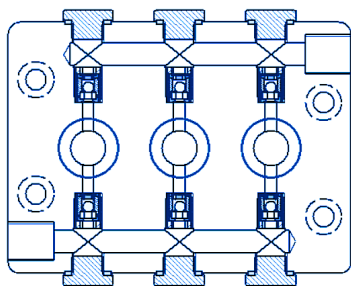


separatrix_{PP03}

MULTI PISTON PUMPS

**Piston pulse less pumps**

Separatrix PP03 are pulse less triplex piston pumps designed for preparative chromatography applications - nevertheless they can be used everywhere, where high pressure, precise flow without pulsations and high resistance against corrosion is needed. Pumps are equipped with unique compact three piston head for smooth flow and easy maintenance without a risk of leakage on connecting parts. Back flushed pistons are covered by hard and chemically resistant polycrystalline carbon layer. Piston cylinders have low dead volume and samples injected through the pump appear low spreading.

Pumps with different flow rate ranges differ only in head type, piston diameters and tubing diameters. **Separatrix PP03** are usually supplied with an asynchronous motor and frequency converter but are also available with step motor which allows using the pump in extremely broad range of flow rates - both for analytical and preparative applications.

Special configurations of **Separatrix PP03** pumps are used for three phases low pressure gradient - in this case is extremely important that these pumps offer nearly constant flow rate not only on the output but on the input too. Low pressure gradient units are delivered with three solenoid valves on the plate which can be connected to the pump side. Power supply for valves is installed inside the pump box. 10 linear steps can be programmed.

Separatrix PP03 pumps are delivered in configuration for high pressure binary gradient as well. Two pumps - master and slave types - are working together. Master pump controls the flow rate and gradient composition (10 linear steps), slave pump is delivered without control display, keyboard(s) and pressure sensor. All **Separatrix PP03** pumps are equipped keyboard(s) and graphic display. There is a possibility to set flow rate, pressure limit and flow correction. A second keyboard is included for gradient programming in case of low pressure gradient pumps and high pressure gradient master pumps.

Separatrix PP03 can be used in mode of remote control. Pumps can cooperate with Clarity data station (Dataapex). Flow rate, gradient composition and pressure limit can be programmed. Control module for PP 03 pumps was successfully tested and agreed by Dataapex. PP 03 pumps can be controlled using Ecom software **ECOMAC** as well

Type	Description & technical parameters
SEPARTRIX PP03 A	Piston pulsless pump, three pistons O.D. 10 mm with diamond layer in one stainless steel head, ceramic ball valves, 620 W AC motor vector frequency converter, flow rate 25 ml/min. – 800 ml/min., 260 bar (3500 PSI), pressure measurement and limit, membrane keyboard, graphic display
SEPARTRIX PP03 B	Piston pulsless pump, three pistons O.D. 14 mm with diamond layer in one stainless steel head, ceramic ball valves, 620 W AC motor with vector frequency converter, flow rate 50 ml/min. – 1600 ml/min., 160 bar (2100 PSI), pressure measurement and limit, membrane keyboard, graphic display
SEPARTRIX PP03 C	Piston pulsless pump, three pistons O.D. 20 mm with diamond layer in one stainless steel head, ceramic ball valves, 620 W AC motor with vector frequency converter, flow rate 100 ml/min. – 3200 ml/min., 80 bar (1100 PSI), pressure measurement and limit, membrane keyboard, graphic display
SEPARTRIX PP03 AG	PP03 A pump, flow rate 25 ml/min. – 800 ml/min., max. 260 bar (3500 PSI), three phases low pressure gradient included, (3 x solenoid valves + connecting armature on own holder+3 x valve power supply in pump unit), second keyboard for gradient control
SEPARTRIX PP03 BG	PP03 B pump, three phases, flow rate 50 ml/min. – 1600 ml/min., max. 150 bar (2100 PSI), low pressure gradient included (3 x solenoid valves + connecting armature on own holder+3 x valve power supply in pump unit), second keyboard for gradient control
SEPARTRIX PP03 CG	PP03 C pump, flow rate 100 ml/min. – 3200 ml/min., 80 bar (1000 PSI), three phases low pressure gradient included, (3 x solenoid valves + connecting armature on own holder+3 x valve power supply in pump unit), second keyboard for gradient control
SEPARTRIX PP03S A	Piston pulsless pump, three pistons O.D 10 mm with diamond layer in one stainless steel head, ceramic ball valves, step motor, flow rate 1 ml/min. – 400 ml/min., 250 bar (3500 PSI), pressure measurement and limit
SEPARTRIX PP03S B	Piston pulsless pump, three pistons O.D 14 mm with diamond layer in one stainless steel head, ceramic ball valves, step motor, flow rate 1 ml/min. – 800 ml/min., 150 bar (2100 PSI), pressure measurement and limit, membrane keyboard, graphic display
SEPARTRIX PP03S C	Piston pulsless pump, three pistons O.D 20 mm with diamond layer in one stainless steel head, ceramic ball valves, step motor, flow rate 2 ml/min. – 1600 ml/min., 70 bar (800 PSI), pressure measurement and limit, membrane keyboard, graphic display
SEPARTRIX PP03S AG	PP03S A pump, flow rate 1 ml/min. – 400 ml/min., 250 bar (3500 PSI), three phases low pressure gradient included, (3 x solenoid valves + connecting armature on own holder+3 x valve power supply in pump unit), second keyboard for gradient control
SEPARTRIX PP03S BG	PP03S B pump, flow rate 1 ml/min. – 800 ml/min., 150 bar (2100 PSI), three phases low pressure gradient included, (3 x solenoid valves + connecting armature on own holder+3 x valve power supply in pump unit), second keyboard for gradient control
SEPARTRIX PP03S CG	PP03S B pump, flow rate 2 ml/min. – 1600 ml/min., 70bar (800 PSI), three phases low pressure gradient included, (3 x solenoid valves + connecting armature on own holder+3 x valve power supply in pump unit), second keyboard for gradient control
SEPARTRIX PP03SM A	PP03S A pump, flow rate 0,5 ml/min. – 400 ml/min., 250 bar (3500 PSI), master pump for binary high pressure gradient, second keyboard for gradient programming
SEPARTRIX PP03SM B	PP03S B pump, flow rate 1 ml/min. – 800 ml/min., 150 bar (2100 PSI), master pump for binary high pressure gradient, second keyboard for gradient programming
SEPARTRIX PP03SM C	PP03S C pump, flow rate 2 ml/min. – 1600 ml/min., 70 bar (800 PSI), master pump for binary high pressure gradient, second keyboard for gradient programming
SEPARTRIX PP03SS A	PP03SS A pump, flow rate 0,5 ml/min. – 400 ml/min., 250 bar (3500 PSI), slave pump for binary gradient, no display, no keyboard
SEPARTRIX PP03SS B	PP03SS B pump, flow rate 1 ml/min. – 800 ml/min., 150 bar (2100 PSI), slave pump for binary gradient, no display, no keyboard
SEPARTRIX PP03SS C	PP03SS C pump, flow rate 2 ml/min. – 1600 ml/min., 70 bar (800 PSI), slave pump for binary gradient, no display, no keyboard

SEPARTRIX PP03 pumps with asynchronous motors are available in variants Ex (ExG), where mechanical part – gearbox, cambox and pistons head with ATEX (T4) motor - is separated from remote box with frequency changer and electronic part of the pump. Remote box has to be placed out of the explosion environment place.