FLUID CONTROL SYSTEM

Everything under your control

No. 222/FCS

ADVANCED FLUID
MANAGEMENT SOLUTIONS

FCS
FULL
OPTIONAL

FCS
BASIC

ADVANCED FLUID MANAGEMENT SOLUTIONS

40 years
1975 - 2015

ADVANCED FLUID MANAGEMENT SOLUTIONS

at your service since 1975

RAASM works to offer the best through continuous improvement, in terms of performance, functionality and reliability of its products.

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HELP THE NATURE

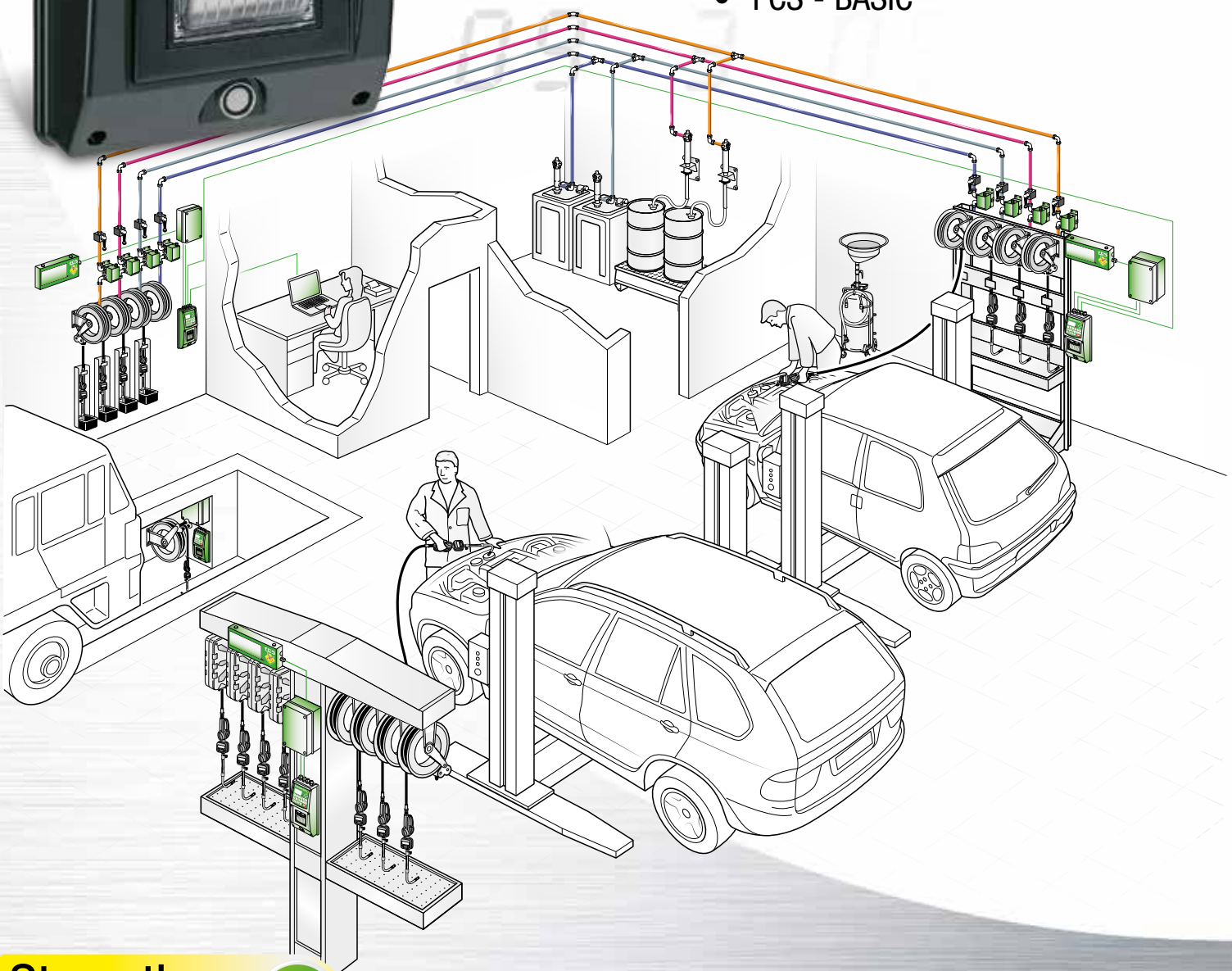
Packaging contains, depending on the articles, one or more of the following materials; they must be recycled in accordance with current regulations in the country of use.

cardboard • polyethylene sack • polystyrene
paper • wood • nails • plastic strap
cellophane • clips • gummed paper

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:

- FCS - **FULL**OPTIONAL
- FCS - BASIC



Strength points

- Automatic control of fluid inventories.
- Display with simple and intuitive menu.
- Summary ticket for each action.
- 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 IP65 protection degree.
- Eletronic board with protection from overload and short circuit.

Fluid Control System can manage:

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 "I-button" key (only in the Full Optional version). All the operations carried out are stored in the system's memory.

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 user.

FLUIDS

The FCS can manage all the automotive fluids. Each fluid is distinguished by the complete name and an abbreviation (6-digit). The quantities dispensed are counted with the unit of measure chosen by the user: Liters, Gallons, Quarts, Pints.

DISPENSERS (OUTLETS)

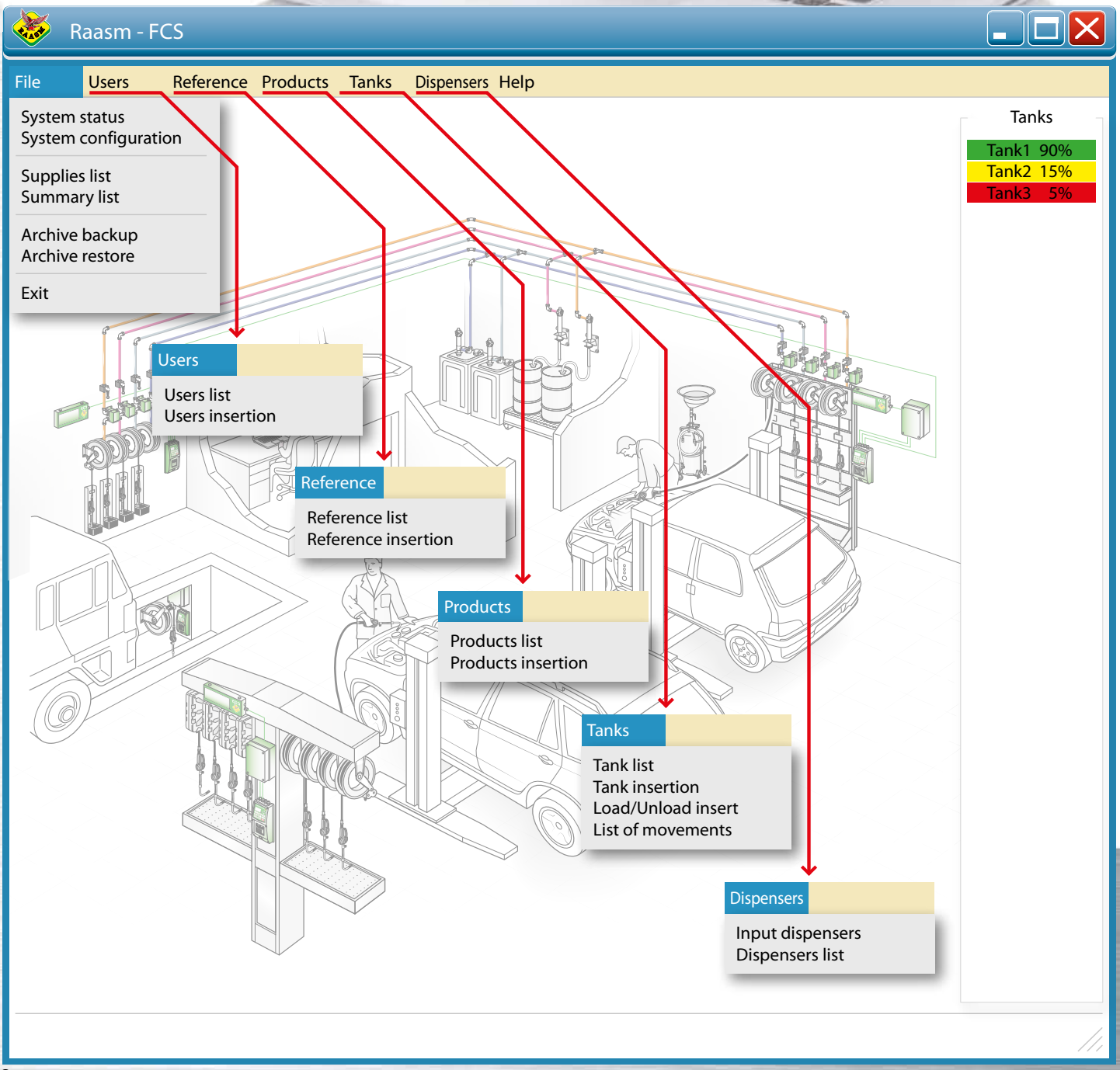
The FCS manages up to a maximum of 1188 dispensing points. Each Operator Control Unit (OCU) can manage a maximum of 12 outlets, 6 of which are able to work at the same time. The date and time, operator's name, order number or vehicle number-plate, type of fluid and quantity dispensed are recorded for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

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.

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, allows to create a PC Network connected with FCS



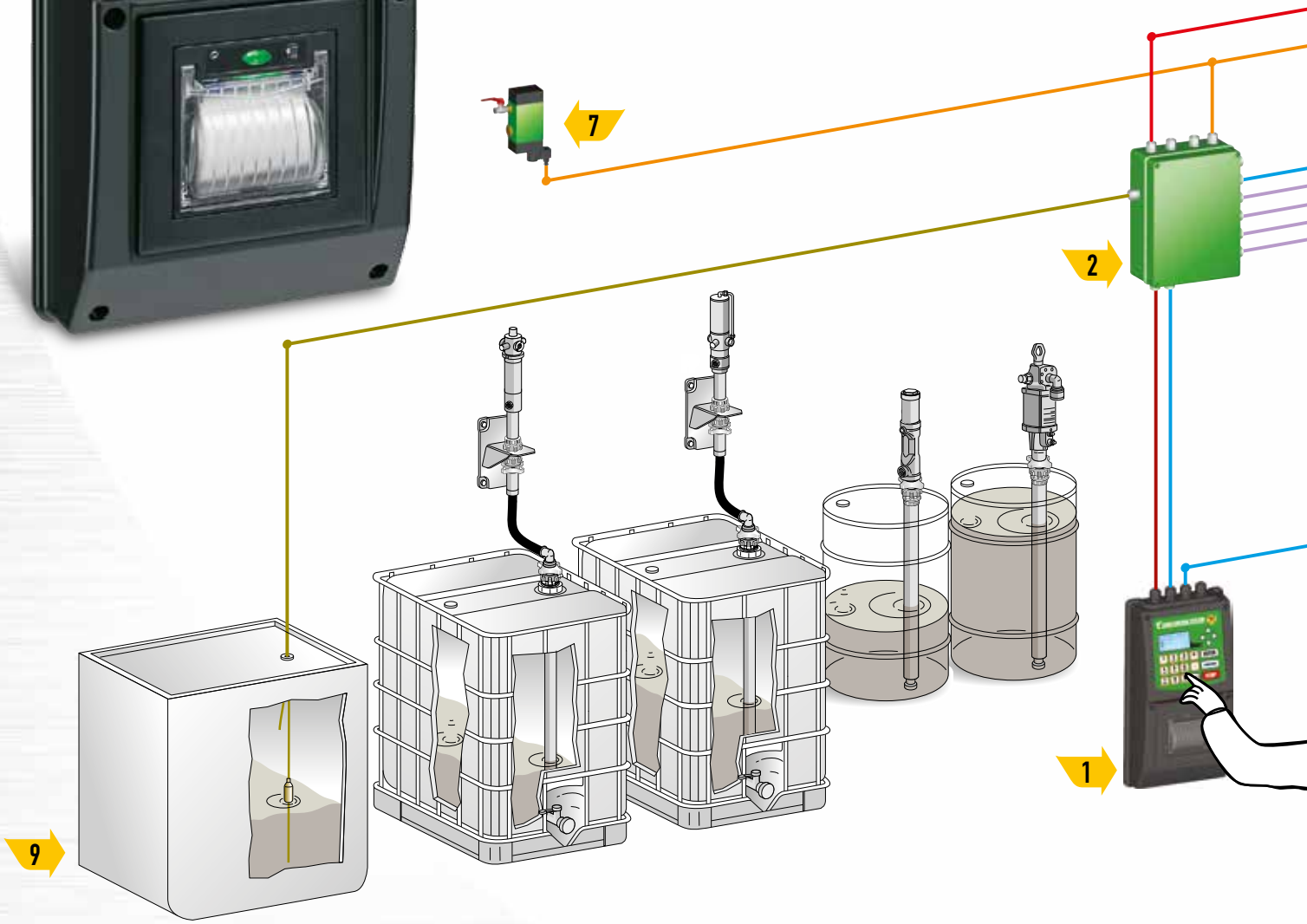
Operator Control Unit: Menu

- 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 I-Button, the physical minimum level gauge in each drum and the pneumatic solenoid valve in each pump. Instead, the connection with a main pneumatic solenoid valve for the air pumps feeding is ready.



1 Operator control unit (OCU)

2 Dispenser management unit (DMU)

3 *Pulser double valve (PDV) (optional)*

4 Pulser single valve (PSV)

5 *Remote display (LCD) (optional)*

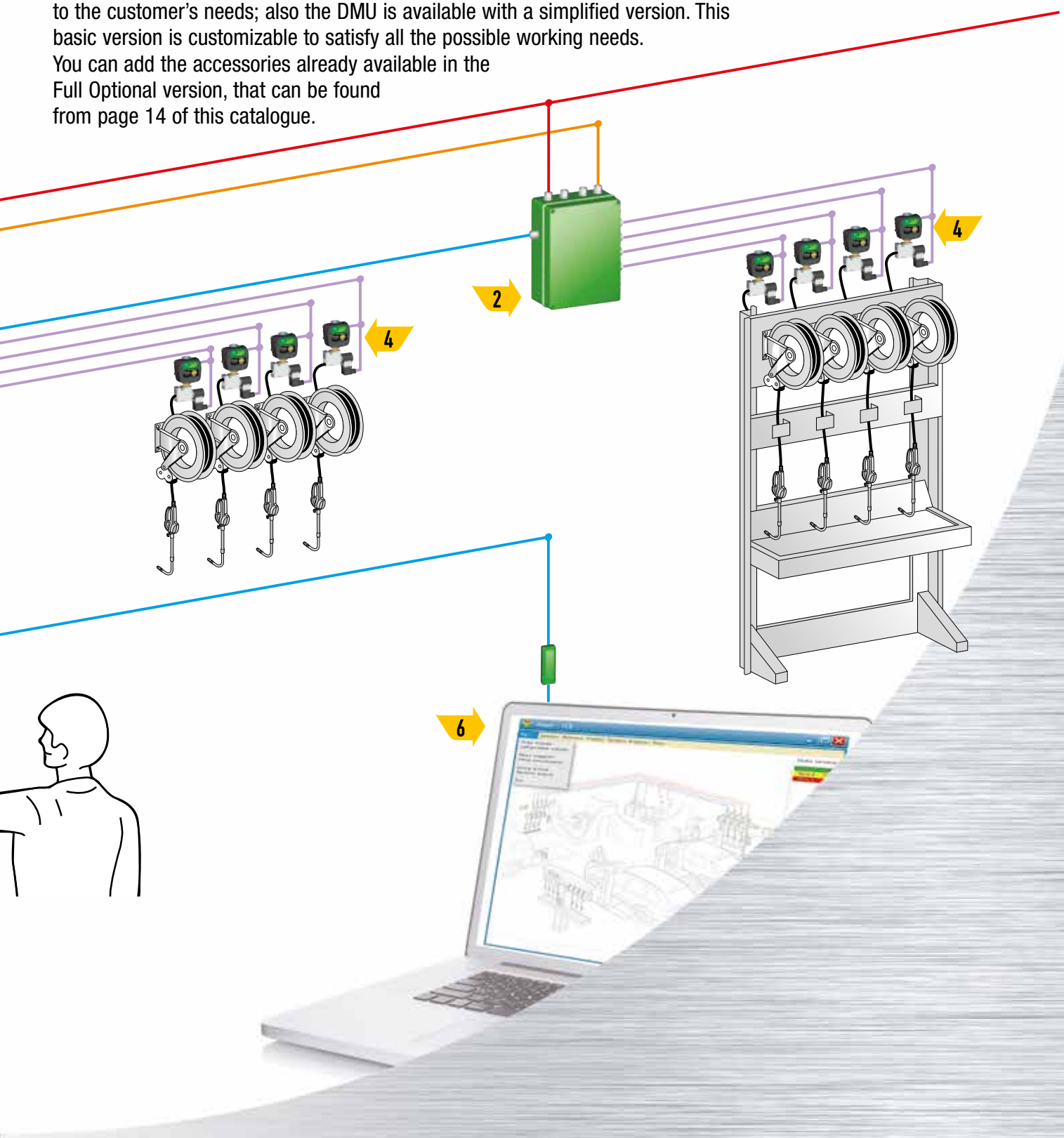
6 Kit personal computer with software and converter USB

7 Pneumatic solenoid main valve

8 *Single solenoid valve installed on each pump*

9 Depleted oil tanks where a level indicator shows when the fixed maximum quantity has been reached.

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 is customizable to satisfy all the possible working needs.
You can add the accessories already available in the Full Optional version, that can be found from page 14 of this catalogue.

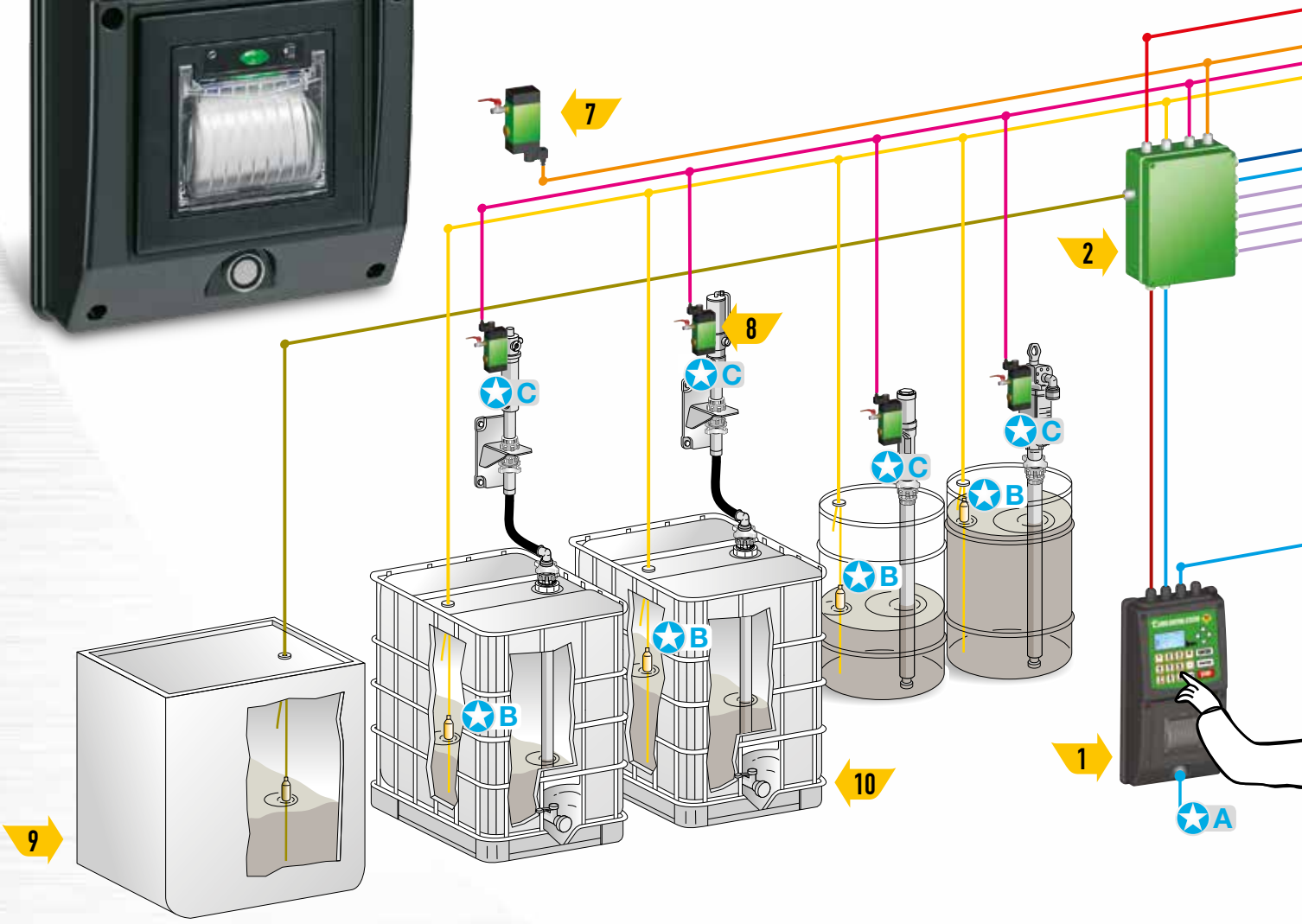


CABLE	DESCRIPTION	LENGHT
	Power cable 110 V - 230 V	max 100 m
	Cable for connecting main air supply solenoid valve to DMU	max 100 m
	Cable for connecting OCU to DMU and successive DMU's Cable for connecting OCU to PC and other OCU's	max 1000 m
	Cable for connecting depleted oil level indicator to DMU	max 1000 m
	Cable for connecting DMU to PDV or PSV	max 30 m
	Power cable 24 V DC	max 100 m

Fluids tanks, which can be installed in the storage room, with minimum and maximum level gauge.

FCS - FULLOPTIONAL

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.



Available only in the version **FULLOPTIONAL**

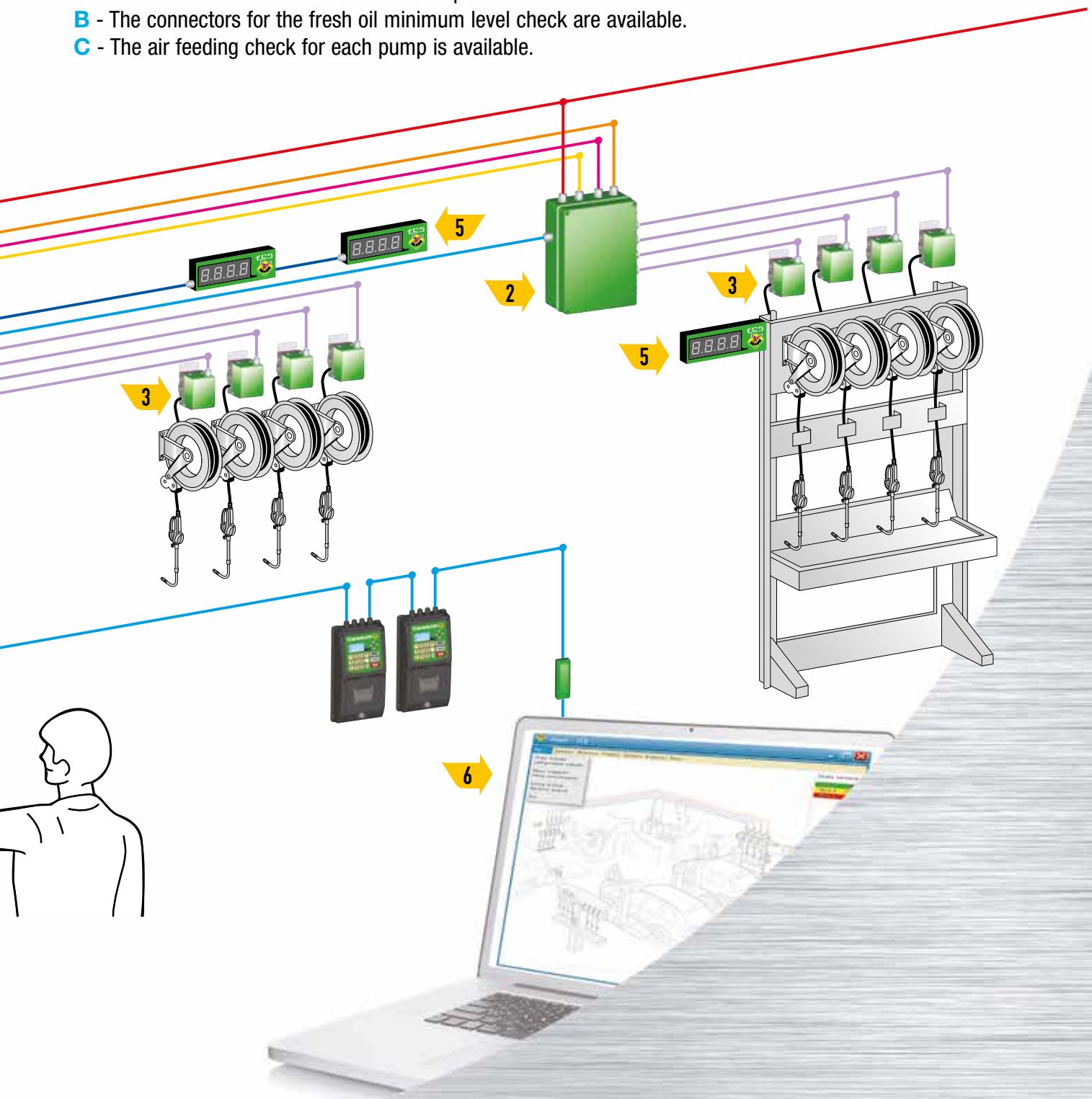
1. Operator control unit (OCU)
2. Dispenser management unit (DMU)
3. Pulser double valve (PDV) (alternatively use PSV)
4. *Pulser single valve (PSV) (optional)*
5. Remote display (LCD)
6. Kit personal computer with software and “I BUTTON” device
7. Pneumatic solenoid main valve
8. Single solenoid valve installed on each pump
9. Depleted oil tanks where a level indicator shows when the fixed maximum quantity has been reached.

Specifically (compared to the basic version):

A - The I-button device is available and the printer for tickets.

B - The connectors for the fresh oil minimum level check are available.

C - The air feeding check for each pump is available.



CABLE	DESCRIPTION	LENGHT
	Power cable 110 V - 230 V	max 100 m
	Cable for connecting main air supply solenoid valve to DMU	max 100 m
	Cable for connecting air supply solenoid valve to DMU	max 100 m
	Cable for connecting minimum level indicator to DMU	max 1000 m
	Cable for connecting remote display to DMU	max 30 m
	Cable for connecting OCU to DMU and successive DMU's Cable for connecting OCU to PC and other OCU's	max 1000 m
	Cable for connecting depleted maximum oil level indicator to DMU	max 1000 m
	Cable for connecting DMU to PDV or PSV	max 30 m
	Power cable 24 V DC	max 100 m

10 Fluids tanks, which can be installed in the storage room, with minimum and maximum level gauge.

FCS Components

P/N 39599 OPERATOR CONTROL UNIT (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.
A printer for tickets is located under the keypad.

P/N 39598 OPERATOR CONTROL UNIT (OCU)

Model as above but without printer for tickets.

P/N 39591 OPERATOR CONTROL UNIT BASIC (OCU)

OCU designed for the basic version without I-button but with printer for tickets.

P/N 39590 OPERATOR CONTROL UNIT BASIC (OCU)

OCU designed for the basic version both without I-button 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 I-button device
- 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
- 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

P/N 39605 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 110 V - 230 V AC, 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 unit
- Max. distance between DMU and pulser-valve: 30 m.
- Suitable to be connected with 4 oil level gauges and 1 waste oil level gauge
- 4 Air solenoid valves (one for each pump), or 1 general air solenoid valve, may be connected with the DMU to pressurize the pumps only during use
- 2 Remote display may be connected with the DMU.

P/N 39595 DISPENSER MANAGEMENT UNIT BASIC (DMU)

This is the DMU version to use with a basic system without the physical minimum level gauge in each drum and the pneumatic solenoid valve for the air pumps.

P/N 39630 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 1/2” F. Working pressure 70 bar.

P/N 39620 PULSER SINGLE VALVE (PSV) FOR OIL 1/2”
The Pulser in single valve version for oil, with 1/2” connections, as an alternative to the double valve version PDV. Working pressure 70 bar.

P/N 39623 PULSER SINGLE VALVE (PSV) FOR OIL 3/4”
The Pulser single valve version for oil with 3/4” connections. Working pressure 70 bar.

P/N 39621 PULSER SINGLE VALVE (PSV) FOR ANTIFREEZE 1/2”
The Pulser single valve version for antifreeze and window washing liquid with 1/2” connections. Working pressure 70 bar.

P/N 39624 PULSER SINGLE VALVE (PSV) FOR DIESEL 3/4”
The Pulser single valve version for gas oil with 3/4” connections. Working pressure 30 bar.

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

P/N 39515 SOLENOID VALVE FOR 1/2” G

P/N 39517 SOLENOID VALVE FOR 3/4” G

P/N 39640 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

P/N 39680 KIT PERSONAL COMPUTER (KIT PC)
The PC Kit enables a personal computer to centralize and manage the system. It comprises a USB signal converter to connect the FCS Module to the PC and installation software on a CD ROM. 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.

P/N 39681 SOFTWARE FOR PC NETWORK (to integrate with P/N 39680)
Software to create a network of computer connected with FCS. Using this software each computer will be able to interact directly with the system.

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 or .txt file for compatibility with other management software
- Can dispense directly from your PC
- Can preset multiple dispensing quantities, which are identified by a “Refnumber”
- Displays remaining stock in real-time for every tank and can graph the trend of remaining stocks over time.

P/N 39685 (just included with P/N 39680)
Converter USB-RS232/RS485, to connect OCU with personal computer.

P/N 39690
“I-BUTTON” device allows operators communicate with the system.
It is an alternative to PIN code.

P/N 39650
Low level gauge h 860 mm, suitable for 180 - 220 Kg drums, to be connected with FCS.

P/N 39651
Low level gauge h 1300 mm, suitable for tanks, to be connected with FCS.

P/N 39652
Low level gauge h 1500 mm, suitable for tanks, to be connected with FCS.

P/N 39655
High level gauge for waste oil, suitable to be connected with FCS.

P/N 39657
Low level gauge h. 860 mm, suitable for 180 - 220 Kg drums, to be connected with FCS, with double contact.

P/N 39658
Low level gauge h. 1300 mm", suitable for tanks, to be connected with FCS, with double contact.

P/N 39659
Low level gauge h. 1500 mm", suitable for tanks, to be connected with FCS, with double contact.

P/N 39610
Pulser meter for oil with inlet/outlet 1/2" 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
Pulser meter for antifreeze and windscreen washing liquid with inlet/outlet 1/2" is used to measure fluids and to transmit data. It is usually installed on centralized system to control and manage delivery of fluids.

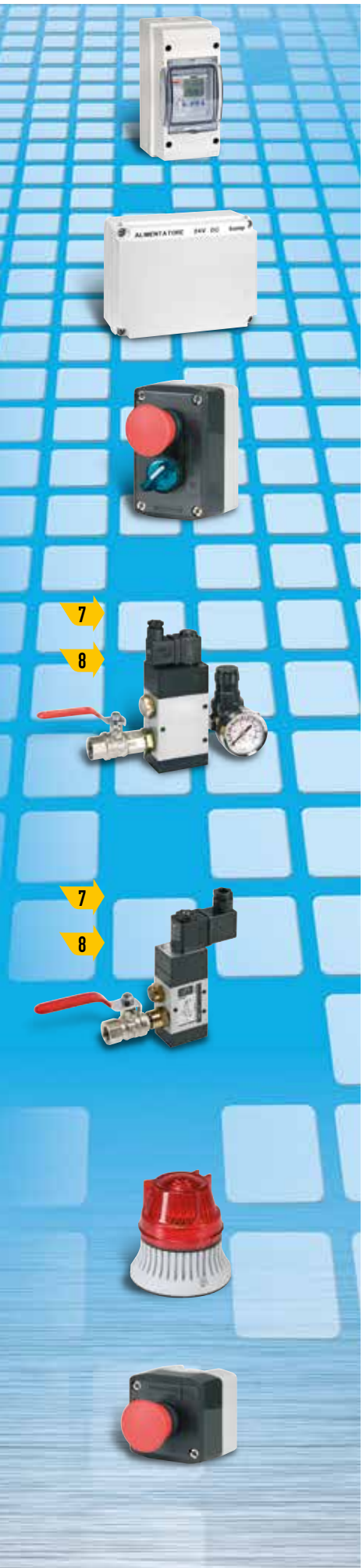
P/N 39613
Pulser meter for oil with inlet/outlet 3/4" is used to measure fluids and to transmit data.
It is usually installed on centralized system to control and manage delivery of fluids.

P/N 39614
Pulser meter for diesel with inlet/outlet 3/4" 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
Pulser meter for oil with inlet/outlet 1".
It is usually installed on centralized system to control and manage delivery of fluids.

P/N 39616
Pulser meter for diesel with inlet/outlet 1".
It is usually installed on centralized system to control and manage delivery of fluids.

Accessories for fluids room



P/N 39280 *
Timer 24 V DC with daily and weekly programminng for programmed activation of air solenoid valves 24 V DC connected with all the pneumatic pumps.

P/N 39281 *
Feeder 220 - 24 V DC - 6 A. It provides power supply to all the acessories for the oil room.

P/N 39282 *
Automatic manual-selector 24 V DC for feeding solenoid valves, to activate every pump.

P/N 39284 *
The pneumatic solenoid valve 24 V DC with F x F 1/4” connections, equipped with pressure regulator 0-8 bar, 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.

P/N 39285 *
The pneumatic solenoid valve 24 V DC with F x F 1/2” connections, equipped with pressure regulator 0-8 bar, 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.

P/N 39286 *
The pneumatic solenoid valve 24 V DC with FxF 1/4” 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.

P/N 39287 *
The pneumatic solenoid valve 24 V DC with FxF 1/2” 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.

P/N 39289 *
Luminous acoustic flashing light, connected with a level gauge, signals exhaustion of fluids.

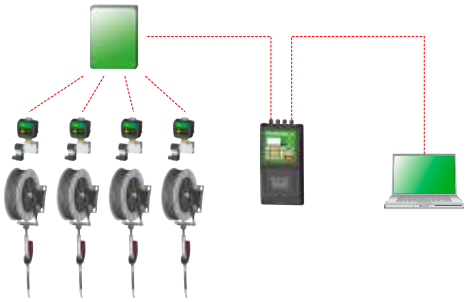
P/N 39290 *
Electric line main stop push button for all the acessories in the oil room.

* articles not producted by Raasm

Installation examples

BASIC SYSTEM

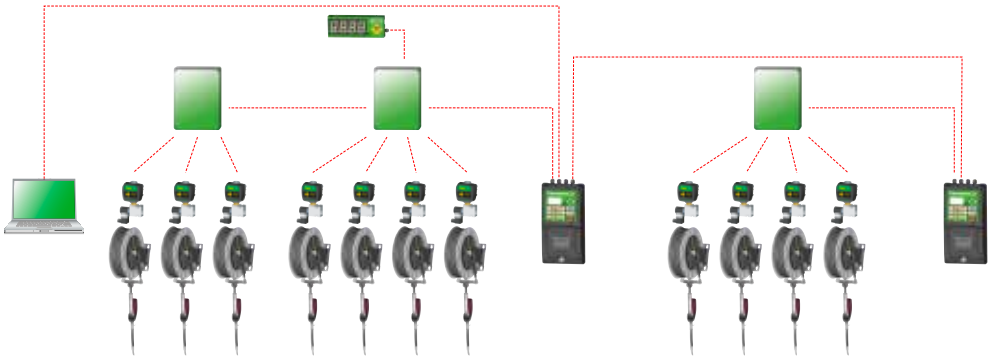
FCS with basic components only includes an Operator Control Unit (without printer for tickets and I-Button) connected to DMU with 4 dispensers equipped with pulser single valve. The system is connected to a PC.



SYSTEM CHARACTERISTICS		
n° 1	OCU	P/N 39590
n° 1	DMU	P/N 39595
n° 4	PSV	P/N 39620
n° 1	Kit PC	P/N 39680
n° 4	Dispensing points	-

INTERMEDIATE SYSTEM

FCS with some accessories includes 2 Operator Control Units without I-Button 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. Pulser single valve are used only and the system is connected to a PC.

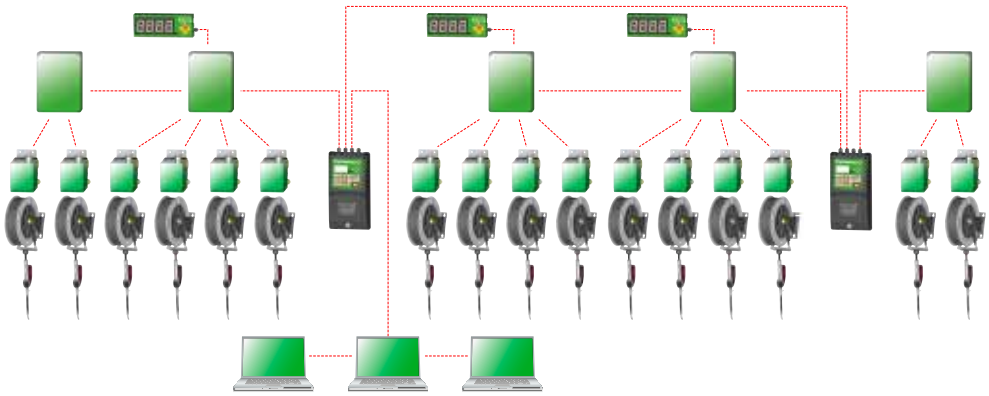


SYSTEM CHARACTERISTICS		
n° 2	OCU with ticket printer	P/N 39591
n° 3	DMU	P/N 39605
n° 11	PSV	P/N 39620

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

SYSTEM FULLOPTIONAL

Full Optional version is equipped with all the available accessories. Every OCU is provided with I-Button and printer for tickets. There are pulser double valves, remote displays and 3 PCs connected each other through a network.



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

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

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