

SERIES 2 SOLENOID DIAPHRAGM PUMPS



SOLENOID DIAPHRAGM PUMPS

Series 204.1 solenoid diaphragm pumps are electronically controlled, versatile dosing pumps for maximum operational reliability in robust industrial design. Performance range from 0.4 l/h to 35 l/h at pressures up to max. 10 bar.

APPLICATIONS

For exact process-dependent controlled dosing of slightly outgassing media in all areas of industry.

OVERVIEW OF ADVANTAGES

- directly controllable
- PROFIBUS DP - Interface
- High dosing accuracy
- High diaphragm life*
- High quality materials
- linear control characteristic
- Low maintenance
- Low operating costs
- Leakage free
- Safe to run dry
- Easy to use
- Low weight

*in comparison to conventional working diaphragms

DESIGNS

MATERIALS

The high quality of the materials guarantees the reliable long-term use. The optimum material is available for every requirement.

PUMP BODY AND VALVES

PVC, PP, PVDF, 1.4571, PP-FRP, PVDF-FRP

VALVE BALLS

PTFE, 1.4401, Al₂O₃

VALVE SEALS

EPDM, FPM, FEP-covered, FFKM

WORKING DIAPHRAGM

PTFE-faced

MANUAL VENTING VALVE

PP-FRP, PVDF-FRP

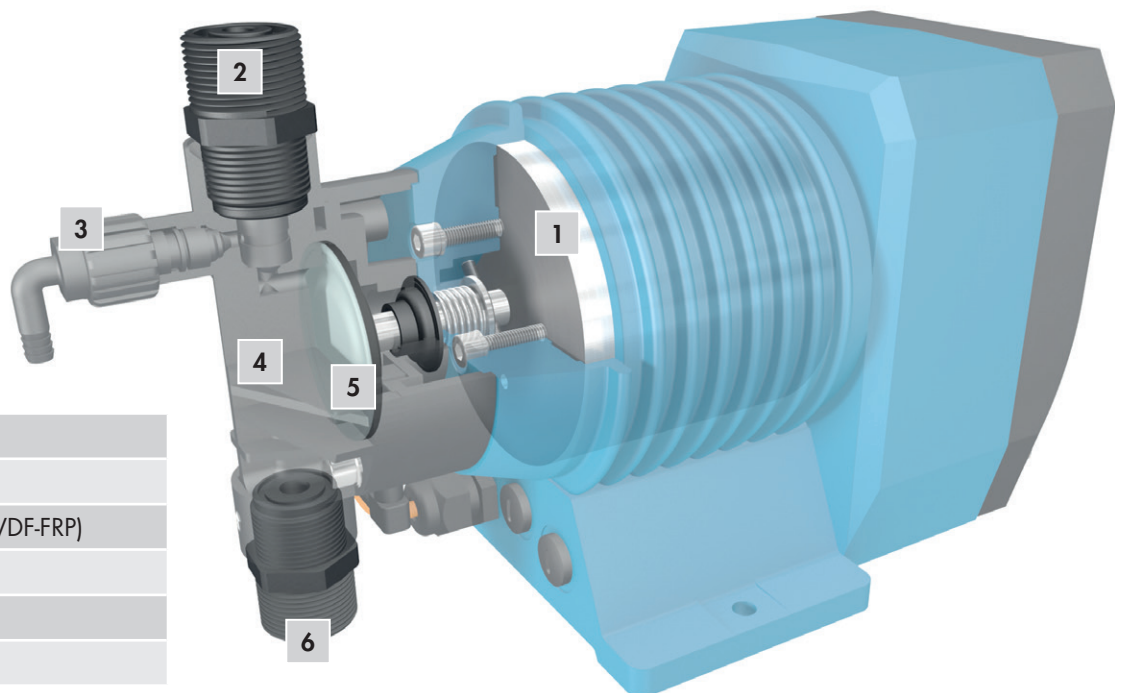
DRIVE

The drive unit of the solenoid diaphragm pumps consists of a powerful lifting magnet in a robust plastic housing. The non-rotating solenoid is equipped with thermal overload protection.

ACCESSORIES

- Control cable
- Flow controller
- Flow meter
- PROFIBUS Y-Distributor
- PROFIBUS Terminal resistor

For optimal installation of dosing pumps, all necessary accessories such as valves, pulsation dampers, dosing valves, dosing tanks, flow monitors, etc. can be ordered at **sera**.



1 Drive magnet

2 Pressure valve

3 Vent valve (PP, PVDF-FRP)

4 Pump body

5 Diaphragm

6 Suction valve

TECHNICAL DATA R204.1

| PUMP DATA | | | R 204.1-... | | | | |
|---|------------------|----------------|-------------|--------|--------|--------|--------|
| | | | 1,2e | 2,4e | 7,0e | 10e | 35e |
| Permissible pressure p_{2max} at the pump outlet | bar | | 10 | 10 | 10 | 6 | 1,5 |
| Nominal capacity QN at p_{2max} | l/h | 50/60 Hz | 0-1,2 | 0-2,4 | 0-7 | 0-10 | 0-35 |
| Quantity per stroke | ml/stroke (100%) | | 0,13 | 0,27 | 0,78 | 1,11 | 3,89 |
| Max. suction height | mWC | | 2 | 2 | 3 | 3 | 3 |
| Min./max. permissible pressure at the pump inlet | bar | $p_{1min/max}$ | -0,2/0 | -0,2/0 | -0,3/0 | -0,3/0 | -0,3/0 |
| Recommended nominal diameter DN of the connecting pipes | mm | | 5 | 5 | 5 | 5 | 10 |
| Nominal stroke frequency | 1/min | 50/60 Hz | 150 | 150 | 150 | 150 | 150 |
| Weight approx. | kg | | 4,1 | 4,1 | 4,8 | 4,8 | 5,1 |

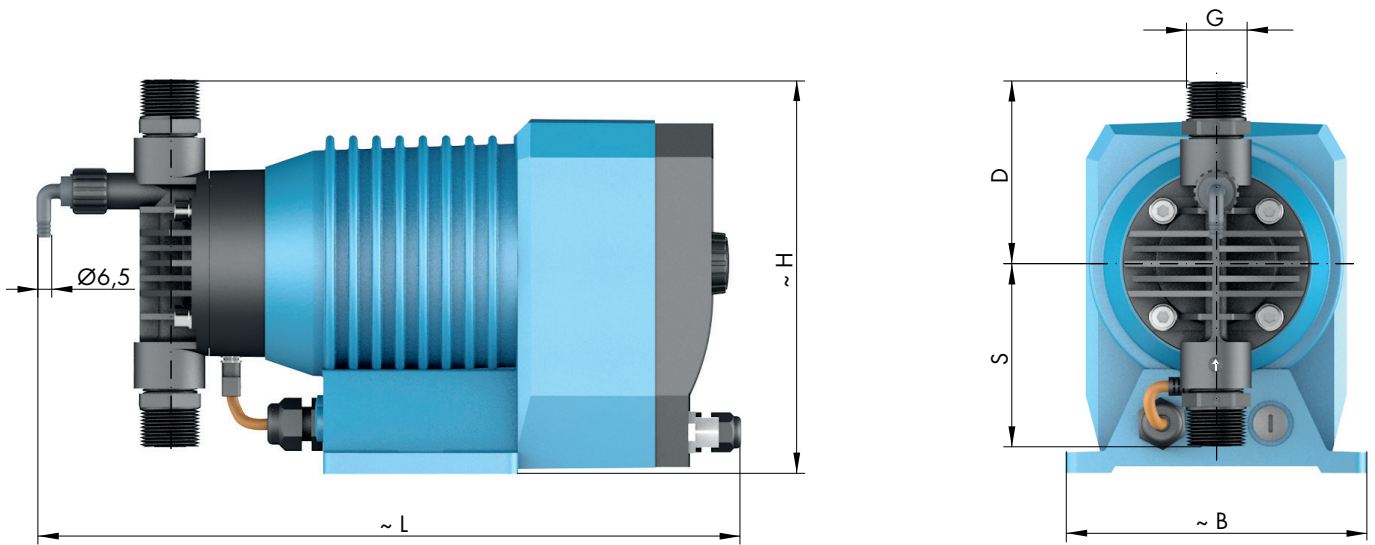
| ELECTRICAL DATA | | R 204.1-...e |
|------------------------------------|-------------|--------------|
| Middle power draw | W | 20 |
| Nominal voltage | V | 100 - 240 |
| Frequency | Hz | 50/60 |
| Inlet voltage, control input | V DC | 5...30 |
| Minimum contact signal time | ms | 55 |
| Analogue input resistance | Ω | 100 |
| Current Consumption during stroke | A (at 230V) | max. 1,0 |
| Recommended fuse (circuit breaker) | | C2A |
| Insulation class | ISO | F |
| Enclosure | IP | 65 |

TECHNICAL DATA C204.1

| PUMP DATA | | | C 204.1-... | | | | |
|---|-----------|----------------|-------------|--------|--------|--------|--------|
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| Recommended nominal diameter DN of the connecting pipes | mm | | 5 | 5 | 5 | 5 | 10 |
| Nominal stroke frequency | 1/min | 50/60 Hz | 150 | 150 | 150 | 150 | 150 |
| Weight approx. | kg | | 4,1 | 4,1 | 4,8 | 4,8 | 5,1 |

| ELECTRICAL DATA | | C 204.1-...e |
|---|-------------------|---|
| Middle power draw | W | 33 |
| Nominal voltage | V | 100 - 240 |
| Frequency | Hz | 50/60 |
| Inlet voltage, control input | V DC | 5...30 |
| Minimum contact signal time | ms | 55 |
| Analogue input resistance | Ω | 100 |
| Current Consumption during stroke | A (at 230V) | max. 1,0 |
| Digital output internal/external supply | | PNP max. 15V DC, 50mA / max. 30V DC, 350mA |
| Recommended fuse | (circuit breaker) | C2A |
| Insulation class | ISO | F |
| Enclosure | IP | 65 |

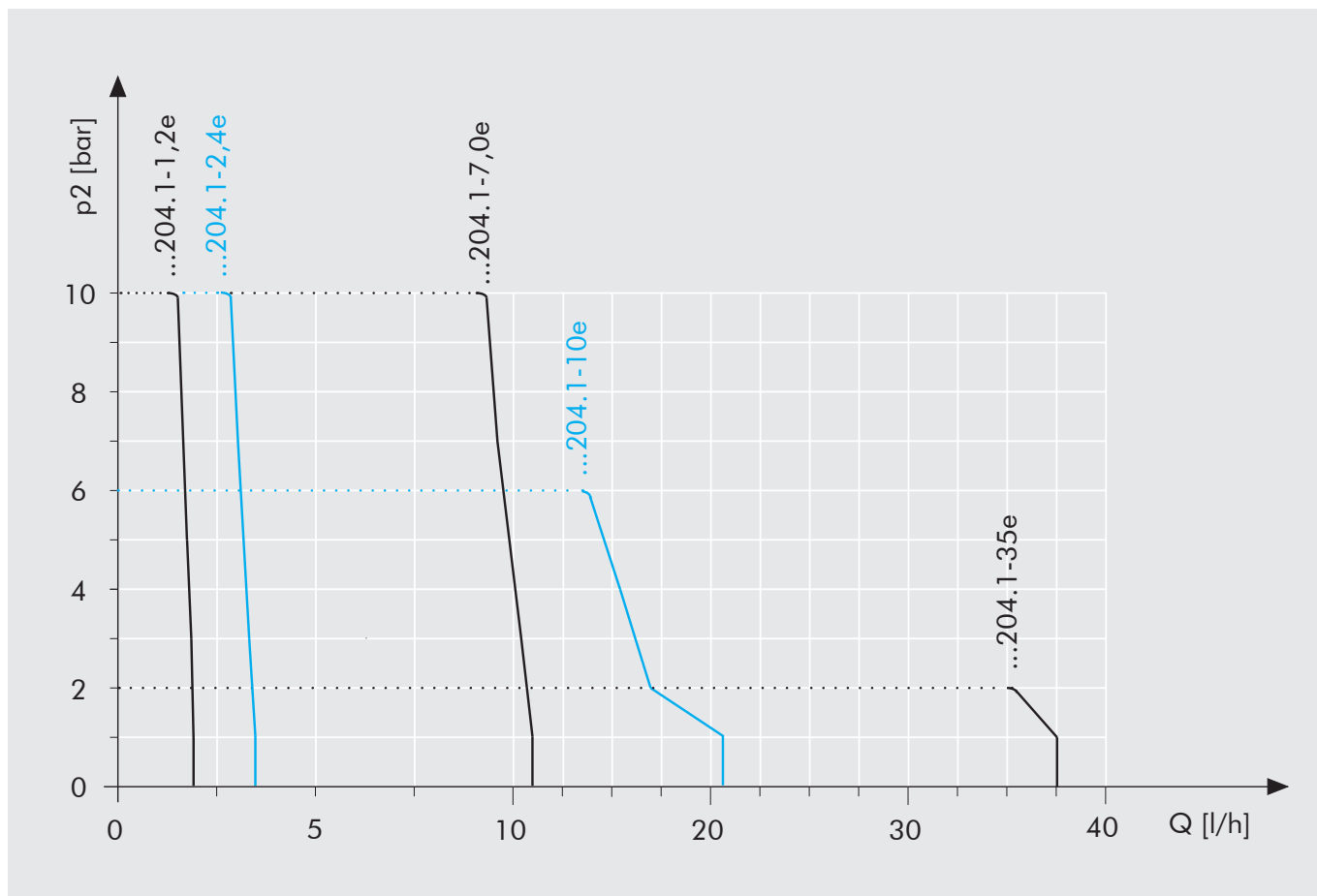
DIMENSIONS



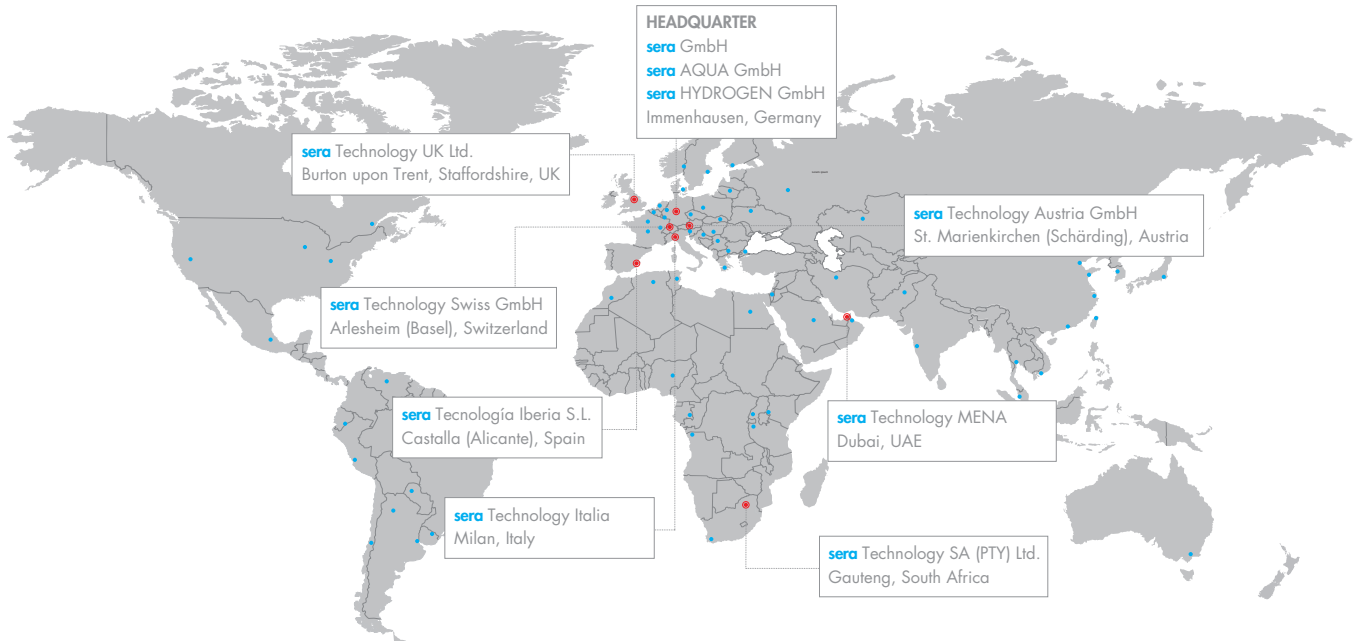
| | ...-1,2e | ...-2,4e | ...204.1-... ...-7,0e | ...-10e | ...-35e |
|----------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|
| SUCTION VALVES | | | | | |
| DN Nominal width | 5 | 5 | 5 | 5 | 10 |
| G Connection thread | G $\frac{3}{4}$ | G $\frac{3}{4}$ | G $\frac{3}{4}$ | G $\frac{3}{4}$ | G $\frac{3}{4}$ |
| S PP-FRP / PVDF-FRP | 80 | 80 | 80 | 80 | 75 |
| S PVC-U | 70 | 70 | 70 | 70 | 80 |
| S 1.4571 | 70 | 70 | 70 | 70 | 76 |
| PRESSURE VALVES | | | | | |
| DN Nominal width | 5 | 5 | 5 | 5 | 10 |
| G Connection thread | G $\frac{3}{4}$ | G $\frac{3}{4}$ | G $\frac{3}{4}$ | G $\frac{3}{4}$ | G $\frac{3}{4}$ |
| D PP-FRP / PVDF-FRP | 80 | 80 | 80 | 80 | 75 |
| D PVC-U | 70 | 70 | 70 | 70 | 80 |
| D 1.4571 | 70 | 70 | 70 | 70 | 76 |
| MAX. TOTAL HEIGHT | | | | | |
| H | 175 | 175 | 175 | 175 | 175 |
| MAX. TOTAL WIDTH | | | | | |
| B | 130 | 130 | 130 | 130 | 130 |
| MAX. TOTAL LENGTH | | | | | |
| L | 275 | 275 | 275 | 275 | 275 |
| L (with vent valve) | 305 | 305 | 305 | 305 | — |

(Measurements in mm)

CHARACTERISTIC CURVES



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sera GmbH

sera-Straße 1
34376 Immenhausen
Germany

Tel.: +49 5673 999-00

info@sera-web.com

sera AQUA GmbH

sera-Straße 1
34376 Immenhausen
Germany

Tel.: +49 5673 999-02

sales.aqua@sera-web.com

sera HYDROGEN GmbH

sera-Straße 1
34376 Immenhausen
Germany

Tel.: +49 5673 999-04

sales.hydrogen@sera-web.com

sera Technology Austria GmbH

Gewerbestraße 5
4774 St. Marienkirchen bei Schärding
Austria

Tel.: +43 771 131 7770

sales.at@sera-web.com

sera Technology Swiss GmbH

Altenmatteweg 5
4144 Arlesheim
Switzerland

Tel.: +41 615 114 260

sales.ch@sera-web.com

sera Tecnología Iberia S.L.

Calle Cocentaina n°8,
03420 Castalla (Alicante)
Spain

Tel: +34 666 024 388

sales.es@sera-web.com

sera Technology UK Ltd.

Unit 5, Granary Wharf Business Park
Wetmore Road, Burton upon Trent
Staffordshire DE14 1DU
United Kingdom

Tel.: +44 1283 753 400

sales.uk@sera-web.com

sera Technology SA (PTY) Ltd.

Unit 3-4, Airborne Park
Cnr Empire & Taljaard Str Bartletts
Boksburg, 1459 Gauteng
South Africa

Tel.: +27 113 975 120

sales.za@sera-web.com

sera Tecnología Italia

Milan
Italy

Tel.: +39 340 81 92 744

sales.it@sera-web.com

sera Technology MENA

Dubai
UAE

Tel.: +971 589 287 559

sales.mena@sera-web.com

www.sera-web.com

