

FLUID CONTROL SYSTEM No. 512-FCS



FLUID CONTROL SYSTEM

**ADVANCED FLUID
MANAGEMENT SOLUTIONS**





**ADVANCED FLUID
MANAGEMENT SOLUTIONS**

*the human side
of Quality*



founded in 1975





**ADVANCED FLUID
MANAGEMENT SOLUTIONS**



2011



2012



2013



2010



2009



2007



2005



2003



2000



More than **5000** products available
for your business





**ADVANCED FLUID
MANAGEMENT SOLUTIONS**

VISION

DESIGN

TECHNOLOGY

QUALITY

EFFICIENCY

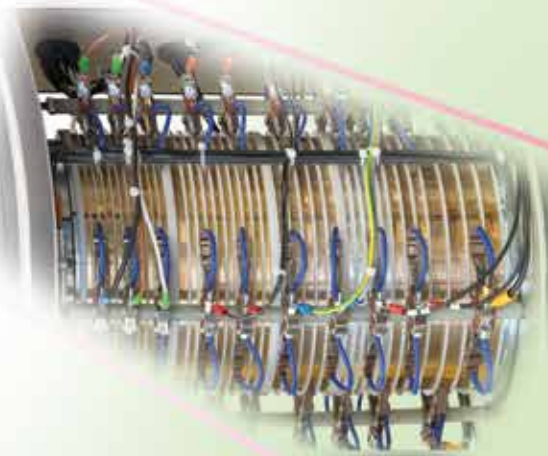
ASSISTANCE

ENVIRONMENT

PACKAGING

SHARING







FCS - Fluid Control System



The FCS is an integrated system **for managing and controlling the dispensing** of fluids in maintenance facilities. Highly versatile and intuitive, it **allows customised configurations** in order to fully adapt to the customer's needs.

RAASM offers two versions to satisfy every specific need:

BASIC

 **FULL OPTIONAL**

MAIN CHARACTERISTICS

- Automatic control of fluid inventories.
- OCU display with simple and intuitive menu.
- Summary ticket for each fluid dispense (optional).
- Ability to connect to PC and to create an internal Network.
- Dispensing authorised by access code and memorization of every single operation.
- Protection cover which ensures the IP55 protection degree (model without printer).
- Electronic board with protection from overload and short circuit.

FLUID CONTROL SYSTEM CAN MANAGE:

DATABASE

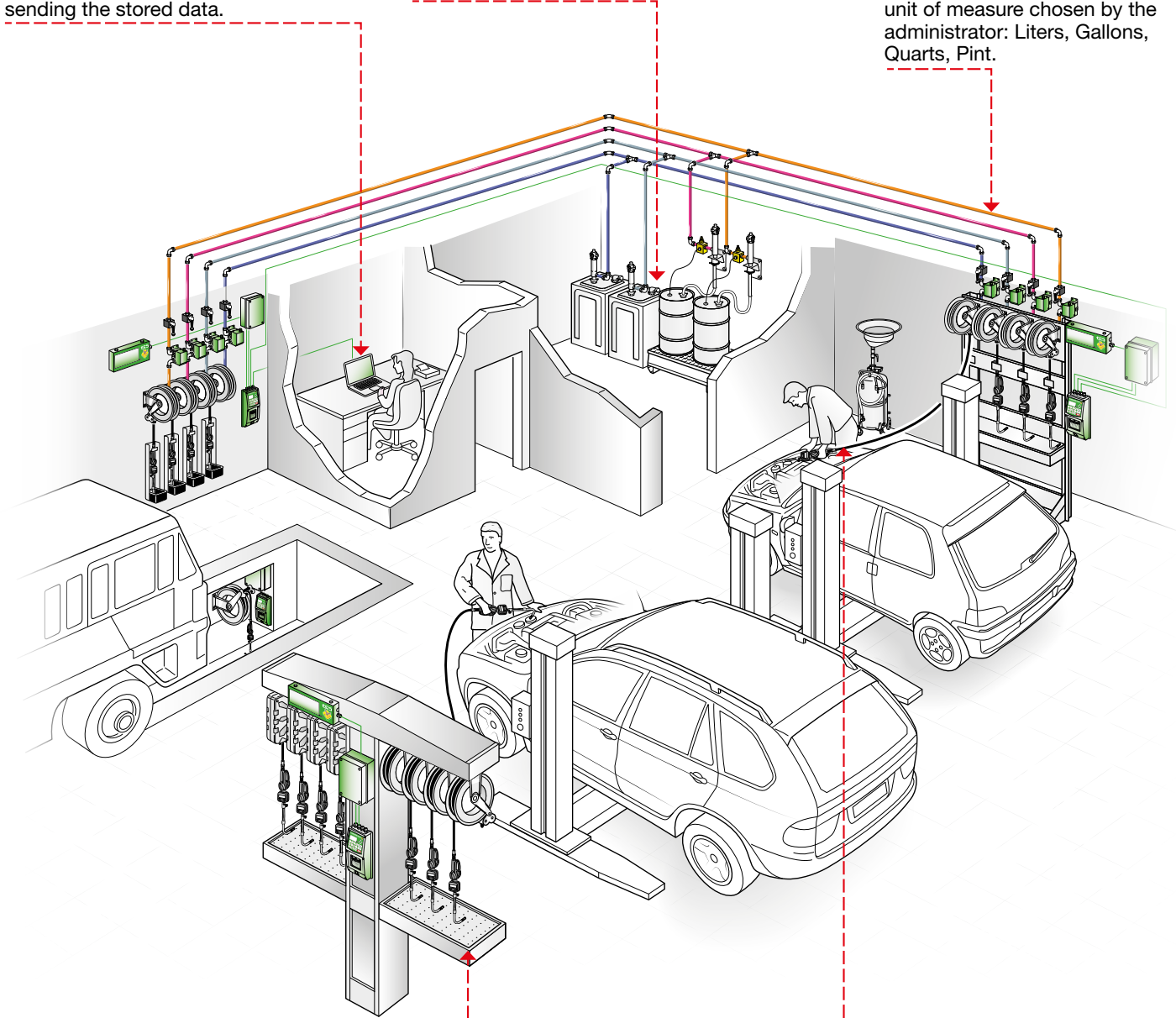
The internal memory of the OCU allows the recording of up to a maximum of 4000 operations. When connected to a PC, dedicated software supplied with the FCS enables data management and customization of the system, as well as sending the stored data.

TANKS

The FCS can manage up to a maximum of 999 tanks, associated with the type of fluid contained. The quantity of fluid inside each tank is constantly calculated by the system. Also, special reserve and delivery blocking alarms, prevent going below a minimum level fixed by the administrator.

FLUIDS

The FCS can manage all the following automotive fluids: lubricating and hydraulic oils, antifreeze, diesel. Each fluid is distinguished by the complete name and an abbreviation (6-characters). The quantities dispensed are counted with the unit of measure chosen by the administrator: Liters, Gallons, Quarts, Pint.



DISPENSERS (OUTLETS)

The FCS manages up to a maximum of 1188 dispensing points. Each Operator Control Unit (OCU) can manage a maximum of 12 outlets, 6 of which are able to work at the same time. The date and time, operator's name, order number and vehicle number-plate, type of fluid and quantity dispensed are recorded for each dispensing operation. All these details can be printed on tickets (optional).

OPERATORS

The FCS can be used by a maximum of 1000 authorized operators, who can access the system by entering a numerical password, or by using the "iButton®" key (only in the Full Optional version). All the operations carried out are stored in the system's memory.



FCS - SOFTWARE

STANDARD VERSION

The FCS software is easy to use.
The system is simple to configure
for accurately managing tanks, operators,
dispensers, fluids and more.
The FCS software also provides tools
for analyzing your fluids consumption.

NETWORK VERSION

Installed with the standard version only
on request, allows to create a PC Network
connected with FCS.



File | **Users** | **Reference** | **Products** | **Tanks** | **Dispensers** | **Help**

System status
System configuration

Supplies list
Summary list

Archive backup
Archive restore

Exit
Disconnect

Users
Users list
Users insertion

Reference
Reference list
Reference insertion

Products
Products list
Products insertion

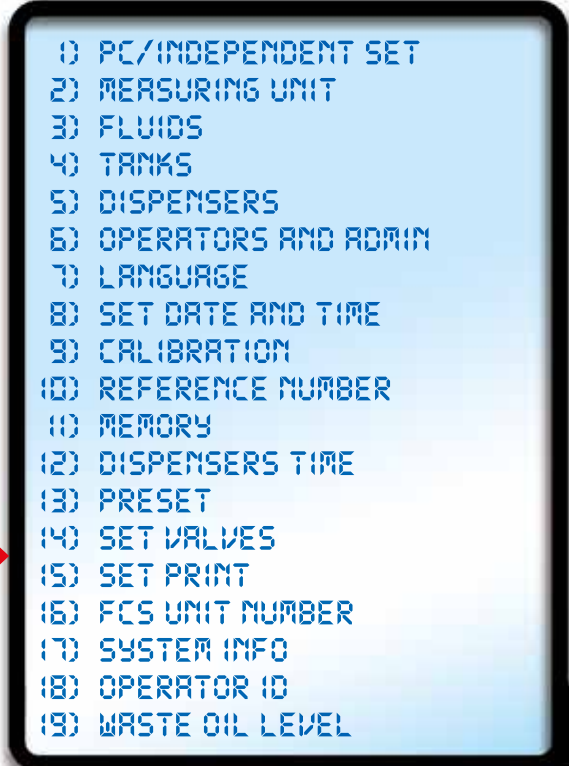
Tanks
Tank list
Tank insertion
Load/Unload insert
List of movements

Dispensers
Enter dispensers

Tanks status

Tank 1	90%
Tank 2	15%
Tank 3	5%

OPERATOR CONTROL UNIT: MENU



The Operator Control Unit allows the administrator to access to a detailed menu where personalized configurations can be entered and the entire system managed. If the OCU is connected with a computer most of the operations shown above can be managed through the FCS software (see page aside).



Every delivery can be summarized by a printed ticket (optional) which shows the most important information recorded by the system.



FCS - BASIC

If you need a simplified system, with all the FCS main characteristics but only with the basic control equipments, this is your favorite version.

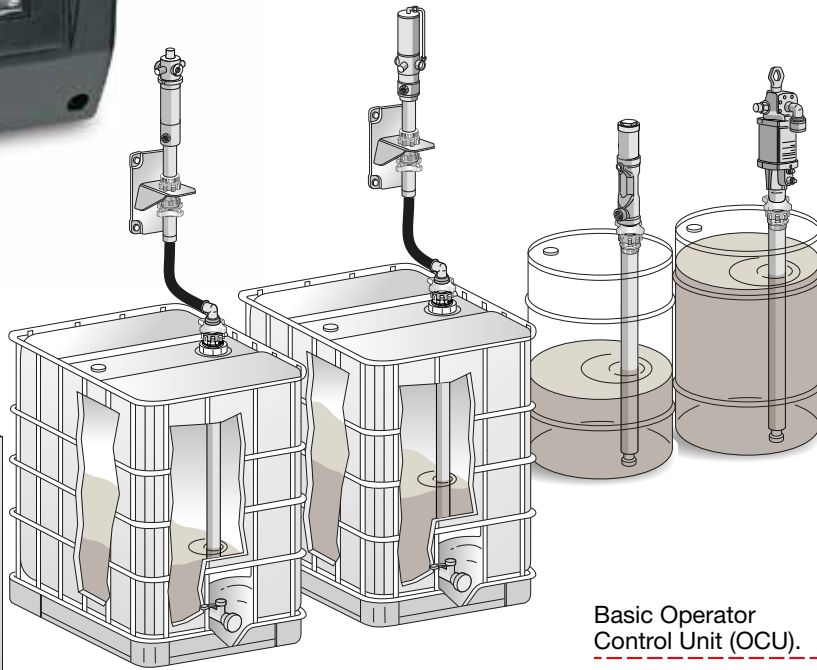
This system, easily intuitive and versatile, differs from the Full Optional version because it doesn't have the "iButton®", the physical maximum level gauge for waste oil, the physical minimum level gauge for new fluids and the pneumatic solenoid valve in each pump.

Instead, the connection with a general pneumatic solenoid valve for the air pumps feeding is ready.



General pneumatic solenoid valve.

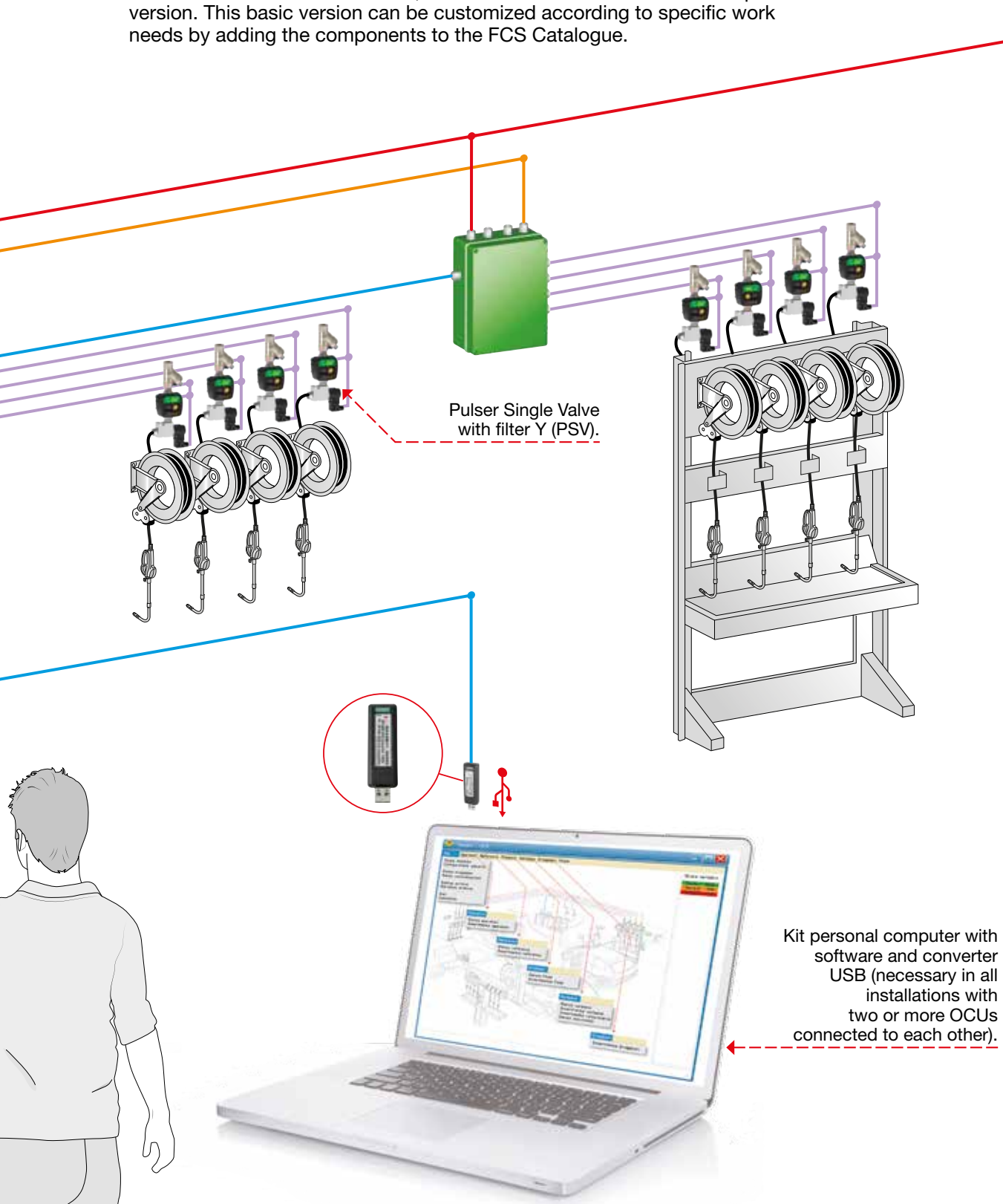
Basic Dispenser Management Unit (DMU).



Basic Operator Control Unit (OCU).

CABLE	DESCRIPTION	LENGTH
	Each DMU must be powered by 115 V (AC) / 230V (AC), 50 / 60 Hz electrical network and provides 24V (DC) power to the other components of the FCS system.	max 330 ft
	Cable for connecting general air supply solenoid valve to DMU	max 3280 ft
	Data cable RS485 for connection between OCU, DMU1, DMU2, up to DMU3. Data cable RS485 for connection between the main PC and the last OCU of the network.	max 3280 ft
	Cable for connecting DMU with nr.4 PDV or nr.4 PSV	max 100 ft
	Power cable OCU 24 V (DC)	max 330 ft

The basic version of the OCU may be provided or not with printer for tickets, in order to the customer's needs; also the DMU is available with a simplified version. This basic version can be customized according to specific work needs by adding the components to the FCS Catalogue.



Pulser Single Valve with filter Y (PSV).

Kit personal computer with software and converter USB (necessary in all installations with two or more OCUs connected to each other).

ON REQUEST

- Pulser Double Valve (PDV)
- Remote display (LCD)

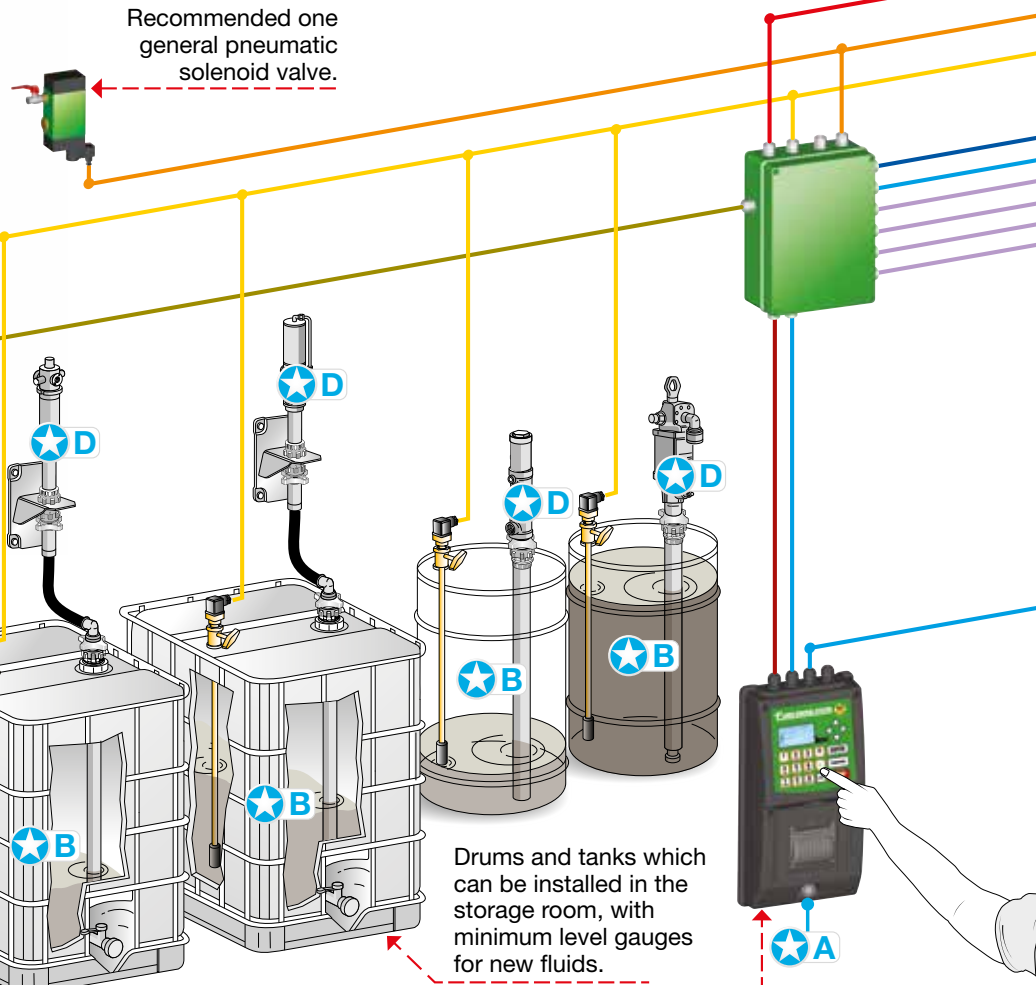


FCS - FULL OPTIONAL



It is the full version of the Fluid Control System, with available all the control equipments and the system interaction tools. You can choose this package for its completeness and functionality in each working phase.

Recommended the connection with only one general pneumatic solenoid valve for the simultaneous supply of the pumps.



Waste oil tank where a level indicator signals when the fixed maximum quantity has been reached.

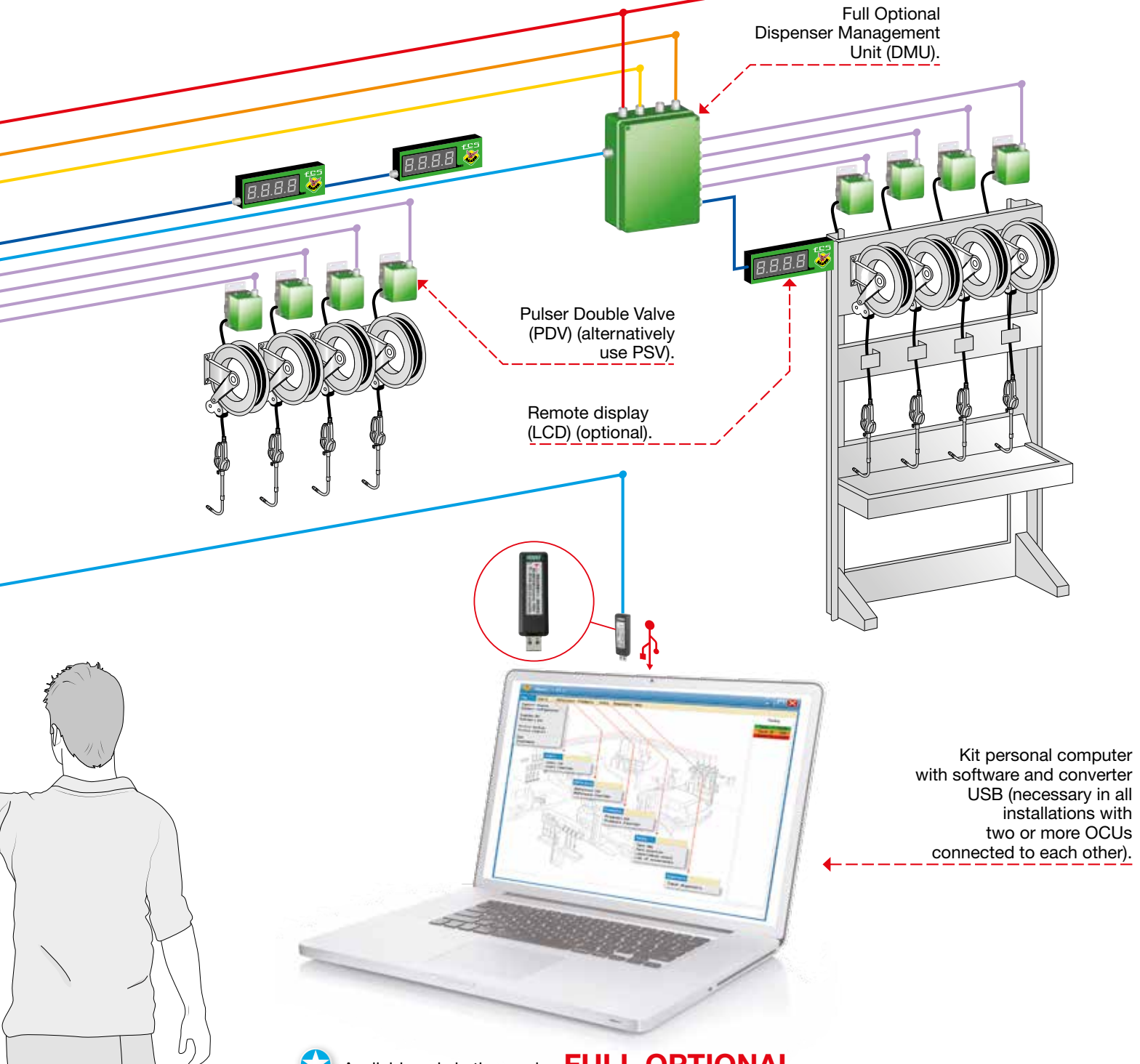
Drums and tanks which can be installed in the storage room, with minimum level gauges for new fluids.

Operator Control Unit Full Optional (OCU).

CABLE	DESCRIPTION	LENGTH
	Each DMU must be powered by 115 V (AC) / 230V (AC), 50 / 60 Hz electrical network and provides 24 V (DC) power to the other components of the FCS system.	max 330 ft
	Cable for connecting main air supply solenoid valve to DMU	max 3280 ft
	Cable for connecting minimum level indicator to DMU	max 3280 ft
	Data cable RS485 for connection between DMU, LCD1 up to LCD2.	max 100 ft
	Data cable RS485 for connection between OCU, DMU1, DMU2, up to DMU3. Data cable RS485 for connection between the main PC and the last OCU of the network.	max 3280 ft
	Cable for connecting maximum waste oil level indicator to DMU	max 3280 ft
	Cable for connecting DMU with nr.4 PDV or nr.4 PSV	max 100 ft
	Power cable OCU 24 V (DC)	max 330 ft

Specifically (compared to the basic version):

- ★ A The “iButton®” device is available, the OCU may or may not be equipped with a ticket printer.
- ★ B The connectors for the fresh oil minimum level check are available.
- ★ C The connector for the waste oil maximum level check is available.
- ★ D The air feeding check for each pump is available.



★ Available only in the version **FULL OPTIONAL**

ON REQUEST

- Pulser Single Valve (PSV)
- Pneumatic solenoid valve for each pump (more cables and connections required)



FCS COMPONENTS



P/N 39599-55 OPERATOR CONTROL UNIT FULL OPTIONAL (OCU)

The OCU is installed near the dispensing points and allows operators to communicate with the system by means of the special membrane keypad and large display. Provided with iButton®. A printer for tickets is located under the keypad.

P/N 39598-55 OPERATOR CONTROL UNIT FULL OPTIONAL (OCU)

Model as above but without printer for tickets.

P/N 39591-55 OPERATOR CONTROL UNIT BASIC (OCU)

OCU designed for the basic version without “iButton®” but with printer for tickets.

P/N 39590-55 OPERATOR CONTROL UNIT BASIC (OCU)

OCU designed for the basic version both without “iButton®” and printer for tickets.

Important: for operation, each OCU must be connected at least to a DMU.

System functionality:

- Access to the system by means of PIN code or “iButton®” device (where provided)
- Customizable ticket printout at the end of each dispensing operation (version with printer)
- Up to 1000 authorized operators
- Memory holds up to 4000 operations
- Possibility of free dispensing or preset amount
- Individual calibration of each single dispenser
- Large graphic display with intuitive and easy to scroll through menu
- Possibility of connecting the system to a PC (required in all installations with two or more OCU connected to each other)
- Up to 6 simultaneous deliveries (when connected with 3 DMUs)
- It is possible to manage up to 12 dispensers/fluids/tanks when using 3 DMUs
- Available in many languages: Italian, Spanish, French, Portuguese, English, German, Polish, Hungarian, Czech, Russian, Latvian, Turkish (other languages on request)



P/N 39605-55 DISPENSER MANAGEMENT UNIT (DMU)

As well as sending commands to all the components of the system, the Dispenser Management Unit (DMU) ensures the low voltage (24 V DC) power supply. It contains all the electrical connections for the system. Each DMU directly controls up to 4 dispensers.

DMU characteristics:

- Powered by 115 V AC - 230 V AC 50/60 Hz, it supplies the 24 V DC feed to all the components of the system
- Can control up to 4 dispensers which are each connected to a pulser-valve unit (PDV or PSV)
- Enables the simultaneous use of 2 dispensers per DMU unit
- Max. distance between DMU and pulser-valve: 100 ft
- Suitable to be connected with 4 oil minimum level gauges for new fluids and 1 waste oil maximum level gauge
- 4 pneumatic solenoid valves (one per pump) can be connected to keep the pump under pressure only during operations
- Recommended one general pneumatic solenoid valve for air supply of all the pumps
- 2 Remote display may be connected with the DMU

P/N 39595-55 DISPENSER MANAGEMENT UNIT BASIC (DMU)

This is the DMU version to use with a basic system without the physical maximum level gauge for waste oil, the physical minimum level gauge in each drum for new fluids and the pneumatic solenoid valve in each pump. Instead, the connection with a general pneumatic solenoid valve for the air pumps feeding is ready.



P/N 39630-55 PULSER DOUBLE VALVE (PDV) *

The PDV is installed along the pipe that takes the fluid from the pump to the dispensing points. It closes the supply line, acting as a valve that opens when receiving consent from the DMU to which it is connected. It also measures the product flowing through the pipe, immediately sending the data to the DMU which feeds it with 24 V DC. The double valve offers greater precision in measuring the dispensed fluid, by reducing the flow before reaching the preset quantity. Inlet and outlet connections NPT 1/2” (f). Max working pressure 1015 psi.

* not type-approved for public use



FCS COMPONENTS



P/N 39620-55 PULSER SINGLE VALVE (PSV) FOR OIL 1/2" *

The Pulsar Single Valve version for oil with NPT 1/2" (f) connections.
Max working pressure 1015 psi.

P/N 39623-55 PULSER SINGLE VALVE (PSV) FOR OIL 3/4" *

The Pulsar Single Valve version for oil with NPT 3/4" (f) connections.
Max working pressure 1015 psi .

P/N 39621-55 PULSER SINGLE VALVE (PSV) FOR ANTIFREEZE 1/2" *

The Pulsar Single Valve version for antifreeze and windshield washer fluid with NPT 1/2" (f) connections. Max working pressure 1015 psi .

P/N 39624-55 PULSER SINGLE VALVE (PSV) FOR DIESEL 3/4" *

The Pulsar Single Valve version for diesel with NPT 3/4" (f) connections.
Max working pressure 435 psi .

- All the PSVs are fed by the DMU 24 V DC
- Use a filter upstream of PSV



P/N 39625-55 PULSER SINGLE VALVE (PSV) FOR OIL 1/2" WITH Y FILTER *

The Pulsar Single Valve version for oil with NPT 1/2" (f) connections.
Max working pressure 1015 psi .

P/N 39627-55 PULSER SINGLE VALVE (PSV) FOR OIL 3/4" WITH Y FILTER *

The Pulsar Single Valve version for oil with NPT 3/4" (f) connections.
Max working pressure 1015 psi .

P/N 39626-55 PULSER SINGLE VALVE (PSV) FOR ANTIFREEZE 1/2" WITH Y FILTER *

The Pulsar Single Valve version for antifreeze and windshield washer fluid with NPT 1/2" (f) connections. Max working pressure 1015 psi .

P/N 39628-55 PULSER SINGLE VALVE (PSV) FOR DIESEL 3/4" WITH Y FILTER *

The Pulsar Single Valve version for diesel with NPT 3/4" (f) connections.
Max working pressure 435 psi .

- All the PSVs are fed by the DMU 24 V DC
- Y filter as standard



P/N 39515-55 SOLENOID VALVE FOR PSV 1/2"

P/N 39517-55 SOLENOID VALVE FOR PSV 3/4"



P/N 39640-55 REMOTE DISPLAY (LCD)

The remote display allows the dispensed quantities to be viewed from a distance.
It is possible to connect 2 remote displays for each DMU.

- Fed by DMU 24 V DC



FCS COMPONENTS

P/N 39680-55 KIT PERSONAL COMPUTER (KIT MAIN PC)

The PC Kit enables a personal computer to centralize and manage the system. It comprises a USB signal converter to connect the OCU's to the PC and a standard software on USB flash drive to be installed on the main PC in the workshop. The software has been designed to manage all necessary operations to control dispensing, including but not limited to: system configuration, operator setup, and checking inventory. It is essential in all installations with two or more OCU's connected together.

It manages:

- Max. 1000 operators
- Max. 999 tanks
- Max. 255 fluids
- Max. 5000 reference numbers (or order numbers)
- Can set unit of measure to liters, gallons, quarts or pints (liters set as default)
- Tank block level
- Tank alarm level
- Max. 1188 controlled outlets
- Windows compatible software
- Data can be exported as an xls, xlsx, txt, csv or ods file for compatibility with other management software
- Can dispense directly from your PC
- Can preset multiple dispensing quantities, which are identified by a "Ref number"
- Displays remaining stock in real-time for every tank
- List of tank loading/unloading movements

It is possible to connect the FCS software with specific management software by contacting the RAASM technical office which will verify the compatibility of the request.



P/N 39681-55 SOFTWARE NETWORK PER PC CLIENT

(to integrate only on request with P/N 39680-55)

It consists of a USB flash drive containing the network software to be installed on client PCs of the offices to create a network of computers connected to the main PC in the workshop. Through this software it is possible, for example, to view and analyze the deliveries, generate reports, print and export data in many file formats (xls, xlsx, csv, ods). A connection using a standard LAN cable or a Wi-Fi connection is required between the client PCs and the main PC.



P/N 39690-55

"iButton" key allows operators to access the system. It is an alternative to PIN code.

P/N 39650-55

Low level gauge h 33.9", suitable for 55 gal drums, to be connected with FCS.

P/N 39651-55

Low level gauge h 51.2", suitable for tanks, to be connected with FCS.

P/N 39652-55

Low level gauge h 59.1", suitable for tanks, to be connected with FCS.

P/N 39655-55

High level gauge for waste oil, suitable to be connected with FCS.

P/N 39657-55

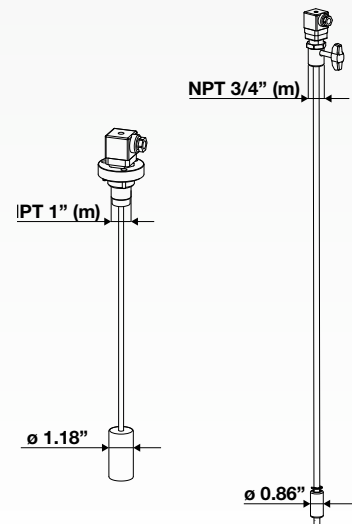
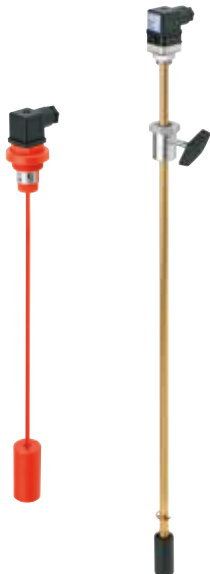
Low level gauge h 33.9", suitable for 55 gal drums, to be connected with FCS, with double contact.

P/N 39658-55

Low level gauge h 51.2", suitable for tanks, to be connected with FCS, with double contact.

P/N 39659-55

Low level gauge h 59.1", suitable for tanks, to be connected with FCS, with double contact.





FCS COMPONENTS



P/N 39610-55 *

Pulser meter for oil with inlet/outlet NPT 1/2" (f) is used to measure fluids and to transmit data. It is usually installed on centralized system to control and manage delivery of fluids.



P/N 39611-55 *

Pulser meter for antifreeze and windshield washer fluid with inlet/outlet NPT 1/2" (f). It is used to measure fluids and to transmit data. It is usually installed on centralized system to control and manage delivery of fluids.



P/N 39613-55 *

Pulser meter for oil with inlet/outlet NPT 3/4" (f). It is used to measure fluids and to transmit data. It is usually installed on centralized system to control and manage delivery of fluids.



P/N 39614-55 *

Pulser meter for diesel with inlet/outlet NPT 3/4" (f). It is used to measure fluids and to transmit data. It is usually installed on centralized system to control and manage delivery of fluids.



P/N 39615-55 *

Pulser meter for oil with inlet/outlet NPT 1" (f). It is usually installed on centralized system to control and manage delivery of fluids.



P/N 39616-55 *

Pulser meter for diesel with inlet/outlet NPT 1" (f). It is usually installed on centralized system to control and manage delivery of fluids.



ACCESSORIES FOR FLUIDS ROOM



P/N 39280-55 *

Timer 24 V DC with daily and weekly programming for programmed activation of air solenoid valves 24 V DC connected with all the pneumatic pumps.



P/N 39281-55 *

Feeder 115 V AC - 24 V DC - 6 A. It provides power supply to all the accessories for the oil room.



P/N 39282-55 *

Automatic-manual selector 24 V DC for feeding solenoid valves, to activate every pump.

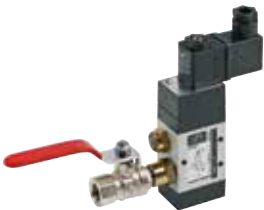


P/N 39284-55 *

The pneumatic solenoid valve 24 V DC with NPT 1/4" (f) x NPT 1/4" (f) connections, equipped with pressure regulator 0-116 psi, controls the opening and/or closing of the compressed air supply which feeds the pumps mounted on the fluid tanks. The connected DMU controls when it opens. Only one general pneumatic solenoid valve is recommended.

P/N 39285-55 *

The pneumatic solenoid valve 24 V DC with NPT 1/2" (f) x NPT 1/2" (f) connections, equipped with pressure regulator 0-116 psi, controls the opening and/or closing of the compressed air supply which feeds the pumps mounted on the fluid tanks. The connected DMU controls when it opens. Only one general pneumatic solenoid valve is recommended.



P/N 39286-55 *

The pneumatic solenoid valve 24 V DC with NPT 1/4" (f) x NPT 1/4" (f) connections controls the opening and/or closing of the compressed air supply which feeds the pumps mounted on the fluid tanks. The connected DMU controls when it opens. Only one general pneumatic solenoid valve is recommended.

P/N 39287-55 *

The pneumatic solenoid valve 24 V DC with NPT 1/2" (f) x NPT 1/2" (f) connections controls the opening and/or closing of the compressed air supply for each single pump mounted on fluid tanks. The connected DMU controls when it opens. Only one general pneumatic solenoid valve is recommended.



P/N 39289-55 *

Luminous acoustic flashing light, connected with a level gauge, signals exhaustion of fluids.



P/N 39290-55 *

Electric line main stop push button for all the accessories in the oil room.

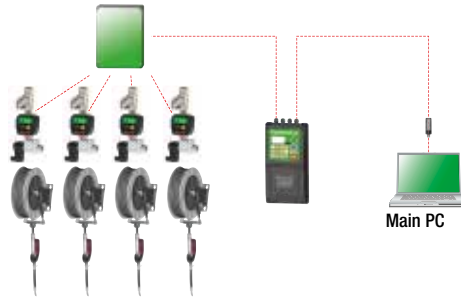
* articles not produced by RAASM



INSTALLATION EXAMPLES

EXAMPLE 1

FCS includes an Operator Control Unit (without printer for tickets and "iButton®") connected to DMU with 4 dispensers equipped with **Pulsar Single Valve**. The system is connected to a PC.

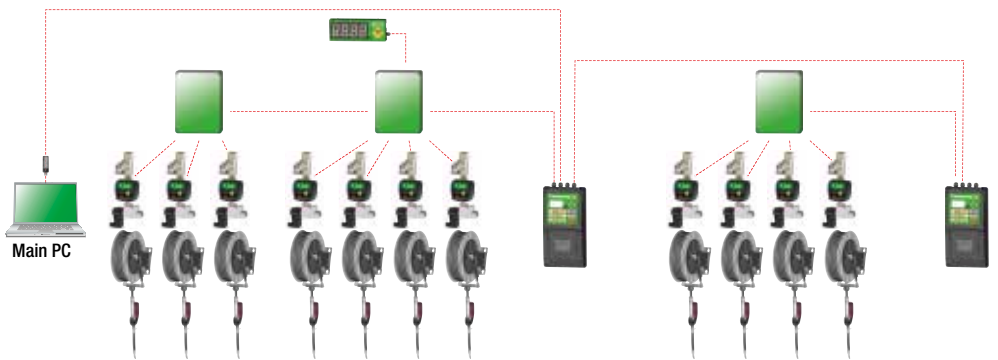


SYSTEM CHARACTERISTICS		
n° 1	OCU Basic	P/N 39590-55
n° 1	DMU Basic	P/N 39595-55
n° 4	PSV + "Y" FILTER	P/N 39625-55
n° 1	Kit PC	P/N 39680-55
n° 4	Dispensing points	-

EXAMPLE 2

FCS includes 2 Operator Control Units without "iButton®" but with printer for tickets. The first one is connected to 2 DMUs with 7 dispensers and remote display; the second one is connected to DMU with 4 dispensers.

Pulsar Single Valve are used only and the system is connected to a PC.

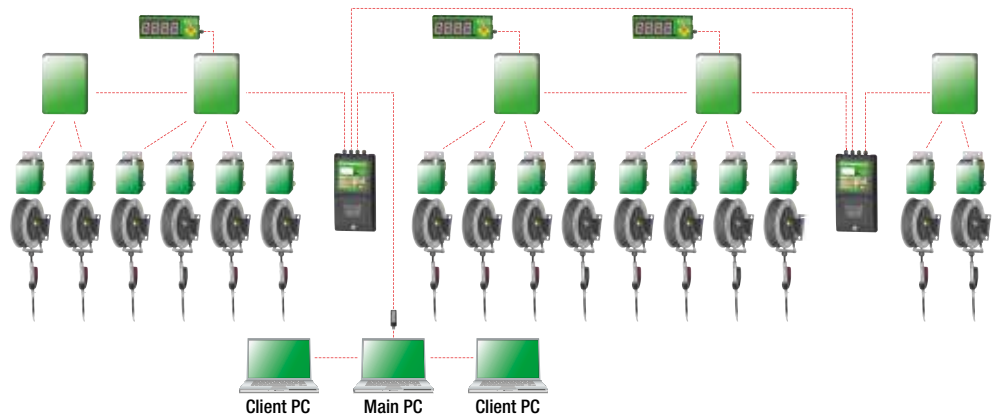


SYSTEM CHARACTERISTICS		
n° 2	OCU Basic with ticket printer	P/N 39591-55
n° 3	DMU Basic	P/N 39595-55
n° 11	PSV + "Y" FILTER	P/N 39625-55

SYSTEM CHARACTERISTICS		
n° 1	Display LCD	P/N 39640-55
n° 1	Kit PC	P/N 39680-55
n° 11	Dispensing points	-

EXAMPLE 3

Full Optional version is equipped with all the available accessories. Every OCU is provided with "iButton®" and printer for tickets. There are **Pulsar Double Valves**, remote displays and 3 PCs connected each other through a network.



SYSTEM CHARACTERISTICS		
n° 2	OCU Full Optional with ticket printer	P/N 39599-55
n° 5	DMU Full Optional	P/N 39605-55
n° 16	PDV	P/N 39630-55

SYSTEM CHARACTERISTICS		
n° 3	Display LCD	P/N 39640-55
n° 1	Kit PC	P/N 39680-55
n° 1	Software Network	P/N 39681-55
n° 16	Dispensing points	-



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