TECHNICAL BROCHURE · HIGH-PRESSURE LABORATORY INSTRUMENTS

HIGH-PRESSURE PUMPS

Syringe Pumps · Continuous Flow · Pressure Controllers · H_2 / CO_2 Solutions

40,000 psi	160 °C	Pulse-free	SS / Hast.
Max pressure	*Heating option*	*Flow output*	*Wetted parts*

OVERVIEW

Pump Product Range

A complete ecosystem for every flow and pressure challenge

01 **SYRINGE PUMPS**

High-pressure precision flow

CF · BTSP / BTDP · BFSP / BFDP · PV

02 **PRESSURE CONTROLLERS**

Confining & back-pressure

ACP · ACP-150 · ABPR

Your supplier of high-pressure laboratory instruments and advanced geotechnical testing equipment

SYRINGE PUMPS

CF-series

Continuous Flow Pump — pulse-free, unlimited flow output

CF pump (front view)

CF pump (rear view)

DUAL-PISTON WORKING PRINCIPLE

The Floxlab CF Series delivers unparalleled accuracy and repeatability, providing critical pulse-free, high-pressure flow metering. Dual motor-driven pistons employ a unique pre-pressurization step — one cylinder dispenses fluid while its counterpart rapidly refills and pre-pressurizes, ensuring a seamless, pulse-free transition.

CF-SERIES SPECIFICATIONS

Model	Pressure (psi)	Volume (ml)	Max Flow (ml/min)
CF 3	3,000	2 × 40	80
CF 6	6,000	2 × 32	55
CF 12	12,000	2 × 15	30
CF 15	15,000	2 × 12	25
CF 20	20,000	2 × 10	15
CF 30	30,000	2 × 5	5

APPLICATIONS Core flooding · EOR · Chromatography · Analytical dispensing · Process calibration

SYRINGE PUMPS

BTSP-series

Benchtop High-Pressure Single Syringe Pumps

BTSP pump

BTSP with cooling jacket

BTSP with heating mantle

The BTSP series provides ultra-precise, pulse-free fluid flow control for both inorganic fluids (e.g., brine, solvents) and organic fluids (e.g., hydrocarbons, microbial solutions). It delivers controlled pressure, flow rate, and volume with capacities up to 40,000 psi, and supports both constant-pressure and constant-flow modes. A high-precision pressure transducer enables real-time monitoring, while two manual isolation valves regulate inlet and outlet flow. The system includes data acquisition and control software for monitoring and analysis.

STANDARD MODELS

Model	Vol (ml)	P (psi)	Q (ml/min)
BTSP 20-40	20	40,000	7.5
BTSP 50-30	50	30,000	20
BTSP 125-20	125	20,000	30
BTSP 175-15	175	15,000	30
BTSP 250-10	250	10,000	60
BTSP 500-5	500	5,000	130
BTSP 1000	1,000	1,875	250

EXTENDED MODELS

Model	Vol (ml)	P (psi)	Q (ml/min)
BTSP 150-30	150	30,000	20
BTSP 250-20	250	20,000	35
BTSP 300-15	300	15,000	40
BTSP 500-10	500	10,000	70
BTSP 1000-5	1,000	5,000	130

OPTIONS Touch-screen · Heating mantle · Cooling jacket · Mixer · Hastelloy

SYRINGE PUMPS

BTDP-series

Benchtop High-Pressure Dual Syringe Pumps

BTDP pump

BTSP with Heating mantles

BTDP with mixers

The BTDP series combines two BTSP pump modules, enhancing system capabilities. Equipped with a pair of pneumatic powered three-way valves for both tank inlet and outlet delivery, the dual pump provides uninterrupted, continuous fluid flow across a comprehensive range of both pressure and temperature conditions. All functionalities and optional features inherent to the BTSP series pumps remain accessible as both individual pump modules can still operate autonomously.

STANDARD MODELS

Model	Vol (ml)	P (psi)	Q (ml/min)
BTDP 20-40	2 x 20	40,000	7.5
BTDP 50-30	2 x 50	30,000	20
BTDP 125-20	2 x 125	20,000	30
BTDP 175-15	2 x 175	15,000	30
BTDP 250-10	2 x 250	10,000	60
BTDP 500-5	2 x 500	5,000	130
BTDP 1000	2 x 1,000	1,875	250

EXTENDED MODELS

Model	Vol (ml)	P (psi)	Q (ml/min)
BTDP 150-30	2 x 150	30,000	20
BTDP 250-20	2 x 250	20,000	35
BTDP 300-15	2 x 300	15,000	40
BTDP 500-10	2 x 500	10,000	70
BTDP 1000-5	2 x 1,000	5,000	130

BTDP = 2 × BTSP with 3-way valves **OPTIONS** Touch-screen · Heating mantle · Cooling jacket · Mixer · Hastelloy

ENERGY TRANSITION

H_2 & CO_2 Liquid Pumps

Specialized syringe pumps for hydrogen and liquid CO_2 applications

Floxlab BTSP pumps can be specially configured for hydrogen (H_2) and liquid CO_2 service — critical fluids for green hydrogen research, CCS/CCUS (carbon capture & storage), and enhanced oil recovery. Custom thermal jackets, Hastelloy wetted parts, and high-pressure ratings guarantee safe and accurate handling of these challenging fluids.

H_2 — HYDROGEN SERVICE

BTSP 500-5 H_2 — Hydrogen application

- Pressure up to 10,000+ psi
- Specialized seals & gaskets
- SS 316 wetted materials
- Low-permeation design
- Safety interlocks & leak detection

Green H_2 · Fuel cells · Electrolyzers · Storage

CO_2 — LIQUID CO_2 SERVICE

BTSP CO_2 pump with cooling bath

- Cooling jacket (sub-ambient)
- Liquid CO_2 state maintained
- Supercritical CO_2 ($scCO_2$) capable
- Thermally insulated cylinder
- High-pressure (up to 10,000 psi)

CCS / CCUS · $scCO_2$ chemistry · CO_2 EOR · Storage

SYRINGE PUMPS

BFSP / BFDP-series

Bench-Floor Syringe Pumps — large volume & mobility

BFSP / BFDP pumps

BENCH-FLOOR SYRINGE PUMPS

LARGE VOLUME

Bench-floor configurations for applications requiring large volumetric capacities (500 to 1,000 ml) with pressure up to 25,000 psi.

KEY FEATURES

- Sturdy chassis with 4 heavy-duty casters
- BFDP dual version with 3-way valves
- Touch-screen control panel
- Heating mantle up to 150 °C
- SS or Hastelloy wetted parts

BFSP / BFDP SPECIFICATIONS

Model	Volume (ml)	Pressure (psi)	Max Flow (ml/min)
BFSP 500-15	500	15,000	40
BFSP 1000-15	1,000	15,000	80
BFSP 500-25	500	25,000	50
BFDP 500-15	2 × 500	15,000	40
BFDP 1000-15	2 × 1,000	15,000	80
BFDP 500-25	2 × 500	25,000	50

COMMON FEATURES

Shared Features

Common across all Floxlab syringe and continuous-flow pumps

Touch-screen control panel — computer-independent operation

Fluid stirrer

01

FLEXIBLE CONTROL

Modes: time, pressure, flow rate, volume, or trigger events

02

TOUCH-SCREEN PANEL

Intuitive front-panel interface for computer-independent operation

03

DELIVER OR RECEIVE

Bidirectional operation: deliver or receive fluid with equal precision

04

FLUID STIRRER

Optional integrated stirrer for homogenized fluid handling

05

WETTED MATERIALS

High-grade stainless steel standard · Hastelloy for corrosive fluids

06

THERMAL OPTIONS

Heating mantle up to 150 °C · Cooling jacket for sub-ambient Temp.

EVERY FLOXLAB PUMP: Ready-to-use · Data acquisition software · System supervision · Advanced analytics

SPECIALTY PUMPS

PV-series & Pharmacia

Pressure Volume pumps and liquid metering solutions

PV-SERIES — *Pressure Volume Pump*

PV-series pump

FEATURES

- Single cylinder configuration
- Ambient temperature operation
- Stainless steel wetted parts
- Supervision software included
- Ethernet connection for data logging
- Horizontal / vertical position

Model	P (psi)	Vol (ml)	Q (ml/min)
PV 200	600	200	70
PV 500	225	500	150

Water pore volume change · Pressure control · Soil studies

PHARMACIA — *Liquid Metering Pump*

Pharmacia liquid metering pump

FEATURES

- Dual-piston antiphase architecture
- Quasi-continuous flow output
- Automatic switchover valve
- Constant flow OR constant pressure modes
- Stainless steel wetted parts
- Computer control via dedicated software

Model	P (psi)	Vol (ml)	Q (ml/min)
Pharmacia	300	2 × 15	20

Solvent injection · Liquid continuous flow

PRESSURE CONTROLLERS

ACP · ACP-150 · ABPR

Dedicated systems for confining, pore and back-pressure regulation

ACP-series

Automated confining pressure

- Servo-controlled confining
- Compatible with triaxial cells
- Closed-loop PID control
- Pressure ramp & hold modes
- High accuracy & repeatability

ACP-150 series

Pressure & temperature controller

- Combined P + T regulation
- Operating temp up to 150 °C
- Reservoir condition simulation
- Heating mantle with PID
- Safety interlocks included

ABPR-series

Automated back-pressure regulator

- Precise pore/outlet pressure
- Maintains downstream conditions
- Pneumatic dome BPR design
- Pressure 10,000 to 20,000 psi
- Gas and liquid service

APPLICATIONS

Floxlab pumps power a wide range of laboratory and industrial systems

H_2 PERMEAMETER
Hydrogen flow studies

CHEMISTRY & PROCESS
Heavy feedstock Pilot plant

FRACLAB
Hydraulic fracturing

SECTORS: Rock Mechanics · Reservoir Engineering · H_2 & CCUS · Hydraulic Fracturing · Petrophysics · Chemistry & Process

GET IN TOUCH

Request a quotation

or technical consultation for any pump model

FLOXLAB — HIGH-PRESSURE PUMPS

Syringe Pumps · H_2 / CO_2 Solutions · Pressure Controllers · Custom Solutions

HEADQUARTERS

Floxlab SAS

23 rue du Port
92000 Nanterre, France

CONTACT

Email contact@floxlab.com

Phone +33 (0)1 81 93 12 85

Web www.floxlab.com

SCAN ME

Visit our website

www.floxlab.com

Full pump catalogue