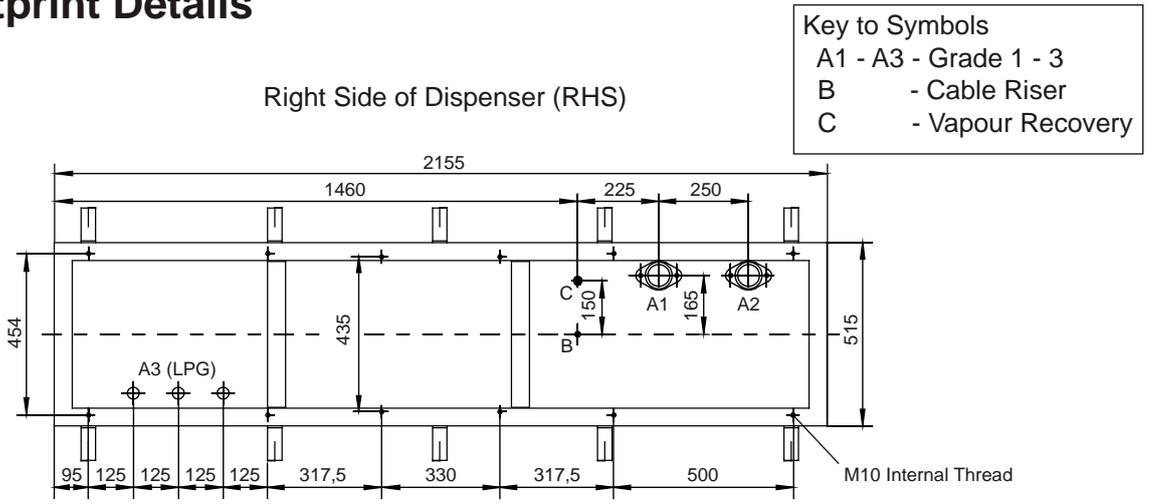


Overall Dimensions



Option: Suction connection kit
140 826 683 For GPU-90 & GPU-140

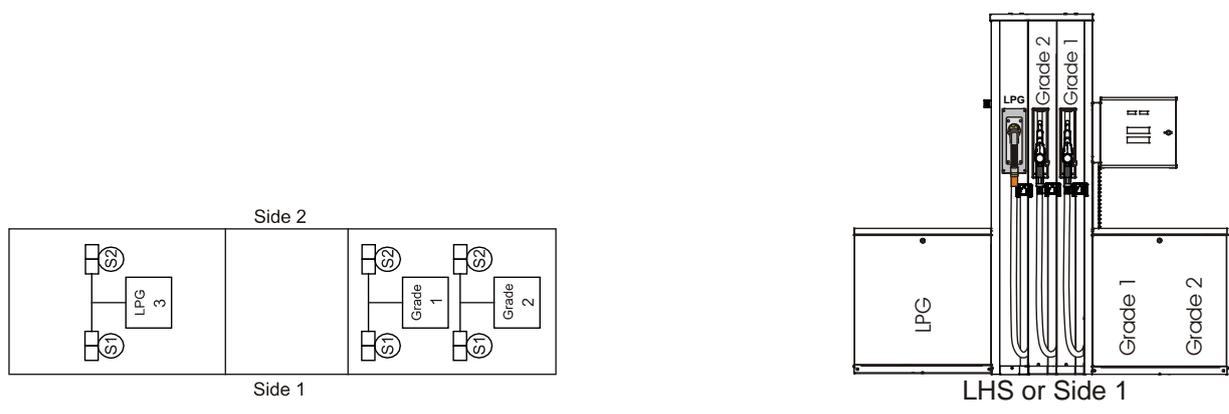
Footprint Details



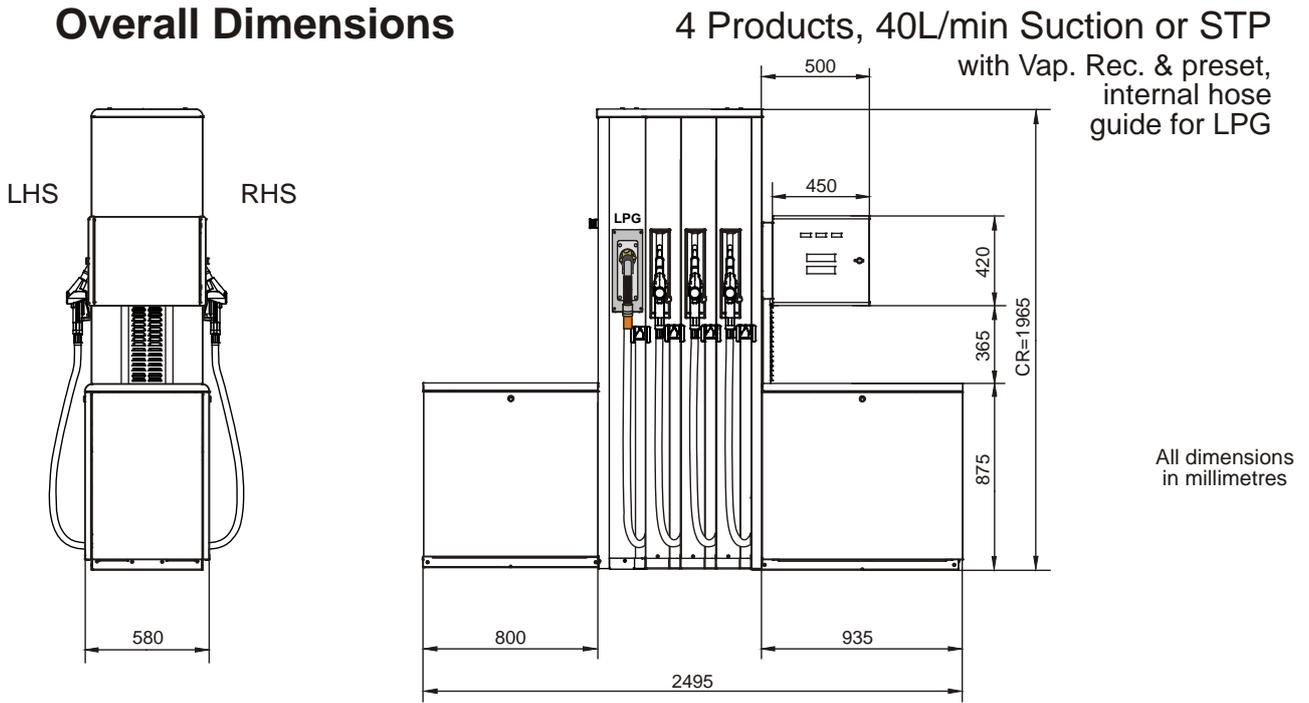
Left Side of Dispenser (LHS)

Subframe
Part No. - 140 895 581

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

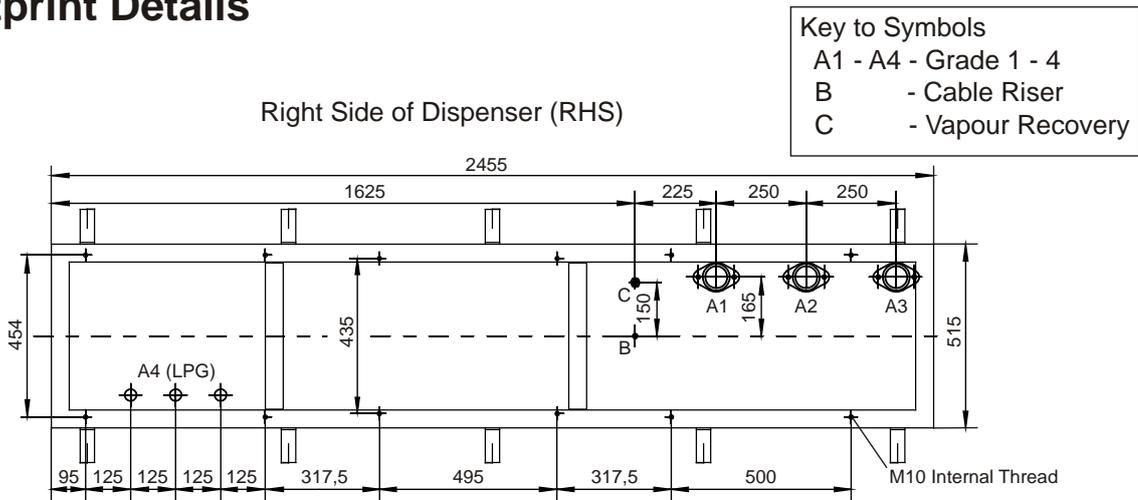


Overall Dimensions



Option: Suction connection kit
140 826 683 For GPU-90 & GPU-140

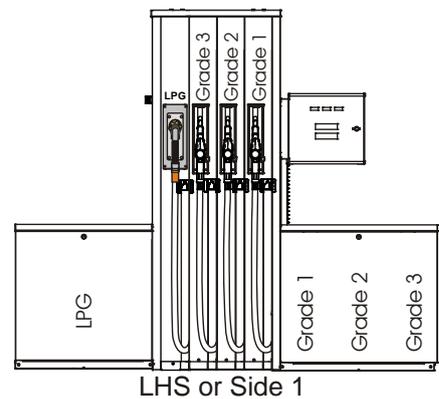
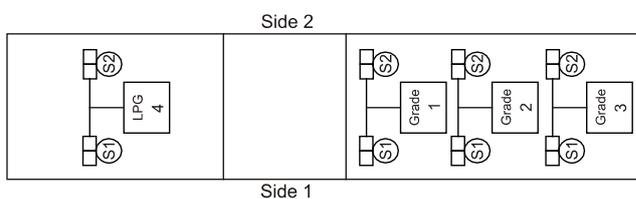
Footprint Details



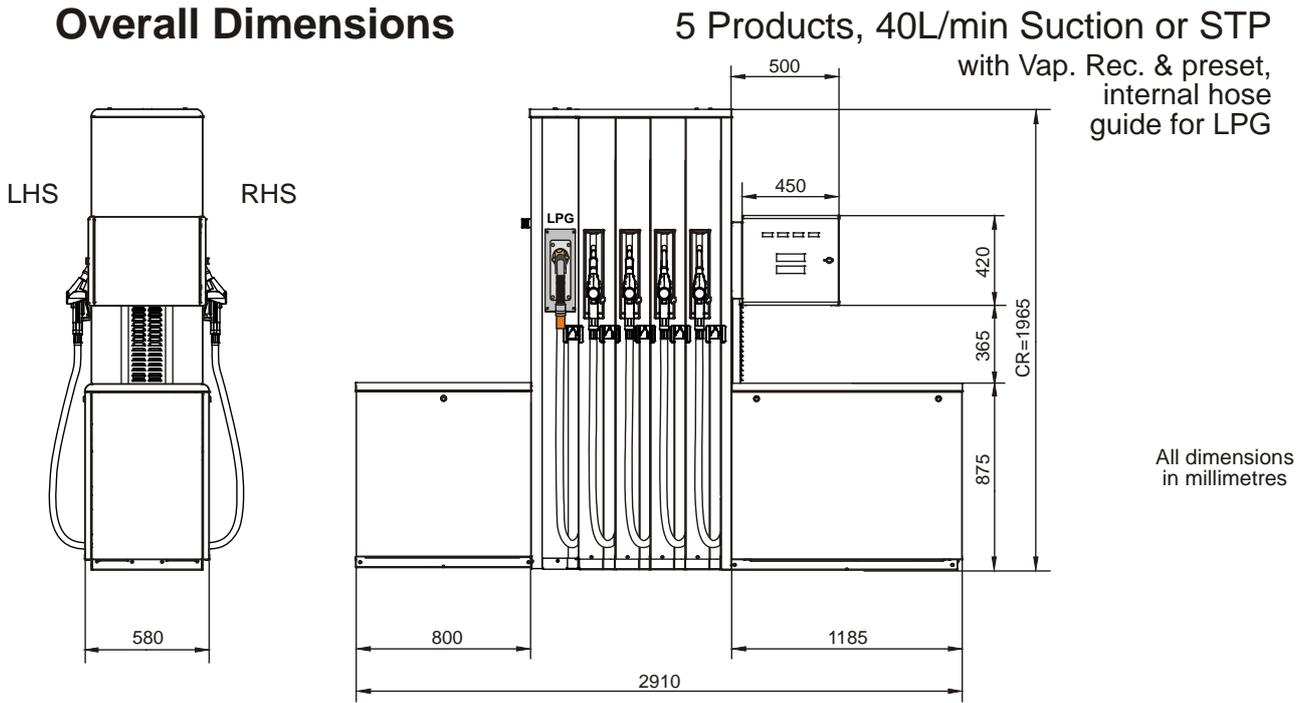
Subframe
Part No. - 140 893 211

Left Side of Dispenser (LHS)

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

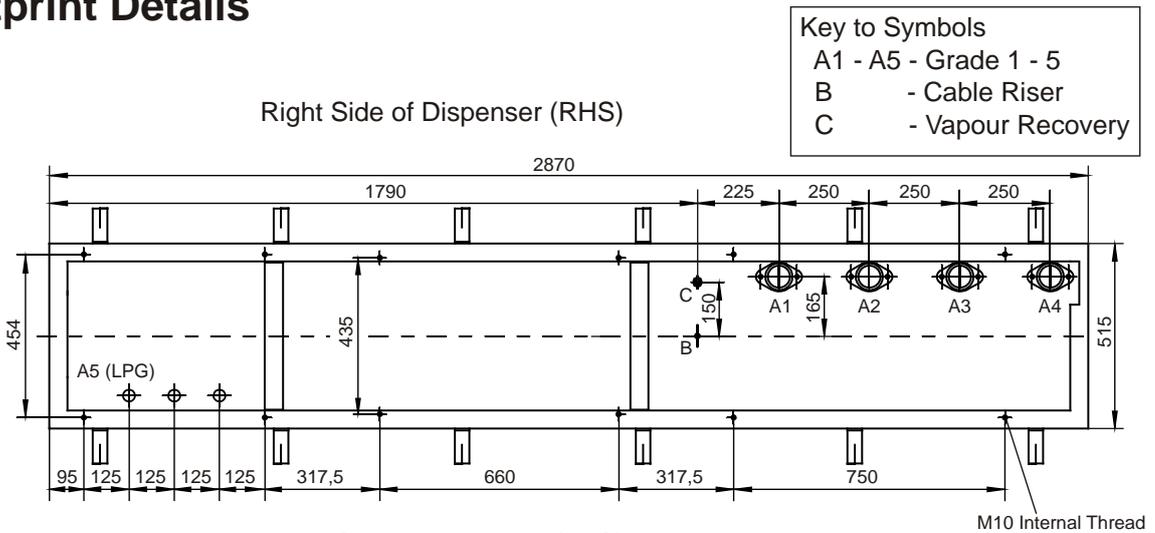


Overall Dimensions



Option: Suction connection kit
140 826 683 For GPU-90 & GPU-140

Footprint Details

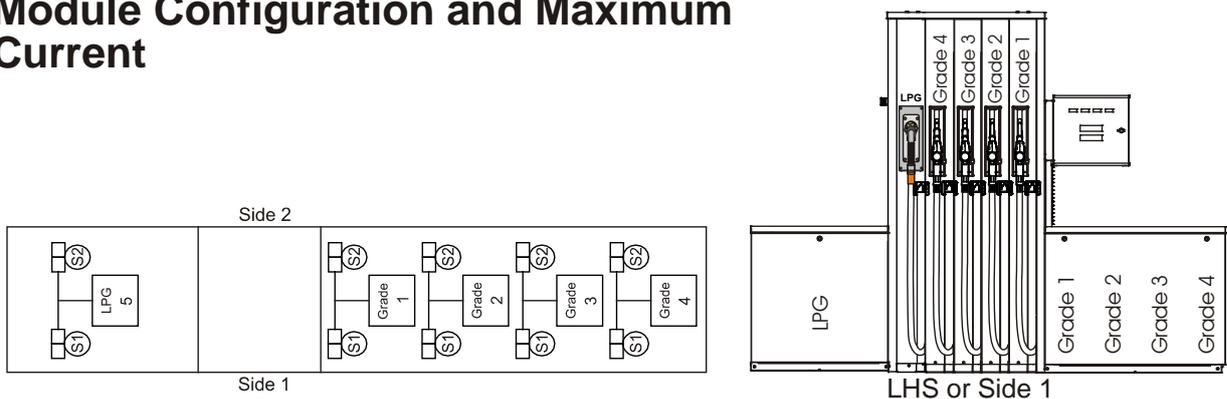


Subframe
Part No. - 140 893 231

Left Side of Dispenser (LHS)

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

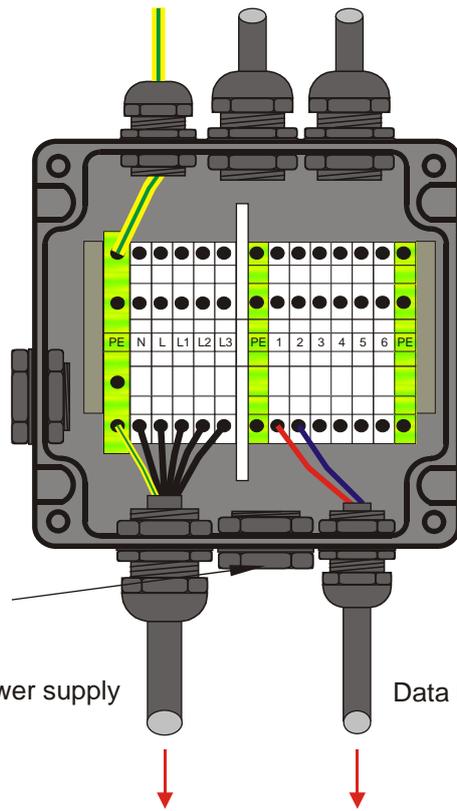
Module Configuration and Maximum Current



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



Data link

	Terminal					
	1	2	3	4	5	6
TW	+	-				
IFSF	+	-				
ER3	ZB	YB	ZA	YA		
ATCL	Rx+	Rx-	Tx+	Tx-		
EVR					+	-

Blind plug
 For the use with ATEX certified cable glands

Power supply

Data link

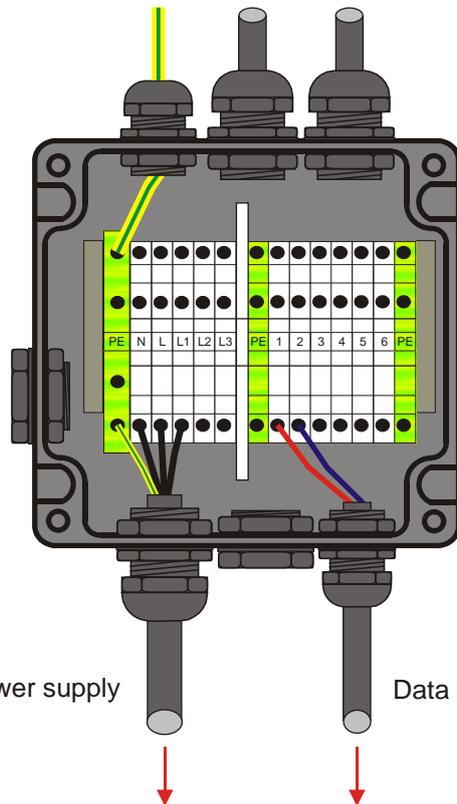
Kiosk

Electrical connection
 Please note the local & national regulations regarding electrical installations

Single Phase Supply

230V +10% -15%, 50Hz ± 2Hz

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



Data link

	Terminal					
	1	2	3	4	5	6
TW	+	-				
IFSF	+	-				
ER3	ZB	YB	ZA	YA		
ATCL	Rx+	Rx-	Tx+	Tx-		
EVR					+	-

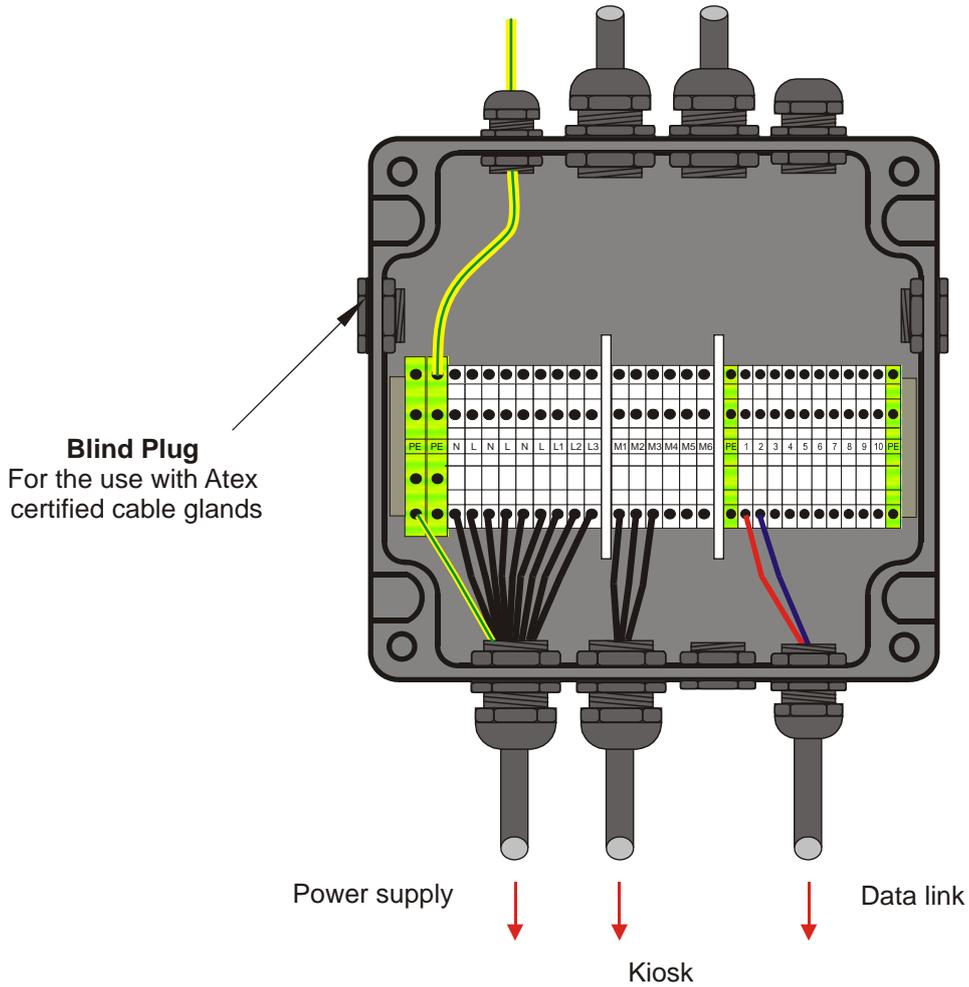
Power supply

Data link

Kiosk

Three Phase Supply for Submerged Turbine Pump (STP) and Crind

400V ±0% , 50Hz 2Hz
 230V +10% -15%, 50Hz ±Hz



- 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

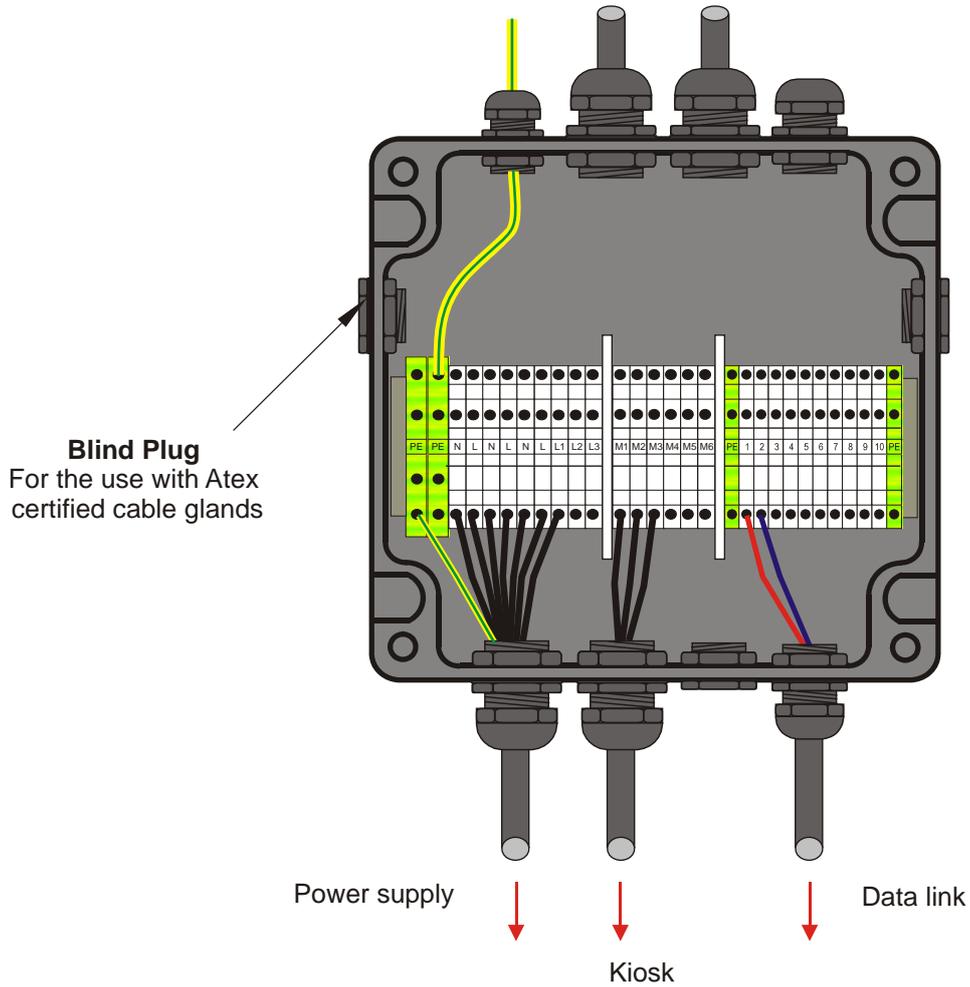
Data link

	Terminal					
	1	2	3	4	5	6
TW	+	-				
IFSF	+	-				
ER3	ZB	YB	ZA	YA		
ATCL	Rx+	Rx-	Tx+	Tx-		
EVR					+	-

Electrical connection
 Please note the local & national regulations regarding electrical installations

Single Phase Supply for Submerged Turbine Pump (STP) and Crind

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



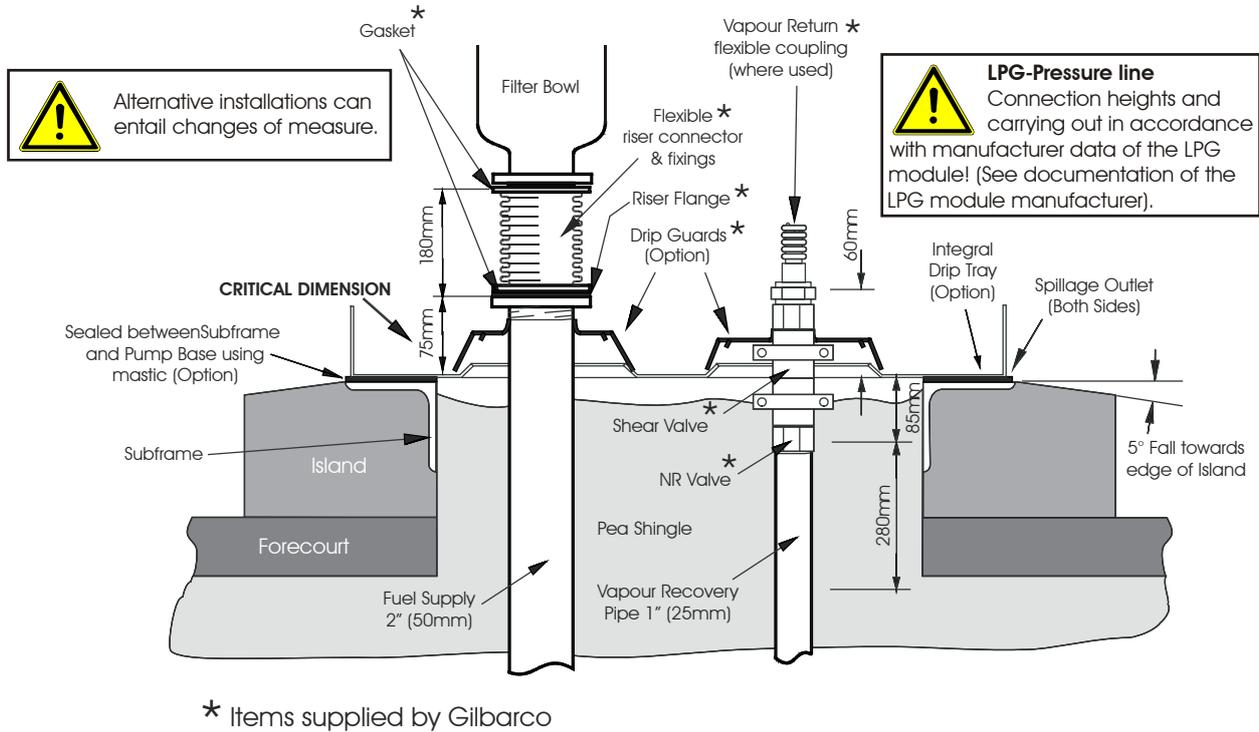
- Power supply**
- PE - Main Earth
 - N - Neutral Crind
 - L - Live for Crind
 - N - Neutral Heater
 - L - Live für Heater
 - N - Neutral Calculator
 - L - Live for Calculator
 - L1 - Phase 1 VRC- Motor
 - M1 - STP Grade 1
 - M2 - STP Grade 2
 - M3 - STP Grade 3
 - M4 - STP Grade 4
 - M5 - STP Grade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

Data link

	Terminal					
	1	2	3	4	5	6
TW	+	-				
IFSF	+	-				
ER3	ZB	YB	ZA	YA		
ATCL	Rx+	Rx-	Tx+	Tx-		
EVR					+	-

Electrical connection
 Please note the local & national regulations regarding electrical installations

Proposal for suction dispenser fuel & vapour connections
(With Vapour Line Impact Check Valve, Steel Pipework)



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.

Subframes are available from Gilbarco, please see pages 3-10 for Part No.

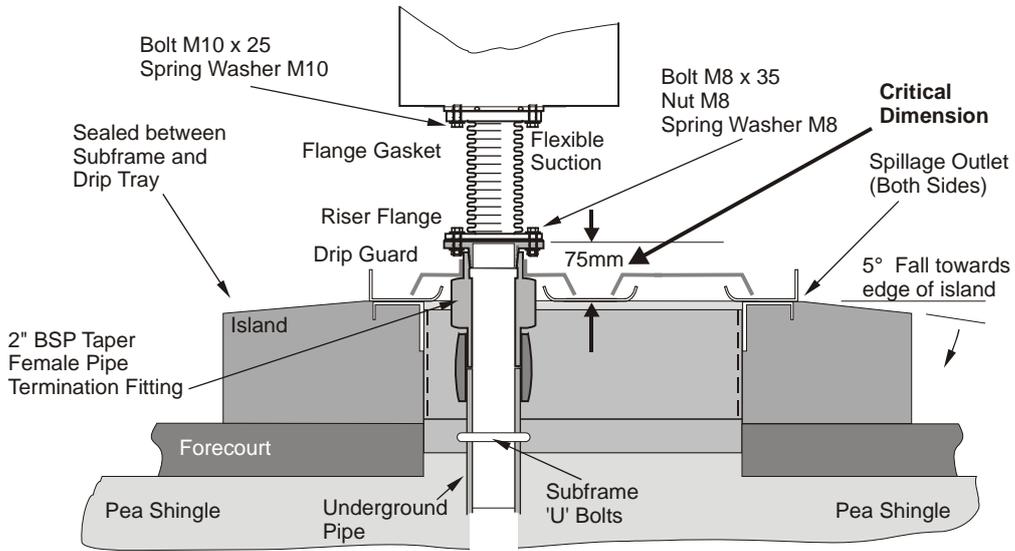
Drip Guards

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.

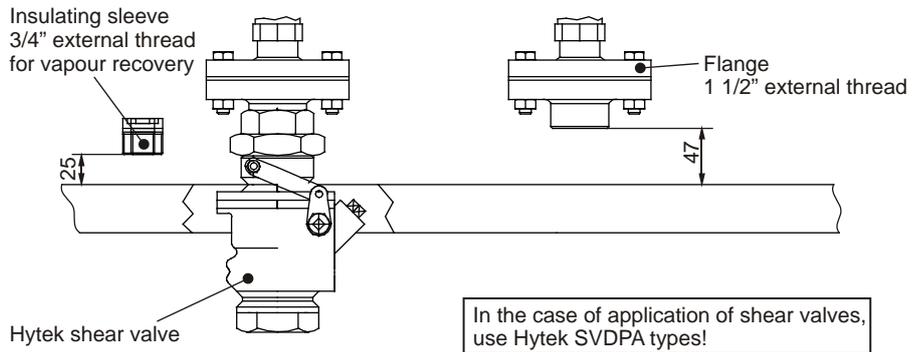
Vapour Recovery Pipes

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.

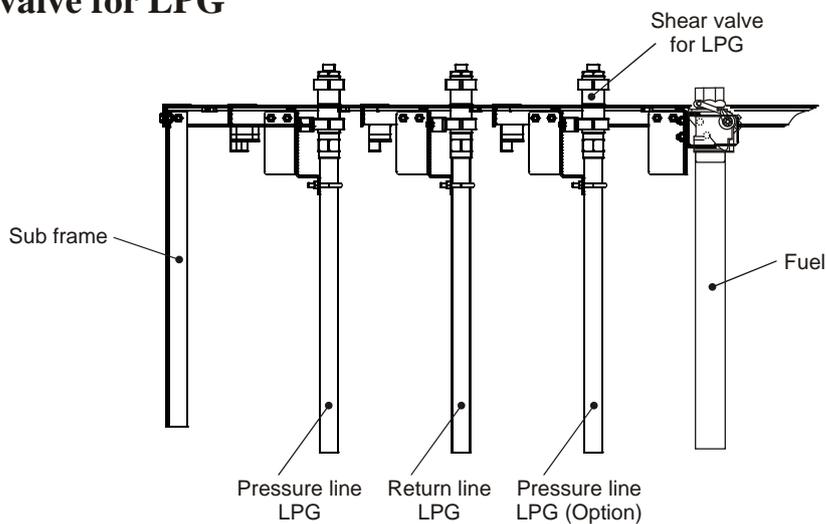
**Proposal for suction dispenser fuel connections
(Plastic Pipework)**



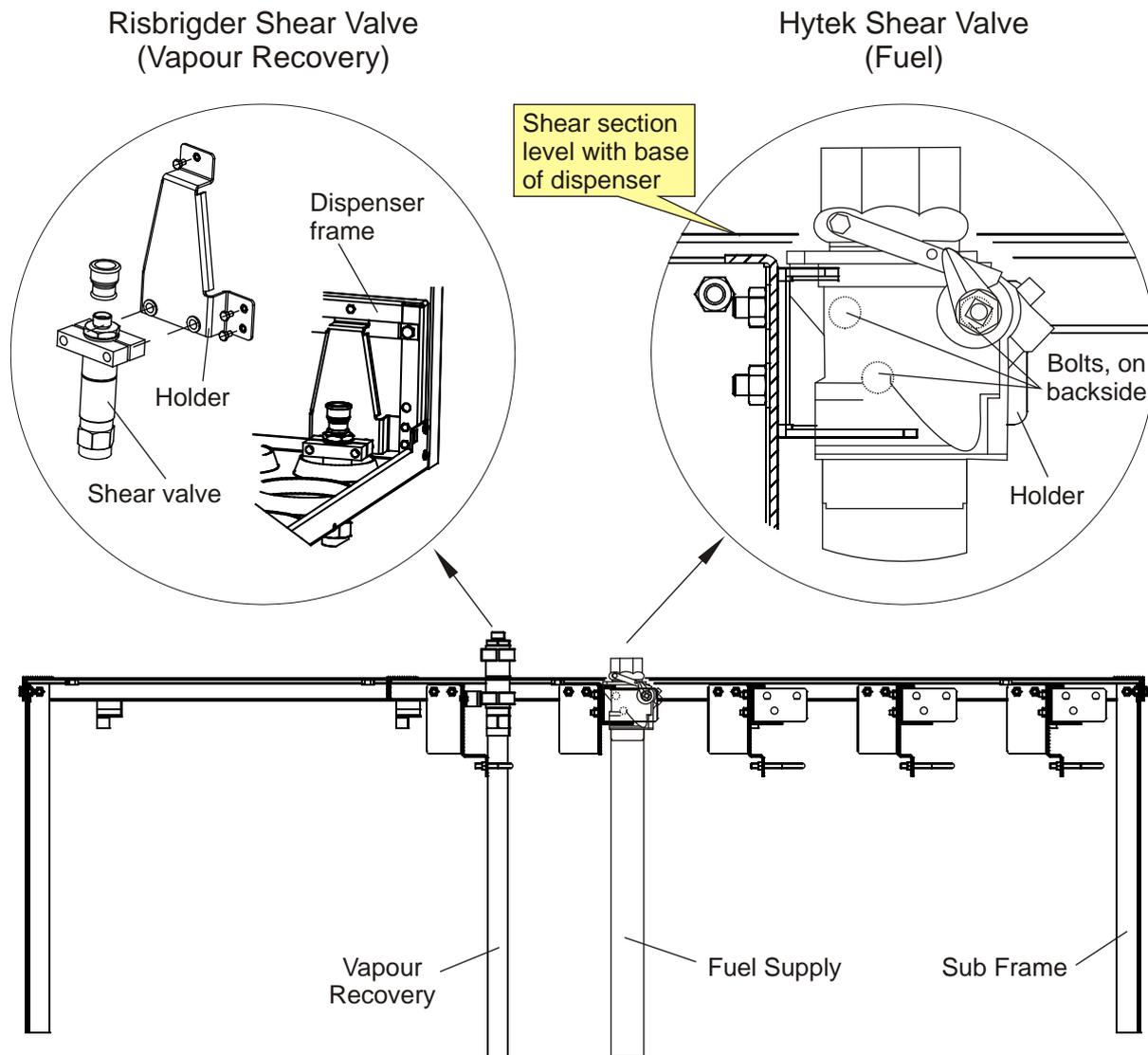
Dimensions for STP connections



Shear valve for LPG



Proposal for shear valve connections with STP



Operation conditions

The pumps must be implemented either as Submerged Turbine Pumps (STP), which are arranged within the respective storage tank in its deepest place, or as more deeply lying pumps with inlet. A checking device for the liquid level in the storage tanks is necessary, which gives a warning signal by a low level and switches the pumps off, before air or vapour can penetrate into the supply line. The piping must be installed underground. Directly behind the pump, a check valve needs to be installed in each line. If the lines are in its highest position no more than 1m above the man hole cover height, then a check valve is not required.

Inside the dispenser, a check valve is to be fitted in front of the volume meter. The installation of gas separators and gas indicators are not necessary.

Where a dispenser is supplied without an integrated drip pan, normally STP, other means to prevent leakage from entering the ground beneath the dispenser should be provided!