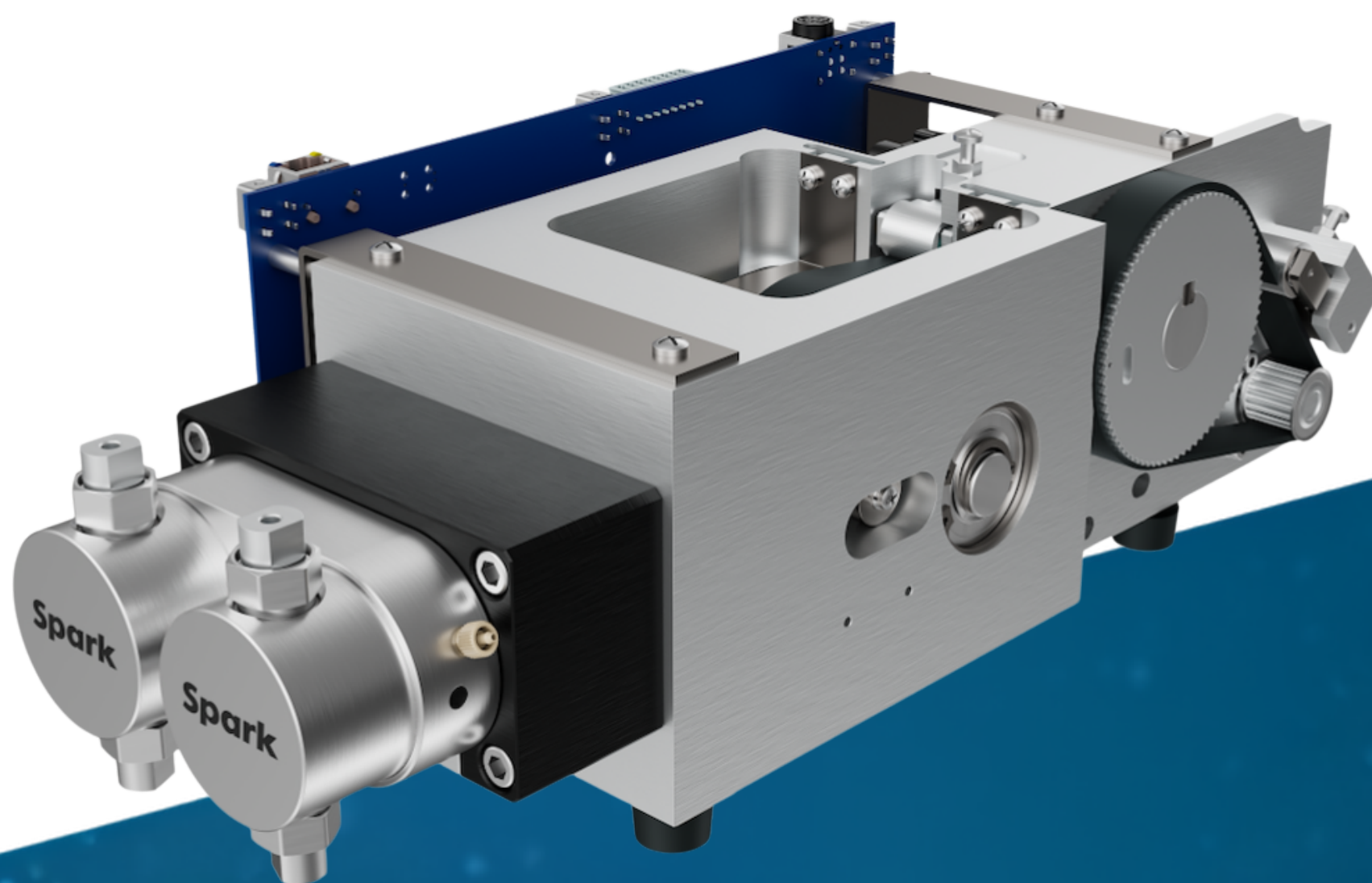




SPH BloX™



High value dual piston pump technology,
fit for integration

➤ sparkholland.com

Better **Sample** Care.

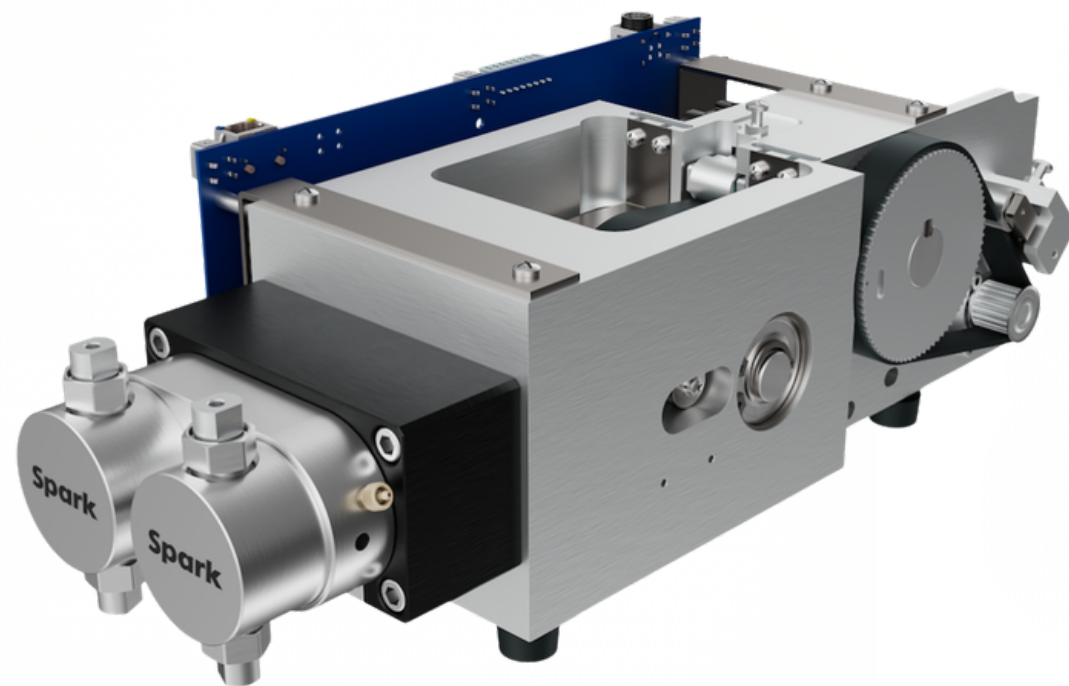
SPH BloX™

Modular, adaptable and scalable

Ultimate customizable pump, supporting wide ranges of applications

SPH BloX™ is a configurable pump platform designed to support the development of chromatography, purification, laboratory automation, and precision fluid-handling systems. Built around a modular dual-piston architecture, SPH BloX™ enables OEM partners to tailor flow rates, pressure capabilities, materials, and system configurations to their specific application requirements.

Whether you are developing a high-performance analytical instrument, an innovative purification platform, or a completely new fluidic solution, SPH BloX™ provides the flexibility, reliability, and scalability to bring your vision to market faster.



**Robust &
proven
technology**



**Fit for
integration**



**Modular
design**



**Pressure
flow control**

Configurable pump architecture

SPH BloX™ is built around a modular mechanical and fluidic concept that supports a wide range of configurations. OEM partners can select pump architectures, pressure options and fluidic components to match their application requirements. SPH BloX™ supports multiple instrument concepts, from precision analytical systems to high-flow preparative solutions, while maintaining a consistent technology foundation.

OEM reference design

SPH BloX™ is based on a reference architecture that can be configured and extended without redesigning the entire platform. The pump modules can be fully integrated into OEM instruments or supplied as standalone solutions.

This approach allows rapid feasibility studies and efficient development of new variants aligned with future product requirements.

Flexible gradient architecture

Depending on the system configuration, SPH BloX™ supports isocratic, binary high-pressure gradient (HPG) mixing, and quaternary low-pressure gradient (LPG) mixing concepts. This flexibility enables implementation across analytical and preparative chromatography workflows while maintaining a shared development platform.

Digital Simulation

SPH BloX™ incorporates a Digital Simulation model that replicates pump behaviour under real operating conditions.

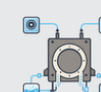
This engineering tool allows OEM partners to evaluate pump configurations, assess feasibility and accelerate development before hardware is manufactured.

SPH BloX™ – a flexible pump architecture that scales with your portfolio

Building blocks



Dual Piston Pump



Degasser sub assembly



Gradient Selection Valve



Biocompatible/PEEK

Pump type



Isocratic



Isocratic including Degasser



Quaternary
Low Pressure Gradient



Binary
High Pressure Gradient

The modular design enables scaling from precision analytical flow to high flow, high pressure processes within a single platform.

The modular design enables scaling from precision analytical flow to high flow, high pressure processes within a single platform

Built for diverse applications

Supporting OEM innovation across markets.

Broad application support

SPH BloX™ supports:

- › Analytical Chromatography
- › Preparative and flash Chromatography
- › Protein purification systems
- › Automated sample preparation systems
- › Solvent delivery and extraction workflows
- › Dosing and fluid metering applications
- › Clinical and laboratory automation instruments

Designed for OEM integration

Spark Holland develops pump solutions exclusively for OEM partners. SPH BloX™ is supplied with the documentation and engineering support required to streamline integration into new or existing instrument designs.

Supporting your innovation

From concept to commercial launch, every step supported.

Support throughout development

The Spark product development team acts as an extension of the OEM engineering organization and supports:

- › Architecture definition
- › Feasibility analysis
- › System integration
- › Control and service documentation
- › Product lifecycle management

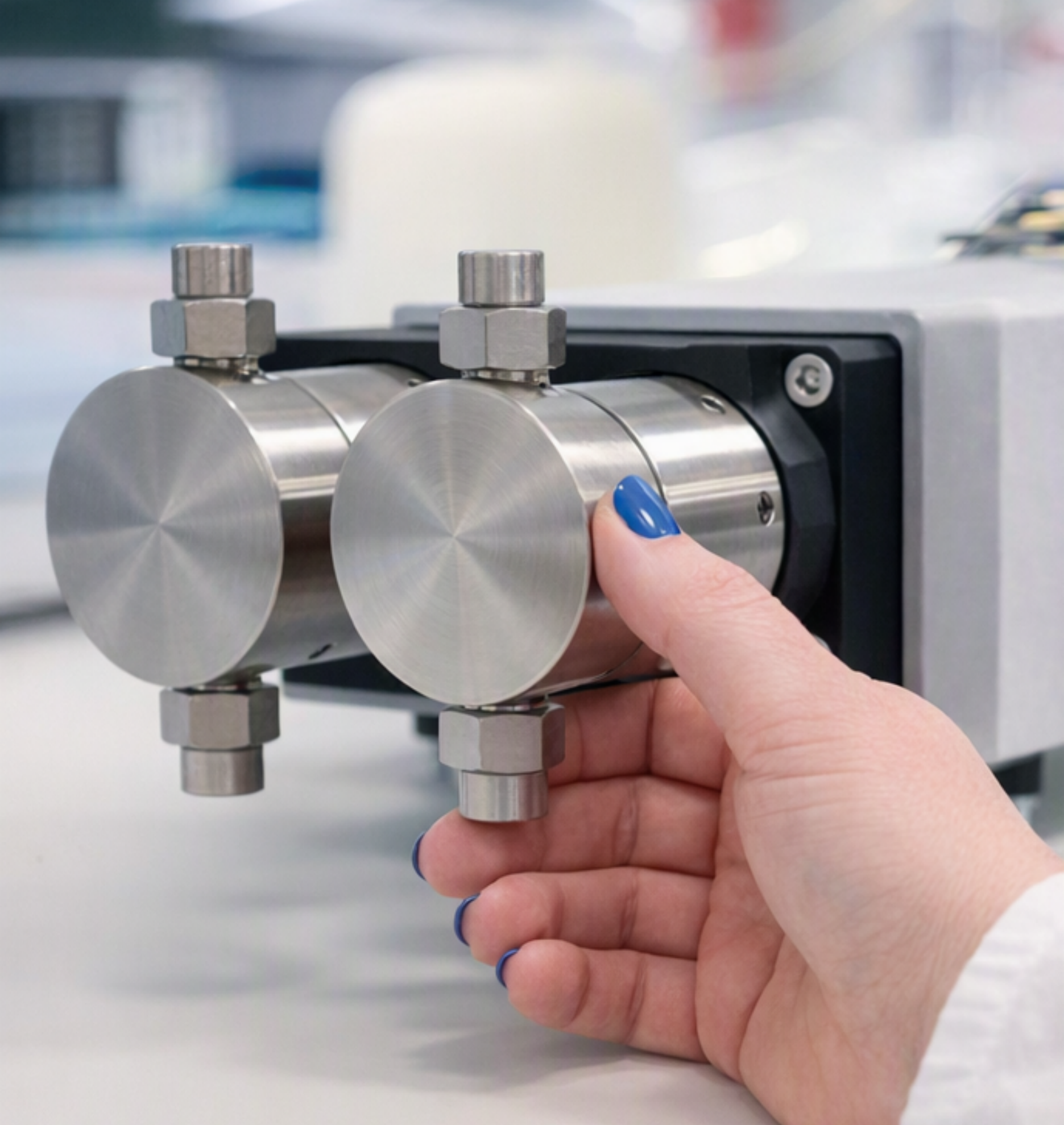
Easy customization

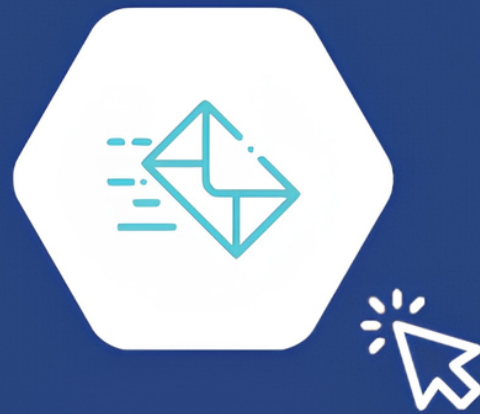
SPH BloX™ allows OEM partners to configure performance and functionality while maintaining a robust and proven technology platform.

The result is faster development, lower risk and a solution that evolves alongside the instrument roadmap.

Specifications

Pump technology	Dual piston displacement pump
Flow range	< 0.01 to 150+ mL/min
Pressure range	Up to 700 bar
Gradient configurations	HPG/LDG
Pressure sensing	Optional integrated sensor
Pressure sensing	Optional integrated sensor
Wetted materials	Broad solvent compatibility
Pump features	Leak sensors, pulse dampeners, priming valves, filters, gradient modules, active piston seal wash
Control electronics	OEM integration ready
Applications	Analytical, preparative and fluid handling systems





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Our technologies

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