



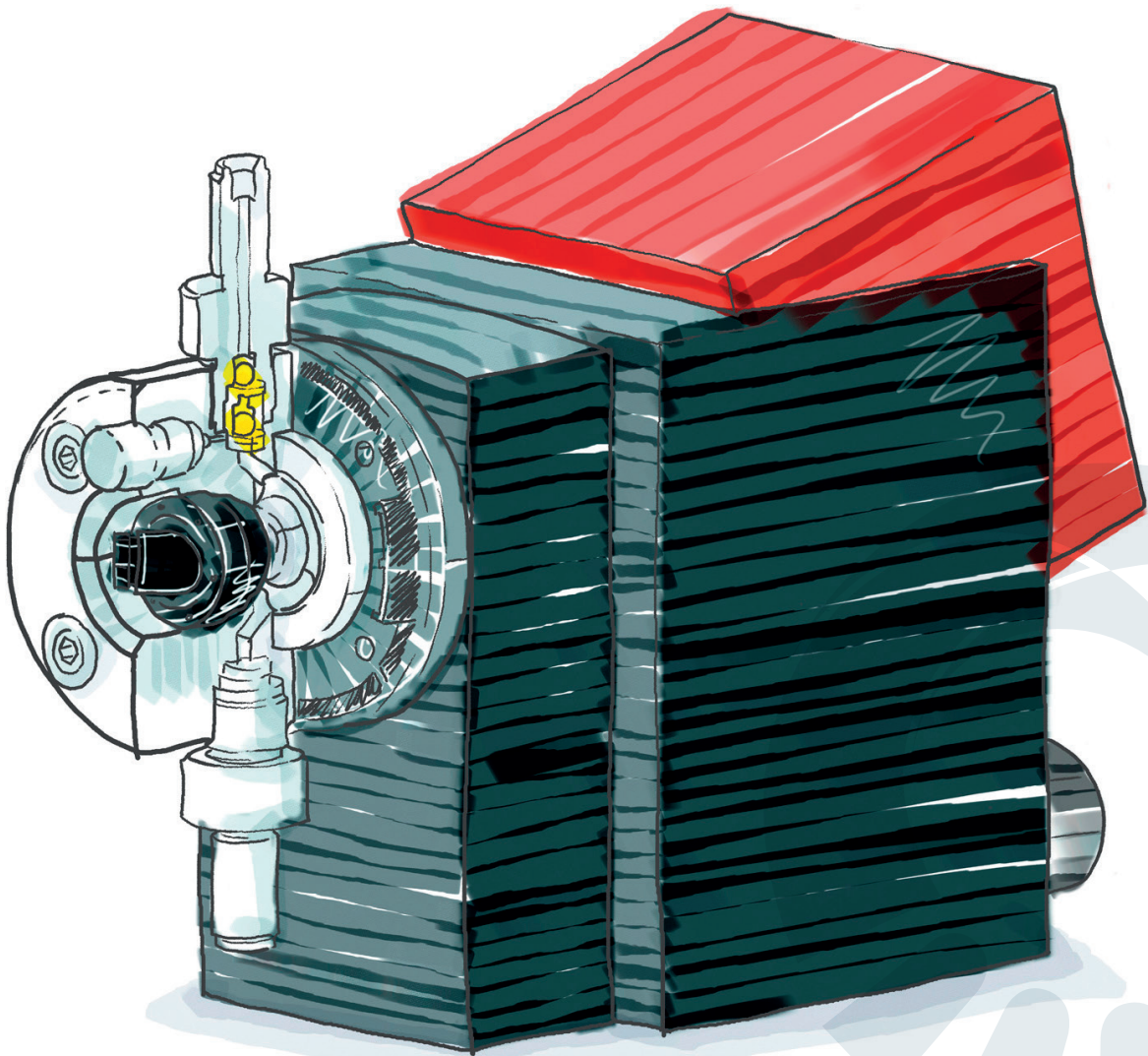
FINK
CHEM + TEC

diaphragm metering pump

 liquids

Smart diaphragm metering pump with wetted parts made entirely of PTFE (optional: PP or stainless steel) featuring a variable-speed stepper motor drive

Ritmo R033



- » 2,5 ml/h to 200 l/h
- » 0 to +16 bar
- » -20 to +150°C

customized configurable



www.finkct.de

Metering Pump Ritmo[®]033

The Ritmo R033 is a compact, speed-controlled diaphragm displacement pump with a stepper motor drive and intelligent electronics. It offers maximum dosing precision, even with demanding media (e.g. high-viscosity or degassing fluids), and ensures a continuous, uniform flow rate by adjusting the stroke duration while maintaining a constant full stroke length.

Well Thought-Out – Enhanced Functionality

The Ritmo R033 metering pumps are based on the proven Grundfos SMART Digital DDA series. We enhance these high-quality pumps with our own full-PTFE components for operation across a wide temperature range, as well as with diaphragm monitoring – for example, to ensure safe handling of flammable liquids, including in ATEX Zone 1 environments.

This makes the pumps ideal not only for water treatment applications, but also for dosing tasks in the chemical, pharmaceutical, food, and beverage industries, where absolute product purity and FDA / EU food contact compliance (BGVO) are required.

The latest version, the DDA-C, comes with integrated connectivity, enabling easy setup and monitoring via the Grundfos GO app, as well as seamless integration into a Modbus RTU or TCP bus system.

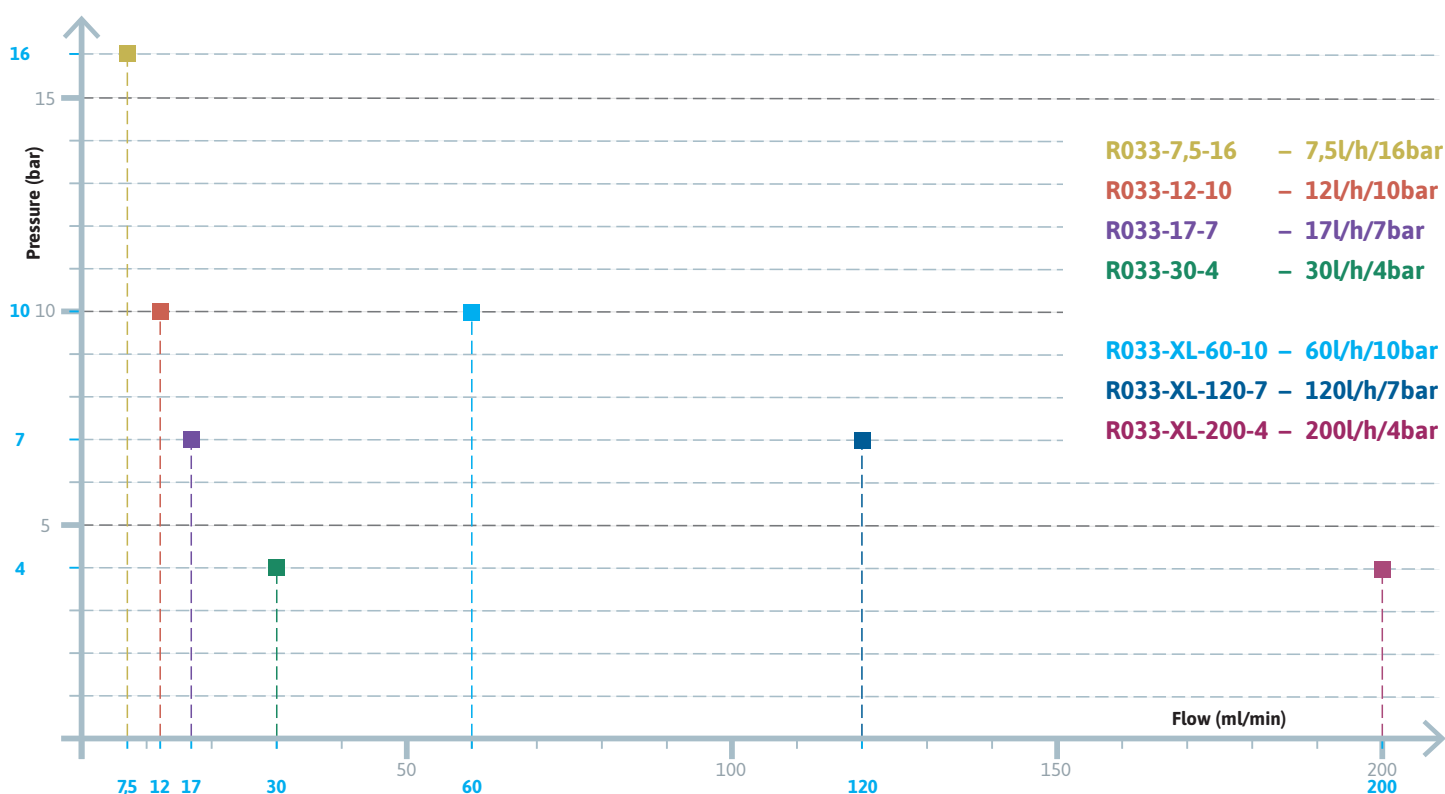
User operation remains intuitive thanks to the rotary push-

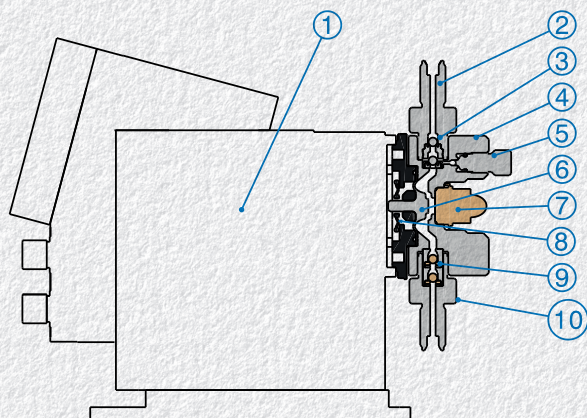
button, straightforward menu navigation, and direct input/display of the dosing rate in ml/h. The color-coded status indication of pump operation and possible errors via the large, backlit LC display is also retained.

Versatile functions such as continuous dosing, batch dosing, pulse-controlled dosing, timer functions, quick priming, and pressure monitoring make this pump flexible and universally applicable.

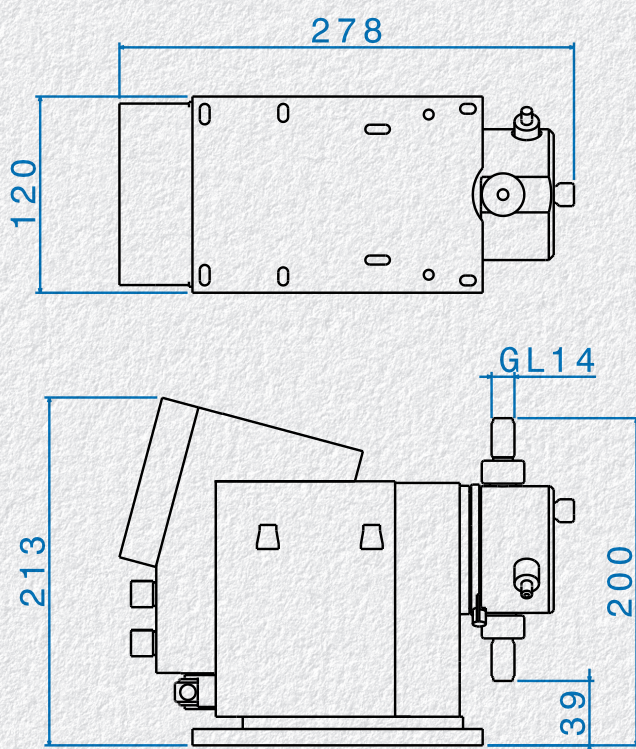
The intelligent stepper motor technology, featuring full suction strokes and variable discharge speed, always ensures smooth and low-pulsation dosing.

For maximum installation flexibility, the pump features a universal mounting plate with click function for quick installation or easy replacement. Additionally, the rotatable control cube supports a variety of installation scenarios – whether in production systems, dosing stations, or pilot plants.





- | | |
|---|---|
| 1. Drive and Electronics
Grundfos DDA | 6. Dosing Diaphragm full-PTFE |
| 2. Discharge Connection
PTFE GL14 / GL18 | 7. Pressure Sensor:
Al ₂ O ₃ (optional FC / FCM) |
| 3. Discharge Valve
optional full-PTFE | 8. Housing Seal FKM |
| 4. Pump Head PTFE | 9. Suction Valve: standard
PTFE/Al ₂ O ₃ /ZrO ₂ |
| 5. Bleed Valve PTFE / FFKM | 10. Suction Connection:
PTFE GL14 / GL18 |



Fluid Connection

Ritmo®033 pumps in the PTFE version are equipped as standard with RGL-type fluid connections. PTFE tubing is connected easily and securely using clamping and sealing rings.

Additional connection options are available, such as G 1/4 female thread.

Heating and Temperature Control

For temperature-controlled processes, the pumps can be connected to a thermostat or cryostat.

Alternatively, Ritmo®033 metering pumps can be equipped with an electric heating system.

Setpoint input and control are managed via a separate temperature controller.

This ensures that process-specific fluid temperatures can be reliably maintained. Typical applications include:

- Prevention of crystallization
- Reduction of high viscosities
- Removal of exothermic heat
- Prevention of evaporation effects during dosing

Mechanically Decoupled Pump Head

For dosing hot fluids – even without active heating of the pump head – the Ritmo®R033 metering pump can be equipped with a thermally decoupled pump head. Depending on the selected pump head material, fluid temperatures of up to 150 °C can be handled.

The Ritmo®R033 can also be used for dosing flammable liquids with a decoupled pump head, provided that an appropriate leakage detection system is implemented on-site.

ATEX

Ritmo®033 Ex metering pumps are designed for use in potentially explosive atmospheres classified as Zone 1 and Zone 2. They are suitable for dosing liquid and gaseous media of gas group IIB.

The explosion protection is based on the type of protection EEx p, in accordance with EU Directive 2014/34/EU.

ATEX marking:

Ex II 2G Ex eb mb pxb IIB T4

Available Pump Head Materials

- **From Grundfos:**
PP and PVC with PTFE diaphragm
- **Modified Grundfos Versions:**
PVDF and stainless steel with FFKM O-rings and full-PTFE diaphragm
- **In-house Manufacturing:**
Full-PTFE pump head with full-PTFE diaphragm

The Fink Chem+Tec GmbH ...

... is a medium-sized company, founded in 1996 as a sole proprietorship. In our two locations Leinfelden-Echterdingen and Papenburg, we develop specialized dosing, laboratory and mixing pumps e.g. for the chemical and pharmaceutical industries.

At our headquarters in L.-Echterdingen we take care of the dosing technology, from our high-precision PTFE Dosing pumps down to temperature, flow and pH controllers.

We develop and manufacture at the Papenburg

location customer-specific feed pumps with magnetic coupling. Through the process-optimized design of the pumps and the selection of special materials the pumps always operate at the respective operating point configured for the customer-specific application.

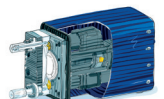
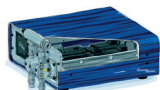
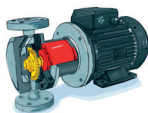
Both regenerative turbine pumps for liquids, multi-phase reaction mixing pumps and gas circulation pumps we offer on a small scale up to industrial applications, especially in high-pressure or high temperature design we have a very specialized field of activity.

Technical parameters Ritmo R033

Eigenschaften	7.5-16	12-10	17-7	30-4	60-10	120-7*	200-4*
Max. flow rate [l/h]	7,5	12	17	30	60	120	200
Min. flow rate [ml/h]	2,5	12	17	30	60	120	200
Stroke volume [ml]	0,7	1,5	1,5	3,1	5,5	11,5	19,3
Max. stroke frequency [stroke/min]	190	150	200	180	200	190	190
Max. backl pressure [bar]	16	10	7	4	10	7	4
Maximum suction lift during operation [m]	6			3			
Max. viscosity [mpas] (spring-loaded valves and SlowMode enabled)	2500	2500	2000	1500	3000	3000	2000
Max. temperature dosing media [°C]	40 - 150°C (depending on configuration and features)						
Reproducibility [%]	1.5 set volume + 0.1 max. flow rate						
Material wetted parts	PP; PVC; PVDF; PTFE; stainless steel; Al2O3; ZrO2; FFKM						
Power supply	100-240 V ± 10 %, 50/60 Hz						
Power consumption [W]	25			65			
IP protection class	IP65, Nema 4X						
weight [kg]	2,5-3,5	2,5-3,5	2,5-4,5	2,5-4,5	6,7-7,5	7,9-8,3	8,9-9,1
Max. sound level [dBA]	60			80			

*no modification available

Pumps tailored precisely to your needs



Fink Chem+Tec GmbH
Gutenbergstr. 4
D-70771 Echterdingen

Tel.: +49 711 400 423-0
info@finkct.de
www.finkct.de

