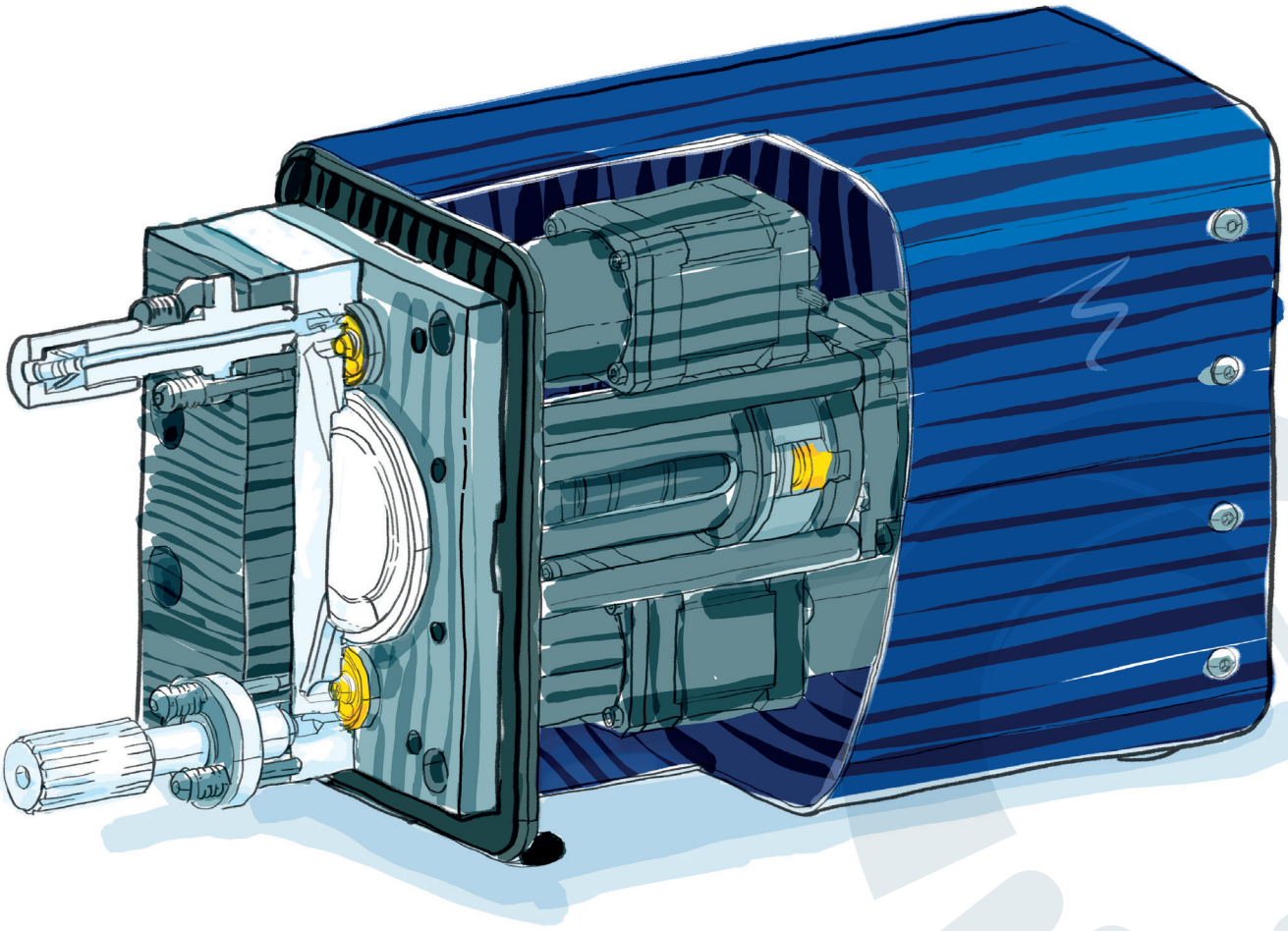
FINK
CHEM + TEC

# PTFE diaphragm metering pump

## liquids + gases

## Ritmo R15

Smart diaphragm metering pump with wetted parts completely made of full PTFE with motor-operated valves for the highest metering requirements



- **0,001 to 500ml/min**
- **-1,0 to +18 bar**
- **-20 to +120°C**

**Suitable for flammable liquids**
**customized configurable PTFE diaphragm metering pump**

MADE IN GERMANY

www.finkct.de

PTFE diaphragm metering pump

# Dosing pump Ritmo®15

***The Ritmo®15 diaphragm metering pump is a new development of the proven and successful Ritmo®05. With their positively controlled valve technology, variable valve actuators and fluid-neutral pressure measurement technology, the pump is setting new standards in the market for precision dosing. The full PTFE equipment makes the Ritmo®15 absolutly resistant to nearly all chemicals. Not least thanks to its variable valve openings, it covers a wide range of applications.***

## Material equipment

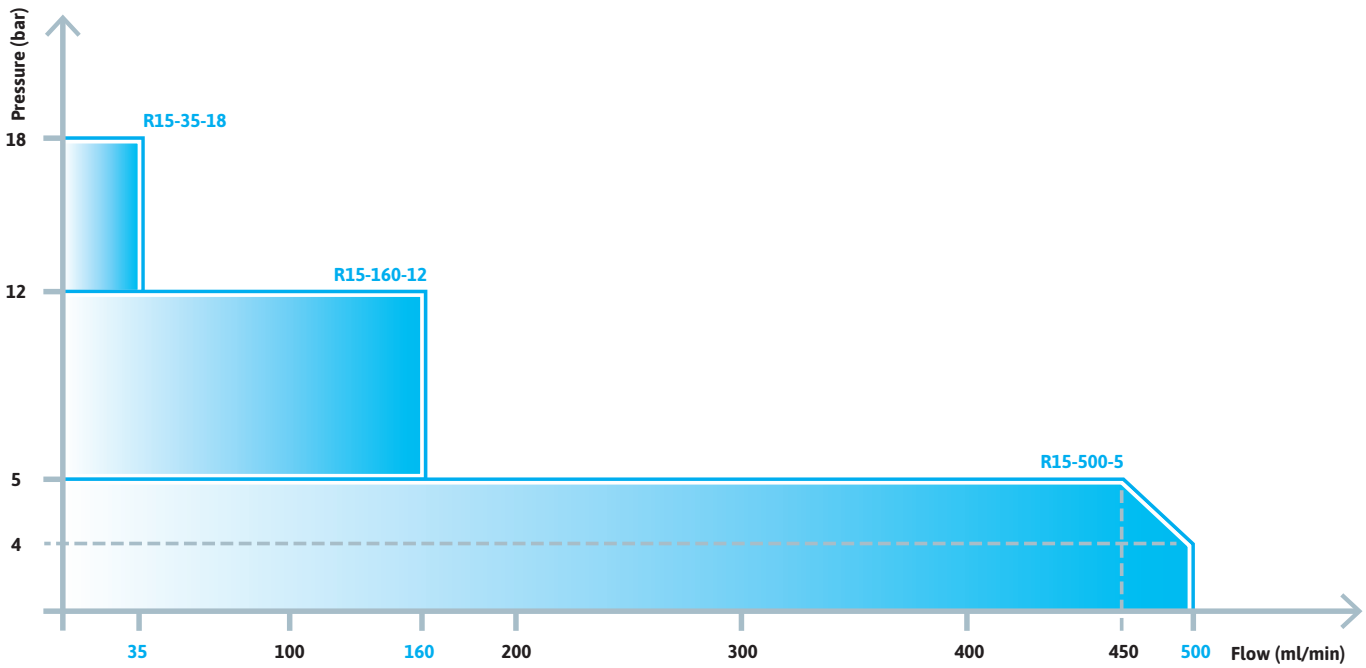
All wetted components are made of pure PTFE and therefore ensure extremely high-quality chemical resistance and meet the criteria of FDA (CFR 21 Section 177-1550) and BGVO (EU Directives 10/2011; 1935/2004; 2023/2006). Ritmo® precision dosing units are suitable for dosing almost all liquids and gases without any restrictions. For dosing applications with corrosive media as well as for the highest levels of purity and absolute metal-free.

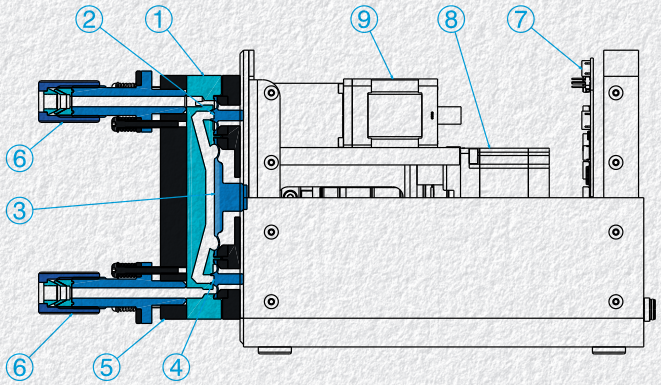
## High functionality

User-specific dosing processes for flexible work in the continuous dosing process or filling/batch process. Very wide range of applications with an adjustment range of 1:7000 volumetric (ml/min) or gravimetric (g/min). The new intelligent pump drive with integrated sensors as well as the variably controllable proportional valves enable a dosing accuracy of +/-1% and a reproducibility of more than 99.5%.

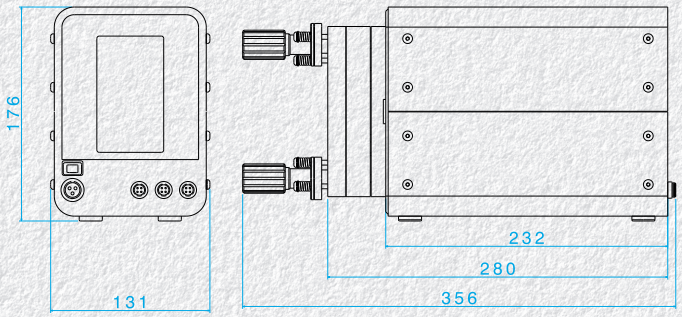
## Valve and drive technology

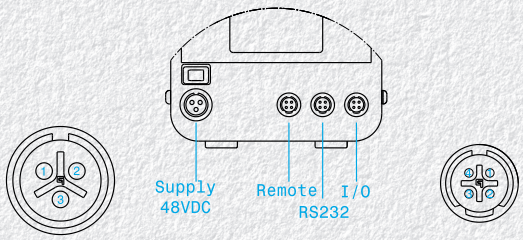
in contrast to diaphragm metering pumps with check valve technology, the R15 works with small valve diaphragms, which are opened and closed by stepper motors. These valves ensure absolutely tight working conditions between the suction and pressure sides and make the dosing pump suitable for vacuum. There is no need to degas or fill the pump before dosing nor to protected against dry running. Ritmo dosing pumps normally work with the full stroke length. The pump chamber is filled as quickly as possible at a constant speed. The dosing process works with a variable ejection speed depending on the dosing rate for reduced pulsation and smooth operation.






1. Pump chamber (PTFE)
2. Valve pressure side (PTFE)
3. dosing diaphragm (PTFE)
4. Valve suction side (PTFE)
5. Pressure plate (aluminum)
6. Fluid connection RFC (PTFE)
7. pump control electronics
8. diaphragm drive
9. valve drive (pressure side)




**Remote**
Flow rate using 0/4-20mA (default) or 0/2-10V
Start/Stop via potential-free normally open contact (NO)

**RS232**
Digital interface for the dosing pump using ASCII protocol

**I/O (various)**
4-20mA output
4-20mA sensor input
Level switch
Frequency input
Stroke feedback

## Reliable fluid connections

We equip the Ritmo®15 with our new developed PTFE fluid connections RFC, as standard. A special clamping and sealing ring seal the PTFE hoses hermetically and can withstand a pressure up to 18 bar. If necessary, we also equip the dosing pumps with compression type fittings e.g. in stainless steel. An exchange of these different connections is possible to the end user.

## Active dosing control

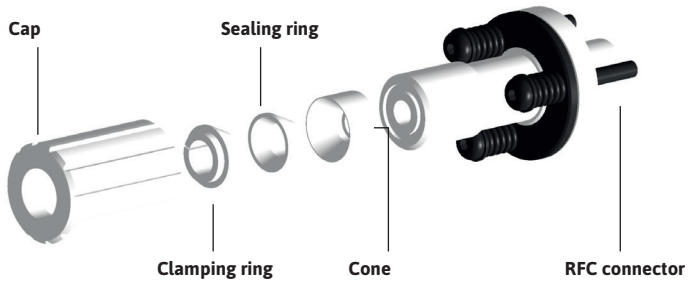
Our Ritmo dosing pump is like many diaphragm pumps not pulsation-free, therefore the controlling and regulation is often a little difficult. Thats why the Ritmo R15 can be equipped with an active dosing control, using both scales (RS232 interface) or flow meter (analog 4-20 mA)

## Versatile automation capability

The pump offers protocol-based digital as well as analogue (4-20 mA or 2-10 V) remote interfaces. This allows you to map all functions of the pump and use it in a process control system.

## Heating and cooling

The pumps can be used for temperature-controlled processes, connected to a thermostat or cryostat as well as equipped with electric heating. The fluid temperatures required for process can be achieved and kept stable.




**The RFC connection as a standard fluid connection for the dosing pumps R15 developed for 18bar pressure**

# The Fink Chem+Tec GmbH ...

... is a medium-sized company, founded in 1996 as a sole proprietorship. In our two locatoins 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.

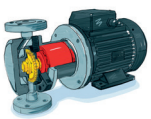
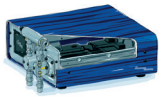
We develop and manufacture at the Papenburg location customer-specific feed pumps with magnetic coupling. Through the process-optimized design of the pumps and the selection of special materials the pumps always operate at the respective operating point configured for the customer-specific application.

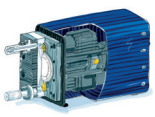
Both regnerative turbine pumps for liquids, multi-phase reaction mixing pumps and gas circulation pumps we offer on a small scale up to industrial applications, especially in high-pressure or high temperature design we have a very specialized field of activity.

## Technical parameters

| Characteristic | R15-35-18 | R15-160-12 | R15-500-5 |
|---|---|---|---|
| Max. flow rate [ml/min] | 35 | 160 | 500 |
| Min. flow rate [ml/min] (inclding Stroke adjustment) | 0,005 | 0,05 | 0,15 |
| Stroke volume [ml] | 0,8 | 3,5 | 11 |
| Max. stroke frequency [strokes/min] | 50 | | |
| Filling time [sek] | ca. 0,7 | | |
| Max. dosing time [min] (single stroke) | ca. 30 | | |
| Max. pressure [bar] (suction and pressure sides) | 18 | 12 | 5 |
| Max. vacuum [mbar abs.] (suction and pressure sides) | 1 | | |
| Max. viscosity [mpas] (using anti-cavitation mode) | 2.000 | 3.000 | 4.000 |
| Max. temperature dosing media [°C] | 120 | | |
| absolute deviation | < 1% | | |
| relative deviation (reproducibility) | < 0,5% | | |
| Material wetted parts | PTFE | | |
| Power supply | Pump: 48 VDC | Power adapter: 80-264VAC (47-63Hz) | |
| Power consumption [W] | Pump: 45 | Electrical heated pump: 150 | |
| IP protection class | IP40 | | |
| ambient temperature [°C] | 50 | | |
| dimensions LxWxH [mm] | 280x124x175 | | |
| weight [kg] | 5,5 | | |

**Pumps tailored precisely to your needs**

FINK CHEM + TEC

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

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