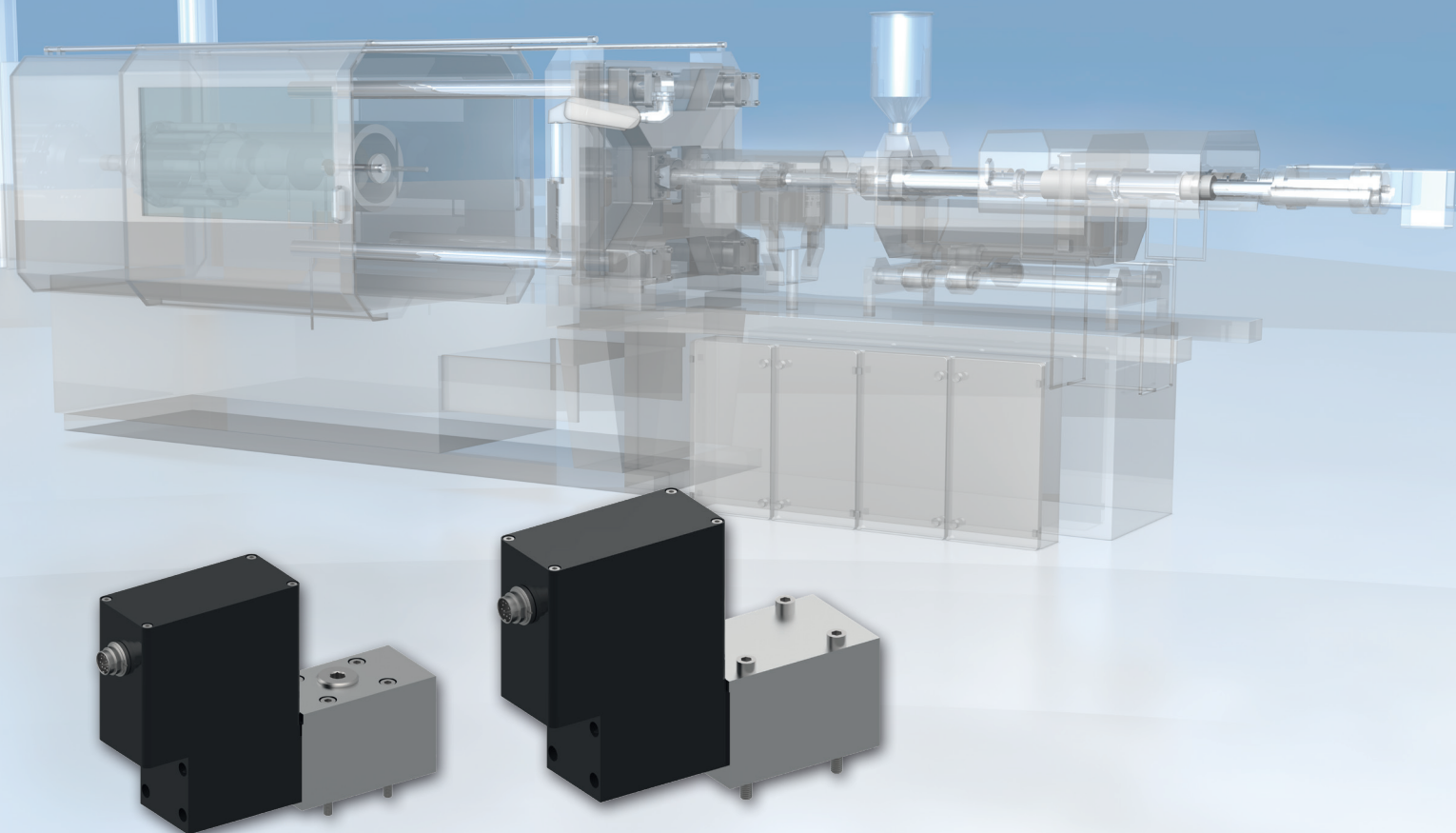


FOSA High-Response Valves

The key to success



Unmatched dynamics and stability

FOSA Closes the Gap Between Two Technologies

The bridge between two technologies

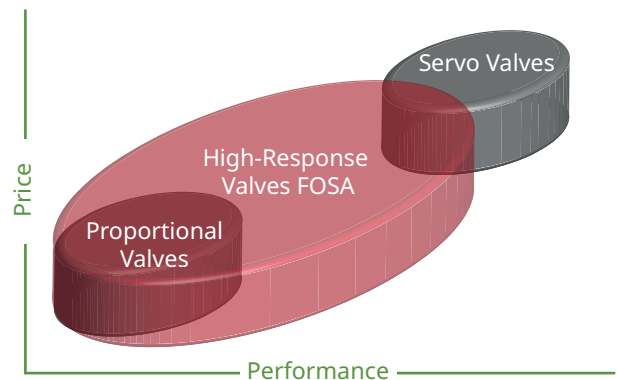
With the launch of the new FOSA high-response valve series, Bucher Hydraulics is setting a new benchmark in fluid technology. For the first time, this innovative valve combines the advantages of proportional and servo technology into a single solution, bridging the gap between the two. While proportional valves are known for their durability and resilience but have limitations in dynamic response, servo valves offer high precision and fast response times but are more sensitive to external influences.

FOSA unites the best of both worlds, redefining efficiency and performance.

By leveraging cutting-edge technology, it reduces energy consumption by up to 60%, while remaining exceptionally robust and offering an outstanding price-performance ratio.

Whether for high-precision control processes or demanding industrial applications, FOSA takes your hydraulics to the next level.

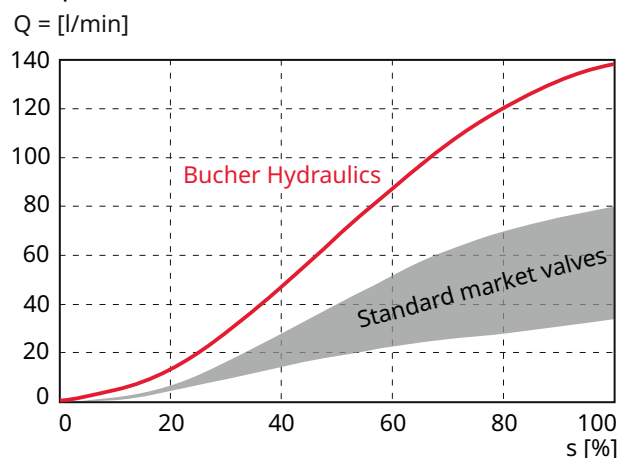
The Technologies in Comparison



Market comparison using NS6 (CETOP 03) as an example

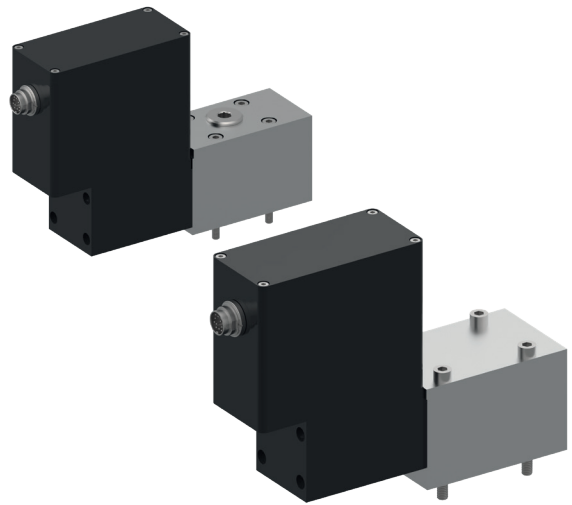
Thanks to its innovative technology, the FOSA high-response valve in NS6 (CETOP 03) achieves the performance level of a conventional NG10 valve. The ability to downsize not only enables significant cost savings but also makes it possible to achieve a more compact and more efficient design. As a result, energy consumption, required installation space, and overall weight can be minimized — without compromising performance. FOSA stands for maximum efficiency and future-ready valve technology.

Volume flow rate adjustment characteristics at Δp 35 bar



Performance data

	NS6 (CETOP 03)	NS10 (CETOP 05)
Product designation	FWKSMH43D-6-...	FWKSMH43D-10-...
Max. flow rate	180 l/min	270 l/min
Nominal flow rate at Δp 10 bar	80 l/min	130 l/min
Nominal flow rate at Δp 35 bar	140 l/min	230 l/min
Max. operating pressure	350 bar	350 bar
Hysteresis	< 0.3%	< 0.3%
Leakage	< 0.6 l/min	< 0.6 l/min
Response time 0 ... 100% stroke	17 ms	17 ms
Connection size	Hole pattern ISO 4401-03	Hole pattern ISO 4401-05



Versatile applications

FOSA high-response valves are used across a wide range of industrial and mobile applications.

In particular, they provide precise control and high dynamic performance in metal forming, wood processing, heavy industry, and mobile attachments.

With exceptional resistance to mechanical stress, temperature fluctuations, and contamination, these valves are perfectly suited for demanding environments.

Various spool options

Thanks to its specially engineered control spool geometries, the FOSA high-response valve provides the optimal solution for all relevant circuit configurations.

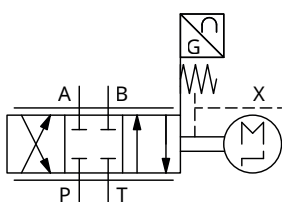
Its innovative stepper motor actuator concept allows the use of a single spool size while delivering exceptional resolution. This intelligent design enables a remarkably broad range of applications with just one base valve.

In addition, it significantly reduces component management complexity and inventory costs, while greatly improving availability.

Key features

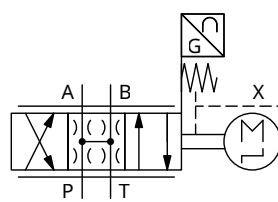
- Outstanding torque density thanks to stepper motor drive
- Electronic position feedback
- Exceptionally stable, dynamic, and robust
- Low hysteresis
- ISO 4401 compliant for manifold mounting
- Instant response behavior
- Virtually load-independent operation
- No pilot pressure required
- Seamless integration into existing hydraulic systems via various control architectures
- High corrosion resistance thanks to zinc-nickel coating

D-spool



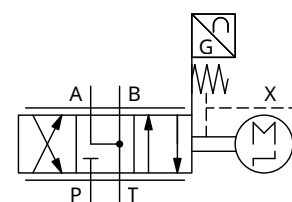
Spool with positive overlap design, for speed and flow control, load regulation via the valve

DZ-spool



Spool with zero-lap design, for position and pressure control, highly dynamic performance

G-spool



Spool with Y-position, load control via downstream valves, hydraulic motors with overrun characteristics

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Bucher Hydraulics AG Frutigen
Schwandstrasse 25
3714 Frutigen, Switzerland
T +41 33 672 61 11
www.bucherhydraulics.com