

Company Profile

of

WALNUT



The company

WALNUT is an innovative company in the dosing systems industry. WALNUT offers innovative products for remote monitoring and control of the dosing process at real time, using permanent connectivity to the internet. Using our Web services you can monitoring and control our dosing systems at lowest cost. WALNUT offers a wide selection of control instruments and accessories. Our professional staff is committed to serving your dosing needs. At WALNUT we develop our products based on our customer's wants and needs. All of our products are thoroughly tested by our internal quality assurance personnel, prior to shipment. We believe our customers deserve to receive only the highest quality products.



Manufacturing

Quality and Flexibility are our “driving words” in the production facility.

WALNUT manufacturing processes follows the state of the art technologies. Our production lines use the most advanced technologies to ensure the highest quality of our products.

Our assembling procedures and tests, together with our test benches, assure that 100% products we manufacture are working at the maximum working conditions they are designed for.

Our assembling procedures require that 100% of the products we manufacture are tested at the most severe working conditions.



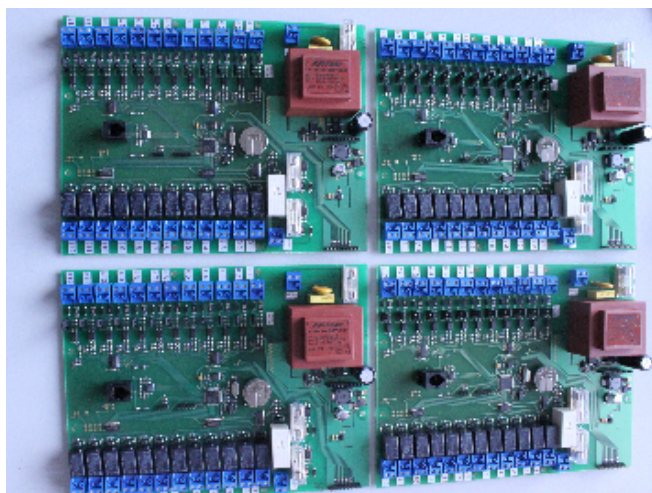
R&D and innovations

WALNUT believes that innovation is the key to success. **WALNUT** thinks that innovation is about making positive change. It's finding creative new ways to tackle problems, react to change, or make something better. Our R&D department works to offer high quality products, to optimize costs, significantly reduce the time to market and meet all customer's needs.

Products

Dosing systems

MOCO



MOCO is monitoring and control dosing system with following **features**:

- Permanent internet connectivity via GPRS or Ethernet/WiFi
 - Up to 12 input signals
 - Up to 12 pumps
 - Output supply – 24V AC or external supply
 - Two operational modes: relay mode and formula(program) mode
-
- Events history – 400 events in formula mode or 1700 events in relay mode
 - High security – MOCO implements high level of security, using asymmetric encryption algorithms.
 - One click configuration.
 - Creating a program with one click.
 - Automatic synchronization.

Technical specifications:

Voltage / Frequency	220 – 230V AC / 50 – 60 Hz
Power	10VA
Signal Supply	20-240V AC
Outputs	8A – 250V AC, 8A – 30V DC
Control Circuitry	32bit ARM Cortex-M3 microcontroller; 2 digits LED keyboard; GPRS/Ethernet/WiFi communication module; program start on control signals.
Number of inputs	12 (galvanically isolated)
Number of outputs	12
Enclosure	IP 55, ABS thermoplastic, color - white
Dimensions (mm) (H x W x D)	240 x 190 x90
Weight	1.0 kg

DS108



DS108 is monitoring and control dosing system with following **features**:

- Permanent internet connectivity via GPRS or Ethernet/WiFi
- 2 input signal
- Up to 8 pumps
- Output supply drives up to 8 pumps
- One operational mode: program mode
- Events history – 570 events (when connection is missing)
- High security – no plain data is transferred across the network. DS108 implements high level of security, using asymmetric encryption algorithms.
- One click configuration.
- Creating a program with one click.
- Manually upload programs.

Technical specifications:

Voltage / Frequency	220 – 230V AC / 50 - 60 Hz
Power	35W
Signal Supply	24V AC, 160 -240V AC
Outputs	1.45A (@ 24V DC)
Control Circuitry	32bit ARM Cortex-M3 microcontroller; 2 digits LED keyboard; GPRS/Ethernet/WiFi communication module.
Number of inputs	2 (galvanically isolated)
Number of outputs	8
Enclosure	IP43, ABS thermoplastic, color - white
Dimensions (mm) (H x W x D)	200 x 158 x 64
Weight	1.0 kg

DS02GP



DS02GP is monitoring and control dosing system with following **features**:

- Permanent internet connectivity via GPRS.
 - 1 input signal.
 - Up to 2 pumps.
 - Two operational modes: relay mode with correction and simple mode.
 - High security – no plain data is transferred across the network. DS02GP implements high level of security, using asymmetric encryption algorithms.
- Events history – 176 events (when connection is missing)
 - USB connection + standalone desktop application for configuration (only in simple mode).

Technical specifications:

Voltage / Frequency	220 – 230V AC / 50 - 60 Hz
Power	10VA
Signal Supply	160 -240V AC
Outputs	0.3A (@ 24V DC)
Control Circuitry	32bit ARM Cortex-M3 microcontroller; GPRS communication module; USB connection;
Number of inputs	1 (galvanically isolated)
Number of outputs	2
Enclosure	IP43, ABS thermoplastic, color - white
Standard	UL-94-V0
Dimensions (mm) (H x W x D)	130 x 100 x 45
Weight	0.5 kg

Pumps



Peristaltic pumps provide excellent problem solving pumping solutions especially when the product being pumped is particularly abrasive, corrosive or viscous. Their lack of valves, seals and glands makes them inexpensive to maintain the only maintenance item is the hose or tube. Lastly, the only part of the pump in contact with the fluid being pumped is the interior of the tube or hose, making it easy to sterilise and clean the inside surfaces of the pump

Technical Specifications:

Voltage / Frequency	220 – 230V AC / 50-60 Hz
Power	4.5VA
Enclosure	IP43, ABS thermoplastic, color - white
Standard	UL-94-V0
Dimensions (mm) (H x W x D)	130 x 100 x 45
Weight	0.5 kg

Software

<http://dosingsys.com>

DOSING SYSTEM

Washing machine



Dishwasher



Download
mobile
application

Smart monitoring and control

WALNUT develops WEB based application software for monitoring and control of all dosing systems with internet connection (GPRS/WiFi/Ethernet). The application has user friendly interface and the users can monitor or control their dosing systems with a single click. The application offers variety of reports and exports to XLS or CSV file formats. The application offers high level of security (based on HTTPS application protocol), especially over unencrypted networks (such as WiFi), as anyone on the same local network can "packet sniff" and discover sensitive information.

Users

https://www.dosingsys.com

vstoianov English

Create user

User name *

Password *

Confirm password *

User role *

Save

Create command allows the end user to create/add new users into the system. New users could have one of the following role: *Administrator*, *Operator*, *User*, *Watcher*. The current user can create new users with the same role or lower than he possesses. The roles have the following order: *Administrator*, *Operator*, *User*, *Watcher*

https://www.dosingsys.com

vstoianov English

Search user

User name

Show inactive users ☐

Reset Search

User name	From date	To date
a.iliev	2012-10-26 07:46:09	
afrodita	2013-05-28 09:25:21	
akvatoria	2012-04-26 11:50:35	
alba	2013-06-06 13:39:58	
alek	2011-10-27 15:38:19	2014-05-28 00:00:00
alex	2012-07-25 10:58:30	
atomen	2013-03-06 09:44:12	
belchin	2012-11-28 10:21:50	
belisimo	2013-05-18 13:19:45	
berlin	2013-04-22 13:43:38	
berlinsn	2013-06-18 21:50:29	
boby	2013-10-17 09:40:37	
borisova	2012-11-27 16:45:38	
Croatia3	2013-12-05 16:34:46	
esperfecto	2012-12-07 14:06:38	
evabs	2013-03-01 13:57:45	
extraclean	2013-10-31 16:40:43	
florimont	2012-03-28 21:34:45	
globe	2013-05-30 17:17:43	

Open

Search command searches users of the system by given conditions.

Facility

The screenshot shows a web browser window with the URL <https://www.dosingsys.com>. The left sidebar contains a navigation menu with the following items:

- User
 - Create
 - Search
- Facility
 - Create
 - Search
- Reminder
 - Create
 - Search
- Program
 - DS108
 - Create
 - Search
 - Upload
 - MOCO
 - Create
 - Search
- Report
 - Facility
 - Programs
 - Activity
- Firmware
 - Search
 - Upload
- Logout

The main content area displays a "Create facility" form. The form has the following fields:

- Name: Test Facility 1
- Owner: alek
- Parent facility: (empty)

The top of the browser window shows the address bar with the URL, a search bar, and various browser controls. The top right of the page shows the user name "vstolanov" and the language "English".

Create – creates a new facility.
Required fields are noted with red asterisk.

[illegible]

Search – searches facilities on certain conditions.

Devices

The screenshot shows the 'Add dosing system' form in the dosingsys.com web application. The form is titled 'Add dosing system' and contains several input fields and a table.

Facility Information:

- Name: TestFacility
- Owner: jordan
- Parent facility:

Dosing system Table:

Name	Device type	Pumps	Serial number
Ala bala	DS108	7	131511000000060
MOCO2	MOCO	Not supported	MC11111
Test Ds108	DS108	5	DS1000001234
Test MOCO Device	MOCO	Not supported	M400007E

Add dosing system Form:

- Name:
- Device type:
- Pumps:
- Serial number:
- Encryption key:
- Wash weight: kg
- Drain valve: ☒ Normal Open (N.O.) ☐ Normal closed (N.C.)
- Continuous step: ☐
- Work offline: ☐

Add dosing system
– add a new dosing system to a certain facility

The screenshot shows the 'Dosing system' form in the dosingsys.com web application. The form is titled 'Dosing system' and contains several input fields and a table.

Facility Information:

- Name: TestFacility
- Owner: jordan
- Parent facility:

Dosing system Table:

Name	Device type	Pumps	Serial number
Ala bala	DS108	7	131511000000060
MOCO2	MOCO	—	MC11111
Test Ds108	DS108	5	DS1000001234
Test MOCO Device	MOCO	—	M400007E

Dosing system Form:

- Name: Test MOCO Device
- Device type: MOCO
- Serial number: M400007E
- Encryption key:
- Wash weight: 20.0000 kg
- Operational mode: Formula mode
- Program runs on keyboard: ☒
- Program runs on start conditions: ☒
- Work offline: ☒

Update –
read/update/delete (RUD) a certain dosing system.

Pumps

DS108 – Configure pumps

Configure pumps

Dosing system Test Ds108

P1	Acid	Quantity	130	ml	Time	60	s	Price per kg.	1 23	EU
P2	Chlorin	Quantity	145	ml	Time	60	s	Price per kg.	3.25	EU
P3		Quantity	1	ml	Time	1	s	Price per kg.	0	EU
P4		Quantity	1	ml	Time	1	s	Price per kg.	0	EU
P5		Quantity	1	ml	Time	1	s	Price per kg.	0	EU

MOCO – Configure pumps.

Configure pumps

Dosing system Test MOCO Device

Pump	Detergent	Flow rate, ml/min	Price per kg.	Action
Pump 1	Acid	60	1.2344	
Pump 2	Препарат 21	60	2.3445	
Pump 3	Chlorin	60	1.2345	
Pump 4	Detergent 4	120	1.1100	
Pump 5	Detergent 5	120	0.6700	
Pump 6		0	0.0000	
Pump 7		0	0.0000	
Pump 8		0	0.0000	
Pump 9		0	0.0000	
Pump 10		0	0.0000	
Pump 11		0	0.0000	
Pump 12		0	0.0000	

Programs

Exists two type of programs : DS108 programs and MOCO programs.

DS108 – Create a program.

vstoianov

English

Create program

Facility *

Dosing system *

Program number *

Program name *

MOCO – Create a program

Create program

Facility *

MOCO device *

Program number *

Program name *

Start condition

Input	Duration, sec.

Input	Output	Delay, sec.	Quantity per kg., ml	Total quantity, ml	Price per kg.

Total price per kg. 0.0000 EU

Total price 0.0000 EU

Program 2

Facility TestFacility Program number 2

Dosing system Ala bala Program name Test - 2

DS108 – Edit/Modify a program.

Program step	Created date	Last updated date
1	2014-01-08 23:28:23	
2	2014-01-08 23:28:49	

Total price per kg. 0.0000 EU

Total price 0.0000 EU

Program step 2

Pump	Description	Active	Delay, s	Quantity per kg., ml	Total quantity, ml	Price per kg.
Pump1		✗	0	0	0	0.0000
Pump2		✓	0	3	75	0.0000
Pump3		✗	0	0	0	0.0000
Pump4		✓	10	4	100	0.0000
Pump5		✗	0	5	125	0.0000
Pump6		✗	0	0	0	0.0000
Pump7		✗	0	0	0	0.0000

MOCO

Facility TestFacility Program number 7

MOCO device Test MOCO Device Program name Test 7

Start condition

Input	Duration, sec.
Input signal 1	3
Input signal 3	3
Input signal 8	3

Input	Output	Delay, sec.	Quantity per kg., ml	Total quantity, ml	Price per kg.
Input signal 1	Output 4	20	4	80	0.0044
Input signal 2	Output 2	0	3	60	0.0070
Input signal 5	Output 5	0	12	240	0.0080

Total price per kg. 0.0195 EU

Total price 0.3903 EU

MOCO – Edit/Modify a program