Pumptronics

C Series

Retail and Commercial

Fuel Pumps and Dispensers

Operating Manual

C Series

Retail Twin
Model code SC22**RV

C Series

Retail Mono
Model code SC11*RV

C Series

Commercial Twin
Model code SC22**CV

C Series

Commercial Mono
Model code SC11**CV

C Series

Commercial AdBlue® Mono
Model code AB11**
Also available as twin and retail unit. **ATEX/ UKEX approved on request.**

C Series

Commercial Debowser Mono
Model code DB11**
Also available as twin version.

C Series

Commercial 180 LPM
Model codes SC11EH*V and SC12EH*V
Also available as retail version.

C Series

Commercial Mono
Model codes SC11**–EXT15M*
SC11**EX30M*

TABLE OF CONTENTS

Product Description

Operating Instructions

Use as Directed

Operating Instructions for the User

Operating Instructions for Infra Red Remote Management Control

Transportation, Installation and Use

Hazardous Areas

Care and Maintenance by the Site Operator

Maintenance and Repair by Authorised Service Personnel

Declaration of Conformity

Technical Data

Disposal

Contact Details

PRODUCT DESCRIPTION

The Pumptronics range of C Series Pumps and Dispensers is equipped for use at Filling Stations / Fuel Bunkering sites for the delivery of liquid fuels and Adblue® into the tanks of automobiles, commercial vehicles, boats, light aircraft and portable containers at flow rates of up to 180 L/min. Within each model range there are versions for "standard delivery "up to 50 L/min (e.g. car refuelling) and highspeed up to 180 L/min (e.g. truck refuelling). Combinations of both are available. Pumps and Dispensers can be used for public retail and so the measuring devices meet the requirements based on Measuring Instrument Regulations 2016 SI 1153 (MIR). Because of alternative delivery of fuels with hazardous class AI or AIII, Pumps, Dispensers and Debowser are designed with Explosive Protection (note Hazardous Class for Adblue® is an option).

// AdBlue units can be supplied to meet the requirements of EN 13617-1 but requires a specific upgrade.

For meeting environmental protection requirements, Pumps and Dispensers can be equipped with vapour recovery systems and vapour recovery monitoring systems. All Pumps and Dispensers are equipped with pumping and measuring systems controlled by an electronic processing system. For the delivery of fuels, Pumps have a suction pump located within the unit. Dispensers generally have submerged pumps located within the feed tanks. Explosion protected single phase or 3 phase EExe motors drive the fuel pumps. Pipes and flexible hoses connect the nozzle to the hydraulic output of each measuring device. A sight glass may be fitted between the nozzle and hose or between the hose and the meter outlet. For applications with special requirements, Pumps and Dispensers can be equipped with vapour recovery systems and vapour recovery monitoring systems where special nozzles and hoses, as well as vacuum pumps and control units are used.

Pumps and Dispensers are equipped with Safety Break coupling mounted within the nozzle. If the vehicle drives away leaving the nozzle in the tank, a built in safety valve stops the flow of fuel at the hose. The force required to operate the Safety Break is such that during 'normal use' a break will occur. In cases of the vehicle driving away, the Safety break also prevents greater damage to the Pump and Dispenser and to the environment. However, damage to the pump enclosure, hoses etc cannot be completely prevented when a vehicle is driven away the hose still connected.In certain circumstances additional in line Safety Break's can also be connected between the pump out and the hose inlet.

Fuel Extraction – Debowser

For recovering fuel from a vehicle tank the pump inlet and outlet are reversed at point of manufacture to produce a Debowser unit, the nozzle and hose is replaced with an extraction pipe. The extraction pipe is inserted into the vehicle tank. The fuel is then drawn from the vehicle tank and deposited into a storage tank using a dedicated return pipe. With the standard 10mm ID extraction pipe, fuel will be extracted at a maximum of 8 LPM. A moisture filter is fitted in the inlet pipe work to maintain the fuel integrity. With the nozzle and hose replaced with the extraction hose it is essential that when used in a hazardous area that an earth bonding reel is attached to the vehicle to provide an effective earth to reduce anti-static discharge. Combined dispensing and extracting units are available in a twin cabinet.

// When Debowsing in a hazardous area it is essential that an earth bonding reel is fitted directly to the vehicle to reduce antistatic discharge.

// Debowser is for withdrawing fuel only not for trade use.

OPERATING INSTRUCTIONS FOR PUMPS AND DISPENSERS

Pumptronics range of C Series Pumps and Dispensers are equipped for use at Filling Stations / Fuel Bunkering sites for the delivery of liquid fuel as into tanks of automobiles, commercial vehicles, boats, light aircraft and portable containers.

The delivery process starts after the removal of the nozzle. A nozzle switch closes indicating the removal of the nozzle. The control computer sets the displays to show all 888's, resets to zero, starts the required pump motor (or submerged pump) and if necessary solenoid valves and the vapour recovery system. Suction pumps are fitted with by-pass valves, adjusted to zero flow pressure, to return the undelivered fuel back to the suction side of the pump. After opening the nozzle, fuel flows through the filter, through the non return valve and into the gas/air separator. Here any gas or air is removed and released to atmosphere.

The flowing fuel rotates the measuring device which in turn rotates the double pulser, whose pulses are then transmitted to the control computer. During verification tests, the actual pulse value is determined and saved. The two phase–shifted pulse enable pulse monitoring and hence fault free impulse transmission. The incremental volume is indicated on the display. Simultaneously, the total sale price is calculated from the memorised price. The measured fuel is flowing through the pipes to the connection point of the hose (in this position a sight glass can be fitted). The fuel flows through the flexible hose into the nozzle. A hand operated lever by which the flow rate can be controlled opens the nozzle. The nozzle stops automatically when the fuel touches the end of the spout. The nozzle will also only operate if its spout is tilted downwards. Fuel delivery measurement stops by closing the nozzle and returning it back into its holster. The control computer then stops the pump motor, closes the solenoid valve and stops the vapour recovery systems, if fitted.

If the Pump and Dispenser is fitted with vapour recovery system, a nozzle with a vapour suction inlet is used. The vapour canal is linked to the coaxial coupling in the vapour hosed inside the fuel hose. The end of the coaxial hose is fastened to a connector linking the vapour line to a separate pipe, which then connects to the vapour pump that returns the vapour back to the fuel storage tank. The vapour pump is driven by a motor in combination with a proportional solenoid valve. By this means the, the vapour flow is controlled proportional to the fuel flow. Vapour recovery systems may also be equipped with automatic monitoring systems to analyse the actual vapour/fuel flow ration and stop the Pump or Dispenser in case of a system fault.

OPERATING INSTRUCTIONS FOR DEBOWSER

Pumptronics range of C Series Debowser is typically equipped for use at Vehicle hire Companies, Vehicle Fleet companies and Fuel Bunkering sites for the extraction of liquid fuel from the fuel tank of automobiles, commercial vehicles or storage tanks. When used in a hazardous environment the earth reel bonding clip must be attached to the vehicle providing good earth.

The removal process starts with the flexible hose being inserted into the vehicle fuel tank. A twisting motion is usually required to ensure sufficient hose entry into the fuel. A start stop switch turned to start sets the displays to show all 888's, resets to zero, and starts pump motor. After starting the pump the fuel is extracted from the vehicle through the filter, through the non return valve and into the gas/air separator. Here any gas or air is removed and released to atmosphere. The flowing fuel rotates the measuring device which in turn rotates the double pulser, whose pulses are then transmitted to the control computer. The extracted fuel is delivered into a storage tank. A limit / float switch in the tank linked to the Debowser prevents over filling of the tank. When the extraction hose is removed from the tank, the display will continue to count for up to 3 litres removing the remaining fuel within the pipe work and meter. Air / vapour will be seen to be ejected from the flame trap on the side of the unit.

USE AS DIRECTED

General Safety Information and Danger Warnings

Deviations from stated use may cause risk to individuals and/or the equipment.

Any changes made to this equipment could invalidate the equipment type Approval certificate.

Changing of the pump's/dispenser's meteorological parameters is prevented by sealing wire fitted to the related components which is secured with lead seals as part of the MIR Module D verification process carried out by Hytek. Unofficial tampering with this sealing wire will render the MIR (Weights & Measures) certification void.

All Pumps, Dispensers and Debowser are only to be used for the motor fuels in accordance with BSEN 590 specification for Diesel Fuels, BSEN 228 specification for unleaded Petrol (Gasoline), BS EN 7800 for High Octane super unleaded, JETA and A1 DEF STAN 91-91 and Avgas DEF STAN 91-90 or equivalent, Adblue® in accordance with ISO 22241 and Biodiesel in accordance with EN 14214.

These fuels contain dangerous substances. When using such fuels, always refer to the relevant Data Instruction Sheets.

Always adhere to National and / or Local Safety /Security regulations.

The site operator has to ensure that the following instructions are displayed within the operating range of the Pump or Dispenser, namely as a Graphic or Written signs, e.g.:

- **No smoking or naked flames Turn off engine Fill only authorised containers**

The Site Operator must ensure that the area around the Pump or Dispenser is adequately illuminated to enable its safe use. It is also recommended that appropriate chemical spill kits are readily available to contain any accidental spillage.

DISPENSER OPERATING INSTRUCTIONS FOR THE USER

// The use of these fuel pumps is only permitted with completely closed and secured display housing, panels and doors.

The use of these fuel pumps is only permitted with completely closed and secured hydraulic covers, display housing, panels and doors

Pre Condition of Use

- **Turn off engine and ancillary heating equipment**
- **Turn off electrical equipment**

Refuelling Process

1. Remove nozzle from its holder
   For retail pumps the unit price is shown at the display
2. Insert the nozzle spout fully into the tank filler neck
   The pistol has an integral safety tilt device, which stops the delivery of fuel when the spout is positioned horizontally or higher.
3. Pull the nozzle trigger
   The trigger regulates the fuel flow.

In order to minimise static where possible it is recommended that the operator keeps the hand on the nozzle during refuelling, where this is not possible , operator should touch the metallic part of the vehicle frame at least 1m away from the tank filler neck before retouching the nozzle.

The delivery volume (for Commercial) and price to pay (for Retail are shown continuously in the Pump or Dispenser display. To prevent over filling, the nozzle is fitted with an automatic shut off, stopping the fuel delivery when the vehicle tank is full. Before removing the nozzle from the tank filler, ensure that remaining fuel is allowed to drip into the vehicle tank.

// When removing the nozzle from the fuel filler try to ensure that no remaining fuel can drip from the nozzle spout onto shoes, clothing, the vehicle or the ground.

4. Replace the nozzle in its holster
   Delivered volume (commercial) price to pay (retail) are still shown in the Pump or Dispensers display.

// Attention! Ensure that the hose is returned to its intended position and it is not lying on the ground

OPERATING INSTRUCTIONS FOR DEBOWSER / FUEL EXTRACTION

// The use of these extraction units is only permitted with completely closed and secured display housing, panels and doors.

The use of these fuel pumps is only permitted with completely closed and secured hydraulic covers, display housing, panels and doors

Pre Condition of Use

- **Turn off engine and ancillary heating equipment**
- **Turn off electrical equipment**

Extracting Process

1. Fit earth bonding reel clip to the vehicle (when used in hazardous environment)
2. Insert the extraction hose in the vehicle filler neck. A twisting motion maybe require whilst inserting to ensure the tube is fully inserted into the fuel
3. To start extraction turn switch to START position, check that display goes to Zero
4. Moving the extraction tube to ensure maximum fuel is removed
5. When fuel stops, turn switch to STOP

The extracted volume is shown continuously in the Pump display.

// When removing the extraction tube from the vehicle tank try to ensure that no remaining fuel can drip from the tube onto shoes, clothing, the vehicle or the ground.

6. Replace the hose and extraction tube to the hook.

Extracted volume is still shown in the Pump or Dispensers display.

// Attention! Ensure that the extraction hose is returned to its intended position and it is not lying on the ground

OPERATING INSTRUCTIONS FOR INFRA RED MANAGEMENT CONTROL

The infrared remote provides a familiar means to access the full features of the pump. It is supplied as standard when the pump is supplied for a Retail environment. It provides uses for the site operator and site manager, and has separate password for each of these personnel.

There is a legal PIN and a manufacturer PIN that allows fundamental changes to the pump function.

Pin	Menu Number Range	Menu Title
111111	11 - 14	Site operator
123456	21 - 29	Site Owner / Manager

These are only available if the seal is broken, and in some situations by contacting Pumptronics tech. support to determine the Dynamic password. The menu operation is performed mainly on a single line of the pump's display. The Litres display shows the information, and so the display type fitted to the pump is of no importance.

Once the PIN has been entered, the items can be inspected by using the UP and DOWN arrow button on the remote, and altered by using the SELECT button. The Litres display will show the first menu number in the range on the left-side digits and on the right the setting will be displayed If left idling in the menu for longer than 30 seconds then the pump reverts back to normal dispense mode without saving the changes.

Pressing MENU will cause the menu system to exit and SAVE any changes. There is a small selection of different styles of information shown, and as a result the display behaves differently for these item styles.

Displaying and Altering a Switch (Changing a Feature From Off to on Or Vice-Versa)

The left number indicates the menu number. And the zero on the right (in this case) indicates the feature is inactive. By pressing the "#"or "select" key, on the infra-red control the display alters to indicate the feature is now active. Press the button again and it reverts to the in-active position.

Displaying and Editing a Small Value (4 Digits or Less)

The left number indicates the menu number. The number on the right is the value for the menu option. By pressing the "#" key or "select" key, on the infra-red control a new value can be entered, flashing whilst doing so. Once the number is complete, by pressing that "#" button the display becomes static and now shows the new figure that will be used.

Displaying a Larger Value (Greater Than 4 Digits)

The large value scrolls through the display from left to right, repeating until interrupted by the remote control or it times-out

Displaying Whether a Peripheral is Detected or Allow a Function to be Reset

The left number indicates the menu number. The number on the right "111" indicates the item is present. Pressing the "#" button will cause the device or feature will be reset, or cleared.

Operator Menu: 11111

Function	Menu #	Details
Left Volume Tote	11	The left pump (or mono) volume tote (including decimals places) scrolls through the display repeatedly
Left Cash Tote (Retail only)	12	The left pump (or mono) Cash tote (including decimal places) scrolls through the display repeatedly
Right Volume Tote	13	The right pump (twin enabled) volume tote scrolls though the display repeatedly
Right Cash Tote (retail only)	14	The right pump (twin enabled) volume tote scrolls though the display repeatedly

Manager Menu: 123456 (or the user PIN if set)

Function	Menu #	Details
Attended Fuelling	21	Allows the pump to be switched from console communication mode to attended or standalone mode. (0 = Self Service, 1= Attended)
Custom PIN	22	The Manager may use a personal PIN instead to gain access to the more sensitive “Manager” features.
Programmable Cash limit	23	All transactions can be restricted to a programmable maximum sale value.
Left side attended mode PPU	24	Ability to enter a Price per unit (PPU) for the left pump, used for when fuelling in attended fuelling mode.
Left side programmable Volume limit	25	Left side transaction can be restricted to this maximum volume limit.
Right side attended mode PPU	26	Ability to enter a Price per unit (PPU) for the left pump, used for when fuelling in attended fuelling mode.
Right side programmable Volume limit	27	Right side transaction can be restricted to this maximum volume limit.

// Before using the Infrared controller, ensure that all nozzles are stowed in the holsters.

Operator PIN: Default setting 111111
Managers PIN: Default setting 123456

// We would strongly advise that you change the managers PIN following the instructions in 5.33 – Menu 3.

- **Care should be taken when programming pumps located close together that only the pump required is receiving the IR signal.**

- **Ensure that the new PIN is carefully recorded before pressing the # Key. If the PIN is changed inadvertently or the new PIN cannot be recalled replacement parts and a chargeable visit to site will be required to re Access the unit.**

Mechanical / Remote Totaliser

Mechanical Volume Totaliser is available as an optional extra. These are used for indication only. Two options available.

1. Mechanical Totaliser (7 digit) gearbox built within the encoder unit. To view the totes remove the door using the door keys, giving access to the 7 digit number.
2. Remote mechanical Totaliser with remote cable from the gearbox to a remote assembly within the front of the pump mounted just below the head.

TRANSPORTATION AND INSTALLATION

Hazardous Areas

For the following transportation, installation, and operation of the fuel dispenser please refer to the following documents
C Series Transportation and Installation Manual

In using the Pump or Dispenser as directed, dangerous zones may occur around dispenser housing which must be protected from all ignition sources (EN13617-1)

The dimensions and extent of the dangerous zones is detailed in the following drawing

CARE AND MAINTENANCE BY SITE OPERATOR

Model Type	Ex-Zone Drawing Number
C Series	HAZONE – 1

Care and maintenance by the site operator is limited to the following actions: further servicing functions may only be carried out by qualified maintenance staff.

Fuel Leaks

- **Check daily that no fuel is leaking from the base of the Pump or Dispenser. All leaks are to be repaired immediately and if necessary the Pump or Dispenser removed from service.**

Hoses and Nozzles

// **Check daily that the nozzles, hoses and sight glasses (if fitted) are undamaged and that the hoses are free from kinks or blisters.**
Damaged nozzles and hoses must be replaced immediately by maintenance personnel.

// **In the case of fuel leaks the pump/dispenser should be removed from service until the fault is rectified.**

// **Adblue® nozzles should be washed in warm water on a weekly basis to remove signs of crystallisation.**

Checking the Pump or Dispenser Prior to Daily Use

- **Unlock the nozzle**
- **Switch on mains supply**
- **Check Pump or Dispenser functions by removing and replacing the nozzle**

Removal From Service

- **Disconnect the mains supply**
- **Lock nozzles in the nozzle holster using the integral lock mechanism**

Pump and Dispenser Cleaning

// **Caution: To prevent the build up of Static Electricity, use only damp cloths for cleaning the outer surfaces of the Pump or Dispenser.**

Display surfaces (plastic) are easily scratched and damaged and should only be cleaned with light, non abrasive detergents e.g. washing up liquid, soap and water.

MAINTENANCE AND REPAIR BY AUTHORISED SERVICE PERSONNEL

The maintenance and repair of Pumps and Dispensers is only to be carried out by the manufacturer (Pumptronics) or trained personnel of professionally certified companies.

// **Always adhere to National Health and Safety regulations as well as important safety information contained in the maintenance documents provided.**

// **When working in Hazardous Areas always isolate and secure all power supplies.**

// **Any electrical test equipment or tools must be approved for use in the Hazardous Areas concerned.**

// **When working on Pumps or Dispensers a danger of explosion exists.**

- **Remove both front and rear doors. Ensure the Pump or Dispenser is well ventilated**
- **Before commencing work visually check for leaks and remove any existing fuel residues.**
- **Avoid generating sparks whilst working**
- **When working on vapour recovery systems, ensure there are no vapour leaks and that whilst working no open pipe work is exposed to sources of ignition.**

// Any changes made to this equipment could invalidate the equipment Type Approval Certificate.

When changing Explosive Protected Equipment (e.g., motors, solenoids, encoders, magnetic switches, junction boxes, glands and pumping and metering units) only similar certified equipment shall be used. If explosion protected junctions are opened or cable glands are loosened during work, ensure that junction boxes are correctly sealed and that cable glands are correctly fitted. For the retrofitting and use of vapour recovery system monitoring systems, adhere to all National Regulations and Manufacturers Instruction Manuals.

MAINTENANCE INTERVALS AND VISUAL INSPECTIONS

Display and Head Assembly

During the annual maintenance, check that the foam seal on the fascia are fitted and functioning correctly. A visual check must be undertaken and any defective seals must be replaced before unit may be brought back into use. Additionally, the cable glands should be checked for correct fitting and serviceability. Loose fittings should be retightened and defective fittings replaced.

Filters

Fuel filters should be changed 1 week after the initial installation to remove any debris from the installation process. And thereafter not later that once a year.

Earlier filter replacement may be necessary if the fuel flow rate is unacceptable To prevent skin contact with fuels protective gloves must be worn!

Drive Belts - V Belts

Drive belt tension must be periodically checked and adjusted as necessary. Visibly damaged drive belts must be replaced. Only anti static original drive belts shall be used.

Safety Breaks

After an accident involving the operation of a Safety Break assembly, the equipment is to be inspected for damage and all damaged parts must be replaced. Safety Breaks may be reused after re-assembling according to the manufactures manual by an authorised person and prescribed test. After repairs, functional and leakage tests must be carried out.

UK/EU DECLARATION OF CONFORMITY

Company Name: **Hytek (GB) Ltd**

Address: **Delta House, Green Street, Elsenham**
Bishop's Stortford, Hertfordshire, CM22 6DS

Date of Issue: **31st January 2026**

Equipment Details: **C-Series Range of Liquid Fuel Dispensers**

Applicable Directives: & Standards

SI 2016 1091 Electromagnetic Compatibility Regulations
2004/108/EC EMC Directive & 2014/30/EU EMC Directive

SI 2016 1101 Electrical Equipment Safety Regulations
2014/35/EU Low Voltage Directive

SI 2008 1597 Supply of Machinery Safety Regulations
2006/42/EC Machinery Directive

SI 2016 1105 Pressure Equipment Safety Regulations
2014/68/EU Pressure Equipment Directive

SI 2013 3113 Waste Electrical & Electronic Equipment Regulations
2012/19/EU Waste Electrical & Electronic Equipment Regulations

SI 2012 3032 Restriction of Use of Certain Hazardous Substances Regulations
2011/65/EU Restriction of Hazardous Substances Directive (RoHS2)

2014/34/EU ATEX Directive
EN 13617-1 & EN 1127-1
EC Type examination Certificate No.: CML 19ATEX9353
Marking: Ex II 2 G
EN 13617-1-2021
Notified Body: Eurofins CML B.V. Number 2776
Koopvaardijweg 32-34, 4906 CV,Oosterhout, The Netherlands

SI 2016 1107 (as amended) The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016
Type Examination Certificate No.: CML 22UKEX9021
Marking: Ex II 2 G
EN 13617-1-2021
Approved Body: Eurofins CML Number 2503
Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ

2014/32/EU Measuring Instruments Directive
Type Examination Certificate No.: TC-12688
Issued by NMI Certin B.V. Approved Body 0122, Thijsseweg 11, 2628 JA Delft

2016 SI 1153 Measuring Instruments Regulations
Type Examination Certificate No.: TC-12688-UK
Issued by NMI Certin UK (TIC). App. Body 8506, Shoreham-by-Sea, BN43 5FF

Module D Certificate Number 0061 Issued by UK Metrology Board Approved Body: UKMB Number 8528
Curo Park, Frogmore, St Albans, Herts, AL2 2DD

Declaration Number: **UK149 Issue 8**

On behalf of the above-named company, I declare under our sole responsibility that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

Clive Wellings

Clive Wellings, Process Coordinator, 31st January 2026, Bishops Stortford, Herts

TECHNICAL DATA

	SC11LRV SC22LRV	SC11MRV SC22MRV	SC11HRV SC22HRV	SC11EHRV SC12EHRV
MID/MIR Certification	**T12688 & T12688-UK**			
Ex Type examination Certificate nos:	**CML 19ATEX9353 / CML 22UKEX9021**			
Explosion Protection	**Ex II 2 G**			
Temperature Range	-25 C to + 55 C			
Pump Pressure, Max.	3.5 Bar (50 psi)			
Power Supply	230 / 400 V AC 50 / 60 Hz -/+ 10 %			
Flow Rate	45 L/min	70 L/min	80 L/min	> 160 L/min
Max Running Current	5A Mono 10A Twin	5A Mono 10A Twin	5A Mono 10A Twin	5A Mono 10A Twin
Pump Motor (Single Phase)	1.1 kW Mono 2.2 kW Twin	1.1 kW Mono 2.2 kw Twin	1.1 kW Mono 2.2 kW Twin	1.1 kW Mono 2.2 kW Twin
Pump Motor (3 Phase)	.75kw Mono 1.5 kw Twin	.75kw Mono 1.5 kw Twin	.75kw Mono 1.5 kw Twin	.75kw Mono 1.5 kw Twin
Vapour Recovery	0.4 kW			
Control	0.3 kW			
Trace Heating (If Fitted)	0.2 kW			

DISPOSAL

Environment Agency

SEPA Scottish Environment Protection Agency

NIEA Northern Ireland Environment Agency www.daera-ni.gov.uk

Pumptronics

PT/TD/44 Issue C

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