

# Solenoid diaphragm pumps

Series 203



**sera**  
Seybert & Rahier

## **sera** - Solenoid diaphragm pumps

are electronically controlled dosing pumps which can be used for many applications. They are designed for industrial use and guarantee highest operational reliability.



## Application

Designed for the exact dosing of liquid media in all industrial fields. The dosing control is performed process-bound for the most part.

## Advantages

- Simple operation
- Microprocessor controlled
- Controllable via standardized analogue or digital signals
- Monitoring
- Low noise level
- Leakage-free
- Highest dosing accuracy
- Weight-optimized plastic housing

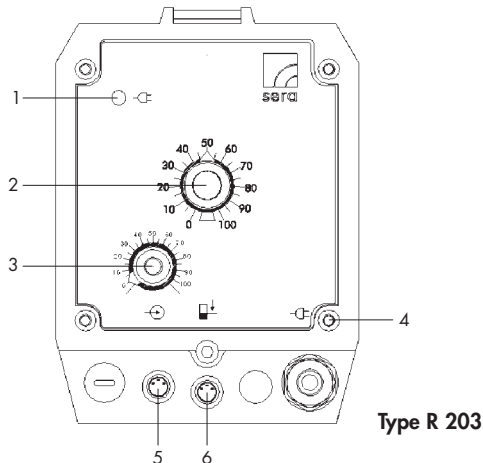
Ask us to submit  
a quotation to meet your  
specific requirements!

# Solenoid diaphragm pumps

Series 203

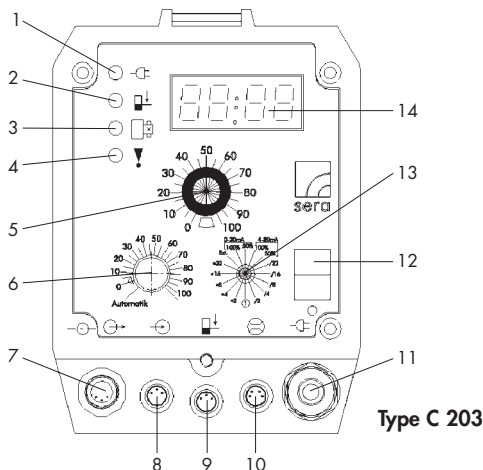


**sera**  
Seybert & Rahier



## Controllable solenoid diaphragm pump R 203

1. Equipment-on indicator and stroke monitor
2. Stroke length adjustment
3. Stroke frequency adjustment
4. 2 meters cable with Euro-plug
5. Pulse input
6. Level input with limit stop contact



## Controllable solenoid diaphragm pump C 203

1. Equipment-on indicator and stroke monitor
2. Indicator "Empty", series and limit stop contact
3. Indicator for diaphragm rupture monitoring
4. Collective fault indicator
5. Stroke length adjustment
6. Manual/automatic switch, stroke frequency adjustment
7. Potential free output (collective fault)
8. Analogue input 0/4-20 mA and pulse input
9. Input for series and limit stop contact
10. Input for flow monitoring
11. 2 meters cable with Euro-plug
12. Mains switch
13. Mode selection switch
14. LCD-display

### Technical details:

- Pump protection type: IP 55
- Noise level  
(Noise level measurement  
DIN 45635-01-KL3): 58 +/- 5 dB (A)
- Weight: 5 kg
- Permitted ambient temperature: +2° C to +40° C
- Permitted storage temperature: +5° C to +30° C
- Permitted humidity: approx. 90 %

### Electrical details:

- Operating voltage: 230 V  
+ 10 %, - 15 %  
50/60 Hz
- Middle power draw  
with 150 strokes/min: 30 W
- Current consumption during  
stroke (230 V): 1,5 A
- Insulation class: F
- Contact load of the potential-free inputs  
(Pulse and "signal empty" input): 5 V, 0,5 A
- Minimum contact signal time: 5 ms

### Electrical details C 203:

- Analogue input resistance: 200 Ω
- Contact load  
for common fault output: 250 V, 1 A

# Solenoid diaphragm pumps

Series 203



**sera**

Seybert & Rahier

Pump type	Nominal capacity adjustable by changing stroke length or stroke frequency		Maximum permissible pressure at outlet of pump	Maximum suction height	Inlet- / Outlet nominal size	Nominal stroke frequency	Maximum stroke length
	$Q_N$ [l/h]	$Q_{Stroke}$ [ml/Stroke]	$p_2$ max. [bar]	[mWC]	DN	$n_N$ [1/min]	$h_{100}$ [mm]
R 203 – 1,2e	0 – 1.2	0 – 0.13	10	3	5	150	1.5
R 203 – 2,4e	0 – 2.4	0 – 0.26	10	3	5	150	1.5
R 203 – 6,0e	0 – 6.0	0 – 0.66	6	3	5	150	1.5
R 203 – 7,0e	0 – 7.0	0 – 0.77	10	3	5	150	1.5
R 203 – 10e	0 – 10.0	0 – 1.1	6	3	5	150	1.5
R 203 – 14e	0 – 14.0	0 – 1.5	3	3	5	150	1.5
R 203 – 25e	0 – 25.0	0 – 2.7	3	3	8	150	1.5
R 203 – 30e	0 – 30.0	0 – 3.3	2,5	3	8	150	1.5
R 203 – 35e	0 – 35.0	0 – 3.8	1,5	3	8	150	1.5
C 203 – 1,2e	0 – 1.2	0 – 0.13	10	3	5	150	1.5
C 203 – 2,4e	0 – 2.4	0 – 0.26	10	3	5	150	1.5
C 203 – 6,0e	0 – 6.0	0 – 0.66	6	3	5	150	1.5
C 203 – 7,0e	0 – 7.0	0 – 0.77	10	3	5	150	1.5
C 203 – 10e	0 – 10.0	0 – 1.1	6	3	5	150	1.5
C 203 – 14e	0 – 14.0	0 – 1.5	3	3	5	150	1.5
C 203 – 25e	0 – 25.0	0 – 2.7	3	3	8	150	1.5
C 203 – 30e	0 – 30.0	0 – 3.3	2,5	3	8	150	1.5
C 203 – 35e	0 – 35.0	0 – 3.8	1,5	3	8	150	1.5

## Materials

The use of high quality materials guarantees long-term operation. The optimal material is available for each individual requirement (please ask about materials that are not listed).

- Pump body and valves:  
PP-FRP, PVDF-FRP, PVC, 1.4571
- Valve balls:  
Glass, PTFE, 1.4401, Hastelloy C
- Valve seals:  
EPDM, FPM (Viton), FEP-covered
- Working Diaphragm:  
PTFE-faced
- Manual vent valve only with  
PP-FRP, PVDF-FRP executions.

## Accessories to R/C 203 (optional)

- 5 m Control cable for current/pulse input
- 5 m Control cable for level input
- Coupler socket for fault indicator contact
- Diaphragm rupture monitoring MBE-02

# Solenoid diaphragm pumps

Series 203



**sera**  
Seybert & Rahier

## Electronics C 203

The C-series has the following connections, as standard:

- Current input 0 / 4...20 mA:  
The capacity changes proportionally to the control signal.  
Application primarily for flow proportional dosing.
- Contact input (for example, from contact water meter):  
The pump performs a dosing stroke at every input contact.  
To adjust the stroke frequency to the number of switching actuations of the contact transmitter the assessment factors for fractionation can be set.
- Level monitor:  
Connection possibility for a two-position switch for pre-alarm and empty warning.
- Flow monitor:  
Connection possibility for the NAMUR - input of a downstream flow monitor. If a number of dosing strokes fail, an alarm is set.
- Diaphragm rupture signal (option):  
An integrated diaphragm rupture sensor generates a warning signal if a rupture occurs.
- Failure signal output:  
Every failure signal is set via a floating switch contact.

## Displays C 203

A four-digit LCD display on the operating panel of the pump shows information about the operating status and the current stroke frequency in %.

Four LEDs enable an overview of the operating status at a glance:

- Pump in operation
- Chemical reserve is low
- Chemical reserve is used up
- Diaphragm rupture monitor is on, pump stops

## R 203

The series R 203 is a variant on the C 203 with a limited controllability. The pump is equipped with the following connections.

- Level monitoring:  
Port for level switch with limit stop contact.
- Contact input (e. g. from contact water meter):  
Pump performs one dosing stroke per input contact.

Separate turning knobs for stroke frequency and stroke length can be set independently from each other to adjust the flow capacity.

The current clock frequency is indicated by a flash LED.

## Selection criteria

Apart from flow capacity, suction height and counter pressure, factors such as medium characteristics, pipe geometry and dosing accuracy etc. also play a role when choosing the right pump.

## Drive

The drive unit consists of a strong stroke solenoid in a metallic housing.

The stroke solenoid is equipped with a thermal overload protection.

## Accessories

All accessories required for the optimum installation of dosing pumps, such as valves, pulsation dampers, dosing valves, dosing tanks, flow controllers, etc. can be ordered at **sera**.



**sera**  
Dosing  
Feeding  
Compressing

**Seybert & Rahier**  
**GmbH + Co. Betriebs-KG**  
sera-Strasse 1  
D-34376 Immenhausen  
Tel. +49 5673 99 90  
Fax +49 5673 99 91 55  
e-mail: info@sera-web.de  
www.sera-web.de

**HyXo Oy**  
P.O. Box 16 (Palokorvenkatu 2)  
FI-04261 KERAVA, FINLAND  
Tel. +358 9 417 4500  
Fax +358 9 4174 5100  
www.hyxo.com • hyxo@hyxo.fi