



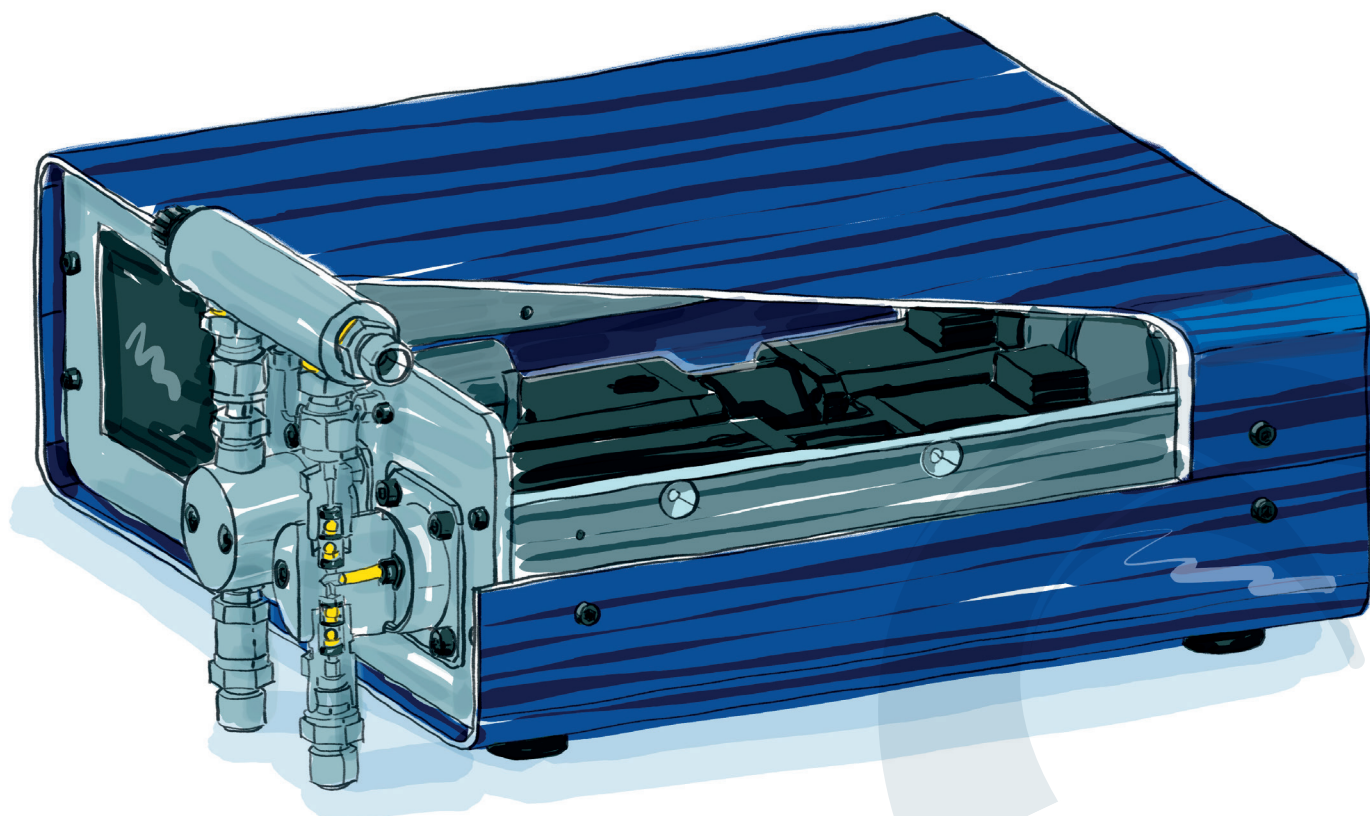
**FINK**  
CHEM + TEC

# Piston dosing pump

## Liquids

HPLC pump optimized for process engineering.  
The power and precision of high-pressure dosing  
with dual drive technology.

## Carino C09



- » 0,005 to 40ml/min
- » up to 2000 bar
- » -20 to +120°C

**Customer-specific configurable**



[www.finkct.de](http://www.finkct.de)

# HPLC pump Carino C09

**Carino-C09 high-pressure dosing pumps are high-precision piston dispensers specifically designed for applications in analytical, chromatographic, and preparative chemistry, HPLC technology, and all high-pressure processes in chemical and process engineering. Their dual-drive technology provides maximum flexibility and functionality, while maintaining an exceptionally compact design.**

## Material equipment

The pump heads of the C09 dosing units are made from stainless steel or Hastelloy alloys, the pistons from sapphire, the valves from ruby/sapphire, and the seals from PEEK and PTFE-graphite. This high-end material configuration ensures maximum chemical resistance and enables highly versatile use across a wide range of applications.

## Unmatched Functionality

Carino C09 pumps utilize two independently operated stepper motors instead of a single-axis drive with rigid mechanics. Each dosing piston is driven by its own electronically controlled stepper motor. This allows for highly flexible pump configurations, supporting operation with either one or two dosing pistons.

The system enables pulsation-free dosing with a traditional auxiliary piston or a dual active piston setup for twice the dosing rate. It can also be configured to dose two separate liquids simultaneously.

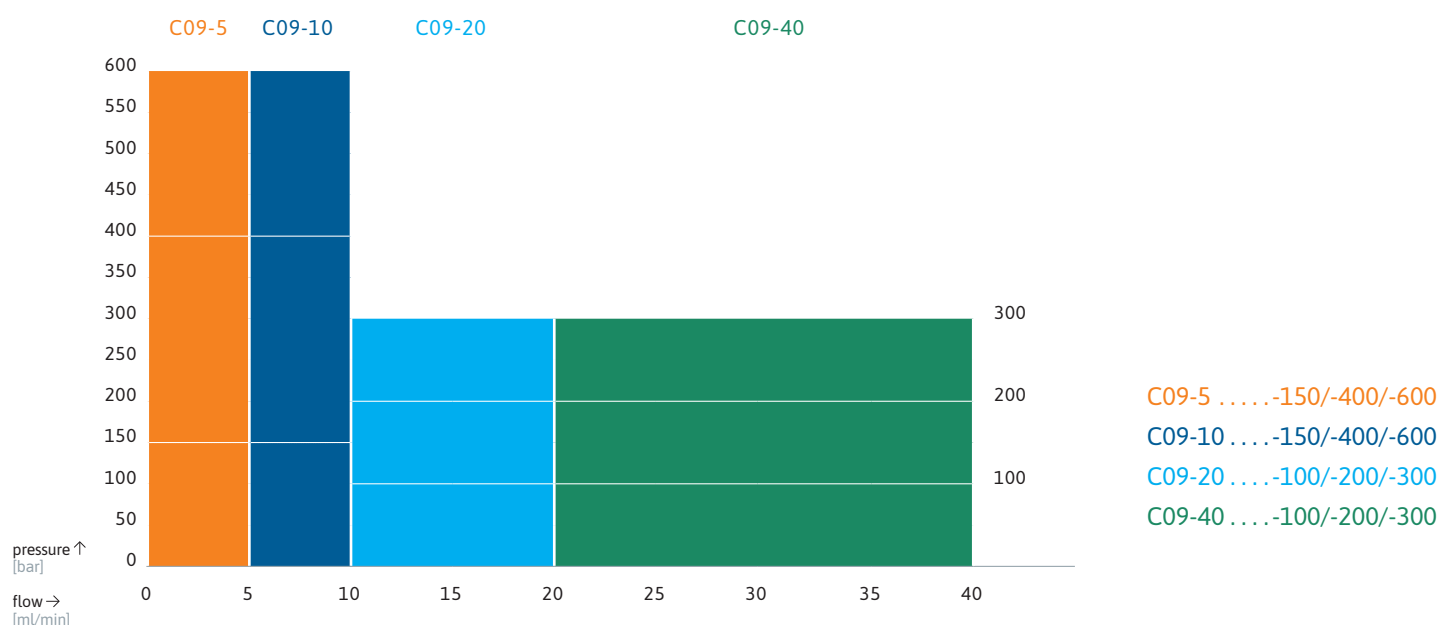
The duration of the dispensing stroke varies depending on the selected dosing volume, while the suction stroke is always performed at maximum speed. To ensure optimal and reliable sealing performance, each pump is equipped by default with two ball valves per valve cartridge. For handling viscous media, spring-loaded valve cartridges are also available as an option.

## Fluid Connections

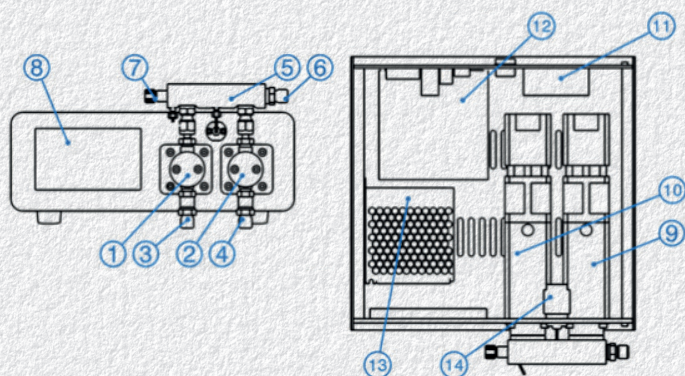
Our high-pressure dosing pumps can be equipped with standard UNF fittings for conventional HPLC applications. However, for use in research and production environments, we rely on compression fittings for stainless steel tubing ranging from 1/16" to 8 mm in diameter. The G1/8" threaded fittings used can be easily replaced by the user at any time.

## Automation Capability

Carino C09 pumps offer a high level of automation capability. In addition to manual operation via the integrated touch display, remote control is supported through both analog signals (4–20 mA) and digital inputs (potential-free contact closures). Three communication interfaces are available: RS232, USB, and Ethernet.

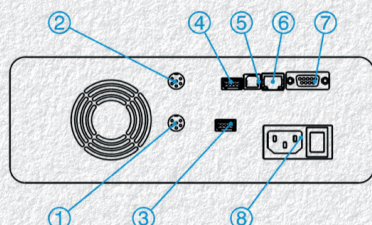
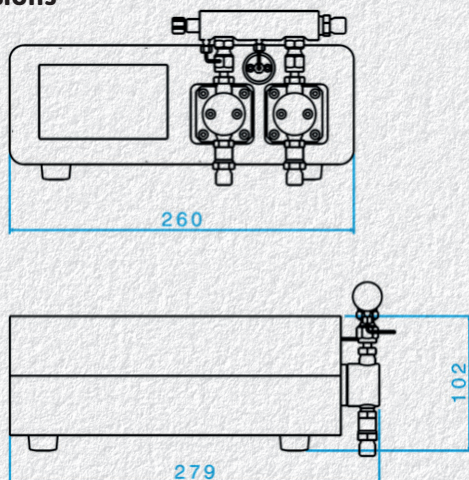






- |                            |                     |
|----------------------------|---------------------|
| 1. left pump head          | 9. right drive      |
| 2. right pump head         | 10. left drive      |
| 3. left inlet connector    | 11. fan             |
| 4. right inlet connector   | 12. control unit    |
| 5. crosspiece              | 13. power supply    |
| 6. pressure side connector | 14. pressure sensor |
| 7. flushing                |                     |
| 8. display                 |                     |

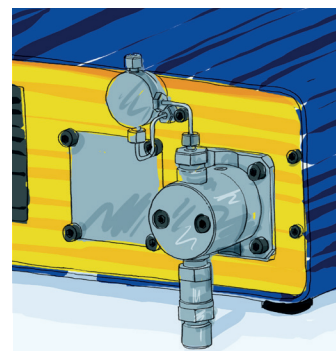
## Dimensions



- |                       |                 |
|-----------------------|-----------------|
| 1. remote pump 2 [mA] | 5. USB          |
| 2. remote pump 1 [mA] | 6. Ethernet     |
| 3. remote pump 1 [V]  | 7. RS232        |
| 4. remote pump 2 [V]  | 8. 115/230 V AC |

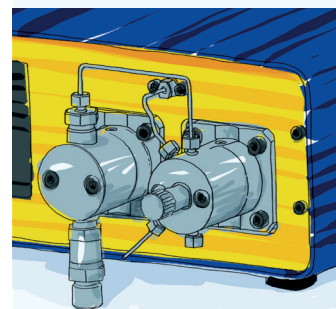
### Carino 09 EK

Dosing pump with a single pump head – optionally equipped with or without an integrated pressure sensor – for batch filling or continuous dosing into an autoclave, reactor, or high-pressure process.



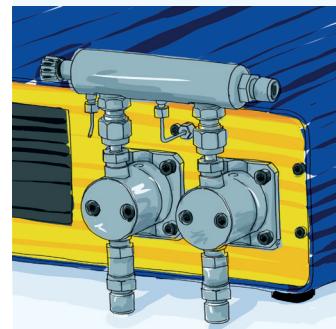
### Carino 09 HK-PF

Pulsation-free dosing pump with working and auxiliary pistons for all analytical and HPLC applications, as well as any dosing processes requiring exceptionally smooth and continuous flow.



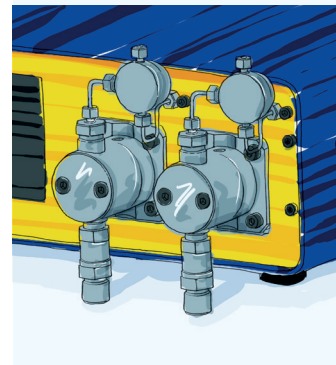
### Carino 09 DK-PF

Pulsation-free dosing pump with two alternating working pistons for continuous, smooth dosing into reactors or other high-pressure processes.



### Carino 09 DK

Dosing pump with two independently controlled working pistons in a compact, space- and cost-efficient design for the precise dosing of two separate fluids.



## Heatable and coolable

For temperature-controlled processes, the pumps can be connected to a thermostat or cryostat, or optionally equipped with electric heating. This ensures that the process-required fluid temperatures are reliably maintained.

## Piston backwash

The pumps are supplied with integrated ports for piston backflushing. This effectively reduces solid deposits and piston wear. In addition, targeted piston cooling prevents vapor bubble formation in liquefied gas applications.



# The Fink Chem+Tec GmbH ...

... is a medium-sized company founded in 1996 as a sole proprietorship. With locations in Leinfelden-Echterdingen and Papenburg, we specialize in the development and production of precision dosing, laboratory, and mixing pumps – primarily for the chemical and pharmaceutical industries.

**At our headquarters in Leinfelden-Echterdingen**, the focus lies on dosing technology: from high-precision PTFE dosing pumps to systems for temperature, flow, and pH regulation. In **Papenburg**, we develop and manufacture custom-tailored transfer pumps equipped with magnetic couplings.

Our pumps are always configured to meet the specific operating point of each customer's process, using optimized design principles and carefully selected materials tailored to the application.

Our product range includes peripheral pumps for liquids, multiphase reaction mixing pumps, and gas circulation pumps – covering everything from lab-scale to full industrial applications. We have a particularly strong specialization in high-pressure and high-temperature solutions.

## Technical parameters C09

properties	C09-5	C05-10	C09-20	C09-40
max. flow [ml/min]	5	10	20	40
min. flow [ml/min]	0,01	0,01	0,05	0,05
stroke volume [µl]	72	72	288	288
piston diameter	1/8" (3,175 mm)		1/4" (6,35 mm)	
max. stroke frequency [Hübe/min]	50			
max. pressure [bar]	150 / 400 / 600		100 / 200 / 300	
max. viscosity [mpas]	100		120	
max. fluid temperature [°C]	60 / 120			
accuracy	< 1%			
Relative deviation (reproducibility)	< 0,5%			
wetted materials	1.4404, Hastelloy, ruby, sapphire, PTFE, PEEK			
power supply	80-264VAC (47-63Hz)			
power consumption [W]	50			
IP class	IP30			
ambient temperature [°C]	40			
dimensions LxBxH [mm]	250 x 260 x 100			
weight [kg]	5			
interfaces	RS 232, LAN, USB, analog control 0 – 10 V / 4 – 20 mA, Start/Stop			

## Pumps tailored precisely to your needs

