

LIQUID CHROMATOGRAPHY PUMPS SEPARTRIX PP 03

SEPARTRIX PP 03 is the first triplex piston pump designed for ambitious preparative chromatography applications. It can be used in applications, where high pressure, precise flow without pulsations and high resistance against corrosion is needed.

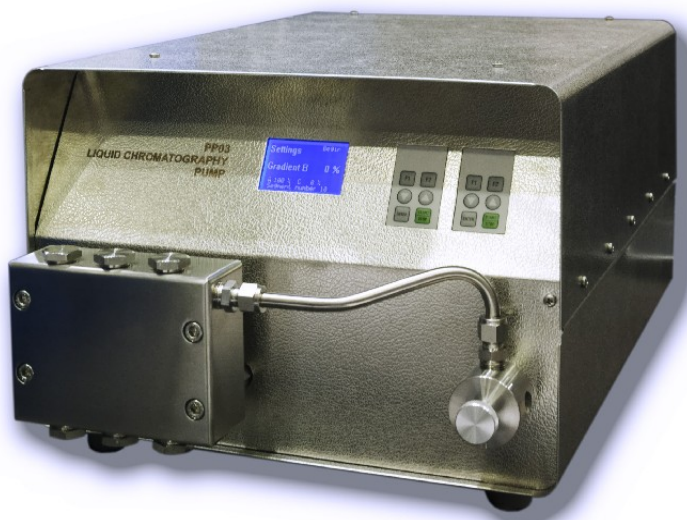
SEPARTRIX PP 03 pump is equipped with unique three piston head for smooth flow and easy maintenance service without a risk of leakage on connecting parts. Back flushed pistons are covered by hard and chemically resistant polycrystalline carbon layer.

SEPARTRIX PP 03 pump can be used without compromise to work both with low pressure and high pressure gradient as offers constant flow rate not only on the output but on the input too.

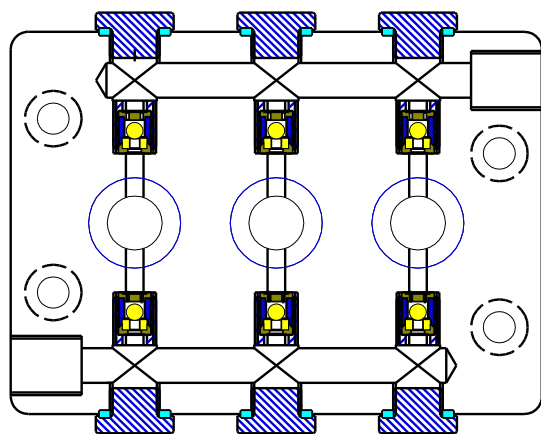
SEPARTRIX PP 03 pump does not employ springs to return pistons. Both front and back pistons movement is provided by cams fully equipped with ball bearings. Piston stroke is thus not dependent on the friction in sealing ring.

SEPARTRIX PP 03 replacing piston sealing price is advantage in comparison with sealing rings commonly used for this application. The needful sealing power is provided by a stainless steel spring placed under the seal.

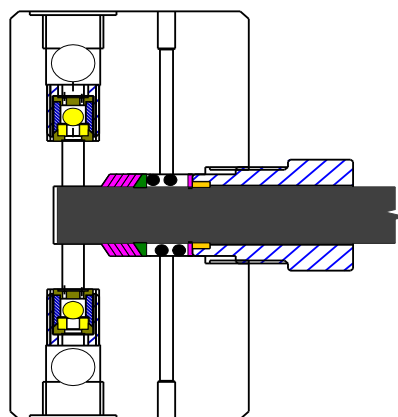
SEPARTRIX PP 03 piston chambers have low dead volume and samples injected through the pump appear low spreading, especially when compared to the membrane pumps.



PP 03 triplex pumps with only one head (made of high quality stainless steel according to DIN 1.4401 - AISI 316) have all connecting channels inside the block. Check valve cartridges are available when a screwed stoppers on the top or the bottom of the head are removed. Liquid output is connected to a single pressure gauge block. Gauge block includes a bypass valve too.



Pump head arrangement



Piston seal arrangement

Piston sealing consists of four conical sealing rings made of PCTFE (polytrifluorochlorethylene) and high molecular weight PE (polyethylene). Wetted part is only PCTFE. Sealing rings are permanently pressed to the seal groove by a short stainless steel spring. Spring house is secondary sealed by a single ring and flushed by a liquid when dissolved solid substances are sucked up (backflushing).

There is a bolt with hole for the piston beneath the spring. Its tightening (reachable from back side of the pumping head) increases sealing efficiency.



-Piston, seal, spring, screw bolt with hole

Asynchronous motors in combination with new generation of vector frequency converters having high torque and stable speed of rotation or heavy step motors are used to actuate PP 03 pumps. Step motors allow to use the pump in extremely broad range of flow rates and such pumps can be thus used both for analytical and preparative applications.

All PP 03 pumps are placed into a case made fully of stainless steel. There is a shielded oblique front panel beyond pumping head where control elements are situated - a back lighted graphic display and a membrane keyboard.

As already mentioned, PP 03 pumps are suitable to work with low pressure gradient mixers which are cheaper and allow sample injection through the pump. G marked PP 03 pumps combine directly the pump unit with three phases low pressure gradient valve (three solenoid valves with nonwettable core). Gradient mixer electronics is installed in the pump and gradient programming is done by an additional keyboard.

SEPARTIX pumps are delivered in three modifications. They vary with piston diameters (10 mm, 14 mm and 20 mm), maximal flow rate and maximal pressure. Maximal piston frequency is in all cases 330 rpm/min.

Type	Description & technical parameters
PP 03C	Three pistons pump, ceramic ball valves, stainless steel head, 20 mm O.D. pistons with diamond layer, 700 W AC motor, vector frequency converter, flow rate 100 ml/min. - 3000 ml/min., 70 bar (1000 PSI), bypass valve, pressure gauging and limit, membrane keyboard, 7 lines graphic display
PP 03A G	PP 03A pump, flow rate 30 ml/min. - 700 ml/min, max. 250 bar (3500 PSI), three phases low pressure gradient mixer included
PP 03B G	P 03B pump, flow rate 30 ml/min. - 700 ml/min, max. 250 bar (3500 PSI), three phases low pressure gradient mixer included
PP 03C G	P 03C pump, flow rate 100 ml/min. - 3000 ml/min., 70 bar (1000 PSI), three phases low pressure gradient mixer included
PP 03SA	Three pistons pump, ceramic ball valves, stainless steel head, 10 mm O.D. pistons with diamond layer, step motor, flow rate 0,4 ml/min. - 400 ml/min., 250 bar (3500 PSI), bypass valve, pressure gauging and limit, membrane keyboard, 7 lines graphic display
PP 03SB	Three pistons pump, ceramic ball valves, stainless steel head, 14 mm O.D. pistons with diamond layer, step motor, flow rate 1 ml/min - 800 ml/min, 150 bar (2100 PSI), bypass valve, pressure gauging and limit, membrane keyboard, 7 lines graphic display
PP 03SA G	PP 03SA pump, flow rate 0,4 ml/min. - 400 ml/min., 250 bar (3500 PSI), three phases low pressure gradient mixer included
PP 03SB G	PP 03B pump, flow rate 0,8 ml/min. - 800 ml/min., 150 bar (2100 PSI), three phases low pressure gradient mixer included

© SEPARLAB 2011

Type	Description & technical parameters
PP 03A	Three pistons pump, ceramic ball valves, stainless steel head, 10 mm O.D. pistons with diamond layer, 400 W AC motor, vector frequency converter, flow rate 30 ml/min. - 700 ml/min, 250 bar (3500 PSI), bypass valve, pressure gauging and limit, membrane keyboard, 7 lines graphic display
PP 03B	Three pistons pump, ceramic ball valves, stainless steel head, 14 mm O.D. pistons with diamond layer, 500 W AC motor with vector frequency converter, flow rate 50 ml/min. - 1400 ml/min., 150 bar (2100 PSI), bypass valve, pressure gauging and limit, membrane keyboard, 7 lines graphic display

SEPARLAB Ltd.
Brazdimska 214, Prague 9
Czech Republic
 tel: 00420 736245343, 00420 242449669
 mail: info@separlab.eu
WWW.SEPARLAB.EU

YOUR LOCAL DISTRIBUTOR