

## IMPUTERNICIRE PRODUCATOR

Data: 13.12.2022

Ref.Licitatie: Construcția apeductului magistral Sărata-Răzeși - Voinescu - Mingir din r-nul Hîncești (REPETAT)

Catre: AGENTIA DE DEZVOLTARE CENTRU

Noi Axima Grup SRL, reprezentati legal prin Andrei Prijilevschi, in calitate de Director General fiind Distribuitor Oficial al producatorului de produse Verder si Prominent in Republica Moldova , imputernicim pe S.R.L. "Polimer Gaz Construcții" cu sediul in mun. Chișinău, str. V. Dokucaev, 3, of 62 sa depuna o oferta completa al carei scop este furnizarea urmatoarelor produse, al caror producatori suntem: **STATIE DE DEZINFECTARE CONTAINERIZATA AUTOMATIZATA ( PLATFORMA B SI C )** . . De asemenea suntem de acord ca S.R.L. "Polimer Gaz Construcții" sa prezinte la prezenta licitatie documentatia tehnica, certificarile si avizarile sanitare, agrementarile si avizarile tehnice specifice si sa puna in opera produsele mentionate mai sus.

Semnat de: Andrei Prijilevschi

In calitate de: Director General

Semnatura:

Tel: 022 84 44 01

fax: 022 84 40 05

www.axima.md

Adresa poștală:

Republica Moldova, mun. Chișinău,

str. Gh. Asachi 19 B.



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Data: 13.12.2022

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Adresa poștală:

Republica Moldova, mun. Chișinău,

str. Gh. Asachi 19 B.



We hereby confirm that the following company is an Authorised

DP-Pumps Representative

in

Moldavia

Axima Grup s.r.l.  
Str. C. Negruzzi 2/3 – 25  
Chisinau  
Moldavia

For the distribution, sales and service of  
DP Pumps products in Moldavia

DP Pumps products are:

- Vertical Multistage Centrifugal pumps
- Horizontal Multistage Centrifugal pumps
- DP Pumps Booster-sets
- DP Pumps Spare Parts

DP Pumps. Kalkovenweg 13, 2401HJ, Alphen a/d Rijn, Holland

Issue date: March 24<sup>th</sup> 2020 valid date: 12 months

dp pumps 

P.O. Box 28  
2400 AA Alphen aan den Rijn - Holland  
t +31 172 488 388 f +31 172 468 930  
dp@dp-pumps.com - www.dp-pumps.com



01.12.2022

**Catre : AXIMA GRUP SRL**

Prin prezenta impurtenicim compania AXIMA GRUP SRL, Mun. Chisinau, Str. Gheorghe Asachi 19 B, sa comercializeze produsele Verder si ProMinent in Republica Moldova

**S.C. VERDER ROMANIA SRL**  
Director General,  
Mihail Vasilescu



**Client**

## Date tehnice

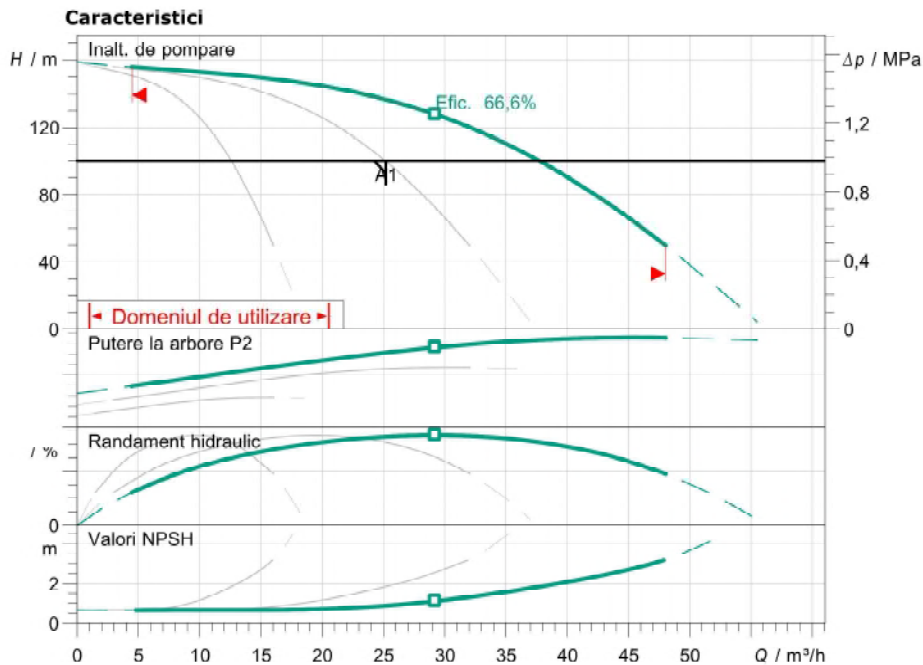
### Modul cu mai multe pompe

### COR-3 Helix V 1015 MIDA Modbus 5,5 kW

Denumirea proiectului Untitled project 2022-12-12 09:49:48.441

Nr. proiect  
Loc de montaj  
Nr. pozitie client

Data 12.12.2022



#### Datele cerute

|                              |              |
|------------------------------|--------------|
| Debit                        | 25,20 m³/h   |
| Inaltime de pompare          | 100,00 m     |
| Fluidul vehiculat            | Apă 100 %    |
| Temperatura fluidului pompat | 20,00 °C     |
| Densitate                    | 998,30 kg/m³ |
| Viscozitate cinematica       | 1,00 mm²/s   |

#### Date hidraulice (punct de lucru)

|                     |            |
|---------------------|------------|
| Debit               | 28,64 m³/h |
| Inaltime de pompare | 129,12 m   |
| Putere la arbore P2 | 15,14 kW   |

#### Date produs

|                                     |                             |
|-------------------------------------|-----------------------------|
| Modul cu mai multe pompe            |                             |
| COR-3 Helix V 1015/K/CC-01          |                             |
| Comanda                             | Cu convertizor de frecvență |
| Numarul de pompe                    | 3                           |
| Presiunea max. de lucru             | 1,6 MPa                     |
| Presiune de alimentare max.         | 1 MPa                       |
| Temperatura fluidului pompat        | 3 °C ... +50 °C             |
| Max. temperatura ambianta           | 40 °C                       |
| Grad de protecție motor             | IP55                        |
| Grad de protecție panou de alarmare | IP54                        |
| Vas sub presiune cu membrană        | yes                         |
| Senzor de oprire la lipsa apei      | no                          |

#### Date motor

|                               |                  |
|-------------------------------|------------------|
| Motor nivel de eficiență      | IE3              |
| Alimentare electrică          | 3~ 400 V / 50 Hz |
| Toleranță admisibilă tensiune | +/- 10 %         |
| Turație nominală              | 2900 1/min       |
| Puterea nominala P2           | 5,50 kW          |
| Intensitate nominală          | 10,50 A          |
| Factor de putere              | 0,86             |
| Randament                     | 87,1/89/89,2%    |
| 50%/ 75% / 100%               |                  |
| Clasă de izolație             | F                |
| Protecția motorului           | yes              |

#### Cote racord

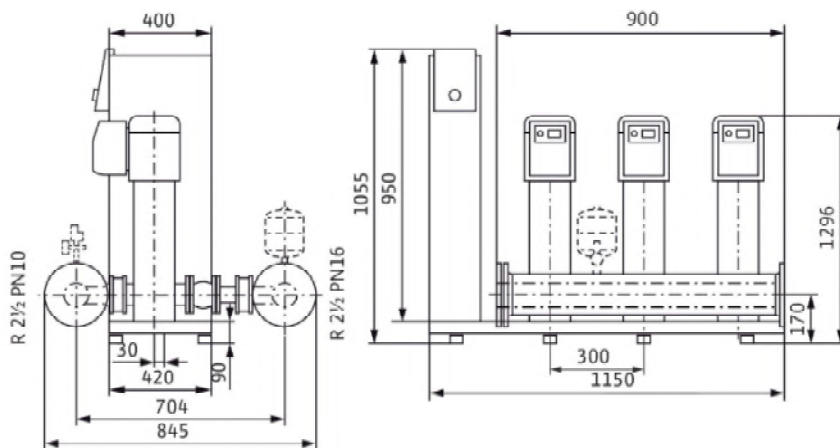
|                              |             |
|------------------------------|-------------|
| Racord conductă la aspirație | R 2½, PN 10 |
| Racord conductă pe refulare  | R 2½, PN 16 |

#### Materiale

|                   |         |
|-------------------|---------|
| Carcasă pompă     | 1.4301  |
| Rotor hidraulic   | 1.4307  |
| Arbore            | 1.4301  |
| Garnitură arbore  | Q1BE3GG |
| Material etanșare | EPDM    |
| Material conducte | 1.4404  |

#### Informații privind comanda

|                 |         |
|-----------------|---------|
| Greutate aprox. | 475 kg  |
| Nr. articol     | 2534187 |



#### Dimensiuni

mm

|    |      |    |     |     |             |
|----|------|----|-----|-----|-------------|
| H  | 1900 | L  | 900 | P3  | 450         |
| H1 | 185  | L1 | 300 | P4  | 25          |
| HP | 1395 | LS | 800 | X   | 900         |
| H3 | 105  | P  | 895 | DNs | R 2½, PN 10 |
| HS | 1900 | P1 | 754 | DNd | R 2½, PN 16 |

# Safe, precise and cost-effective metering

Low-pressure metering pumps up to over 1,000 l/h



# Contents



## Low-pressure metering pumps up to over 1,000 l/h

Thanks to the huge diversity of its product range (dosing head, size, capacity, set up and control options), ProMinent® low-pressure metering pumps are capable of performing virtually all metering tasks sustainably and environmentally-friendly, at the same time saving energy.

Get in touch with us and discover the various opportunities provided by ProMinent® low-pressure pumps.

|                               |    |
|-------------------------------|----|
| ■ Contents                    | 2  |
| ■ ProMinent                   | 3  |
| ■ Technology at a glance      | 4  |
| ■ Products at a glance        | 6  |
| ■ Motor-driven metering pumps |    |
| Sigma/1 basic type            | 8  |
| Sigma/2 basic type            | 8  |
| Sigma/3 basic type            | 8  |
| ■ Sigma X family              |    |
| Sigma/1 control type          | 10 |
| Sigma/2 control type          | 10 |
| Sigma/3 control type          | 10 |
| ■ Solenoid metering pumps     |    |
| Beta® b                       | 12 |
| gamma/ X                      | 13 |
| gamma/ XL                     | 14 |
| ■ Peristaltic pumps           |    |
| DULCO®flex DF2a               | 15 |
| DULCO®flex DF4a               | 15 |
| DULCO flex Control DFXa       | 16 |
| DULCO flex Control DFYa       | 17 |

# ProMinent



## Our extensive **product range** – well-metered and unrestrictedly reliable

You undoubtedly know ProMinent as a manufacturer of solenoid metering pumps? In fact that is our origin and we are the global market leader in this product range. However, for the 55 years that we have been in existence, we have substantially extended our product range for our customers. Why? Because we know and understand that you, as our customers, do not simply want a product from us, rather a solution to your problem – and justifiably so.

Every industry "works" differently, that is to say has its own unique peculiarities. We have adapted to this.

Expertise alone is not enough. Our customers are essential for ProMinent's success story. Their trust and the close dialogue relating to their requirements and needs is what has made our success possible.

World market leadership brings obligations, such as the need for close dialogue with customers. This dialogue shows that the trend is moving towards

more energy-efficient and environmentally-friendly technologies. ProMinent is reacting to this with a wealth of innovative product developments. With energy-efficient products. This means that the future will bring many more innovations in the field of chemical metering and water treatment developed in Heidelberg. They all have only one goal: to exceed our customers' expectations as far as possible.



# Solenoid-driven metering pumps

## Low-wear pumps for low capacities

### Mode of operation

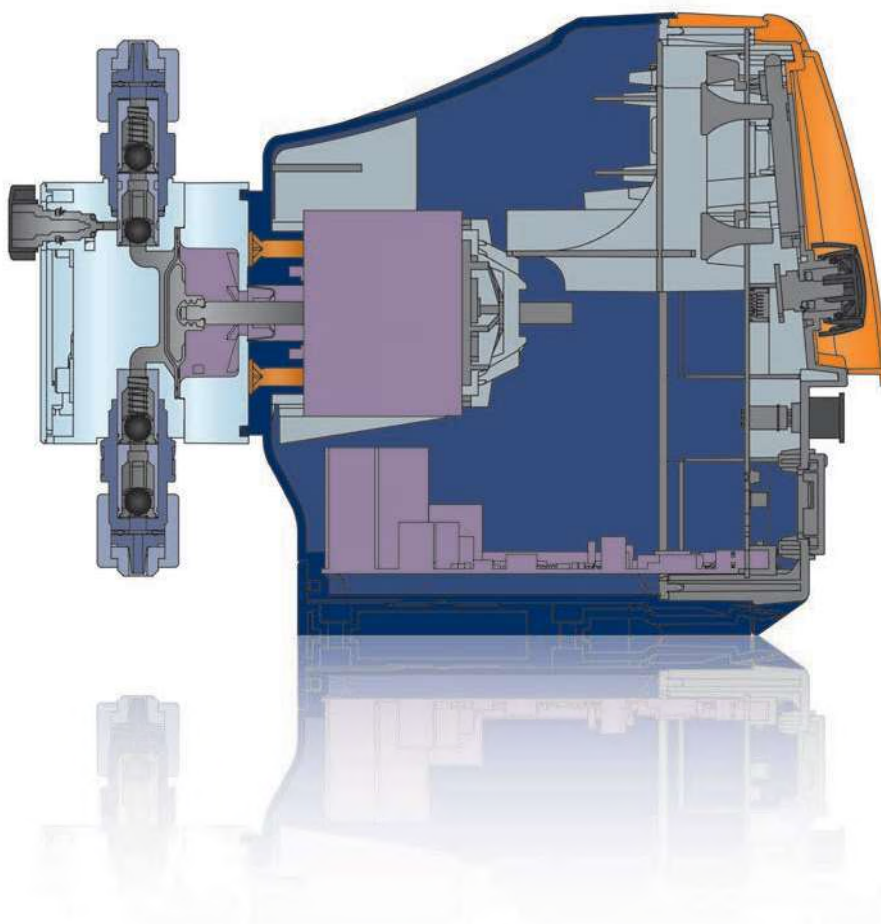
A magnet moves the solenoid shaft forwards and backwards by switching on and off. This stroke movement is transferred to the diaphragm in the dosing head. Two non-return valves prevent the feed chemical from flowing back during pumping. The stroke length and stroke rate can be adjusted to alter the capacity of a solenoid-driven metering pump.

### Features

- Capacity range: 0.74 to 80 l/h at 25 to 2 bar back pressure
- Virtually wear-free power end/drive, as only one moving part is used – the pump has no lubricated bearing or shafts
- Outstanding long-term stability
- Cost-effective technical alternative in the lower capacity range
- Maximum protection from overloading
- Low energy consumption thanks to excellent efficiency
- IP 65 degree of protection due to fully sealed housing

### Applications

- General: chemical metering in laboratories and in industry up to 80 l/h pumping capacity
- Potable water and swimming pool water treatment: metering of chemicals for disinfection and for pH correction
- General water treatment, process water, industrial water, and conditioners
- Cooling water circuits: metering disinfectants
- Mini-plant technology
- Paper industry, de-foamers
- Electroplating and surface treatment, pool additives, slide grinding systems



# Motor-driven metering pumps

## High level of dosing precision and robust technology

### Mode of operation

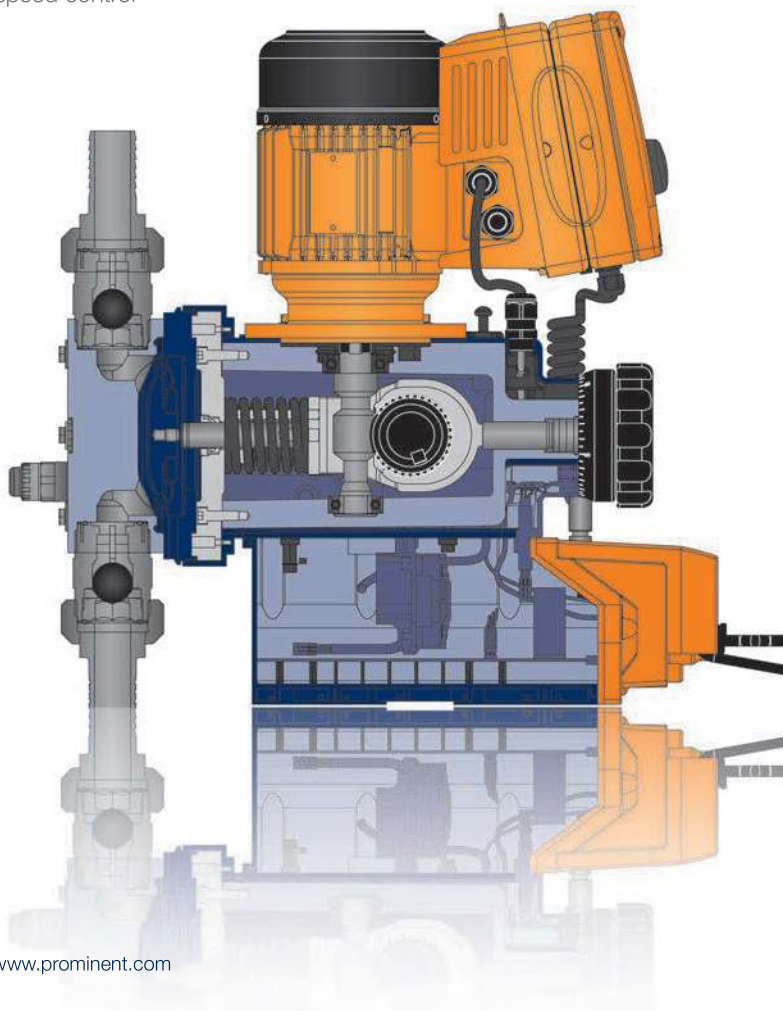
The stroke length and stroke rate – in this case the motor speed – can be adjusted to alter the capacity of this pump. The rotation of the electric motor is stepped down by a worm gear and converted into a linear stroke movement by a cam. The slide rod transfers this stroke movement to the diaphragm in the dosing head. Two non-return valves prevent the feed chemical from flowing back during pumping.

### Features

- Extremely broad capacity range
- High dosing precision even under varying pressure conditions (rigid characteristic curve) enables chemical use to be reduced and ensures exact process control
- Robust and cost-effective drive in higher capacity classes
- Simple integration and retrofitting into automated processes by flexible control via stroke length and motor speed control
- Maximum safety thanks to multi-layer safety diaphragm with rupture warning system
- Sigma basic: robust pump for safe and reliable use
- Sigma X control type: reliable, smart and network-friendly

### Applications

- General: chemical metering up to over 1,000 l/h
- Potable water treatment: metering disinfectants
- Cooling circuits: metering disinfectants
- Waste water treatment: metering flocculants
- Paper industry: metering additives
- Plastics production: metering additives



# The broad-based range for reliability and precision

## Motor-driven metering pumps

### Sigma basic type

The robust pump for safe and reliable use

#### Sigma/ 1

Capacity range  
17 – 120 l/h  
12 – 4 bar

#### Sigma/ 2

Capacity range  
50 – 350 l/h  
16 – 4 bar

#### Sigma/ 3

Capacity range  
146 – 1,030 l/h  
12 – 4 bar

### Sigma X family

Reliable, smart and network-friendly

#### Sigma/ 1

Capacity range  
17 – 144 l/h  
12 – 4 bar

#### Sigma/ 2

Capacity range  
50 – 420 l/h  
16 – 4 bar

#### Sigma/ 3

Capacity range  
146 – 1,040 l/h  
12 – 4 bar



Sigma basic type



Sigma control type

### Sigma

#### For particular requirements

- MET, EAC certification
- Hygienic design
- Physiological safety with regard to the material
- EN10204 test certificates
- Special materials in the case of PVDF and >600l/h
- Project-specific solutions

Get in touch with us



## Solenoid metering pumps

### Beta® b The all-rounder

Capacity range  
0.74 – 32 l/h  
25 – 2 bar



### gamma/ X For versatile uses

Capacity range  
2.3 – 45 l/h  
25 – 2 bar



### gamma/ XL Capacity perfected

Capacity range  
8 – 80 l/h  
25 – 2 bar



## Peristaltic pumps

### DULCO®flex Precise and reproducible

**DF2a**  
Capacity range 0.4/0.8/1.6/2.4 l/h  
up to 1.5 bar

**DF4a**  
Capacity range 1.5/6.0/12.0 l/h  
up to 4 bar



### DULCO flex Control Combines top products

**DFXa**  
Capacity range 0.01 – 30 l/h  
up to 7 bar

**DFYa**  
Capacity range 5.5 – 410 l/h  
up to 8 bar



# Sigma basic type

## Motor-driven metering pump

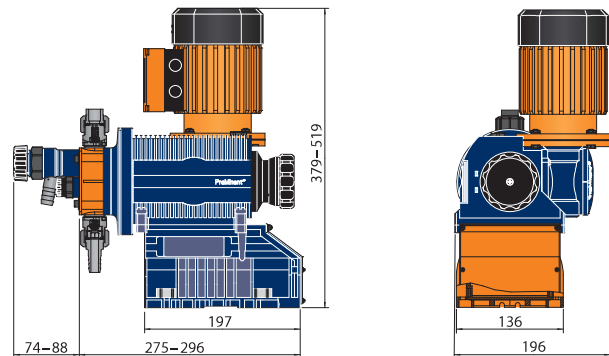
The right capacity for every application. There are two different versions of the Sigma product range available (the basic type and the control type).

The three versions differ in terms of their capacities:

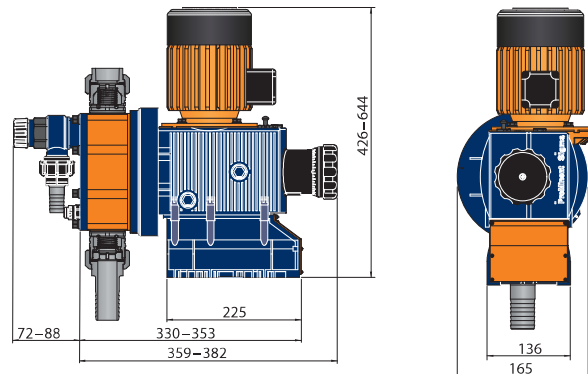
- Sigma/ 1** 17–120 l/h, 12–4 bar
- Sigma/ 2** 50–350 l/h, 16–4 bar
- Sigma/ 3** 146–1,030 l/h, 12–4 bar

- Process reliability thanks to multi-layer diaphragm with diaphragm rupture warning system
- Reliable operation due to bleeding option
- Integrated relief valve protects against overloading
- Simplified management of spare parts when using the Sigma product range
- Wide choice of drive variants, also for use in Exe and Exde areas and different flange designs for the use of customised motors.
- Servomotors or stroke control motors for adjusting the stroke length
- 2 standard materials PVDF/PTFE, stainless steel/PTFE

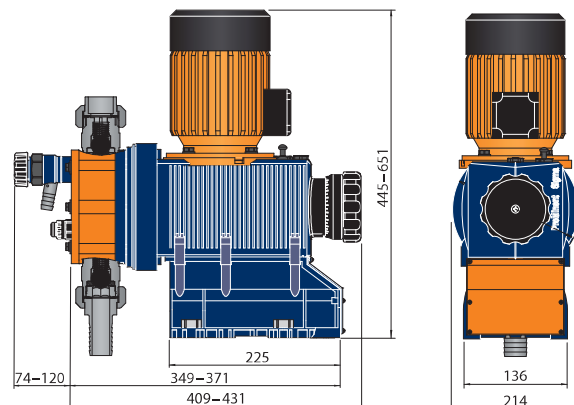
Sigma/ 1



Sigma/ 2



Sigma/ 3





| Pump type                         | Pump capacity at max. back pressure<br>with motor operating at<br>1,500 rpm at 50 Hz operation |       |           | Stroke<br>rate<br>Strokes/<br>min | with motor operating at<br>1,800 rpm at 60 Hz operation |       | Stroke<br>rate<br>Strokes/<br>min | Suction<br>lift<br>mWS | Reliable pre-pressure<br>on suction side<br>bar | Connector Suction/<br>discharge side<br>G-DN |
|-----------------------------------|--|-------|-----------|-----------------------------------|---|-------|-----------------------------------|------------------------|---|--|
|                                   | bar  | l/h   | ml/stroke |                                   | psi   | l/h   |                                   |                        |   |  |
| <b>Sigma/ 1 basic type (S1Ba)</b> |  |       |           |                                   |   |       |                                   |                        |   |  |
| 12017                             | 12   | 17    | 3.8       | 73                                | 174   | 20    | 88                                | 7                      | 1   | ¾-10   |
| 12035                             | 12   | 35    | 4.0       | 143                               | 174   | 42    | 172                               | 7                      | 1   | ¾-10   |
| 10050                             | 10   | 50    | 4.0       | 205                               | 145   | 60    | 246                               | 7                      | 1   | ¾-10   |
| 10022                             | 10   | 22    | 5.0       | 73                                | 145   | 26    | 88                                | 6                      | 1   | ¾-10   |
| 10044                             | 10   | 44    | 5.1       | 143                               | 145   | 53    | 172                               | 6                      | 1   | ¾-10   |
| 07065                             | 7  | 65    | 5.2       | 205                               | 102   | 78    | 246                               | 6                      | 1   | ¾-10   |
| 07042                             | 7  | 42    | 9.5       | 73                                | 102   | 50    | 88                                | 3                      | 1   | 1-15   |
| 04084                             | 4  | 84    | 9.7       | 143                               | 58  | 101   | 172                               | 3                      | 1   | 1-15   |
| 04120                             | 4  | 120   | 9.7       | 205                               | 58  | 144   | 246                               | 3                      | 1   | 1-15   |
| <b>Sigma/ 2 basic type (S2Ba)</b> |  |       |           |                                   |   |       |                                   |                        |   |  |
| 16050                             | 16   | 47    | 11.4      | 73                                | 232   | 57    | 87                                | 7                      | 3   | 1-15   |
| 16090                             | 16   | 88    | 11.4      | 132                               | 232   | 98    | 158                               | 7                      | 3   | 1-15   |
| 16130                             | 16   | 124   | 10.9      | 198                               | 232   | 148   | 238                               | 7                      | 3   | 1-15   |
| 07120                             | 7  | 126   | 27.4      | 73                                | 102   | 150   | 87                                | 5                      | 1   | 1½-25  |
| 07220                             | 7  | 220   | 27.7      | 132                               | 102   | 264   | 158                               | 5                      | 1   | 1½-25  |
| 04350                             | 4  | 350   | 29.4      | 198                               | 58  | 420   | 238                               | 5                      | 1   | 1½-25  |
| <b>Sigma/ 3 basic type (S3Ba)</b> |  |       |           |                                   |   |       |                                   |                        |   |  |
| 120145                            | 12   | 146   | 33.7      | 72                                | 174   | 174   | 86                                | 5                      | 2   | 1½-25  |
| 120190                            | 12   | 208   | 33.7      | 103                               | 174   | 251   | 124                               | 5                      | 2   | 1½-25  |
| 120270                            | 12   | 292   | 33.8      | 144                               | 174   | 351   | 173                               | 5                      | 2   | 1½-25  |
| 120330                            | 12   | 365   | 33.8      | 180                               | 174   | -     | -                                 | 5                      | 2   | 1½-25  |
| 070410                            | 7  | 410   | 95.1      | 72                                | 102   | 492   | 86                                | 4                      | 1   | 2-32   |
| 070580                            | 7  | 580   | 95.1      | 103                               | 102   | 696   | 124                               | 4                      | 1   | 2-32   |
| 040830                            | 4  | 830   | 95.1      | 144                               | 58  | 1,000 | 173                               | 3                      | 1   | 2-32   |
| 041030                            | 4  | 1,030 | 95.1      | 180                               | 58  | -     | -                                 | 3                      | 1   | 2-32   |

Dosing head, PVDF design, max. 10 bar. \*\* DN32 plate valves with valve spring

| Wetted materials           |                                     |                                     |                 |                                     | Integral relief valve       |
|----------------------------|-------------------------------------|-------------------------------------|-----------------|-------------------------------------|-----------------------------|
| Material                   | Dosing head                         | Suction/pressure connector          | Seals/ball seat | Valve balls                         |                             |
| <b>Sigma/ 1 + Sigma/ 2</b> |                                     |                                     |                 |                                     |                             |
| PVT                        | PVDF                                | PVDF                                | PTFE/PTFE       | Ceramic                             | PVDF/FPM or EPDM            |
| SST                        | Stainless steel material no. 1.4404 | Stainless steel material no. 1.4581 | PTFE/PTFE       | Stainless steel material no. 1.4404 | Stainless steel/FPM or EPDM |

ATEX design: TTT wetted materials, PTFE+25% carbon, PTFE+25% carbon, PTFE/PTFE, ceramic

| Material        | Suction/pressure connection of dosing head | DN 25 ball valves |                                     |             | DN 32 plate valves |                                |             | Integral relief valve       |
|-----------------|--|-------------------|-------------------------------------|-------------|--------------------|--------------------------------|-------------|-----------------------------|
|                 |  | Seals             | Valve balls                         | Valve seats | Seals              | Valve plates/ valve springs    | Valve seats |                             |
| <b>Sigma/ 3</b> |  |                   |                                     |             |                    |                                |             |                             |
| PVT             | PVDF                                       | PTFE              | Glass                               | PTFE        | PTFE               | Ceramic/ Hast C. + CTFE        | PTFE        | PVDF/FPM or EPDM            |
| SST             | Stainless steel material no. 1.4404        | PTFE              | Stainless steel material no. 1.4404 | PTFE        | PTFE               | Stainless steel 1.4404/Hast C. | PTFE        | Stainless steel/FPM or EPDM |

Multi-layer safety diaphragm with PTFE support in all designs. FPM: fluorine rubber

Alternative material versions available on request.

TTT, PTFE+25% carbon, PTFE, ceramic, PTFE, PVDF, ceramic/Hast C. + CTFE, for ATEX design

# Sigma X control type

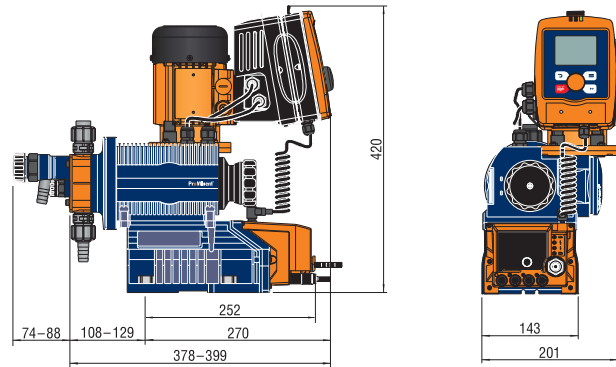
## Motor-driven metering pump

The Sigma X type is a smart, flexible motor-driven metering pump that is setting new standards in terms of operating convenience, reliability and safety.

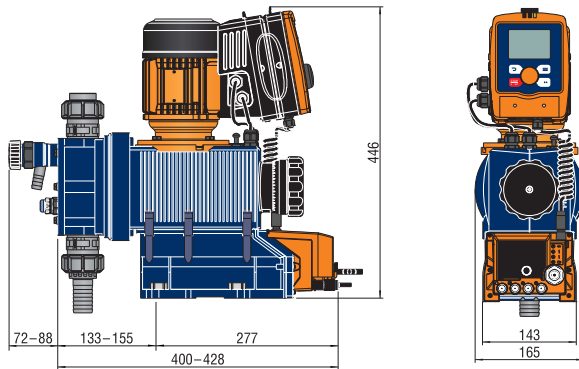
The Sigma X diaphragm metering pump covers a capacity range of 21 to 1,040 l/h in the S1Cb, S2Cb and S3Cb variants. Efficient protection of the power end from overloading by means of an integral frequency converter with microprocessor controller. One highlight is the standardised operating concept with click wheel and 4 additional operating keys on a removable operating unit. A large illuminated LCD and a 3-LED display for operating, warning and error messages, visible from all sides, offers additional operating convenience. The Sigma, like all smart ProMinent metering pumps, can be flexibly connected to various bus systems. It has a large adjustment range thanks to a combination of frequency and stroke length adjustment. The pump works with high precision across the entire frequency range. Accurate and complication-free metering of viscous and gaseous media by adjustment of the movement profile. Operating statuses are transferred remotely via additional relay modules. Relevant spare parts can be shown in the display.

- External control is scalable via potential-free contacts with pulse step-up and step-down, batch mode or via a 0/4-20 mA standard signal
- Can be flexibly networked: connection to process management systems via integrated PROFIBUS®, CANopen interface (optional)
- Bluetooth and Wi-Fi connection for the simple configuration of parameters and call-up of process data (optional)

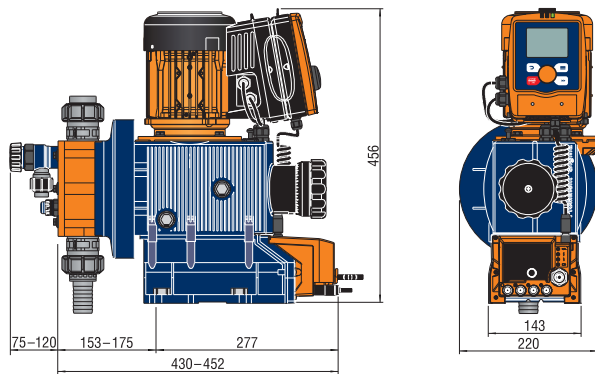
Sigma/ 1



Sigma/ 2



Sigma/ 3



Capacity ranges:

**Sigma/ 1** 17–117 l/h, 12–4 bar

**Sigma/ 2** 61–353 l/h, 16–4 bar

**Sigma/ 3** 182–1,040 l/h, 12–4 bar



## Sigma X family

| Pump type                           | Pump capacity at max. back pressure |       |           | Stroke rate<br>Strokes/min | Suction lift<br>mWS | Reliable pre-pressure<br>on suction side<br>bar | Connector Suction/<br>discharge side<br>G-DN |
|-------------------------------------|-------------------------------------|-------|-----------|----------------------------|---------------------|---|--|
|                                     | bar                                 | l/h   | ml/stroke |                            |                     |   |  |
| <b>Sigma/ 1 control type (S1Cb)</b> |                                     |       |           |                            |                     |   |  |
| 12017                               | 12                                  | 21    | 3.9       | 90                         | 7                   | 1   | ¾-10   |
| 12035                               | 12                                  | 42    | 4.0       | 170                        | 7                   | 1   | ¾-10   |
| 10050                               | 10                                  | 49    | 4.0       | 200                        | 7                   | 1   | ¾-10   |
| 10022                               | 10                                  | 27    | 5.1       | 90                         | 6                   | 1   | ¾-10   |
| 10044                               | 10                                  | 53    | 5.1       | 170                        | 6                   | 1   | ¾-10   |
| 07065                               | 7                                   | 63    | 5.1       | 200                        | 6                   | 1   | ¾-10   |
| 07042                               | 7                                   | 52    | 9.5       | 90                         | 3                   | 1   | 1-15   |
| 07084                               | 4                                   | 101   | 9.7       | 170                        | 3                   | 1   | 1-15   |
| 04120                               | 4                                   | 117   | 9.7       | 200                        | 3                   | 1   | 1-15   |
| <b>Sigma/ 2 control type (S2Cb)</b> |                                     |       |           |                            |                     |   |  |
| 16050                               | 16                                  | 56    | 10.4      | 90                         | 7                   | 2   | 1-15   |
| 16090                               | 16                                  | 99    | 10.3      | 160                        | 7                   | 2   | 1-15   |
| 16130                               | 16                                  | 129   | 10.9      | 200                        | 7                   | 2   | 1-15   |
| 07120                               | 7                                   | 150   | 27.4      | 90                         | 5                   | 1   | 1½-25 <sup>1)</sup>                          |
| 07220                               | 7                                   | 271   | 27.7      | 160                        | 5                   | 1   | 1½-25 <sup>1)</sup>                          |
| 04350                               | 4                                   | 353   | 29.4      | 200                        | 5                   | 1   | 1½-25 <sup>1)</sup>                          |
| <b>Sigma/ 3 control type (S3Cb)</b> |                                     |       |           |                            |                     |   |  |
| 120145                              | 12                                  | 182   | 33.7      | 90                         | 5                   | 2   | 1½-25  |
| 120190                              | 12                                  | 243   | 33.7      | 120                        | 5                   | 2   | 1½-25  |
| 120270                              | 12                                  | 365   | 33.8      | 180                        | 5                   | 2   | 1½-25  |
| 070410                              | 7                                   | 500   | 95.1      | 90                         | 4                   | 1   | 2-32   |
| 070580                              | 7                                   | 670   | 95.1      | 120                        | 4                   | 1   | 2-32   |
| 040830                              | 4                                   | 1,040 | 95.1      | 180                        | 3                   | 1   | 2-32   |

Dosing head, PVDF design, max. 10 bar. \*\*DN32 plate valves

| Wetted materials           |                                     |                                     |                 |                                     | Integral relief valve       |
|----------------------------|-------------------------------------|-------------------------------------|-----------------|-------------------------------------|-----------------------------|
| Material                   | Dosing head                         | Suction/pressure connector          | Seals/ball seat | Valve balls                         |                             |
| <b>Sigma/ 1 + Sigma/ 2</b> |                                     |                                     |                 |                                     |                             |
| PVT                        | PVDF                                | PVDF                                | PTFE/PTFE       | Ceramic                             | PVDF/FPM or EPDM            |
| SST                        | Stainless steel material no. 1.4404 | Stainless steel material no. 1.4581 | PTFE/PTFE       | Stainless steel material no. 1.4404 | Stainless steel/FPM or EPDM |

| Material        | Suction/pressure connection of dosing head | DN 25 ball valves |                                     |             | DN 32 plate valves |                                |             | Integral relief valve       |
|-----------------|--|-------------------|-------------------------------------|-------------|--------------------|--------------------------------|-------------|-----------------------------|
|                 |  | Seals             | Valve balls                         | Valve seats | Seals              | Valve plates/valve springs     | Valve seats |                             |
| <b>Sigma/ 3</b> |  |                   |                                     |             |                    |                                |             |                             |
| PVT             | PVDF                                       | PTFE              | Glass                               | PTFE        | PTFE               | Ceramic/Hast C. + CTFE         | PTFE        | PVDF/FPM or EPDM            |
| SST             | Stainless steel material no. 1.4404        | PTFE              | Stainless steel material no. 1.4404 | PTFE        | PTFE               | Stainless steel 1.4404/Hast C. | PTFE        | Stainless steel/FPM or EPDM |

Multi-layer safety diaphragm with PTFE support in all designs. FPM: fluorine rubber

Alternative material versions available on request.

MET, EAC design (optional).

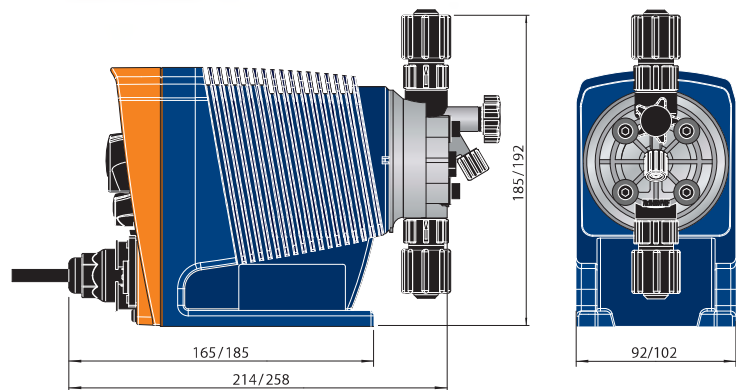


# Beta<sup>®</sup> b

## Solenoid-driven metering pump

The first choice for modern water treatment and chemical metering.

- Capacity range  
0.74–32 l/h, 25–2 bar
- Up to 50 % energy-savings through improved efficiency
- Adjustable, integrated pulse step-up and step-down for optimum adaptation to external signal generators
- Dosing heads to suit all chemicals ensure all-purpose use
- Virtually wear-free power end/drive
- Outstanding long-term stability
- Optional: relay module can be quickly and simply retrofitted
- Input for level switch



| Pump type | Pump capacity at max. back pressure |       |           | Stroke rate<br>Strokes/min | Suction lift<br>mWs | Connector size<br>a Ø x i Ø mm | Average power consumption<br>W |
|-----------|-------------------------------------|-------|-----------|----------------------------|---------------------|--------------------------------|--------------------------------|
|           | bar                                 | l/h   | ml/stroke |                            |                     |                                |                                |
| BT4b 1000 | 10                                  | 0.74  | 0.07      | 180                        | 6.0                 | 6 x 4                          | 7.2                            |
| BT4b 1601 | 16                                  | 1.10  | 0.10      | 180                        | 6.0                 | 6 x 4                          | 9.6                            |
| BT4b 1602 | 16                                  | 2.20  | 0.20      | 180                        | 6.0                 | 6 x 4                          | 11.2                           |
| BT4b 1604 | 16                                  | 3.60  | 0.33      | 180                        | 6.0                 | 6 x 4                          | 15.2                           |
| BT4b 0708 | 7                                   | 7.10  | 0.66      | 180                        | 6.0                 | 8 x 5                          | 15.2                           |
| BT4b 0413 | 4                                   | 12.30 | 1.14      | 180                        | 3.0                 | 8 x 5                          | 15.2                           |
| BT4b 0220 | 2                                   | 19.00 | 1.76      | 180                        | 2.0                 | 12 x 9                         | 15.2                           |
| BT5b 2504 | 25                                  | 2.90  | 0.27      | 180                        | 6.0                 | 8x4 <sup>1)</sup>              | 19.2                           |
| BT5b 1008 | 10                                  | 6.80  | 0.63      | 180                        | 6.0                 | 8 x 5                          | 19.2                           |
| BT5b 0713 | 7                                   | 11.00 | 1.02      | 180                        | 4.0                 | 8 x 5                          | 19.2                           |
| BT5b 0420 | 4                                   | 17.10 | 1.58      | 180                        | 3.0                 | 12 x 9                         | 19.2                           |
| BT5b 0232 | 2                                   | 32.00 | 2.96      | 180                        | 2.0                 | 12 x 9                         | 19.2                           |

Beta<sup>®</sup> b metering pumps are also available with a self-bleeding dosing head and for higher-viscosity media.

Pressure-reduced pump types are available in the pressure stages 4, 7 and 10 bar for special applications, for example in the swimming pool sector.

Suction lift with a filled dosing head and filled suction line, with a self-bleeding dosing head with air in the suction line.

1) 6 mm connector width for stainless steel design.

| Wetted materials |                                     |                                     |       |             |           |
|------------------|-------------------------------------|-------------------------------------|-------|-------------|-----------|
| Design           | Dosing head                         | Suction/pressure connector          | Seals | Valve balls | Ball seat |
| PPT              | Polypropylene                       | PVDF                                | PTFE  | Ceramic     | PVDF      |
| NPT              | Clear acrylic                       | PVDF                                | PTFE  | Ceramic     | PVDF      |
| PVT              | PVDF                                | PVDF                                | PTFE  | Ceramic     | PVDF      |
| TTT              | PTFE + carbon                       | PTFE + carbon                       | PTFE  | Ceramic     | Ceramic   |
| SST              | Stainless steel material no. 1.4404 | Stainless steel material no. 1.4404 | PTFE  | Ceramic     | Ceramic   |

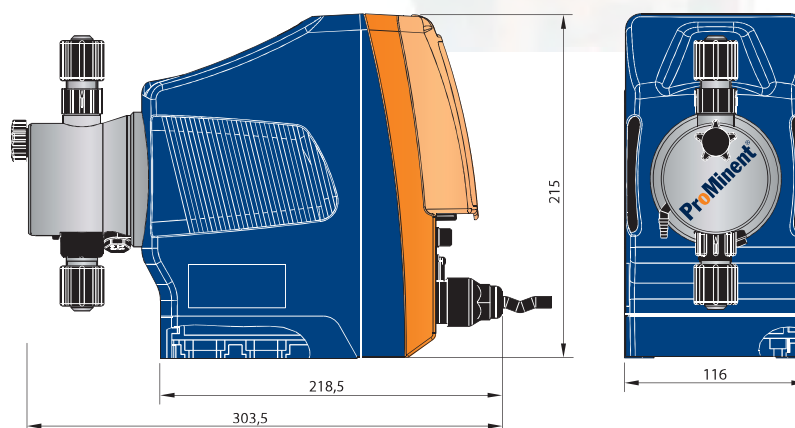
DEVELOPAN<sup>®</sup> diaphragms with PTFE support in all designs.

# gamma/ X

## Solenoid-driven metering pump

The gamma/ X is ideal for all metering work involving liquid media.

- Capacity range  
2.3–45 l/h, 25–2 bar
- Simple adjustment of the capacity directly in l/h
- Detection of hydraulic malfunctions or blocked discharge lines ensures smooth process
- Integrated pressure measurement and display for greater safety during commissioning and in the process
- Integrated 7-day timer for timed metering tasks
- Connection to CAN-Open, Profinet, Profibus or Modbus process control systems



| Pump type | Pump capacity at max. back pressure |      |           | Stroke rate<br>Strokes/min | Suction lift<br>mWs | Connector size<br>a Ø x i Ø mm |
|-----------|-------------------------------------|------|-----------|----------------------------|---------------------|--------------------------------|
|           | bar                                 | l/h  | ml/stroke |                            |                     |                                |
| GMXa 1602 | 16                                  | 2.3  | 0.19      | 200                        | 6.0                 | 6 x 4                          |
| GMXa 1604 | 16                                  | 3.6  | 0.30      | 200                        | 5.0                 | 6 x 4                          |
| GMXa 0708 | 7                                   | 7.6  | 0.63      | 200                        | 4.0                 | 8 x 5                          |
| GMXa 0414 | 4                                   | 13.5 | 1.13      | 200                        | 3.0                 | 8 x 5                          |
| GMXa 0220 | 2                                   | 19.7 | 1.64      | 200                        | 2.0                 | 12 x 9                         |
| GMXa 2504 | 25                                  | 3.8  | 0.32      | 200                        | 4.0                 | 8 x 4 <sup>1)</sup>            |
| GMXa 1009 | 10                                  | 9.0  | 0.75      | 200                        | 3.0                 | 8 x 5                          |
| GMXa 0715 | 7                                   | 14.5 | 1.21      | 200                        | 3.0                 | 8 x 5                          |
| GMXa 0424 | 4                                   | 24.0 | 2.00      | 200                        | 3.0                 | 12 x 9                         |
| GMXa 0245 | 2                                   | 45.0 | 3.70      | 200                        | 2.0                 | 12 x 9                         |

gamma/ X metering pumps are also available with self-bleeding dosing head and for higher-viscosity media.

Suction lift with a filled dosing head and filled suction line, with a self-bleeding dosing head with air in the suction line.

1) 6 mm connector width for stainless steel design.

### Wetted materials

| Design | Dosing head                            | Suction/pressure connector             | Seals | Valve balls | Ball seat |
|--------|--|--|-------|-------------|-----------|
| PPT    | Polypropylene                          | PVDF                                   | PTFE  | Ceramic     | PVDF      |
| NPT    | Clear acrylic                          | PVDF                                   | PTFE  | Ceramic     | PVDF      |
| PVT    | PVDF                                   | PVDF                                   | PTFE  | Ceramic     | PVDF      |
| TTT    | PTFE with carbon                       | PTFE with carbon                       | PTFE  | Ceramic     | Ceramic   |
| SST    | Stainless steel material<br>no. 1.4404 | Stainless steel material no.<br>1.4404 | PTFE  | Ceramic     | Ceramic   |

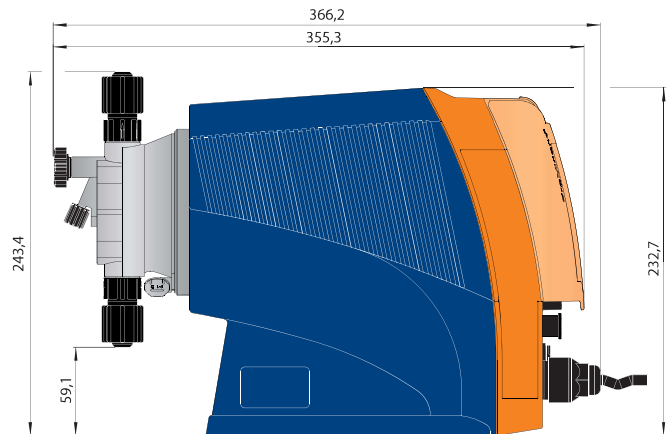
DEVELOPAN® diaphragms with PTFE support in all designs.

# gamma/ XL

## Solenoid-driven metering pump

The gamma/ XL is a smart, network-compatible solenoid-driven metering pump that is setting new standards in productivity, reliability and cost-effectiveness.

- Capacity range  
8–80 l/h, 25–2 bar
- Simple adjustment of the metering rate directly in l/h or gph
- Integrated pressure measurement and display for greater safety during commissioning and in the process
- Bluetooth and Wi-Fi connection for simple configuration and call-up of process data (optional)
- Capacity adjustment range  
1:40,000
- Direct input of the required final concentration in concentration mode with volume-proportional metering tasks
- Virtually wear-free solenoid drive, overload-proof and economical



| Pump type  | Pump capacity |     | ml/stroke | Stroke rate<br>Strokes/min | Suction lift<br>mWs | Connector size<br>a Ø x i Ø mm |
|--|---------------|-----|-----------|----------------------------|---------------------|--------------------------------|
|  | bar           | l/h |           |                            |                     |                                |
| <b>gamma/ XL</b>   |               |     |           |                            |                     |                                |
| GXLa 2508  | 25            | 8   | 0.67      | 200                        | 5*                  | 8x4 **                         |
| GXLa 1608  | 16            | 8   | 0.67      | 200                        | 5*                  | 8x5 **                         |
| GXLa 1612  | 16            | 12  | 1.0       | 200                        | 6*                  | 8 x 5                          |
| GXLa 1020  | 10            | 20  | 1.7       | 200                        | 5*                  | 12 x 9                         |
| GXLa 0730  | 7             | 30  | 2.5       | 200                        | 5*                  | 12 x 9                         |
| GXLa 0450  | 4             | 50  | 4.2       | 200                        | 3*                  | G 3/4 - DN 10                  |
| GXLa 0280  | 2             | 80  | 6.7       | 200                        | 2*                  | G 3/4 - DN 10                  |
| <b>gamma/ XL metering pumps with self-bleeding dosing head without bypass*</b> |               |     |           |                            |                     |                                |
| GXLa 1608  | 16            | 3.8 | 0.32      | 200                        | 1.8                 | 8 x 5                          |
| GXLa 1612  | 16            | 6.5 | 0.54      | 200                        | 1.8                 | 8 x 5                          |
| GXLa 1020  | 10            | 14  | 1.17      | 200                        | 1.8                 | 12 x 9                         |
| GXLa 0730  | 7             | 28  | 2.33      | 200                        | 1.8                 | 12 x 9                         |

\* Suction lift (mWS) = suction lift with a filled dosing head and filled suction line

\*\* 6 mm connection width for stainless steel design

| Wetted materials |                                     |                                     |       |             |                  |
|------------------|-------------------------------------|-------------------------------------|-------|-------------|------------------|
| Design           | Dosing head                         | Suction/pressure connector          | Seals | Valve balls | Ball seat        |
| NPT              | Clear acrylic                       | PVDF                                | PTFE  | Ceramic     | PVDF             |
| PVT              | PVDF                                | PVDF                                | PTFE  | Ceramic     | PVDF             |
| SST (8 - 12 mm)  | Stainless steel material no. 1.4404 | Stainless steel material no. 1.4404 | PTFE  | Ceramic     | Ceramic          |
| SST (DN 10)      | Stainless steel material no. 1.4404 | Stainless steel material no. 1.4404 | PTFE  | Ceramic     | PTFE with carbon |

# DULCO®flex

## Peristaltic pump

The best solutions are simple. The optimum range of pumps for typical use in swimming pools, hot tubs and spa and wellness facilities.

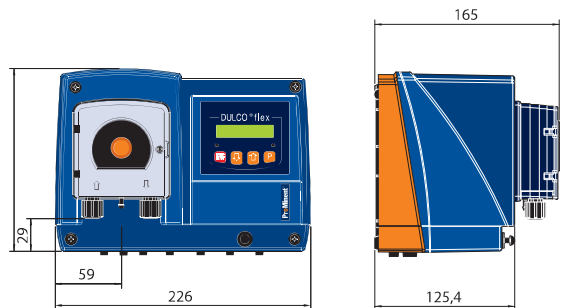
**DF2a** for private swimming pools

**DF4a** for private and public swimming pools, and for general chemical metering.

- Capacity range  
0.4–12 l/h, 4–1.5 bar
- Virtually silent operation
- Simple and safe to operate
- Efficient operation through "eco mode" possible
- Service-friendly design
- Capacity adjustment range  
1:40,000
- Spring-mounted rollers for uniform roller pressure and increased service life of the hose



DULCO®flex DF4a



| Pump type              | Pump capacity |      | Speed<br>rpm | Suction lift<br>mWS | Priming lift<br>mWS | Connector size<br>a Ø x i Ø mm |
|------------------------|---------------|------|--------------|---------------------|---------------------|--------------------------------|
|                        | bar           | l/h  |              |                     |                     |                                |
| <b>DULCO®flex DF2a</b> |               |      |              |                     |                     |                                |
| 0204                   | 1.5           | 0.4  | 5            | 4                   | 3                   | 6x4/10x4                       |
| 0208                   | 1.5           | 0.8  | 10           | 4                   | 3                   | 6x4/10x4                       |
| 0216                   | 1.5           | 1.6  | 20           | 4                   | 3                   | 6x4/10x4                       |
| 0224                   | 1.5           | 2.4  | 30           | 4                   | 3                   | 6x4/10x4                       |
| <b>DULCO®flex DF4a</b> |               |      |              |                     |                     |                                |
| 04004                  | 4.0           | 0.4  | 0–85         | 4                   | 3                   | 6x4/10x4                       |
| 04015                  | 4.0           | 1.5  | 0–85         | 4                   | 3                   | 6x4/10x4                       |
| 03060                  | 2.5           | 6.0  | 0–85         | 4                   | 3                   | 6x4/10x4                       |
| 02120                  | 2.0           | 12.0 | 0–85         | 4                   | 3                   | 6x4/10x4                       |

# DULCO flex Control DFXa

## Peristaltic pump

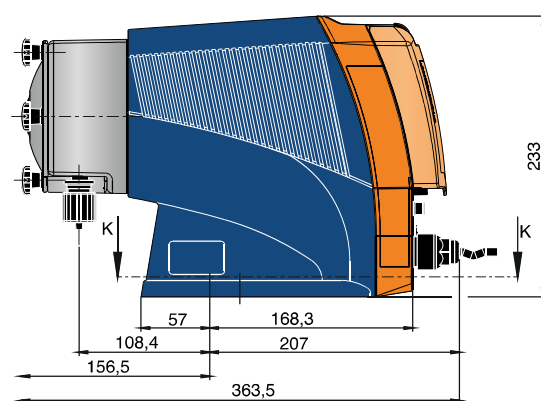
A peristaltic pump that brings together the best qualities of ProMinent metering pumps.

The DULCO flex Control - DFXa meters gaseous, viscous, abrasive or shear-sensitive media and is setting new standards in metering. Linear and reproducible metering is guaranteed with this peristaltic pump under all process conditions. Hose replacement is a very simple process.

- Capacity range  
0.01 – 30 l/h, up to 7 bar
- Adjustment of the metering rate directly in l/h or gph
- Simple hose change
- No problems with very gaseous media or air locks
- Sole contact with media in the hose
- Many different control options, such as using an analogue 0/4-20 mA signal, contact controller, timer or via process control systems
- Suitable for viscosities of up to 200,000 mPas



DULCO flex Control DFXa



| Pump type                      | Pump capacity<br>bar | l/h       | Speed<br>rpm | Suction lift<br>mWS | Priming lift<br>mWS | Connector size<br>a Ø x i Ø mm |
|--------------------------------|----------------------|-----------|--------------|---------------------|---------------------|--------------------------------|
| <b>DULCO®flex Control DFXa</b> |                      |           |              |                     |                     |                                |
| 0730                           | 7                    | 0.01 - 30 | 100          | 9                   | 9                   | 12 x 9                         |
| 0530                           | 5                    | 0.01 - 30 | 100          | 9                   | 9                   | 12 x 9                         |

# DULCO flex Control DFYa

## Peristaltic pump

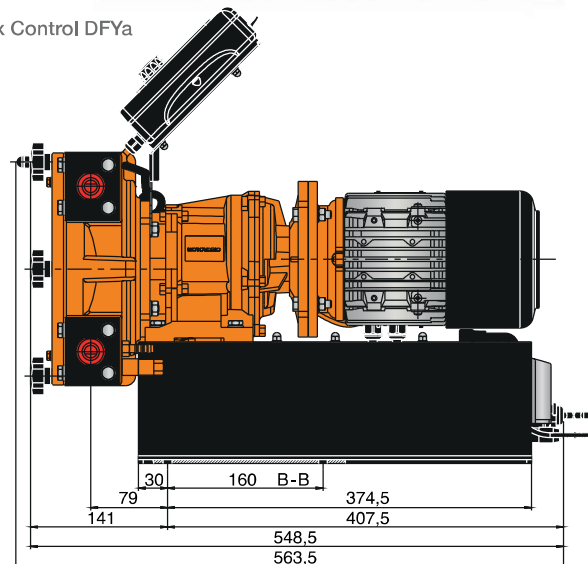
The peristaltic pump DULCO flex Control - DFYa combines the properties of top products from the ProMinent product range.

The valveless peristaltic pump DULCO flex Control - DFYa guarantees precise, linear and reproducible metering in all process conditions. It meters gaseous, viscose, shear-sensitive media, possibly containing particles, with ease – ProMinent is therefore setting new standards in metering with peristaltic pumps.

- Capacity range  
5.5 – 410 l/h, up to 8 bar
- Operation by contact, batch, manual, analogue or BUS control
- Adjustment of the metering rate directly in l/h or gph
- Connection to process control systems via a BUS interface, such as PROFIBUS®, Profinet or CANopen
- No problems with very gaseous media or air locks
- Simple, menu-guided hose change
- Reversible direction of rotation
- Suitable for viscosities of up to 40,000 mPas



DULCO flex Control DFYa



| Pump type                      | Pump capacity<br>bar | l/h              | Speed<br>rpm | Suction lift<br>mWS | Priming lift<br>mWS |
|--------------------------------|----------------------|------------------|--------------|---------------------|---------------------|
| <b>DULCO®flex Control DFYa</b> |                      |                  |              |                     |                     |
| 08410                          | 8                    | 5.5 - 410 ± 10 % | 80           | 8                   | 8                   |
| 04410                          | 4                    | 5.5 - 410 ± 10 % | 80           | 8                   | 8                   |
| 02410                          | 2                    | 5.5 - 410 ± 10 % | 80           | 8                   | 8                   |







## Worldwide contacts

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### Ready for you. Any time, anywhere.

ProMinent is at home in more than 100 countries across the globe. This guarantees the worldwide availability of our products and comprehensive expertise on the ground with close proximity to the customer. We offer the same high quality standards for our solutions and services all over the world. And we work day in, day out to keep our promise: Ready for you. Any time, anywhere.

You can find the contact details of local branches and agencies at [www.prominent.com/en/locations](http://www.prominent.com/en/locations)

You can find the ProMinent app for iPad and iPhone in the iTunes App Store or at [www.prominent.com/app](http://www.prominent.com/app)



**ProMinent Group**

info@prominent.com

www.prominent.com

# Reliable measuring and control

Precision by design



# Precision in detail

## Overall perfection – the optimum in control circuits



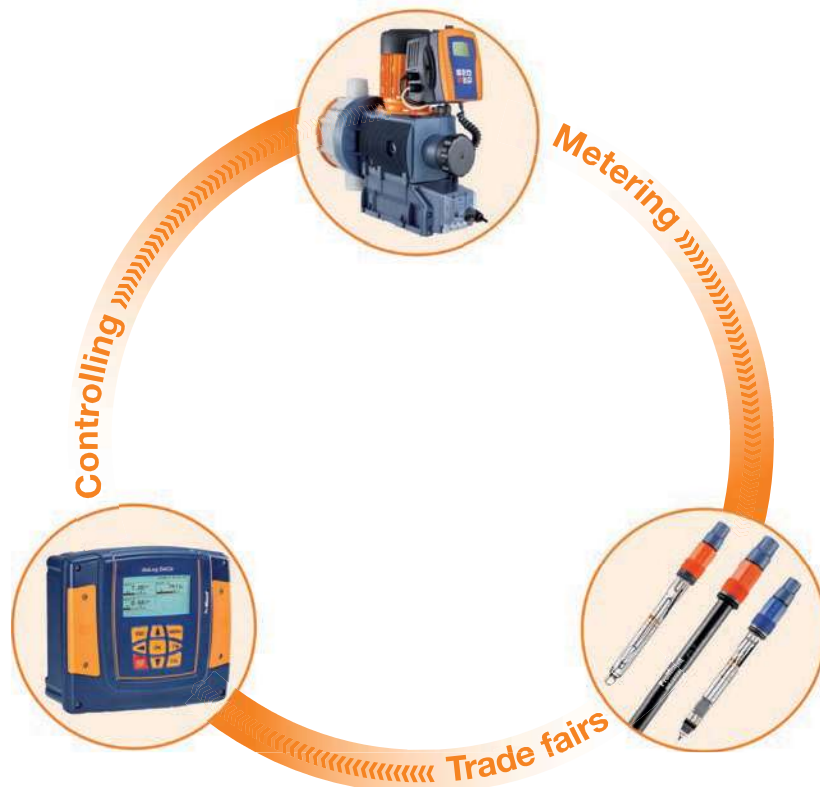
### Working together for accurate results

The precise interplay between metering pumps, controllers and sensors is a guarantee for optimum metering.

ProMinent provides you with the best possible safety through its use of perfectly coordinated components.

- Metering pumps that only meter the volume of chemicals needed at any time
- Sensors that deliver absolutely reliable and precise measured values in real time
- Controllers that match your customer-specific applications with technical precision

Choose your efficient complete solution from ProMinent for your specific metering task.



# Comprehensive solutions for precise metering, measuring and controlling



## Metering pumps

Chemical metering is the core task of any metering pump – and ProMinent offers metering pumps covering every performance class and design. The market leader in solenoid diaphragm pumps also offers an exceptional range of medium- and high-pressure pumps.

- Solenoid diaphragm pumps: up to 75 l/h
- Motor-driven diaphragm pumps: up to 1,000 l/h
- Hydraulic diaphragm pumps: up to 50,000 l/h
- Plunger pumps: up to 38,000 l/h
- Non-standard metering pumps

## Sensor technology

The DULCOTEST® line of sensors offers the wide availability of online chemical measuring parameters that enable a limit value to be monitored or a closed control circuit to be constructed.

- pH value
- ORP
- Electrolytic conductivity
- Turbidity
- Free chlorine
- Total available chlorine
- Combined chlorine
- Total chlorine
- Chlorine dioxide
- Chlorite
- Bromine
- Ozone
- Dissolved oxygen
- Hydrogen peroxide
- Peracetic acid
- Fluoride
- Temperature

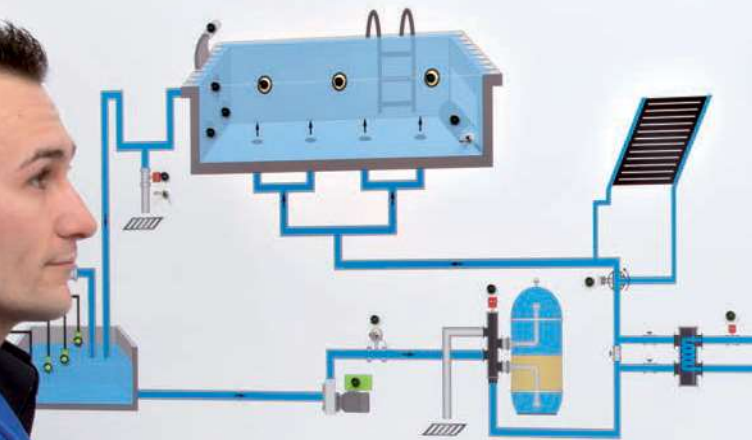
DULCOTEST® sensors deliver precise, reliable, application-specific measured values in real time. The sensors can be optimally integrated into the ProMinent control circuit along with controllers and metering pumps. Suitable bypass, installation and immersion fittings are also available for specific integration into the process.

## Measuring and control technology

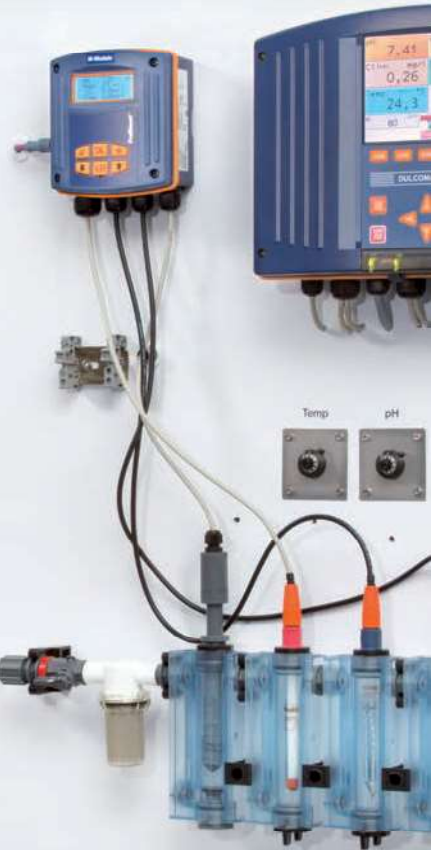
ProMinent's controllers can be easily adapted to your specific application. Closely graded performance classes and application-optimised functions provide the right solution for every measurement and control task. ProMinent offers complete product ranges covering everything from simple measurement signal conversion tasks, forwarding of data to central controllers and calibration of devices with measured value displays through to specialist controllers for complex, application-specific control tasks for various industrial sectors. PROFIBUS® DP, PROFINET and Modbus RTU components are available for integrating circuits into a higher-level control system.

- Compact controller
- 1-channel controller D1C
- 2- and 3-channel multi-parameter controller DACb
- Multi-channel controller DULCOMARIN®
- Various measuring transducers / transmitters
- Manual measuring instruments

DULCOMARIN® II für beste Wasserqualität  
in Ihrem Pool-Kreislauf



DULCOMARIN® II for optimum water quality  
in your pool circulation system



# Measuring and control technology made easy

## Process measurement stations fully assembled and ready for operation



**Online process measurement stations** are fully assembled and quickly started up. They are central components of control circuits for metering chemicals. The measured values are available in real time around the clock: this applies equally to the efficient control of chemical parameters in process water and determining the quality of treated water.

ProMinent measuring and control stations are offered with DULCOTROL® and DULCODOS® Pool as complete online measuring and control units for potable water, food and beverage applications, waste water and swimming pools. Different designs are available to suit a range of applications. Individual configurations are also offered for customer-specific applications.

- Reliable and precise measurements
- Simple and flexible installation
- Economical thanks to minimal maintenance requirements
- Long operational lifetime thanks to high-grade materials and robust construction
- Precise handling

Users profit from extremely quick delivery times and straightforward commissioning thanks to plug & play technology. All of the components required for measurement, control and monitoring of the different types of water are coordinated with each other and mounted on a PE plate wired ready for connection.

### Benefits

- All of the components are perfectly coordinated and wired ready for connection
- Configuration of 1-3 measuring points, depending on the measuring, control or monitoring task
- The application-specific ordering system enables straightforward, quick and correct configuration of your measuring and control station



# Measuring and control technology

## Perfection for every requirement



### Maximum safety

#### DULCOTROL® potable water

Panel-mounted measuring and control stations for reliable treatment and monitoring of potable and similar water as well as for rinsing water and industrial/process water for use in the food and beverage industry:

- Disinfection
- CIP (Cleaning In Place)
- pH adjustment
- Monitoring

#### Water to be measured

- Potable water
- Process water, product water
- Rinsing water, industrial water

#### Available measured variables (one or a combination of 2 measured variables)

- Free chlorine
- Combined chlorine (chloramine)
- Total chlorine
- pH value
- ORP
- Chlorine dioxide
- Chlorite
- Hydrogen peroxide
- Peracetic acid
- Conductivity, temperature
- Ozone
- Fluoride
- Dissolved oxygen

### Optimally purified

#### DULCOTROL® waste water

Panel-mounted measuring and control stations for waste water treatment:

- pH neutralisation and pH adjustment
- Disinfection of purified water
- Elimination of reducing agents and oxidants for the purpose of detoxification
- Desalination of process water
- Monitoring of rinsing water
- Control of dissolved oxygen at the biological clarifying stage

#### Water to be measured

- Clear waste water
- Waste water with viscous media (turbid)
- Waste water with fluoride and  $\text{pH} < 7$

#### Available measured variables (up to 3 combinations)

- pH value
- ORP
- Total chlorine
- Conductivity
- Chlorine dioxide
- Ozone
- Hydrogen peroxide
- Fluoride
- Temperature

# Metering, measuring and control systems DULCODOS® POOL

## DULCODOS® Pool, the right type for every requirement.

The metering systems DULCODOS® Pool ensure the best water quality. The

systems come in four different designs. It's easy to work out which type is best suited to your requirements.



### DULCODOS® Pool Soft

DULCODOS® Pool Soft is especially suited to private pools used by a small number of people. It uses active oxygen compounds, which are less effective than chlorine. Water treatment with active oxygen is a good alternative for ecologically-minded pool owners or if users are allergic to chlorine. DULCODOS® Pool Soft uses no chlorine chemicals.

- For swimming pools with volumes of up to 100 m<sup>3</sup>



### DULCODOS® Pool Basic

DULCODOS® Pool Basic regulates the pH and chlorine content via the ORP. This is the direct measurement of effective oxidation in the water and is therefore an indication of the disinfectant effect and concentration of the metered chlorine. The concentration of chlorine cannot be determined with accuracy with this process. ORP measurements allow a particular range of chlorine to be set. DULCODOS® Pool Basic is robust and requires little maintenance.

- For swimming pools with circulation capacity of up to 200 m<sup>3</sup>



### DULCODOS® Pool Comfort

DULCODOS® Pool Comfort uses highly specific chlorine measuring cells to control the chlorine content. The concentration of chlorine in the water can be determined and set with accuracy. The effectiveness of the swimming pool filter is boosted by an integrated feeder assembly for flocculant – resulting in crystal-clear water! Numerous features to enhance operating convenience, such as measured values being mapped by a screen plotter or remote control from your PC, iPad or other tablet device using an integrated web server, make the metering system very popular with customers.

- For swimming pools with circulation capacity of up to 225 m<sup>3</sup>



### DULCODOS® Pool Professional

In addition to the features described above, DULCODOS® Pool Professional also measures the combined chlorine. This is an important parameter in public pools. It can be incorporated in the building management system via Modbus RTU and alarm messages can be sent by e-mail. Eco!Mode reduces the amount of energy consumed by the filter pumps.

The swimming pool controller becomes the central control unit for all the swimming pool technology.

- For swimming pools with circulation capacity of up to 1,130 m<sup>3</sup>



# Transmitter DULCOMETER® and controller DULCOMETER® Compact

Simple and compact



## Transmitters

### DULCOMETER® DMT

DULCOMETER® transmitters of type DMT are compact two-wire transmitters for use with the measured variables of pH, ORP, chlorine, conductive conductivity and temperature. They convert the primary sensor signal into a standard 4-20 mA signal and enable disturbance-free connection of the sensor to remote controllers (e.g. PLC Programmable Logic Controller) or DULCOMETER® controllers.

- With display and calibration of the measured value at the location of the sensor
- Optional connection to PROFIBUS® DP

## Basic controller

### DULCOMETER® Compact

The DULCOMETER® Compact controller for the measured variables of pH, ORP, chlorine, conductive and inductive conductivity is supplied with the standard functions for basic applications in water treatment. The measured variables of pH and ORP are available in a single controller and can easily be selected. Operation is language-independent.

| Measured variable       | Measuring and adjustment range      |
|-------------------------|-------------------------------------|
| pH value                | 0-14                                |
| ORP                     | -1,000-1,000 mV                     |
| Chlorine                | 0.05-5 ppm                          |
| Conductive conductivity | 0.5 µS/cm - 20 mS/cm (auto-ranging) |
| Inductive conductivity  | 20 µS/cm - 2000 mS/cm               |

# Controller

## DULCOMETER® D1Cb/D1Cc

### Universal standard



#### Controller

##### DULCOMETER® D1Cb/D1Cc

The controllers DULCOMETER® D1Cb (wall-mounted) and D1Cc (control cabinet installation) are the standard controllers for applications in potable water, waste water and cooling water treatment. Its basic model is equipped with 14 measured variables.

- Sensor monitoring and safety function to prevent incorrect metering
- 22 operating languages in the controller
- 14 measured variables selectable from the menu

#### Key applications

- Potable water and waste water treatment
- Industrial and process water treatment
- Swimming pool water treatment

#### Measured variables

- pH/ORP
- Conductive conductivity via mA
- Chlorine dioxide
- Chlorine
- Chlorite
- Ozone
- Fluoride
- Hydrogen peroxide
- Peracetic acid
- Dissolved oxygen
- Temperature
- Analogue signal

# Controller DULCOMARIN®

## Multi-parameter controller diaLog DACb

### Intelligent control



#### Controller DULCOMETER® diaLog DACb

The new two- or three-channel multi-parameter controller diaLog DACb was specially developed for the continuous measurement and control of parameters needed in liquid analysis. Sensors from 14 freely selectable measured variables can be connected per channel.

The standard field buses are available for communication with the control level. The incorporated data, calibration and event logger records all measured values, control variables, digital inputs, calibration values, warning and error messages on the SD card with a time stamp. The diaLog DACb controller uses intelligent controller functions to complete the control circuit between ProMinent DULCOTEST® sensors and ProMinent® metering pumps, offering special functions as required in water treatment.

- Three 2-page PID controllers
- Integral data logger with SD card
- Disturbance variable processing (flow) as standard
- pH compensation for chlorine as standard
- Various field buses

#### Key applications

- Potable water and waste water treatment
- Industrial and process water treatment
- Swimming pool water treatment

#### Measured variables

- pH/ORP
- Bromine
- Conductive conductivity
- Chlorine dioxide
- Chlorine
- Chlorite
- Ozone
- Fluoride
- Hydrogen peroxide
- Peracetic acid
- Dissolved oxygen
- Temperature
- Analogue signal



#### Advanced controller DULCOMARIN® 3

The multi-parameter, multi-channel measurement and control system DULCOMARIN® 3 guarantees complete transparency of all measurement and control processes within networked systems. As the world's first bus system for potable water treatment and swimming pool engineering, it networks sensors and actuators at the field level. DULCOMARIN® 3 can be easily operated via a large 7" touch display and can control up to 16 filtration circuits. Modbus RTU and LAN are available for communication with the superordinate systems (e.g. building management systems) as standard. Wi-Fi is optional. Remote control uses a VNC app.

#### Measured variables

- pH value
- ORP
- Free chlorine
- Total available chlorine
- Combined chlorine

# Sensors for pH/ORP and fluoride sensor technology

## DULCOTEST® potentiometric sensors

### Application-optimised measurements

#### pH and ORP

The DULCOTEST® range of pH and ORP electrodes provides a wide range of options for solving key measurement tasks in the monitoring and treatment of different types of water. The fields of application cover everything from simple water treatment tasks through to complex industrial process applications with stringent requirements in terms of temperature, pressure, contamination tolerance and chemical resistance.

#### Fluoride

Ion-selective electrodes are offered in two measuring ranges to measure fluoride for potable and waste water applications.



- Excellent durability thanks to high-end glass quality (pH) and the optimum combination of automated and manual manufacturing
- Precise and reliable measurement for efficient processes and maximum process safety
- Custom process integration through special designs with individual fitting lengths, cable lengths and plugs available
- Optimum operational lifetime yield for electrodes thanks to rapid delivery and short storage duration
- Ultra-simple installation and maintenance by means of rotating cable connection, with fixed cable and plug-in versions

| Medium                             | Temperature / pressure                 | Sensor type | Application  |
|------------------------------------|--|-------------|--|
| clear, pH 3–14                     | max. 100°C, 3 bar<br>max. 25 °C, 6 bar | PHEP-H      | Chemical processes   |
| clear, pH 2–12                     | max. 80°C,<br>no overpressure          | PHEN        | Chemically contaminated water<br>Low-conductivity water >50 µS/cm        |
|                                    |  | RHEN        | Chemically contaminated water<br>Low-conductivity water >50 µS/cm        |
|                                    | max. 60 °C, 3 bar                      | PHEs        | Swimming pool water, potable water (glass shaft)                         |
|                                    |  | PHEK        | Swimming pool, aquarium (plastic shaft)                                  |
|                                    |  | RHEs        | Swimming pool water, potable water (glass shaft)                         |
|                                    |  | RHEK        | Swimming pool, aquarium (plastic shaft)                                  |
|                                    | max. 80 °C, 6 bar                      | PHEP/PHEPT  | Process water  |
|                                    |  | RHEP-Pt     | Process water  |
|                                    |  | RHEP-Au     | Chemically contaminated water,<br>e.g. CN <sup>-</sup> , ozone treatment |
|                                    | max. 80 °C, 8 bar                      | PHED        | Chemically contaminated water, e.g. Cr <sup>6+</sup> , CN <sup>-</sup>   |
| Solid residues, turbidity          | max. 80 °C, 6 bar                      | PHER/PHEI   | Cooling water, waste water   |
|                                    |  | RHER/RHEIC  | Cooling water, waste water   |
| Solid residues, not transparent    | max. 80 °C, 6 bar                      | PHEX        | Suspensions, sludge, emulsions   |
|                                    |  | RHEX        | Suspensions, sludge, emulsions   |
| Clear, containing fluoride, pH < 5 | max. 50 °C, 7 bar                      | PHEF        | Exhaust air scrubber, semiconductor industry, electroplating             |

# Sensors for disinfectants and oxidising agents

## DULCOTEST® amperometric sensors

### Maximum process reliability thanks to innovation

Amperometric sensors in the DULCOTEST® product range provide measured values for the most diverse disinfectants, such as chlorine, bromine, chlorine dioxide, ozone and their resulting by-products. The selective and precise measured values guarantee maximum process reliability and are available round the clock for monitoring or control in real time. ProMinent sets new standards in sen-

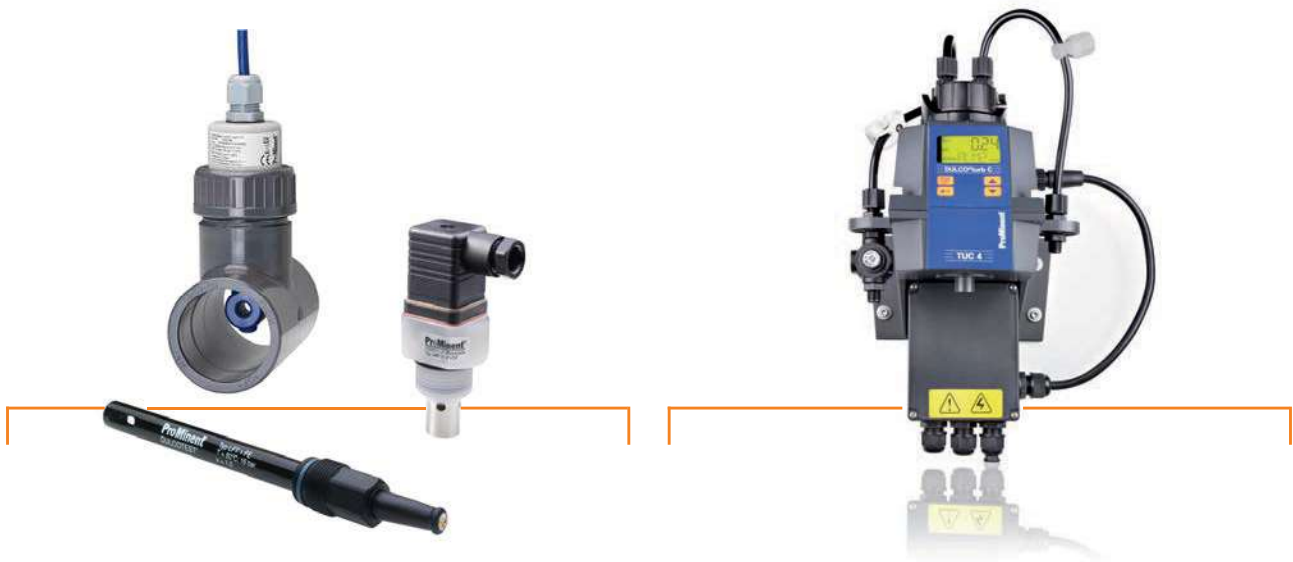
sor technology: Innovative sensors, such as those for chlorite, total chlorine, peracetic acid, hydrogen peroxide and the contamination-tolerant xxR types, open up whole new applications. The sensors are available with a broad spectrum of measuring ranges, various designs and connection versions for DULCOMETER® controllers as well as custom versions for special applications.



| Measured variable   | Applications  | Graduated measuring ranges | Connection to DULCOMETER® | Sensor type                                 |                |
|---|---|----------------------------|---------------------------|---|----------------|
| Free chlorine   | Potable water, swimming pool water  | 0.01 – 100 mg/l            | D1C, DAC                  | CLE 3-mA-xppm, CLE 3.1-mA-xppm              |                |
|   | Process and waste water   | 10 – 200 mg/l              | D1C, DAC                  | CLR 1-mA                                    |                |
|   | Potable water, swimming pool water  | 0.01 – 10 mg/l             | DULCOMARIN®               | CLE 3-CAN-P-xppm, CLE 3.1-CAN-P-xppm        |                |
|   | Potable water, swimming pool water, in-situ electrolysis (without diaphragm)  | 0.02 – 10 mg/l             | D1C, DAC, AEGIS II        | CLO 1-mA-xppm                               |                |
|   | Swimming pool water, uncontaminated potable water and process water; can also be used together with diaphragm-free electrolysis processes | 0.01 – 10 mg/l             | DULCOMARIN®               | CLO 1-CAN-P-10ppm                           |                |
|   | Hot water up to 70 °C (legionella), in situ electrolysis (without diaphragm)  | 0.02 – 2 mg/l              | D1C, DAC, AEGIS II        | CLO 2-mA-2ppm                               |                |
|   | Potable water, swimming pool water  |                            | 0.01 – 50 mg/l            | DMT   | CLE 3-DMT-xppm |
|   |   |                            | 0.05 – 5 mg/l             | COMPACT                                     | CLB 2-µA-xppm  |
|   |   |                            | 0.05 – 5 mg/l             | COMPACT                                     | CLB 3-µA-xppm  |
| Cooling water, process water, waste water, water with higher pH values (stable); seawater (free chlorine exists as bromine) | 0.01 – 10 mg/l  | D1C, DAC, AEGIS II         | CBR 1-mA-xppm             |   |                |
| Total available chlorine / free chlorine  | Swimming pool water with organic chlorine disinfectants and in situ electrolysis (without diaphragm)                                      | 0.02 – 10 mg/l             | D1C, DAC, AEGIS II        | CGE 3-mA-xppm                               |                |
|   |   | 0.01 – 10 mg/l             | DULCOMARIN®               | CGE 3-CAN-P-xppm                            |                |
| Total chlorine  | Potable water, industrial water, process water and waste water  | 0.01 – 10 mg/l             | D1C, DAC, AEGIS II        | CTE 1-mA-xppm                               |                |
|   |   | 0.01 – 10 mg/l             | DMT                       | CTE 1-DMT-xppm                              |                |
|   |   | 0.01 – 10 mg/l             | DULCOMARIN®               | CTE 1-CAN-P-xppm                            |                |
| Combined chlorine   | Swimming pool water   | 0.02 – 2 mg/l              | DAC                       | CTE 1-mA-2 ppm and CLE 3.1-mA-2 ppm         |                |
|   |   | 0.01 – 10 mg/l             | DULCOMARIN®               | CTE 1-CAN-P-xppm and CLE 3.1-CAN-xppm       |                |
| Total available bromine   | Cooling water, waste water, swimming pool, spa pool water, bromine with BCDMH   | 0.01 – 10 mg/l             | D1C, DAC                  | BCR 1-mA-xppm (replaces earlier type BRE 1) |                |
|   | Cooling water, swimming pool water, spa pool water with organic or inorganic bromine compounds  | 0.02 – 10 mg/l             | DULCOMARIN®               | BRE 3-CAN-10ppm                             |                |
| Free and combined bromine   | Cooling water, process water, waste water, water with higher pH values (stable); seawater   | 0.02 – 20 mg/l             | D1C, DAC, AEGIS II        | CBR 1-mA-xppm                               |                |
|   |   | 0.02 – 20 mg/l             | DULCOMARIN®               | CBR 1-CAN-P-10 ppm                          |                |
| Chlorine dioxide  | Potable water   | 0.01 – 10 mg/l             | D1C, DAC                  | CDE 2-xppm                                  |                |
|   | Bottle washing system   | 0.02 – 2 mg/l              | D1C, DAC                  | CDP 1                                       |                |
|   | Hot water up to 60 °C, cooling water, waste water, irrigation water   | 0.01 – 10 mg/l             | D1C, DAC, DULCOMARIN®     | CDR 1-xppm, CDR 1-CAN-xppm                  |                |
| Chlorite  | Potable water, washing water  | 0.02 – 2 mg/l              | D1C, DAC, DULCOMARIN®     | CLT 1-mA-xppm, CLT 1-CAN-xppm               |                |
| Ozone   | Potable water, swimming pool water  | 0.02 – 2 mg/l              | D1C, DAC                  | OZE 3-mA-2 ppm                              |                |
|   | Process water, industrial water, cooling water  | 0.02 – 2 mg/l              | D1C, DAC                  | OZR 1-mA-2 ppm                              |                |
| Dissolved oxygen  | Aeration tanks, clarification plants, fish farming, potable water, surface water  | 0.1 – 20 mg/l              | D1C, DAC                  | DO 3-mA-xppm                                |                |
|   | Aeration tanks, clarification plants  | 0.05 – 10 mg/l             | D1C, DAC                  | DO 2-mA-xppm                                |                |
| Peracetic acid  | CIP (cleaning in place), aseptic foodstuff filling  | 1 – 2,000 mg/l             | D1C, DAC, AEGIS II        | PAA 1-mA-xppm                               |                |
| Hydrogen peroxide   | Clear water, fast control   | 1 – 2,000 mg/l             | DAC                       | Perox sensor, PEROX-H2.10 P                 |                |
|   | Process water, swimming pool water  | 0.5 – 2,000 mg/l           | D1C, DAC                  | PER1-mA-xppm                                |                |

# Conductivity sensors DULCOTEST® Turbidity measuring points DULCO® turb C

Versatile and precise



## Conductivity sensors

### DULCOTEST®

The broad range of DULCOTEST® conductivity sensors offers the perfect choice of sensor with optimum cost-effectiveness for any task, from simple water treatment through to complex industrial process water applications.

- 26 different sensor types for a broad range of requirements: measuring range, temperature, pressure, chemical resistance, contamination tolerance and process integration
- From simple conductometric 2-electrode sensors to inductive high-end sensors
- Precise and reliable measurement enables efficient processes and maximum process reliability
- High operational service life and long maintenance intervals reduce downtime and increase the availability of the measured values
- Complete pre-assembled kits containing fitting and sensor for easy, fast and error-free installation

## Turbidity measuring points

### DULCO® turb C

The DULCOTEST® measuring points for turbidity DULCO® turb C, which come in the TUC1, TUC2, TUC3 and TUC4 versions, are compact online turbidity measuring points, comprising sensor, flow fitting and measuring device.

They are used primarily in potable water treatment applications for all treatment stages, from raw water monitoring and filter monitoring through to measurement of fine turbidity in dispensed potable water at 0.02 NTU (FNU).

Further applications include the turbidity monitoring service water and waste water with slight contamination as well as water to be treated from the food and beverage industry up to turbidity values of 1,000 NTU.

- Depending on the selected design, the system conforms to the worldwide standard ISO 7027 and the European standard DIN EN 27027 or the US standard USEPA 180.1
- Optionally available with sample cell ultrasonic cleaning system

# First-class measuring and control technology for an exclusive wellness experience



## "A premium classspa"

The Dolder Grand Hotel & "Curhaus" in Zurich is among the most beautiful wellness hotels in Switzerland. The water treatment technology provided by ProMinent is a major contributor to ensuring that the exclusive experience in this breathtaking spa remains unforgettable.

Pumps and controllers from ProMinent ensure effective disinfection and neutralisation of the pool water in the gigantic 4,000 m<sup>2</sup> spa.

The water for the swimming pool, whirlpools and aroma pools is efficiently treated in multiple stages using seven separate circuits. The control signals to all the metering pumps are sent via LAN from the central control unit DULCOMARIN® II DULCO®-net, which forms the "brains" of the water treatment system. In an interview, Carsten Behr, Director of Engineering for the spa area, gives his assessment of the control system.

Mr Behr, what is the purpose of the DULCOMARIN® II DULCO®-net in your facility?

**Carsten Behr:** "The innovative controller from ProMinent is responsible for accurately controlling all the metering pumps in the system and displaying all the relevant information for the operator."

How does this affect the water quality?

**Carsten Behr:** "The safe and controlled neutralisation and disinfection in the Aqua Zone of the Dolder Grand ensures that premium water quality is guaranteed around the clock."

Do you benefit in any other ways?

**Carsten Behr:** "Our running costs are reduced in two ways: firstly due to the minimal use of chemicals and secondly due to automated water care, which is achieved through the integration and connection of intelligent measuring, control and metering technology within the higher-level process control system."

# Service



## Global service locally

You can benefit from ProMinent's services even if you are not yet our customer.

Our pre-sales service will ensure that you obtain the optimum solution to meet your individual needs.

Thanks to our worldwide presence in over 100 countries, our service is available wherever you need it.

- Advice on product selection
- Application and process optimisation
- Project planning

However, our commitment does not end with delivery. We also provide you with a comprehensive after-sales service, which lasts for the entire service life of your equipment. This maximises your productivity and minimises your operating costs.

- Assembly/installation
- Commissioning
- Maintenance
- Spare parts service
- Repairs
- Troubleshooting



## Worldwide contacts

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### Ready for you. Any time, anywhere.

ProMinent is at home in more than 100 countries across the globe. This guarantees the worldwide availability of our products and comprehensive expertise on the ground with close proximity to the customer. We offer the same high quality standards for our solutions and services all over the world. And we work day in, day out to keep our promise: Ready for you. Any time, anywhere.

You can find the contact details of local branches and agencies at [www.prominent.com/en/locations](http://www.prominent.com/en/locations)

You can find the ProMinent app for iPad and iPhone in the iTunes App Store or at [www.prominent.com/app](http://www.prominent.com/app)



**ProMinent Group**

info@prominent.com

www.prominent.com

# Certificate

PROFIBUS Nutzerorganisation e.V. grants to

## ProMinent GmbH

Im Schuhmachergewann 5-11, 69123 Heidelberg, Germany

the Certificate No: **Z12322** for the PROFINET Device:

Model Name: DULCOMETER diaLog DACb  
 Revision: SW/FW: V2.0.14.0; HW: 2  
 Identnumber: 0x0143; 0x0001  
 GSD: GSDML-V2.32-Prominent-DACb-PRT2P-20180202.xml  
 DAP: RT, 0x80010000

This certificate confirms that the product has successfully passed the certification tests with the following scope:

|                                     |                     |                                     |
|-------------------------------------|---------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | PNIO_Version        | V2.32                               |
| <input checked="" type="checkbox"/> | Conformance Class   | C                                   |
| <input checked="" type="checkbox"/> | Optional Features   | Legacy, MRP                         |
| <input checked="" type="checkbox"/> | Netload Class       | III                                 |
| <input checked="" type="checkbox"/> | PNIO_Tester_Version | Version 2.33.0                      |
| <input checked="" type="checkbox"/> | Tester              | Siemens AG, Fürth, Germany; PN524-1 |

This certificate is granted according to the document:

“Framework for testing and certification of PROFIBUS and PROFINET products”.

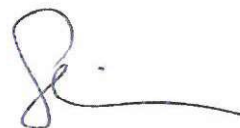
For all products that are placed in circulation by **September 03, 2021** the certificate is valid for life.

Karlsruhe, September 21, 2018

Board of PROFIBUS Nutzerorganisation e. V.



(Official in Charge)



(Karsten Schneider)



(Dr. Jörg Hähnliche)

# Metering System DULCODOS<sup>®</sup> eco (DSBa)

Choose from a range of different components and adapt the metering system to your requirements.



Two hydraulic connection points guarantee simple installation of the metering system. The ready mounted system consists of components that have been perfectly matched to each other to ensure problem-free operation. You obtain a

complete system. Individually configure your metering system at the time of ordering. A simple selection system makes ordering easy and guarantees maximum efficiency even at the time of ordering.

## Your benefits

- One to three metering pumps mounted on a storage tank, ready for connection with all the necessary accessories
- Short delivery time
- Outstanding value for money
- Compact construction
- Fast commissioning
- Versatile use

## Field of application

Treatment of cooling, process and swimming pool water

# Metering System DULCODOS<sup>®</sup> eco (DSBa)

Choose from a range of different components and adapt the metering system to your requirements.

## Technical Data

ProMinent metering systems with PE storage tanks can be selected and ordered with the help of an identity code system. First select the metering pump using the separate pump identity code.

### Selectable components

1. PE dosing tank (35 – 1,500 litres)
2. Stackable collecting pans (35 – 1,500 litres)
3. Lock for tank screw top
4. Hand mixer/stirrer (\*)
5. Suction assembly
6. Level switch for suction assembly
7. Drain tap for storage tank (\*)
8. Order metering pump (\*) separately (Order the pump separately due to the large number of possible pumps that can be installed on storage tanks. Use the identity code for the pump you require.)

\* These components are ready for subsequent installation, but are supplied separately to avoid damage in transit. Customers should fully install the system on site.



**ISOMAG** 

*The friendly magmeter*

**DATA SHEET**

**MV110**



**CE**

**ISOIL**   
INDUSTRIA



# INDEX

|                                 |           |
|---------------------------------|-----------|
| <b>DATE TEHNICE</b>             | <b>1</b>  |
| <b>DIMENSIUNI</b>               | <b>2</b>  |
| <b>MV110 ASPECT DETALIAT</b>    | <b>4</b>  |
| <b>VIZUAL PAGINI PRINCIPALE</b> | <b>5</b>  |
| <b>CONEXIUNE ELECTRICĂ</b>      | <b>6</b>  |
| <b>IEȘIRI DIGITALE</b>          | <b>7</b>  |
| <b>IEȘIRI ANALOGIC</b>          | <b>7</b>  |
| <b>INTRARE DIGITALĂ</b>         | <b>7</b>  |
| <b>MENIU FUNCȚII</b>            | <b>8</b>  |
| <b>ACURATETE</b>                | <b>12</b> |
| <b>CUM COMAND</b>               | <b>13</b> |

## DATE TEHNICE

| <b>DATE GENERALE</b>         |   |
|------------------------------|---|
| <b>Utilizabil pentru</b>     | <input type="checkbox"/> toate tipurile de senzor ISOMAG  |
| <b>Conductivitate minimă</b> | <input type="checkbox"/> 5 $\mu$ S/cm   |
| <b>Altitudine</b>            | <input type="checkbox"/> -200 m up to 4000 m  |
| <b>Temperatura ambiantă</b>  | <input type="checkbox"/> -20... +60°C / -4... +140 °F - Aluminium housing<br><input type="checkbox"/> -10... +50°C / -4... +104 °F - Reinforced Nylon |
| <b>Umiditate</b>             | <input type="checkbox"/> 0÷100%   |

| <b>DATE STANDARD</b>           |   |
|--------------------------------|---|
| <b>Material carcasă</b>        | <input type="checkbox"/> Aluminiu vopsit<br><input type="checkbox"/> Plastic cu fibră de sticlă                       |
| <b>Grad de protecție</b>       | <input type="checkbox"/> IP 67  |
| <b>Alimentare/Consum</b>       | <input type="checkbox"/> 100-240 V~ (20VA) – 44-66 Hz   |
| <b>Cabluri</b>                 | <input type="checkbox"/> N° 5 glanda cabluri PG   |
| <b>Valoare scală</b>           | <input type="checkbox"/> 0,4...10m/s  |
| <b>Dig. Input</b>              | <input type="checkbox"/> N°1 , programabil (ex. Totalizer reset)  |
| <b>Memo date</b>               | <input type="checkbox"/> Memorare în caz de lipsă alimentare  |
| <b>Izolare galvanică</b>       | <input type="checkbox"/> Toate intrările/ieșirile sunt izolate de alimentare până la 250 V                            |
| <b>Programare</b>              | <input type="checkbox"/> port USB pentru conexiune la PC (cablu USB tip A/USB MINI B is required for the programming) |
| <b>Bi-Directional</b>          | <input type="checkbox"/> Yes  |
| <b>Diagnostic Funct.</b>       | <input type="checkbox"/> Yes  |
| <b>Detectie conductă goală</b> | <input type="checkbox"/> Yes  |
| <b>CE Certification</b>        | <input type="checkbox"/> Yes  |

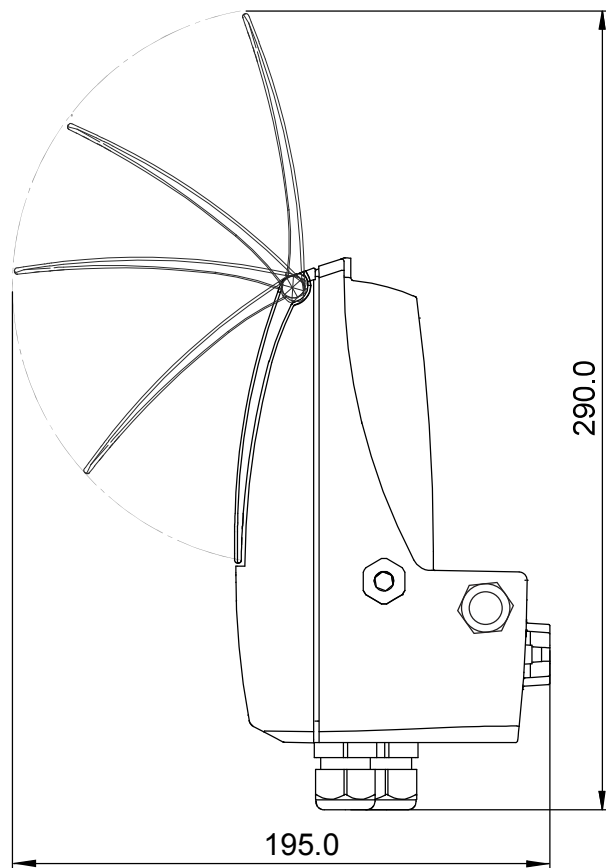
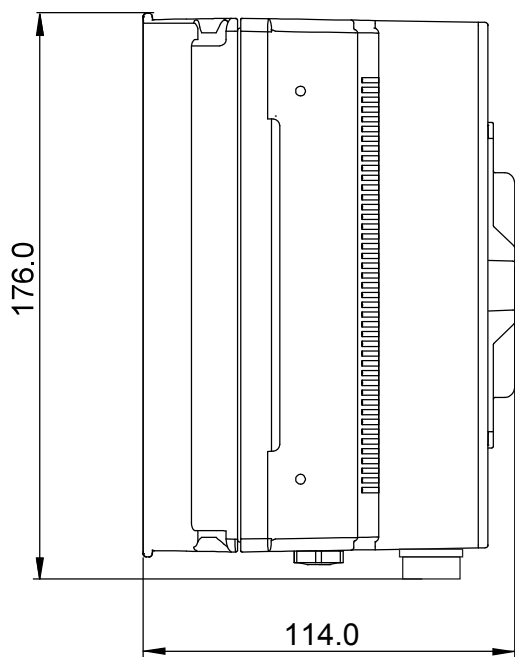
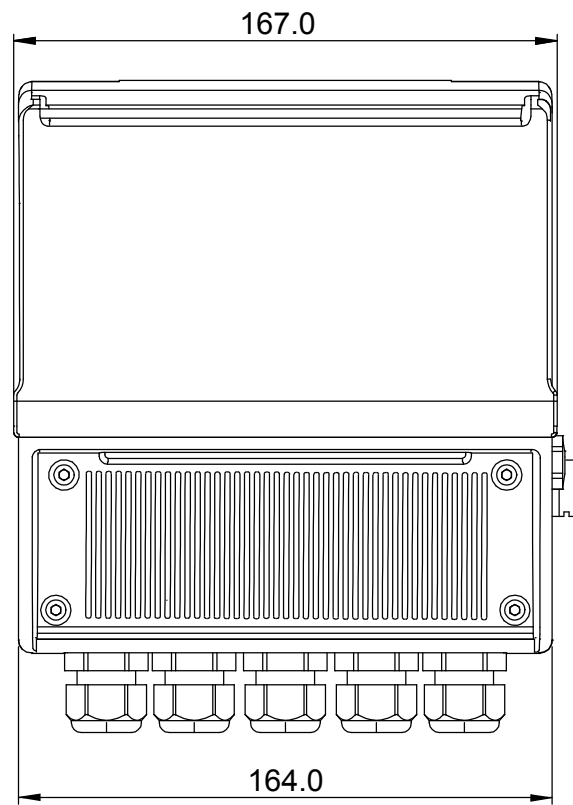
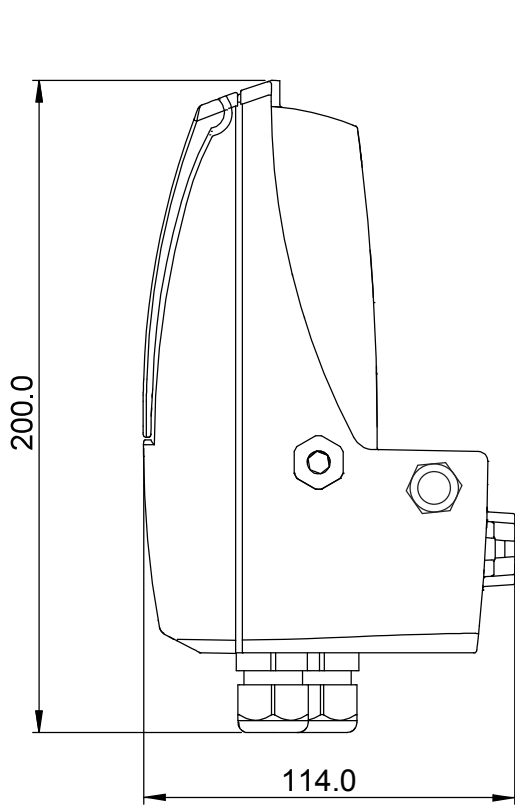
| <b>OPTIONALE</b>                      |   |
|---------------------------------------|---|
| <b>Versiune</b>                       | <input type="checkbox"/> Compact<br><input type="checkbox"/> Separate   |
| <b>Grad de protecție</b>              | <input type="checkbox"/> IP 68  |
| <b>Con.cablu pt.versiune separată</b> | <input type="checkbox"/> CABLU C014   |
| <b>LCD Display</b>                    | <input type="checkbox"/> Graphic display 128x64 pixels back light, 3 programming keys   |
| <b>Alimentare/Consum</b>              | <input type="checkbox"/> Power supply : 100 ... 240 VAC 44/66 Hz<br><input type="checkbox"/> Power supply : 24 ... 36 VAC/VDC 0...45/66 Hz<br><input type="checkbox"/> Power supply : 12...48 VDC<br><input type="checkbox"/> Power supply : 100 ... 240 VAC 44/66 Hz + 1 Rechargeable Battery<br><input type="checkbox"/> Power supply : 24 ... 36 VAC/VDC 0...44/66 Hz + 1 Rechargeable Battery<br><input type="checkbox"/> Power supply : 12...48 VDC + 1 Rechargeable Battery |
| <b>Ieșire puls/alarmă</b>             | <input type="checkbox"/> N°1 digital Output , 1250 Hz, 100mA, 30 Vdc<br><input type="checkbox"/> N°2 digital Outputs , 1250 Hz, 100mA, 30 Vdc   |
| <b>Ieșire analogică</b>               | <input type="checkbox"/> n° 1 Analogue output 0/4...20/22 mA (Hart optional)<br><input type="checkbox"/> n° 2 Analogue outputs 0/4...20/22 mA (Hart optional over Out.1)  |
| <b>Port comunicare</b>                | <input type="checkbox"/> RS 485<br><input type="checkbox"/> Wi-Fi (pt. programare)  |
| <b>Data Logger</b>                    | <input type="checkbox"/> MicroSD Memory Card 4...32 GBytes  |
| <b>Protocol</b>                       | <input type="checkbox"/> Modbus over RS 485<br><input type="checkbox"/> HART (Available on analog output n° 1)  |

| <b>PRECIZIE</b>  |   |
|--|---|
| <b>Precizie</b>  | <input type="checkbox"/> Flow rate (volume) = $\pm 0,05\%$ v.l.<br><input type="checkbox"/> Out 4/20 mA = $\pm 0,08\%$ v.l.<br><input type="checkbox"/> Frequency Out = $\pm 0,08\%$ v.l. |
| <b>Accuratete (pentru întreg sistem:senzor + contoler)</b> | <input type="checkbox"/> Vezi tabelul de mai jos  |



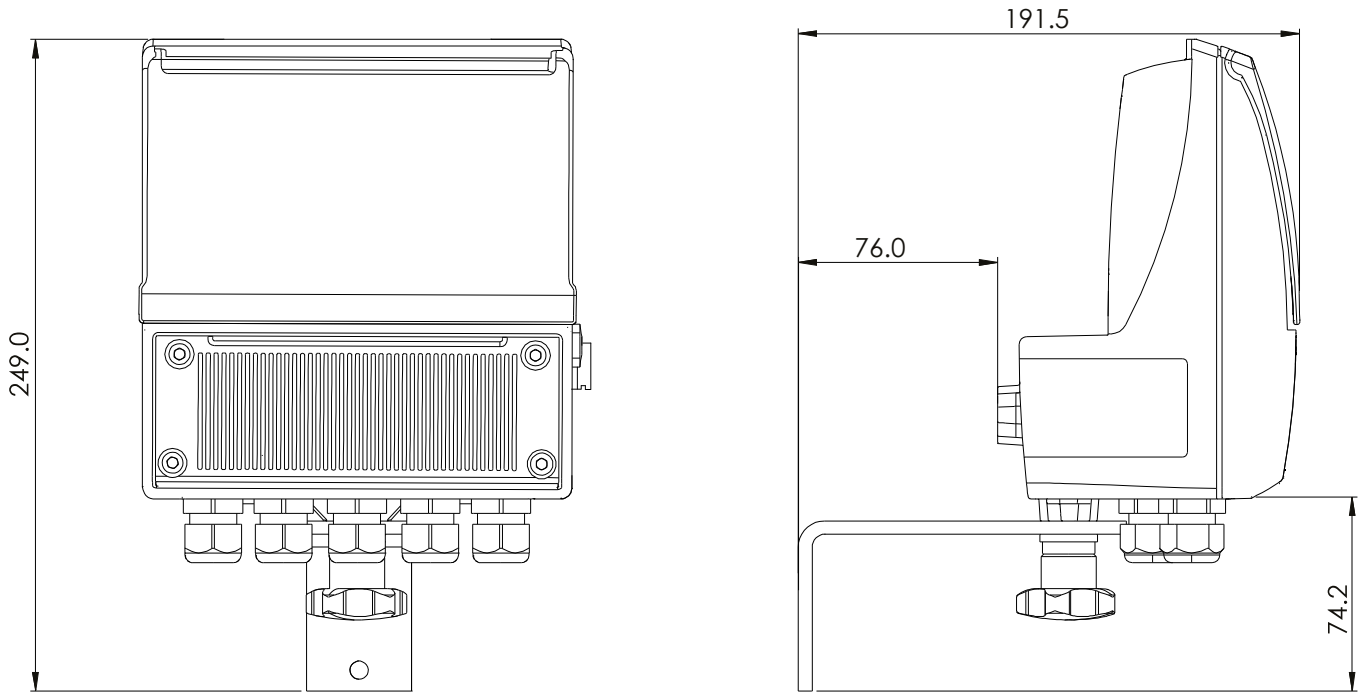
**DIMENSIUNI**

COMPACTĂ

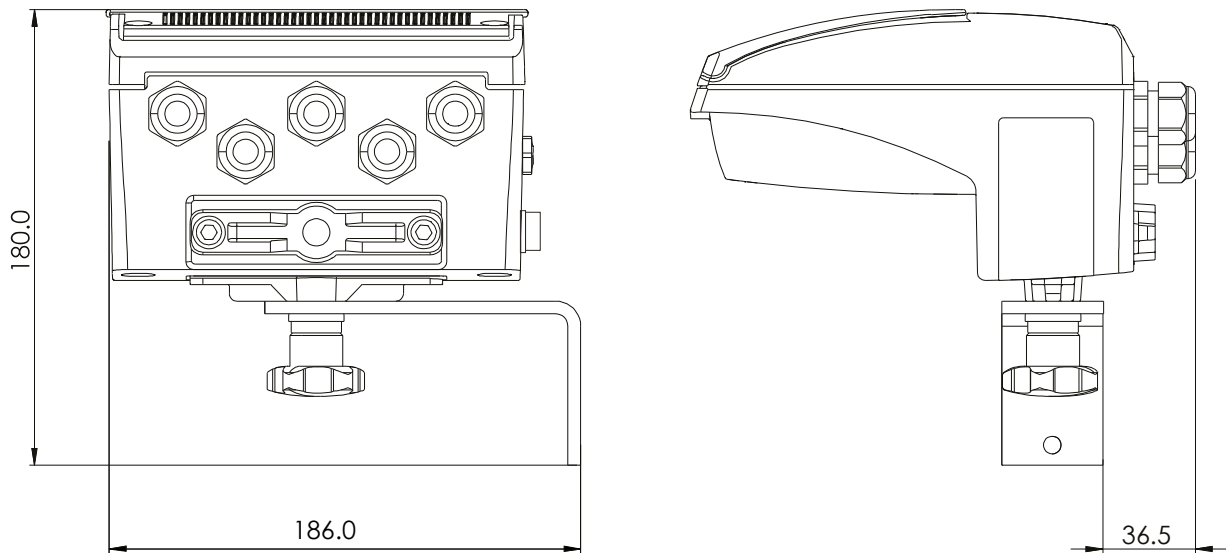


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## SEPARATĂ (PERETE)

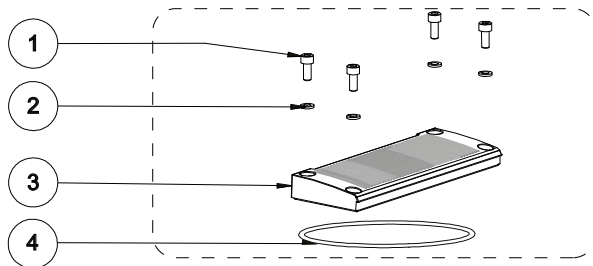


## ROTABILĂ (PERETE)

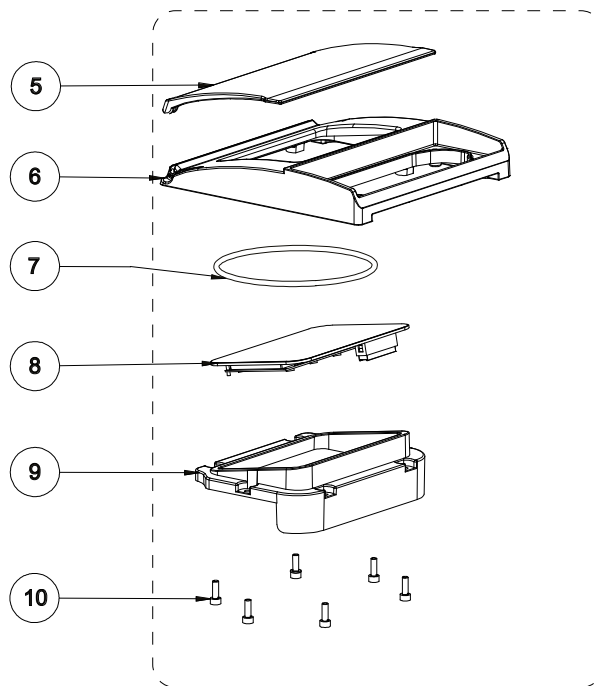


## ■ MV110 ASPECT DETALIAT

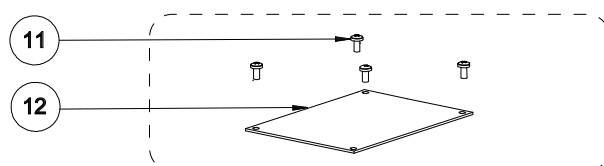
### COPERTĂ BLOC TERMINALE



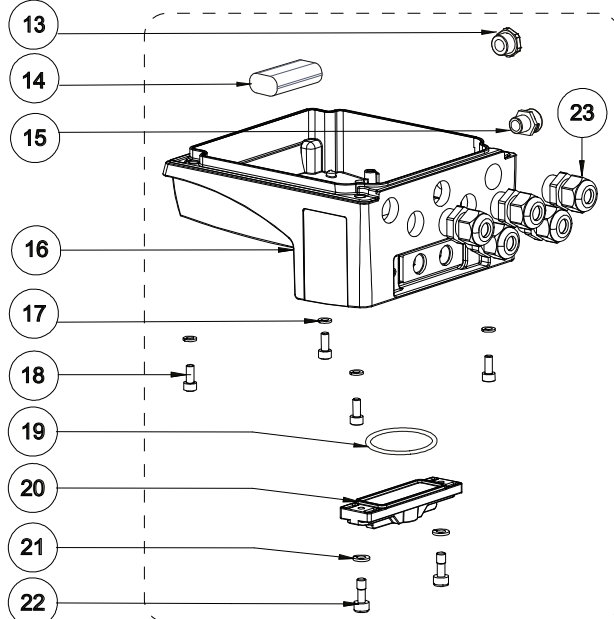
### COPERTĂ CARCASĂ



### PCB MV110

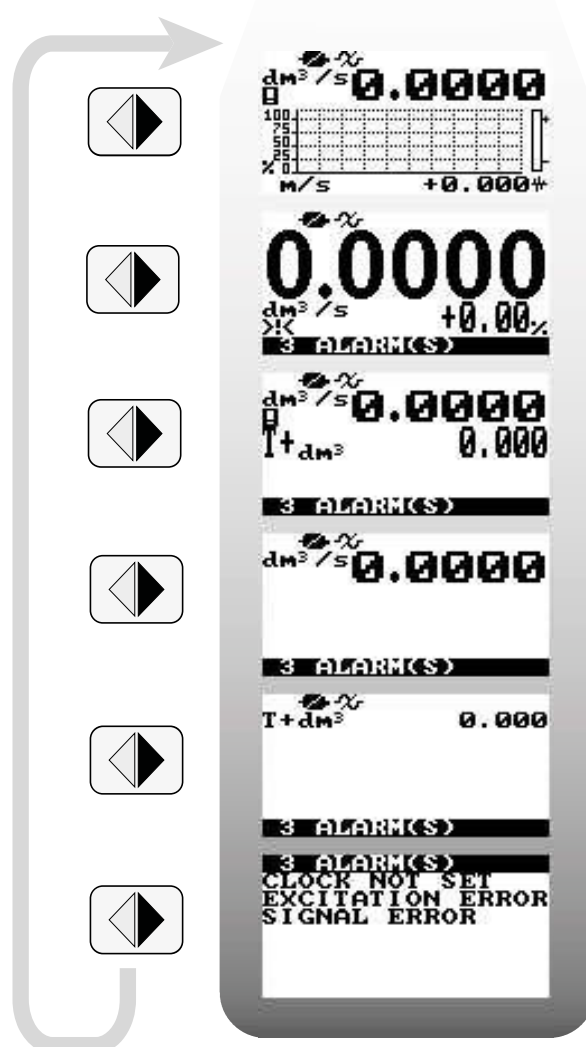
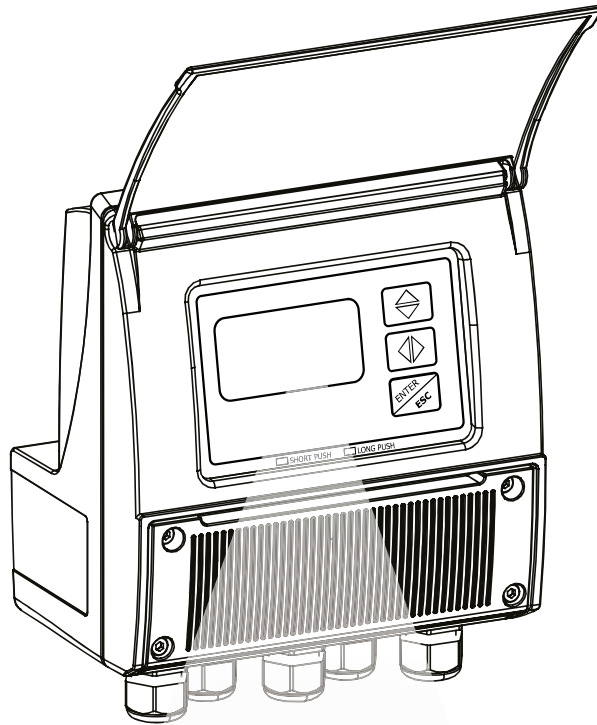


### CARCASĂ PRINCIPALĂ



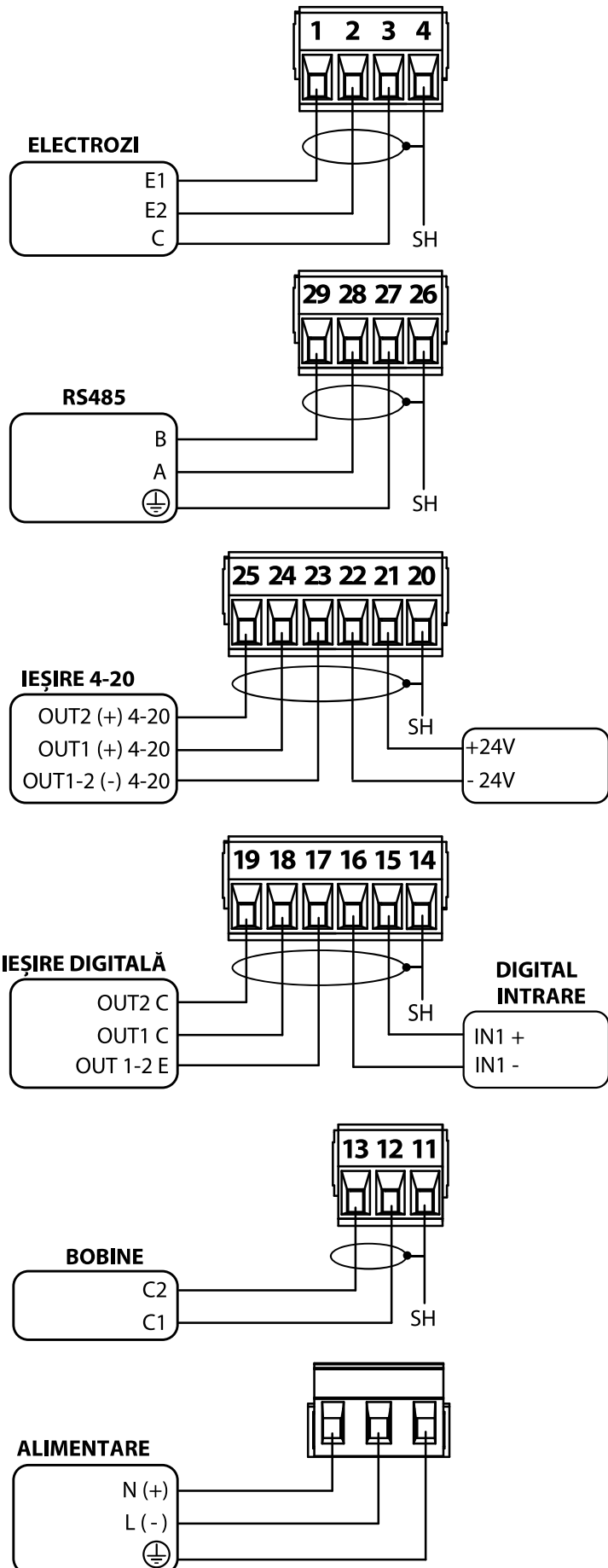
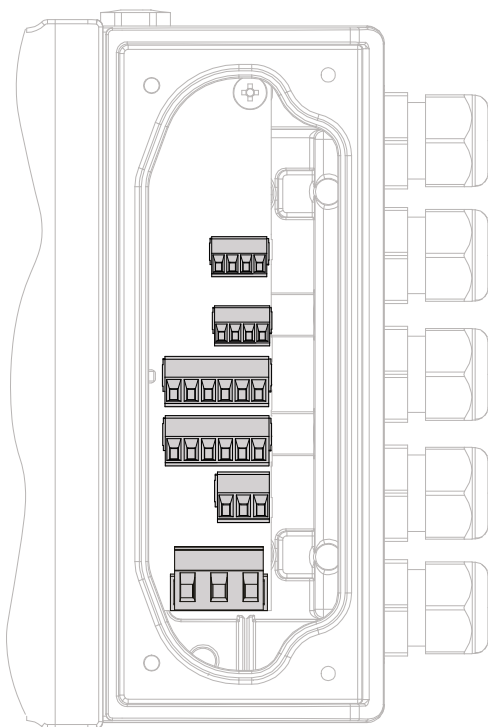
| POS. | DESCRIERE                            |                      |
|------|--------------------------------------|----------------------|
|      | PA6 VERSION                          | ALUMINIUM VERSION    |
| 1    | ȘURUB M4x12                          | SCREW M5x12          |
| 2    | ȘAIBĂ Ø4                             | GROWER Ø5            |
| 3    | COPERTĂ BLOC TERM.                   | TERMINAL BLOCK COVER |
| 4    | ORING-4400                           |                      |
| 5    | ECRAN PROTECȚIE                      |                      |
| 6    | COPERT.CARCASĂ                       | HOUSING COVER        |
| 7    | ORING-4700                           |                      |
| 8    | DISPLAY                              |                      |
| 9    | CADRU FIXARE DISPLAY (MATERIAL PA06) |                      |
| 10   | ȘURUB AUTOFILETANT4x10               | ȘURUB TRILOBO 4x10   |
| 11   | ȘURUB AUTOFILETANT4x10               | ȘURUB TRILOBO 4x10   |
| 12   | PCB MV110                            |                      |
| 13   | PG9 CAP                              |                      |
| 14   | LITHIUM BATTERY                      |                      |
| 15   | ANTICONDESE CAP                      |                      |
| 16   | PA6 CARCASĂ                          | CARCASĂ ALUMINIU     |
| 17   | ȘAIBĂ Ø4                             | GROWER Ø5            |
| 18   | ȘURUB M4x12                          | SCREW M5x12          |
| 19   | ORING-155                            |                      |
| 20   | VERSION CAP (MATERIAL PA06)          |                      |
| 21   | ȘURUB M6x16                          |                      |
| 22   | ȘAIBĂ Ø6                             |                      |
| 23   | PRESETUPĂ PG11                       |                      |

VIZUALIZARE PAGINĂ PRINCIPALĂ



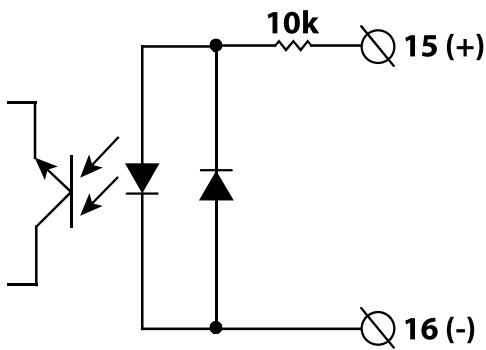
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CONEXIUNE ELECTRICĂ

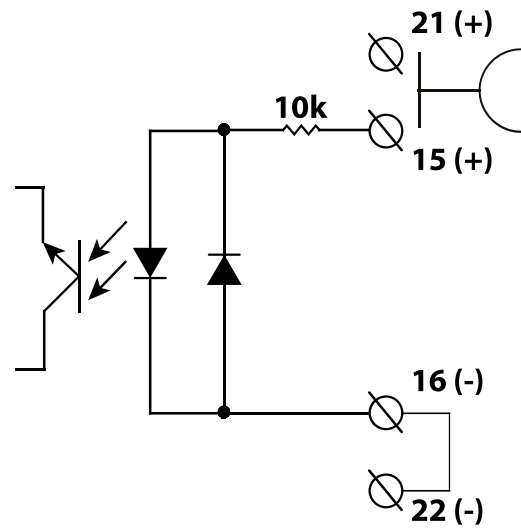


## INTRARE DIGITALĂ

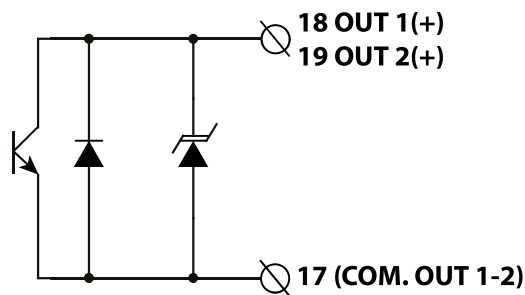
INTRARE ON/OFF (ALIMENTARE EXTERNĂ)



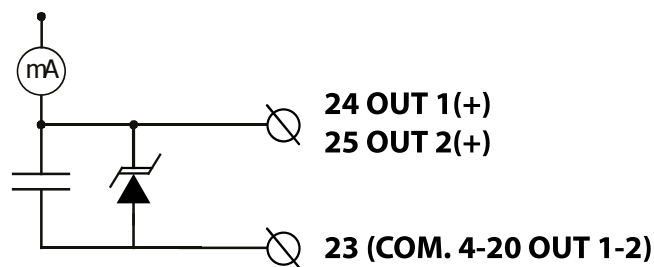
INTRARE ON/OFF (ALIMENTARE INTERNĂ)



## IEȘIRE DIGITALĂ



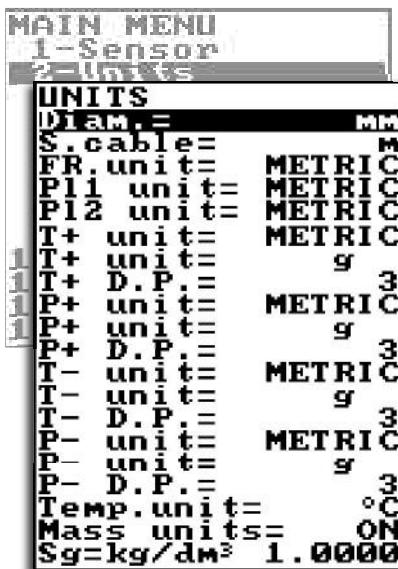
## IEȘIRE ANALOGICĂ



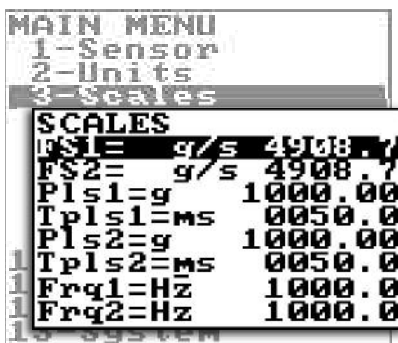
**MENIU FUNCȚII**



- 1.1 Model senzor: Introduceți primele 2 caractere din număr serie senzor
- 1.2 Căptușeală senzor
- 1.3 Tip de senzor: fullbore or insertion
- 1.4 Unitate de măsură senzor: metric sau not metric
- 1.5 Introduceți ND a senzorului (0-2500)
- 1.6 Valoare de calibrare a senzorului de pe etichetă
- 1.7 Coeficient KZ a senzorului
- 1.8 Insertion position
- 1.9 KP dynamic, coefficient for insertion
- 1.10 Sensor coefficient Ki
- 1.11 Sensor coefficient Kp
- 1.12 Sensor coefficient KC
- 1.13 Sensor excitation current
- 1.14 Current regulator proportional band
- 1.15 Current regulator derivation constant
- 1.16 Measure sampling frequency
- 1.17 selectare mod detectare conductă goală
- 1.18 Empty pipe detection threshold
- 1.19 Curățire electrozi
- 1.20 Lungime cablu până la senzor
- 1.21 Întârziere mesaj eroare (n. sample)
- 1.22 Validare verificare automată senzor
- 1.23 Calibrare zero pentru condiții hidraulice



- 2.1 Diametru nominal
- 2.2 Lungime cablu la versiunea separată
- 2.3 Unitate de măsură debit: metric sau not metric
- 2.4 Pulse 1 type measure unit: metric or not metric
- 2.5 Pulse 2 type measure unit: metric or not metric
- 2.6 Unitate de măsură Total direct totalizer: metric sau not metric
- 2.7 Unitate de măsură Total direct totalizer
- 2.8 Poziția punctului zecimal Total direct totalizer
- 2.9 Partial direct totalizer measure unit type: metric or not metric
- 2.10 Partial direct totalizer measure unit
- 2.11 Partial direct totalizer decimal point position
- 2.12 Total reverse totalizer measure unit type: metric or not metric
- 2.13 Total reverse totalizer measure unit
- 2.14 Total reverse totalizer decimal point position
- 2.15 Partial reverse totalizer measure unit type: metric or not metric
- 2.16 Partial reverse totalizer measure unit
- 2.17 Partial reverse totalizer decimal point position
- 2.18 Unitate de măsură temperatură
- 2.19 Selectare/deselectare greutății specifice pe toată scală
- 2.20 Specific gravity coefficient



- 3.1 Debit pe toată scala 1
- 3.2 Full scale flow rate 2
- 3.3 Pulse value on channel 1
- 3.4 Duration of the pulse generated on channel 1
- 3.5 Pulse value on channel 2
- 3.6 Duration of the pulse generated on channel 2
- 3.7 Full scale frequency for channel 1 (0.1Hz-1000.0Hz)
- 3.8 Full scale frequency for channel 2 (0.1Hz-1000.0Hz)

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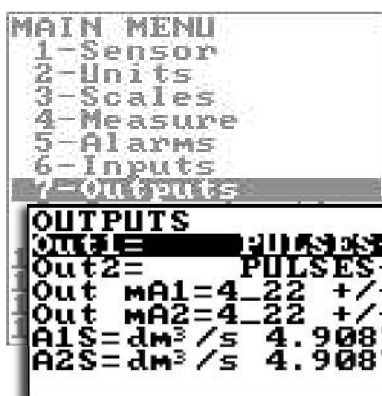
- 4.1 Filtru de măsură
- 4.2 Prag pentru debit mic: 0-25% din toată scala
- 4.3 Verificarea calibrării automate
- 4.4 Schimbare automată a domeniului de măsură



- 5.1 Alarma pentru valoarea maximă scurgere directă
- 5.2 Alarmă pentru valoarea maximă scurgere inversă
- 5.3 Alarmă pentru valoarea minimă scurgere directă
- 5.4 Alarmă pentru valoarea minimă scurgere inversă
- 5.5 Prag de histereză pentru alarmă debit minim și maxim
- 5.6 Valoarea curentului de ieșire în caz de eroare
- 5.7 Frequency output value in case of alarms



- 6.1 Total direct (positive) flow totalizer reset enable
- 6.2 Partial direct (positive) flow totalizer reset enable
- 6.3 Total reverse (negative) flow totalizer reset enable
- 6.4 Partial reverse (negative) flow totalizer reset enable
- 6.5 Totalizer counting lock command
- 6.6 Measure zero lock command
- 6.7 Calibration external command
- 6.8 Range change external command



- 7.1 Output 1 functions
- 7.2 Output 2 functions
- 7.3 Choice of the function and the range of current output n.1
- 7.4 Choice of the function and the range of current output n.2
- 7.5 Full Scale value for analog out1
- 7.6 Full Scale value for analog out2



```

MAIN MENU
1-Sensor
2-Units
3-Scales
4-Measure
5-Alarms
6-Inputs
7-Outputs
8-Communication
COMMUNICATION
HART pr.= 05
Dev. Addr= 001
13-System
    
```

- 8.1 HART packet byte preambles
- 8.2 Device communication address number

```

DISPLAY
Language= I
Contrast= 5
Disp. time=s 020
D. rate=Hz 5
Disp. fn.= 1
Disp. lock= ON
Part. tot.= ON
Neg. tot.= ON
Net tot.= ON
Disp. date= ON
Quick start= ON
9-Display
10-Data logger
11-Functions
12-Diagnostic
13-System
    
```

- 9.1 Choice of the language: E= English, I=italian
- 9.2 Display contrast
- 9.3 Display/keyboard inactivity time
- 9.4 Display updating frequency: 1-2-5-10 Hz
- 9.5 Display function number
- 9.6 Display function selection lock
- 9.7 Partial totalizer enable
- 9.8 Negative totalizer enable
- 9.9 Net totalizer enable
- 9.10 Time and date display enable
- 9.11 Quick start menu visualization

```

DATA LOGGER
D. logger en.= ON
Meas. units= ON
Field separ.= ;
Interv. = 01:01:00
Log T+= ON
Log P+= ON
Log T-= ON
Log P-= ON
Log TN= ON
Log PN= ON
Log Q(UM)= ON
Log Q(%)= ON
Log AL. EU= ON
Log STR= ON
Log BTS= ON
Log IBU= ON
Log EDC= ON
Log EAC= ON
Log EIZ= ON
Log SCU= ON
10-Data logger
11-Functions
12-Diagnostic
13-System
    
```

- 10.1 Permite Data logger
- 10.2 Measure unit recording enable
- 10.3 Field separator character
- 10.4 Sampling interval
- 10.5 Enable logging of total direct totalizer
- 10.6 Enable logging of partial direct totalizer
- 10.7 Enable logging of total reverse totalizer
- 10.8 Enable logging of partial reverse totalizer
- 10.9 Enable logging of total net totalizer
- 10.10 Enable logging of partial net totalizer
- 10.11 Enable logging of flow rate in measure unit
- 10.12 Enable logging of flow rate in percentage
- 10.13 Enable logging of alarm events
- 10.14 Enable logging of sensor test results
- 10.15 Enable logging of board temperature
- 10.16 Enable logging of internal board voltage
- 10.17 Enable logging of electrodes DC voltage
- 10.18 Enable logging of electrodes AC voltage
- 10.19 Enable logging of electrodes impedance
- 10.20 Enable logging of sensor coils value

```

FUNCTIONS
T+ reset
P+ reset
T- reset
P- reset
Load Sens.f.def
Load Conv.f.def
Save Sens.f.def
Save Conv.f.def
Calibration
11-Functions
12-Diagnostic
13-System
    
```

- 11.1 Reset total direct
- 11.2 Reset partial direct
- 11.3 Reset total revers
- 11.4 Reset partial reverse
- 11.5 Setări fabrica - senzor
- 11.6 Setări fabrica - converter
- 11.7 Salvare Setări fabrica -
- 11.8 Save converter factory default values
- 11.9 Executare calibrare internă

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```

DIAGNOSTIC
Self test
Sens.verify
Flow sim.= ON
Display measures
Disp.comm.vars
Display graphs
Gen.sens.set
SD card info
Firmware info
S/N= 999001
WT=0002:21:00:22
12-Diagnostic
13-System

```

12.1 Converter auto-test  
12.2 Sensor verify  
12.3 Flow rate simulation enabling  
12.4 Display internal measure value  
12.5 Display comm. diagnostic values  
12.6 display measure and graphs  
12.7 Generic sensor parameters set  
12.8 Sd card status informations  
12.9 Firmware version/revision  
12.10 Board serial number  
12.11 Total working time

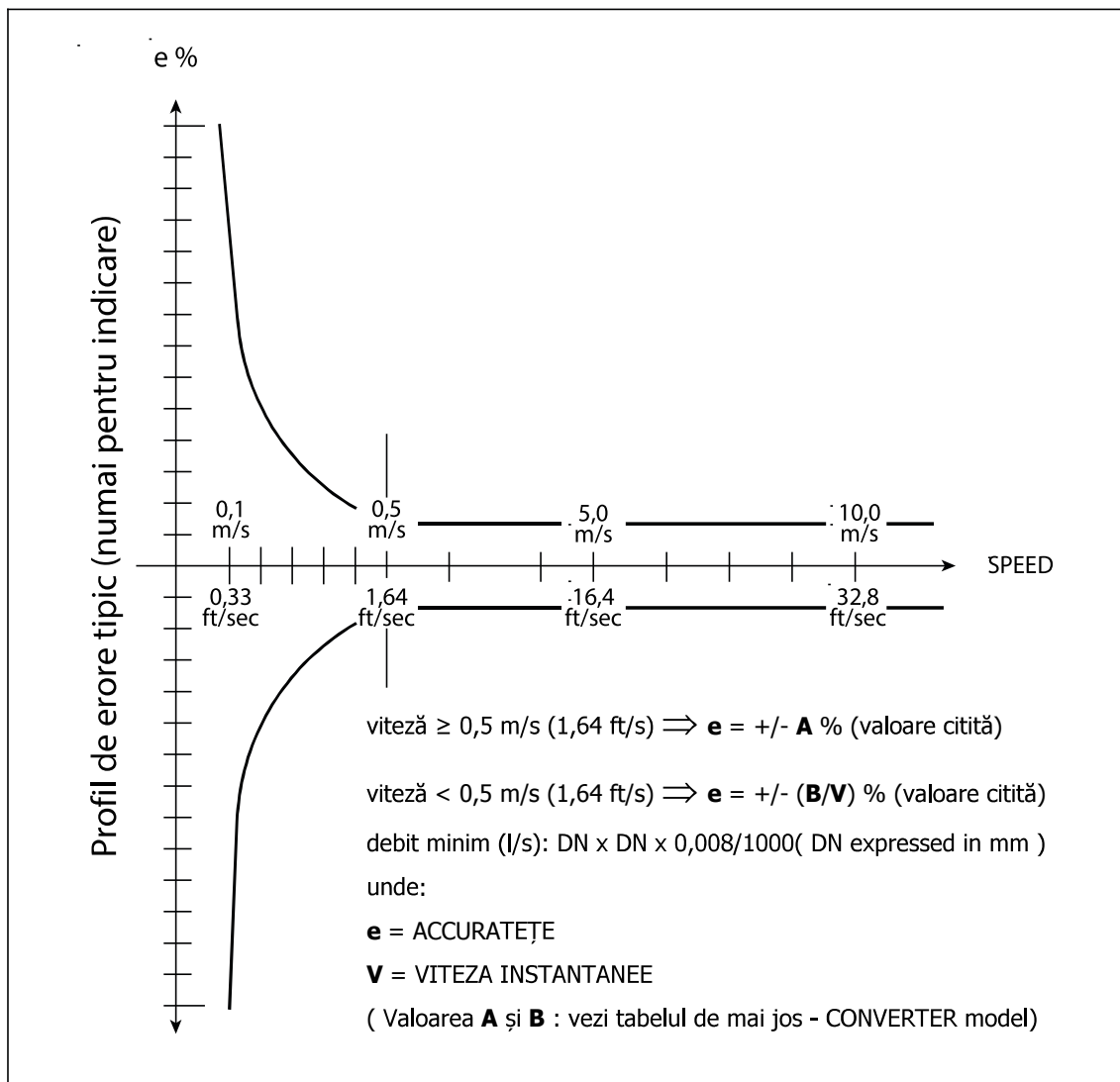
```

SYSTEM
Data saving= ON
Time zone=h+01.00
2016/04/04-16:07
L1 code=*****
L2 code=*****
L3 code=*****
L4 code=*****
L5 code=*****
L6 code=*****
Restr.access= ON
010.011.012.013
010.011.012.014
255.255.255.000
KT= 0.96469
KS= 1.00000
KR= 1.00000
DAC1 4mA= 02460
DAC1 20mA= 11050
DAC2 4mA= 02460
DAC2 20mA= 11050
Stand-by
FW update
13-System

```

13.1 Salvare zilnică  
13.2 Localizare zonă de timp  
13.3 Data și ora  
13.4 Access level 1 code  
13.5 Access level 2 code  
13.6 Access level 3 code  
13.7 Access level 4 code  
13.8 Access level 5 code  
13.9 Access level 6 code  
13.10 Restricted access level  
13.11 Adresă IP  
13.12 Adresă Client IP  
13.13 Network mask  
13.14 Calibration coefficient KT  
13.15 Calibration coefficient KS  
13.16 Calibration coefficient KR  
13.17 DAC1 out 4mA calibration point  
13.18 DAC1 out 20mA calibration point  
13.19 DAC2 out 4mA calibration point  
13.20 DAC2 out 20mA calibration point  
13.21 Stand-by  
13.22 firmware update

# ACCURATEȚE



## Senzor cu secțiune completă

| MS501/MS1000/MS2410/MS2500 |        |         | MS 600 |        |         | MS5000 |        |         |
|----------------------------|--------|---------|--------|--------|---------|--------|--------|---------|
| A                          | B(m/s) | B(ft/s) | A      | B(m/s) | B(ft/s) | A      | B(m/s) | B(ft/s) |
| 0,8*                       | 0,4**  | 0,31**  | 0,8*   | 0,2**  | 0,66**  | 2      | 1      | 3,28    |

\* = 0,4 ( special )

\*\*= 0,2(m/s) ; 0,66(ft/s) - special

## Senzor cu inserție vezi datele senzorului

### Condiții utilizate la testare:

- Debit constant în timpul testului
- Presiune: >30 Kpa
- Condiții de scurgere : profil plin
- Zero stabilitate +/- 0,005 %

## ■ CUM COMAND

| COD EXAMPLE                                  | Display |   |
|--|---------|---|
| A  | A       | Blindată (fără display și taste de programare)  |
|  | B       | Graphic LCD WSTN - B/W - display iluminat, point matrix 128 x 64, 8 line/16 characters and 3 programming keys   |
| <b>Material carcasă / Clasă de protecție</b> |         |   |
| 0  | 0       | Nylon PA6 cu fibră de sticlă, protection rate IP 67   |
|  | 1       | Aluminu vopsit turnat sub presiune, protection rate IP67  |
|  | 2       | Aluminu vopsit turnat sub presiune, protection rate IP68 maxim 1,5 CA , Compact Version, n° 1 IP 68 MIL connector pt.alimentare   |
|  | 3       | Aluminu vopsit turnat sub presiune, protection rate IP68 1,5 meters under water, Compact Version, Complete of n° 1 of 10 poles IP68 MIL connector (outputs connections to be specified) and n° 1 IP 68 MIL connector for power supply   |
|  | 4       | Aluminu vopsit turnat sub presiune, protection rate IP68 1,5 meters under water, Separate Version, Complete of n° 1 IP 68 MIL connectors for cable from the sensor and n° 1 IP 68 MIL connector for power supply  |
|  | 5       | Aluminu vopsit turnat sub presiune, protection rate IP68 1,5 meters under water, Separate Version, Complete of n° 1 IP 68 MIL connectors for cable from the sensor, n° 1 of 10 poles IP68 MIL connector (outputs connections to be specified) and n° 1 IP 68 MIL connector for power supply |
| <b>Version</b>                               |         |   |
| A  | A       | Compact version cu sensor MS.... (liquid maximum temperature 100 °C)  |
|  | B       | Separate version pt.motaj pe perete, complete with mounting accessories ( CABLE C014 )  |
|  | C       | Compact version cu display vizibil de deasupra  |
| <b>Alimentare</b>                            |         |   |
| 1  | 1       | Alimentare : 100 ... 240 VAC 44/66 Hz   |
|  | 2       | Alimentare : 24 ... 36 VAC/VDC 0...44/66 Hz   |
|  | 3       | Alimentare : 12...48 VDC  |
|  | 4       | P.S.: 100 ... 240 VAC 44/66 Hz+1 Baterie reincărcabilă(the use of battery supports only the measure; all the outputs are set to OFF)  |
|  | 5       | P.S.: 24 ... 36 VAC/VDC 0...44/66 Hz+1 Baterie reincărcabilă (the use of battery supports only the measure; all the outputs are set to OFF)   |
|  | 6       | P.S. : 12...48 VDC + 1 Baterie reincărcabilă ( the use of battery supports only the measure; all the outputs are set to OFF)  |
| <b>Ieșire analogică</b>                      |         |   |
| A  | A       | Fără  |
|  | B       | n° 1 ieșire 0/4...20/22 mA (Hart optional)  |
|  | C       | n° 2 ieșiri 0/4...20/22 mA (Hart optional over Out.1)   |
| <b>Intrare / ieșire digitală</b>             |         |   |
| 0  | 0       | Numai intrare   |
|  | 1       | With n° 1 ieșire/n°1 intrare  |
|  | 2       | With n° 2 ieșiri/n°1 intrare  |
| <b>Comunicare</b>                            |         |   |
| A  | A       | Fără  |
|  | B       | RS485 port  |
|  | C       | Hart ( 4/20 mA/ Analog OUT n° 1 is required)  |
|  | D       | Wi-Fi (for programming)   |
|  | E       | Alte  |
| <b>Protocol</b>                              |         |   |
| 0  | 0       | Fără  |
|  | 1       | Modbus (RS485)  |
| <b>Precizie</b>                              |         |   |
| A  | A       | Standard 0,8 %  |
|  | B       | Special 0,4 %   |
|  | C       | Special (se definește)  |
| <b>Data Logger</b>                           |         |   |

|                         |          |   |
|-------------------------|----------|---|
| <b>0</b>                | <b>0</b> | Fără  |
|                         | <b>1</b> | MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock)   |
|                         | <b>2</b> | MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV (Built In Verificator)                                  |
|                         | <b>3</b> | MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + Meter Data (Real Time Converter & Sensor Data on SD Memory) |
|                         | <b>4</b> | MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV + Meter Data  |
| <b>Opțiuni speciale</b> |          |   |
| <b>A</b>                | <b>A</b> | Fără  |
|                         | <b>B</b> | Cu carcasă anticondens  |
|                         | <b>C</b> | n° 4 CABLE GLAND 1/2" NPT - IP68 - Nickel plated brass CODE 1.609.1200.70 ( CABLE 6 - 12 mm )                           |



**MV110-A0A1A0A0A0A** (Complete code example for order)

## ISOIL INDUSTRIA S.p.A.

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|--|------------------------|
| Via Fratelli Gracchi, 27<br>20092 Cinisello Balsamo (MI)<br>Tel +39 02 66027.1<br>Fax +39 02 6123202<br>vendite@isoil.it | isomagservice@isoil.it |

If you want to find the complete list of our distributors access at the following link:  
[http://www.isoil.com/u\\_vendita.asp](http://www.isoil.com/u_vendita.asp)



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# CERTIFICATE



This is to certify that



## WILO SE

Wilopark 1  
44263 Dortmund  
Germany

with the organizational units/sites as listed in the annex

has implemented and maintains an  
**Occupational Health and Safety Management System.**

Scope:

Development, manufacture, sales and service of pumps and pump systems for Building Services, Water Management and Industry.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 45001 : 2018

|                              |              |
|------------------------------|--------------|
| Certificate registration no. | 060313 OHS18 |
| Date of revision             | 2022-05-02   |
| Valid from                   | 2020-11-16   |
| Valid until                  | 2023-11-15   |
| Date of certification        | 2022-05-02   |



**DQS GmbH**

Markus Bleher  
Managing Director



**Annex to certificate  
Registration No. 060313 OHS18**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**522450  
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Qinhuangdao Economic & Technological  
Development Zone  
066004 Qinhuangdao, Hebei Province  
China**

Manufacturing, of Pumps for Building, Industry  
and Agriculture

**522452  
WILO SE Dortmund, Felicitasstraße  
Felicitasstraße 5  
44263 Dortmund  
Germany**

Manufacture and service of pumps and pump  
systems for Building Services, Water  
Management and Industry

**514915  
WILO Pompa Sistemleri A.Ş.  
Orhanlı Mah.  
Fettah Başaran Cad. No 91  
Tuzla  
34956 Istanbul  
Turkey**

Sales, Service of Pumps & Pump Systems  
and Development, Assembly of Pump  
Systems for Building Services, Water  
Management and Industry

**522448  
WILO France SAS  
ZA Autoroutière 1005 bd de la  
Communication  
53950 Louverné  
France**

Logistics, Sales and Customer Services  
related to pumps and pump systems for  
Building Services, Water Management and  
Industry

**521116  
WILO Pumps Limited  
46 Mieumsandan 1-ro  
Gangseo-gu  
Busan  
46730  
Republic of Korea**

Design, development, manufacture, sales and  
service of pumps and pump systems.





**Annex to certificate  
Registration No. 060313 OHS18**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**521117  
WILO ELEC Co., LTD.  
No.285 Qinhuang West Street,  
Qinhuangdao Economic & Technological  
Development Zone  
066004 Qinhuangdao, Hebei Province  
China**

Research, design and production of AC  
motors for pumps

**521118  
WILO Mather and Platt Pumps Private  
Limited  
S. No. 162,  
Mumbai - Pune Road,  
Chinchwad  
Pune  
411 019  
India**

Design, development and manufacture of  
centrifugal pumps/pump sets and valves

**521119  
WILO Mather and Platt Pumps Private  
Limited  
E 25, MIDC,  
Gokul Shirgaon Industrial Area  
Kolhapur  
416234  
India**

Design, development and manufacture of  
centrifugal pumps/pump sets and valves

**521120  
WILO Mather and Platt Pumps Private  
Limited  
Sales  
Sales office,  
Ground Floor, Elpro Vision Exchange,  
Elpro Compound, CTS No.4270,  
Chinchwad  
Pune  
411 033  
India**

Design, development and manufacture of  
centrifugal pumps/pump sets and valves



**Annex to certificate  
Registration No. 060313 OHS18**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**520706  
WILO France SAS  
80 boulevard de l'Industrie  
CS 90527  
53005 Laval Cedex  
France**

Development and Manufacture of pumps and pumps systems Logistics, Sales and Customer services related to pumps and pumps systems for Building services, Water management and Industry

**520708  
WILO China Ltd.  
103, Floor 1, Building 1, No. 10 Zhaofeng  
2nd Street, Shunyi District  
101300 Beijing  
China**

Design, development, manufacture, sales and after sales service of pumps, pump systems and pump systems piece parts including control box, complete set water supply and drainage equipment, water treatment equipment

**283115  
WILO SE  
Werk Hof  
Heimgartenstraße 1-3  
95030 Hof  
Germany**

Development, Manufacture, Sales and Service of:  
- Pumps and electrical motors for water supply, lowering of water level and booster plants  
- Pumps and electrical motors for sewage disposal and treatment  
- Pumps and electrical motors for drainage of pits, sumps, building sites and so on  
- Submersible mixers and electrical motors for flow generation or for mixing of liquids for communal or industrial applications  
- Technical equipment for sewage and sludge treatment plants, waterworks and pumping stations



# CERTIFICATE



This is to certify that



## WILO SE

Wilopark 1  
44263 Dortmund  
Germany

with the organizational units/sites as listed in the annex

has implemented and maintains an **Energy Management System**.

Scope:

Development, manufacture, sales and service of pumps and pump systems for Building Services, Water Management and Industry.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 50001 : 2018

|                              |               |
|------------------------------|---------------|
| Certificate registration no. | 060313 EMSt18 |
| Valid from                   | 2022-05-02    |
| Valid until                  | 2025-04-14    |
| Date of certification        | 2022-05-02    |



**DQS GmbH**

Markus Bleher  
Managing Director



**Annex to certificate  
Registration No. 060313 EMSt18**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**522452  
WILO SE Dortmund, Felicitasstraße  
Felicitasstraße 5  
44263 Dortmund  
Germany**

Manufacture and service of pumps and pump systems for Building Services, Water Management and Industry.

**283115  
WILO SE  
Werk Hof  
Heimgartenstraße 1-3  
95030 Hof  
Germany**

Development, Manufacture, Sales and Service of:  
- Pumps and electrical motors for water supply, lowering of water level and booster plants  
- Pumps and electrical motors for sewage disposal and treatment  
- Pumps and electrical motors for drainage of pits, sumps, building sites and so on  
- Submersible mixers and electrical motors for flow generation or for mixing of liquids for communal or industrial applications  
- Technical equipment for sewage and sludge treatment plants, waterworks and pumping stations

**546220  
WILO SE Dortmund, Breisenbachstraße  
Werk Oestrich  
Breisenbachstraße 100  
44357 Dortmund  
Germany**

Manufacture and service of pumps and pump systems for Building Services, Water Management and Industry



# CERTIFICATE



This is to certify that



## WILO SE

Wilopark 1  
44263 Dortmund  
Germany

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope:

Development, manufacture, sales and service of pumps and pump systems for Building Services, Water Management and Industry.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 9001 : 2015

Certificate registration no. 060313 QM15  
Valid from 2021-04-30  
Valid until 2024-04-29  
Date of certification 2021-04-17



**DQS GmbH**

Markus Bleher  
Managing Director



**Annex to certificate  
Registration No. 060313 QM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**31601951  
Wilo Middle East Fze  
Plot No. S30120A  
Jebel Ali Free zone-South  
PO Box 262720 Dubai  
United Arab Emirates**

Pumps Assembling and Pumps, Engines,  
Valves and Spare parts Trading

**501447  
WILO Pumpen Österreich GmbH  
WILO Straße 1  
2351 Wiener Neudorf  
Austria**

Sales and service of pumps and pump  
systems for Building Services, Water  
Management and Industry.

**516442  
WILO nv  
Rusatiralaan 2  
1083 Ganshoren  
Belgium**

Sales and service of pumps and pump  
systems for Building Services, Water  
Management and Industry.

**522450  
WILO China Ltd.  
Qinhuangdao Branch  
No.285 Qinhuang West Street,  
Qinhuangdao Economic & Technological  
Development Zone  
066004 Qinhuangdao, Hebei Province  
China**

Manufacturing, of Pumps for Building, Industry  
and Agriculture.

**521117  
WILO ELEC Co., LTD.  
No.285 Qinhuang West Street,  
Qinhuangdao Economic & Technological  
Development Zone  
066004 Qinhuangdao, Hebei Province  
China**

Design, development and manufacture of AC  
motors for pumps



**Annex to certificate  
Registration No. 060313 QM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**520708**  
**WILO China Ltd.**  
**103, Floor 1, Building 1, No. 10 Zhaofeng**  
**2nd Street, Shunyi District**  
**101300 Beijing**  
**China**

Design, development, manufacture, sales and after sales service of pumps, pump systems and pump systems piece parts including control box. Design, development, manufacture, sales and after sales service of complete set water supply and drainage equipment.

**545714**  
**WILO IndustrieSysteme GmbH**  
**Chemnitzer Str. 81**  
**09224 Chemnitz**  
**Germany**

Development, manufacture, sales and service of pump systems and filter systems for Building Services, Water Management and Industry.

**070047**  
**WILO SE**  
**Anderslebener Straße 161**  
**39387 Oschersleben**  
**Germany**

Development and manufacture of pumps and pump systems for Building Services, Water Management and Industry.

**522452**  
**WILO SE Dortmund, Felicitasstraße**  
**Felicitasstraße 5**  
**44263 Dortmund**  
**Germany**

Manufacture and service of pumps and pump systems for Building Services, Water Management and Industry.



**Annex to certificate  
Registration No. 060313 QM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**283115  
WILO SE  
Heimgartenstraße 1-3  
95030 Hof  
Germany**

Development, Manufacture, Sales and Service of:  
- Pumps and electrical motors for water supply, lowering of water level and booster plants  
- Pumps and electrical motors for sewage disposal and treatment  
- Pumps and electrical motors for drainage of pits, sumps, building sites and so on  
- Submersible mixers and electrical motors for flow generation or for mixing of liquids for communal or industrial applications  
- Technical equipment for sewage and sludge treatment plants, waterworks and pumping stations

**521114  
WILO INTEC S.A.S.  
50, avenue Eugene Casella  
18700 Aubigny-sur-Nère  
France**

Design, manufacturing and sales of circulators and hydraulic units for Heating Ventilation Air Conditioning industry.

**520706  
WILO France SAS  
80 boulevard de l'Industrie  
CS 90527  
53005 Laval Cedex  
France**

Development and Manufacture of pumps and pumps systems Logistics, Sales and Customer services related to pumps and pumps systems for Building services, Water management and Industry.

**522448  
WILO France SAS  
ZA Autoroutière 1005 bd de la  
Communication  
53950 Louverné  
France**

Logistics, Sales and Customer Services related to pumps and pump systems for Building Services, Water Management and Industry.





**Annex to certificate  
Registration No. 060313 QM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**520707  
WILO France SAS  
53, boulevard de la République Espace  
Lumière, Bât. 6  
78400 Chatou  
France**

Sales and Customer Services related to pumps and pump systems for Building Services, Water Management and Industry.

**525082  
WILO Magyarország Kft.  
Torbágy u. 14  
2045 Törökbálint  
Hungary**

Sales and service of pumps and pump systems for Building Services, Water Management and Industry.

**521118  
WILO Mather and Platt Pumps Private  
Limited  
S. No. 162,  
Mumbai - Pune Road,  
Chinchwad  
Pune 411 019  
India**

Design, development, manufacture, installation and servicing of centrifugal pumps/pump sets and valves and contracts of pumping system on turnkey basis.

**521120  
WILO Mather and Platt Pumps Private  
Limited  
Sales office,  
Ground Floor, Elpro Vision Exchange,  
Elpro Compound, CTS No.4270,  
Chinchwad  
Pune 411 033  
India**

Design, development, manufacture, installation and servicing of centrifugal pumps/pump sets and valves and contracts of pumping system on turnkey basis.

**521119  
WILO Mather and Platt Pumps Private  
Limited  
E 25, MIDC,  
Gokul Shirgaon Industrial Area  
Kolhapur 416234  
India**

Design, development, manufacture, installation and servicing of centrifugal pumps/pump sets and valves and contracts of pumping system on turnkey basis.

This annex (edition: 2021-04-17) is only valid in connection with the above-mentioned certificate.



**Annex to certificate  
Registration No. 060313 QM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**521113**  
**STEMMA S.R.L.**  
via postale VECCHIA, 20  
36070 Trissino.VI  
Italy

Manufacture of stainless steel components for pumps and Technical products.

**521116**  
**WILO Pumps Limited**  
46 Mieumsandan 1-ro  
Gangseo-gu  
Busan 46730  
Republic of Korea

Design, development, manufacture, sales and service of pumps and pump systems.

**522451**  
**Wilos Polska Sp. z o.o.**  
Jedności 5  
05-506 Lesznowola  
Poland

Designing, manufacturing, selling, servicing pump sets, pump stations and pump accessories for heating, ventilation, air conditioning, water supply, sanitary engineering and fire protection services.

**531788**  
**WILO RUS LLC**  
Industrial site No.1, house 1  
Novoe Podvyaznovo village  
Noginsk township  
Noginsk district  
Russische Föderation  
142434  
Russian Federation

Development, manufacture, sales and service of pumps and pump systems for Building Services, Water Management and Industry.

**527816**  
**WILO INTEC SAS, Organizacna zlozka**  
Slovakia  
Trencianske Stankovce 3083  
91311  
Slovakia

Manufacturing of circulators for Heating Ventilation Air Conditioning industry.



**Annex to certificate**  
**Registration No. 060313 QM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**518368**  
**WILO Nordic AB**  
**Isbjörnsvägen 6**  
**35245 Växjö**  
**Sweden**

Sales and service of pumps and pump systems for Building Services, Water Management and Industry.

**514915**  
**WILO Pompa Sistemleri A.Ş.**  
**Orhanlı Mah.**  
**Fettah Başaran Cad. No 91**  
**Tuzla**  
**34956 Istanbul**  
**Turkey**

Sales, Service of Pumps & Pump Systems and Development, Assembly of Pump Systems for Building Services, Water Management and Industry.



# CERTIFICATE



This is to certify that



## WILO SE

Wilopark 1  
44263 Dortmund  
Germany

with the organizational units/sites as listed in the annex

has implemented and maintains an **Environmental Management System**.

Scope:

Development, manufacture, sales and service of pumps and pump systems for Building Services, Water Management and Industry.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 14001 : 2015

Certificate registration no. 060313 UM15  
Valid from 2021-04-30  
Valid until 2024-04-29  
Date of certification 2021-04-17



**DQS GmbH**

Markus Bleher  
Managing Director



**Annex to certificate  
Registration No. 060313 UM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**522450  
WILO China Ltd.  
Qinhuangdao Branch  
No.285 Qinhuang West Street,  
Qinhuangdao Economic & Technological  
Development Zone  
066004 Qinhuangdao, Hebei Province  
China**

Manufacturing, of Pumps for Building, Industry  
and Agriculture.

**521117  
WILO ELEC Co., LTD.  
No.285 Qinhuang West Street,  
Qinhuangdao Economic & Technological  
Development Zone  
066004 Qinhuangdao, Hebei Province  
China**

Design, development and manufacture of AC  
motors for pumps.

**520708  
WILO China Ltd.  
103, Floor 1, Building 1, No. 10 Zhaofeng  
2nd Street, Shunyi District  
101300 Beijing  
China**

Design, development, manufacture, sales and  
after sales service of pumps, pump systems  
and pump systems piece parts including  
control box. Design, development,  
manufacture, sales and after sales service of  
complete set water supply and drainage  
equipment.

**070047  
WILO SE  
Anderslebener Straße 161  
39387 Oschersleben  
Germany**

Development and manufacture of pumps and  
pump systems for Building Services, Water  
Management and Industry.

**522452  
WILO SE Dortmund, Felicitasstraße  
Felicitasstraße 5  
44263 Dortmund  
Germany**

Manufacture and service of pumps and pump  
systems for Building Services, Water  
Management and Industry.



**Annex to certificate  
Registration No. 060313 UM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**283115  
WILO SE  
Heimgartenstraße 1-3  
95030 Hof  
Germany**

Development, Manufacture, Sales and Service of:  
- Pumps and electrical motors for water supply, lowering of water level and booster plants  
- Pumps and electrical motors for sewage disposal and treatment  
- Pumps and electrical motors for drainage of pits, sumps, building sites and so on  
- Submersible mixers and electrical motors for flow generation or for mixing of liquids for communal or industrial applications  
- Technical equipment for sewage and sludge treatment plants, waterworks and pumping stations

**521114  
WILO INTEC S.A.S.  
50, avenue Eugene Casella  
18700 Aubigny-sur-Nère  
France**

Design, manufacturing and sales of circulators and hydraulic units for Heating Ventilation Air Conditioning industry.

**520706  
WILO France SAS  
80 boulevard de l'Industrie  
CS 90527  
53005 Laval Cedex  
France**

Development and Manufacture of pumps and pumps systems Logistics, Sales and Customer services related to pumps and pumps systems for Building services, Water management and Industry.

**522448  
WILO France SAS  
ZA Autoroutière 1005 bd de la  
Communication  
53950 Louverné  
France**

Logistics, Sales and Customer Services related to pumps and pump systems for Building Services, Water Management and Industry.



**Annex to certificate  
Registration No. 060313 UM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**Scope**

**520707  
WILO France SAS  
53, boulevard de la République Espace  
Lumière, Bât. 6  
78400 Chatou  
France**

Sales and Customer Services related to pumps and pump systems for Building Services, Water Management and Industry.

**521118  
WILO Mather and Platt Pumps Private  
Limited  
S. No. 162,  
Mumbai - Pune Road,  
Chinchwad  
Pune 411 019  
India**

Design, development and manufacture of centrifugal pumps/pump sets and valves.

**521120  
WILO Mather and Platt Pumps Private  
Limited  
Sales office,  
Ground Floor, Elpro Vision Exchange,  
Elpro Compound, CTS No.4270,  
Chinchwad  
Pune 411 033  
India**

Design, development and manufacture of centrifugal pumps/pump sets and valves.

**521119  
WILO Mather and Platt Pumps Private  
Limited  
E 25, MIDC,  
Gokul Shirgaon Industrial Area  
Kolhapur 416234  
India**

Design, development and manufacture of centrifugal pumps/pump sets and valves.

**521116  
WILO Pumps Limited  
46 Mieumsandan 1-ro  
Gangseo-gu  
Busan 46730  
Republic of Korea**

Design, development, manufacture, sales and service of pumps and pump systems.

This annex (edition: 2021-04-17) is only valid in connection with the above-mentioned certificate.



**Annex to certificate**  
**Registration No. 060313 UM15**

**WILO SE**

Wilopark 1  
44263 Dortmund  
Germany

**Location**

**514915**  
**WILO Pompa Sistemleri A.Ş.**  
**Orhanlı Mah.**  
**Fettah Başaran Cad. No 91**  
**Tuzla**  
**34956 Istanbul**  
**Turkey**

**Scope**

Sales, Service of Pumps & Pump Systems and Development, Assembly of Pump Systems for Building Services, Water Management and Industry.