



Wide range of pressure and flow options

True stepless control and low noise operation

Long trouble free cycle life


Minimal set up time

High stable working closed loop system

PROPORTIONAL ADVANTAGE



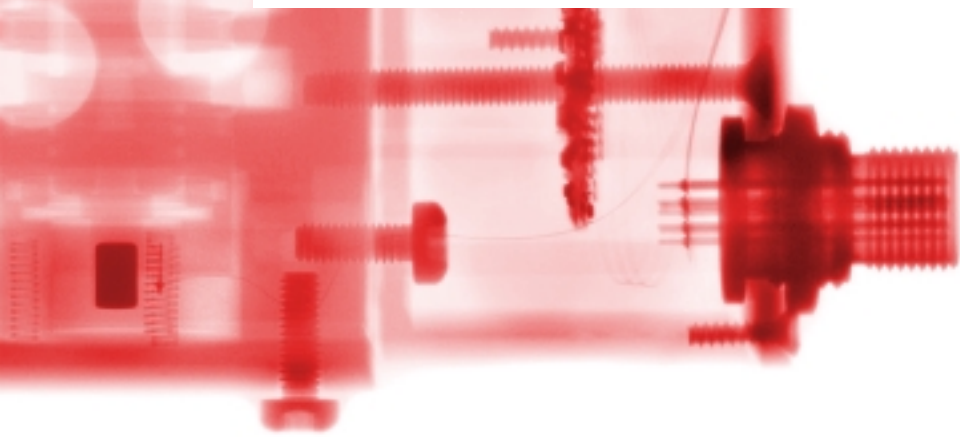
PROPORTIONAL **EXPERTISE**



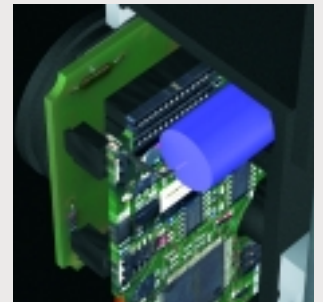
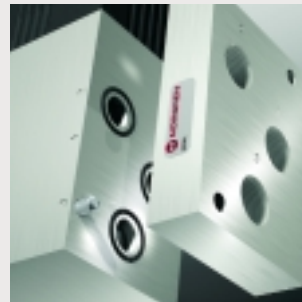
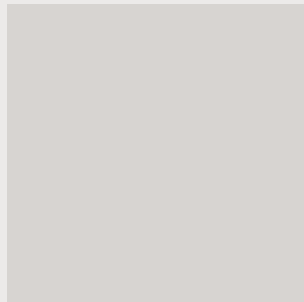
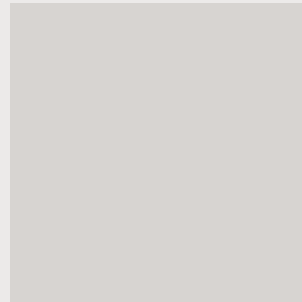
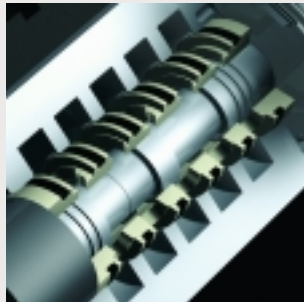
PROPORTIONAL CONTROL IS ESSENTIAL WHEN YOU NEED THE FLEXIBILITY TO CONTROL THE OUTPUT PRESSURE OR FLOW IN AN APPLICATION. THIS CAN BE ACHIEVED WITH SIMPLE PROGRAMMING STEPS.

COMBINING THE PROVEN TECHNOLOGIES OF ITS WATSON SMITH AND HERION SERIES NORGREN OFFERS UNRIVALLED EXPERTISE TO FIND THE RIGHT SOLUTION FOR YOU.

CHOOSE FROM OUR EXTENSIVE RANGE OF PROPORTIONAL VALVES. ANALOGUE AND DIGITAL, OPEN OR CLOSED LOOP, FLOW OR PRESSURE CONTROL.



- » COMPREHENSIVE RANGE TO MEET ALL APPLICATION REQUIREMENTS
- » SMOOTH STEPLESS RESPONSE FOR BETTER RESOLUTION
- » QUIET AND RELIABLE DUE TO PILOT VALVE OPERATION
- » HIGHLY CONFIGURABLE FOR APPLICATION SPECIFIC REQUIREMENTS
- » SHORT SET UP TIME TO INCREASE PRODUCTIVITY
- » DIGITAL ELECTRONICS OFFERS MULTIPLE INTERFACE POSSIBILITIES



The new Norgren pressure and flow control proportional valves incorporate advanced spool and balanced-poppet technologies. Unlike competitive products which rely upon miniature snap-action seats, our valves provide true stepless pressure or flow control. The result is smooth response, low noise, and a long trouble-free cycle life.

On-board digital electronics assure maximum flexibility and ease of tuning for specific application conditions. Self diagnostics, optional digital displays, and a variety of Fieldbus interfaces are all benefits of the microprocessor-based design.

Precise closed-loop performance is achieved via internal pressure feedback (pressure control valves), or spool position feedback (flow control valves).

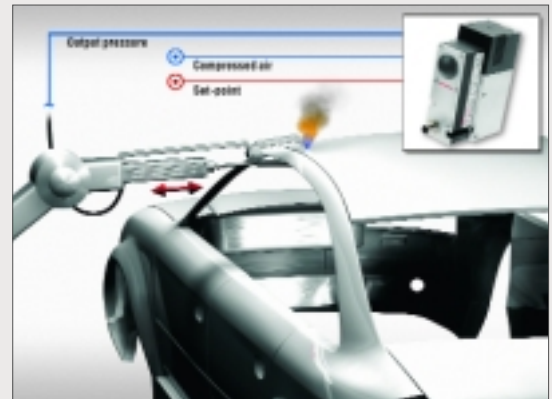
NORGREN ADVANTAGE

PRESSURE CONTROL APPLICATION EXAMPLES

Spot Welding, Material Thickness Control, Brake Pressure Control, Tyre Production, Concrete Moulding, Leak Detection, Blow Moulding, Polishing & Grinding, Vacuum Forming, Stress Testing, Ultrasonic Welding, Pressure Gauge Calibration, Tension Control, Textile Fabrication, Coil Winding, Paper Tensioning, Carriage Movement, Dosing, Material Finishing, Paint Spraying etc.

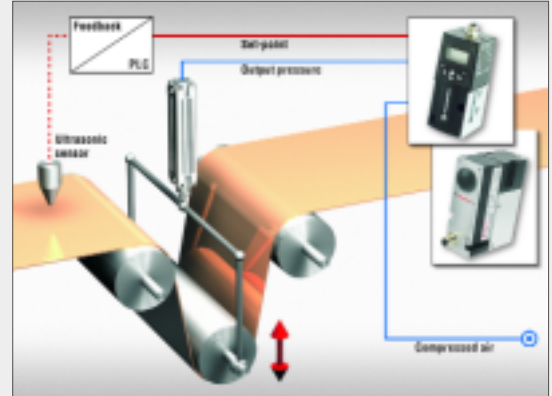
SPOT WELDING

- » RESPONSE SPEED
- » REPEATABILITY



TENSION CONTROL

- » RESOLUTION
- » TRUE STEPLESS CONTROL



LEAK TESTING

- » REPEATABILITY
- » DYNAMIC RESPONSE CHARACTERISTIC

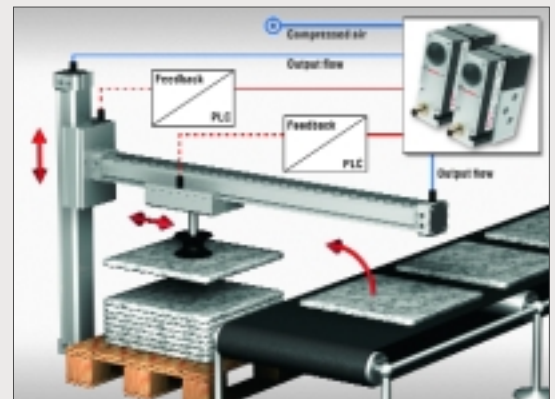


FLOW CONTROL APPLICATION EXAMPLES

Cylinder Motion Control, Paint Spraying, Volume Control, Filling Systems, Positioning, Vacuum Generation, Heat Exchanger.

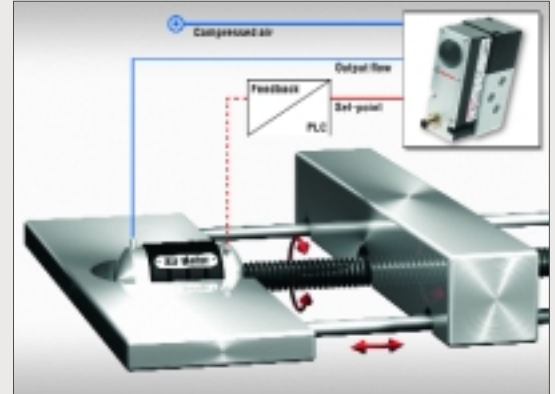
POSITIONING

- >> STABILITY
- >> DIFFERENT UNITS REPEATABILITY OF CONTROL



TORQUE AND SPEED CONTROL

- >> RESPONSE TIME
- >> STABILITY



With Norgren digital control valves, the user can make adjustments to critical parameters such as pressure range, offset, and response time, thus allowing maximum flexibility to suit a broad range of application requirements.

Microcontroller based control electronics permits data transfer with interfaces such as ASI, Profibus and DeviceNet, with the flexibility for further future terminal configurations such as CAN. This offers many advanced features including self-diagnosis and flow linearisation.

In all basic valve versions, tuning is accomplished either through simple potentiometer adjustments or menu-driven programming from the front panel keypad/display. With most versions an optional RS-232 serial port permits downloading of calibration parameters from a PC to the valve.

This saves set up time and assures consistent unit-to-unit performance in OEM applications.

The breadth of Norgren's new proportional range ensures maximum choice for critical application factors such as: low power, low air consumption, unlubricated, lubricated medium, flow rates up to 3,500l/min (40 SCFM), and pressure ranges from 0 - 16 bar (230psi).

A wider range of flows, pressures and control options to cover all your application requirements are available on request.

VP21 PRESSURE CONTROL

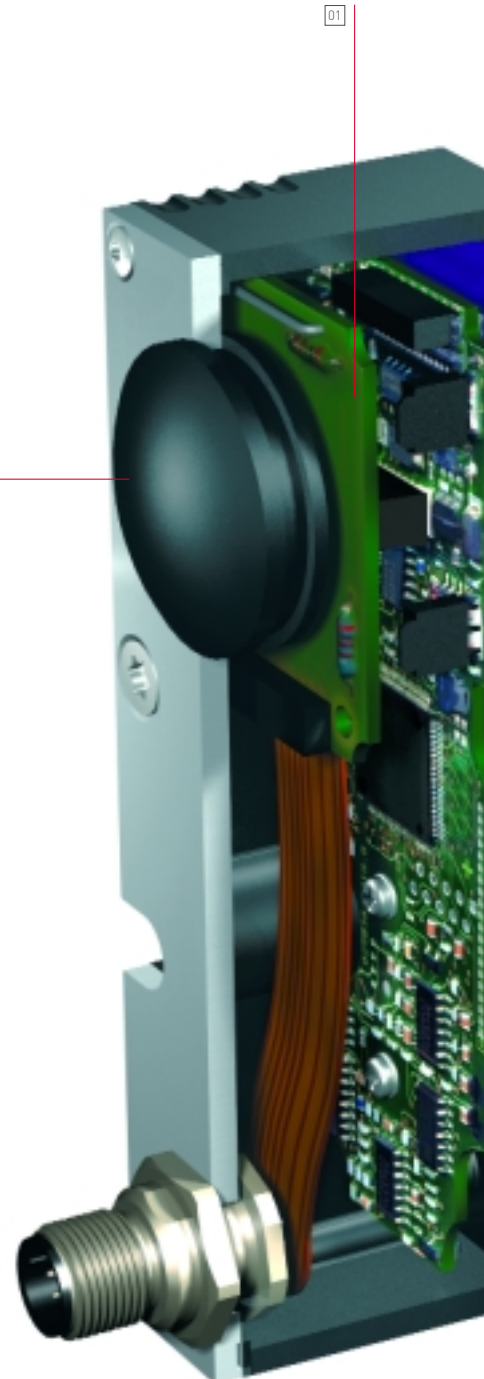
The VP21 3-way proportional pressure regulator is a poppet valve with closed loop pressure regulation and integrated digital electronics.

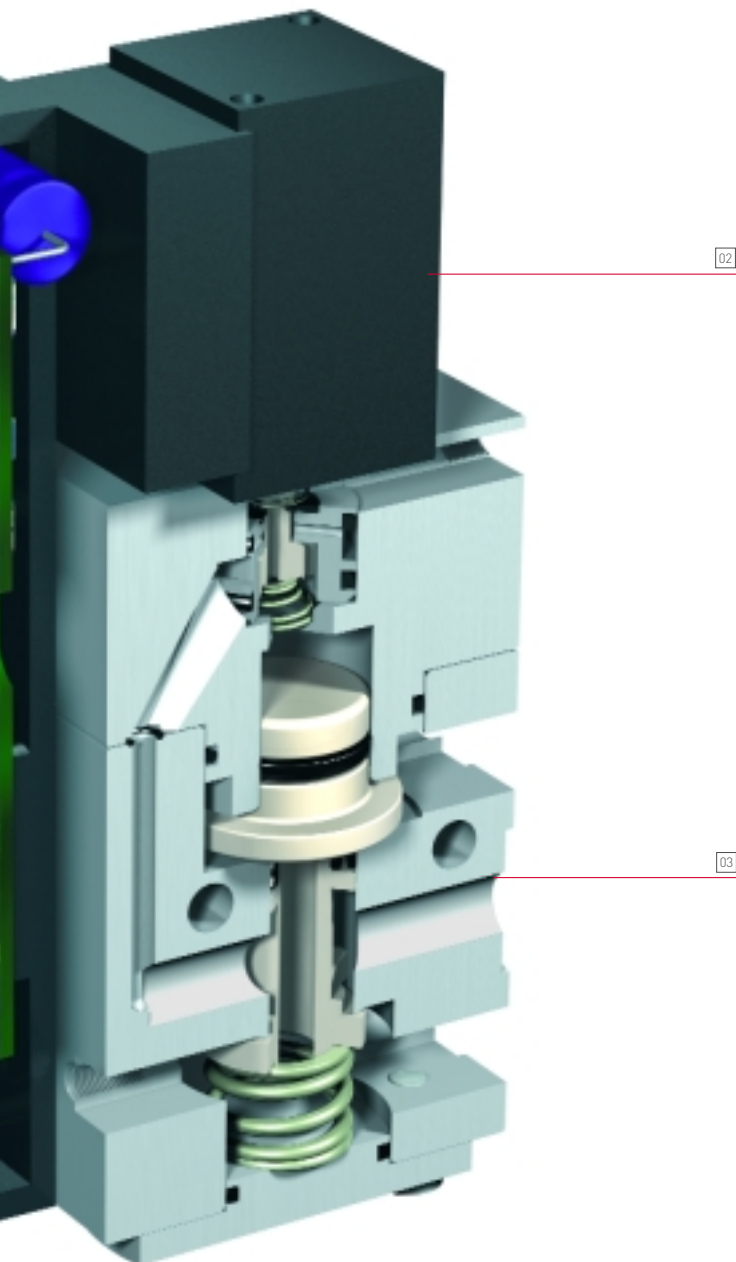
HIGH FUNCTIONALITY

- [01] ALL UNITS INCLUDE AN ELECTRONIC BOARD WITH STATUS LED FOR FAST DIAGNOSTIC
- [02] WIDE RANGE OF STANDARD PRESSURE OUTPUT (2 BAR, 10 BAR, 16 BAR)
- [03] POPPET VALVE DESIGN FOR LONG TROUBLE FREE CYCLE LIFE (LOW FRICTION)
- [04] EASY CONFIGURABLE FOR CUSTOMER APPLICATION

HIGH PERFORMANCE

- >> HIGH REPETITION ACCURACY [$\leq 0,5\%$ P MAX.] ASSURES HIGH PRODUCTION QUALITY
- >> FAST AND STABLE RESPONSE FOR HIGH DEMANDING
- >> HIGH OPERATING PRESSURE MAX. 18 BAR (261 PSI)





- >> **FLOW**
 SIZE 8MM FLOW PATH 3,500 L/MIN [125 SCFM]
 SIZE 16MM FLOW PATH 15,000 L/MIN [535 SCFM]
- >> **OUTPUT PRESSURE RANGE**
 0 - 2BAR (30PSI)
 0 - 10BAR (145PSI)
 0 - 16 BAR (230PSI)
- >> **FILTER**
 50 μ M FILTERED UNLUBRICATED AND
 LUBRICATED COMPRESSED AIR
- >> **PORT SIZES (SUBPLATE):**
 SIZE 8MM G & NPT 1/4", 3/8"
 SIZE 16MM G & NPT 1/2", 3/4"
- >> **SILICONE (LABS) FREE**
 (FOR USE IN AUTOMOTIVE PLANTS)

>> STANDARD VERSION

VP50/1 PRESSURE CONTROL

The VP50/1 is a 3-way pressure regulator that uses an air piloted glandless spool integrated with an accurate pressure close loop control.

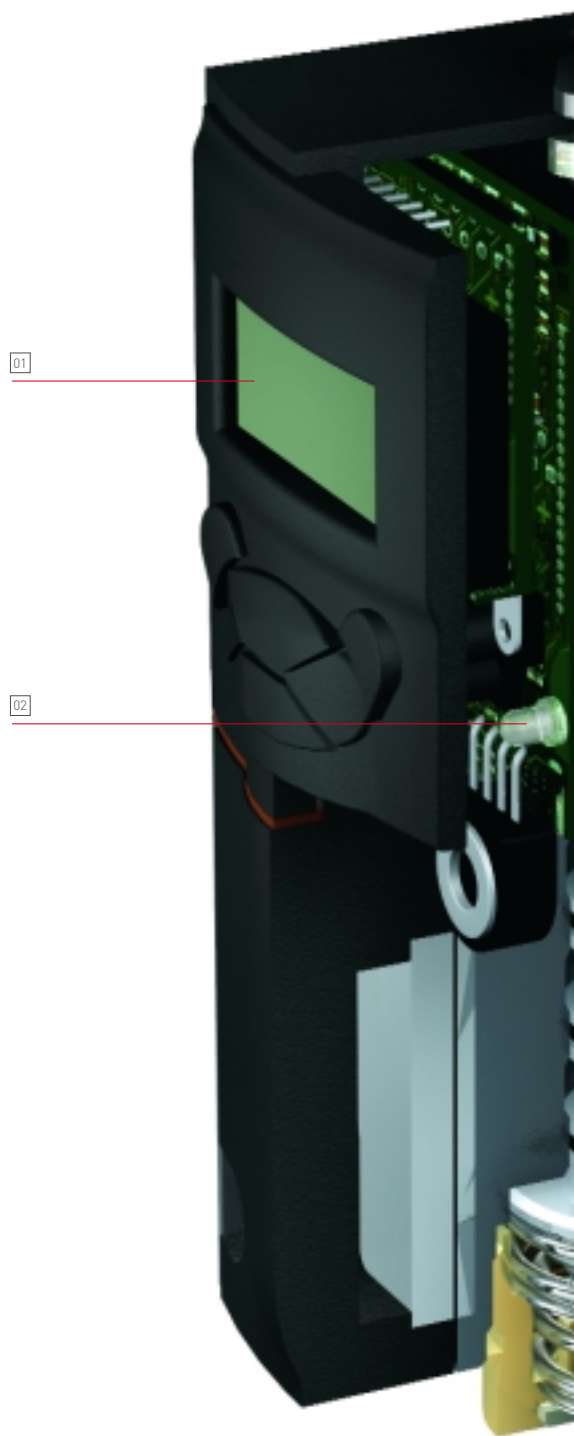
Standard digital control for the VP51

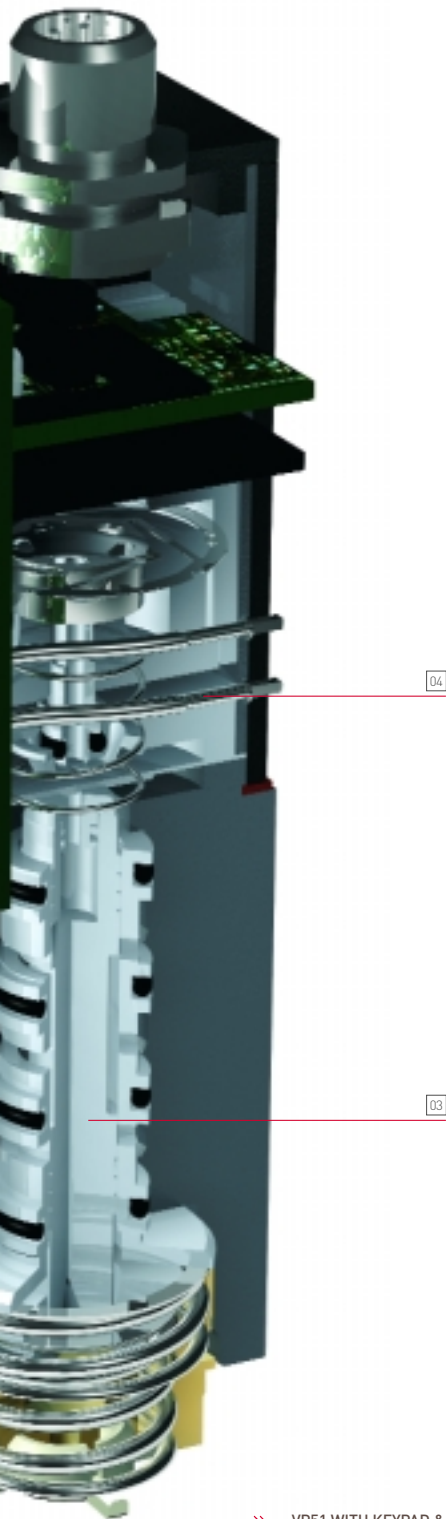
HIGH FUNCTIONALITY

- >> HIGHLY CONFIGURABLE FOR CUSTOMER APPLICATION
- [01] MENU DRIVEN DISPLAY AND KEYPAD FOR USER-SPECIFIC PROGRAMMING (VP51)
- [02] GREEN AND RED LED FOR EASIER VISUAL DIAGNOSTICS AND CONTROL (VP51)
- >> REAL TIME DIAGNOSTICS AND PRESSURE INDICATION AND CONTROL SIGNAL (VP51)
- [03] MENU DRIVEN DISPLAY AND KEYPAD FOR USER-SPECIFIC PROGRAMMING (VP51)
- >> ISO II MANIFOLD OPTION AVAILABLE

HIGH PERFORMANCE

- >> EXCELLENT CONTROL RESOLUTION
- >> REAL TIME DIAGNOSTICS AND PRESSURE INDICATION (VP51)
- >> FAST STEP RESPONSE FOR INCREASED PRODUCTIVITY
- [04] LOW POWER CONSUMPTION. LESS THAN 1W (PILOTED SYSTEM)
- >> HIGHLY ACCURATE, WITH TOTAL ERROR BEING LESS THAN 1% OF TOTAL SPAN
- >> VERY LOW REPETITION ERROR $\leq 0.5\%$ OF TOTAL SPAN





>> VP51 WITH KEYPAD & LCD DISPLAY SHOWN

- >> **FLOW**
SIZE 4MM FLOW PATH : 1,300L/MIN MAX (45 SCFM)
- >> **OUTPUT PRESSURE RANGE**
0 - 2BAR (30PSI)
0 - 6BAR (90PSI)
0 - 10 BAR (145PSI)
- >> **FILTER**
5 MICRONS FILTERED UNLUBRICATED
COMPRESSED AIR
- >> **PORT SIZES**
G & NPT: 1/4"
- >> **OPERATING TEMPERATURE**
-5° TO 50°C

VERSIONS AVAILABLE



>> VP50 ANALOGUE VALVE



>> VP51 DIGITAL VALVE



>> VP51 DIGITAL VALVE
WITH DEVICE NET

(All versions available in size 4mm)

VP60 FLOW CONTROL

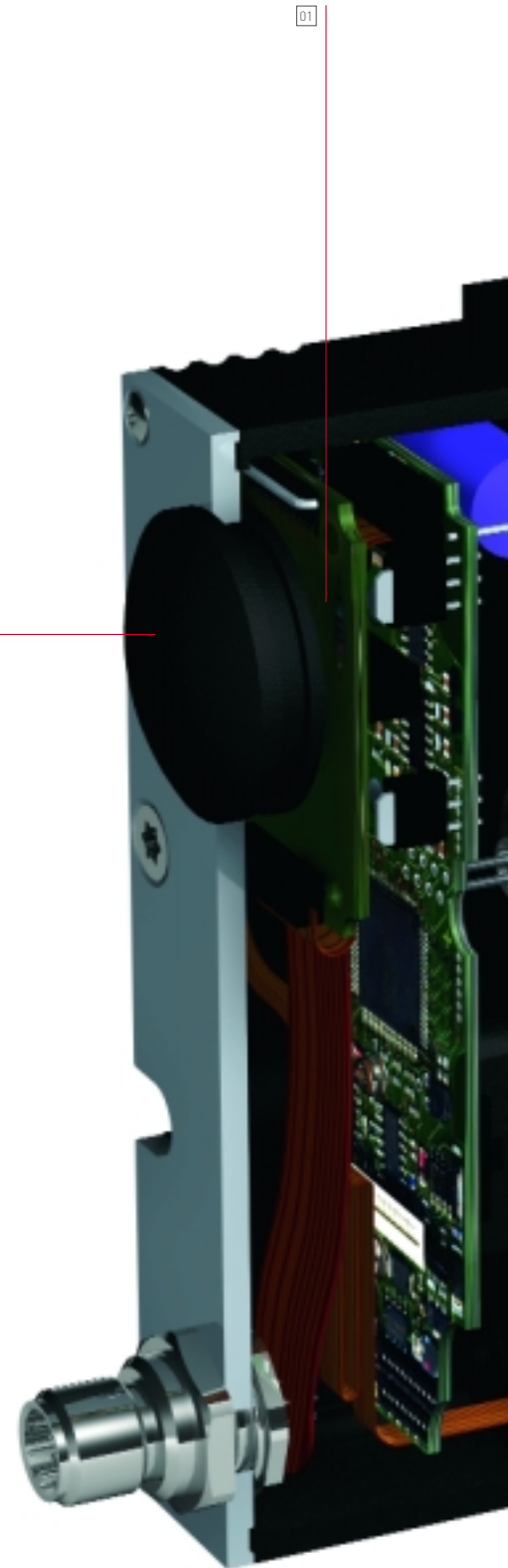
This 5/3 Way proportional flow control valve is a direct operated spool valve with micro-controlled position feedback and integrated digital electronics.

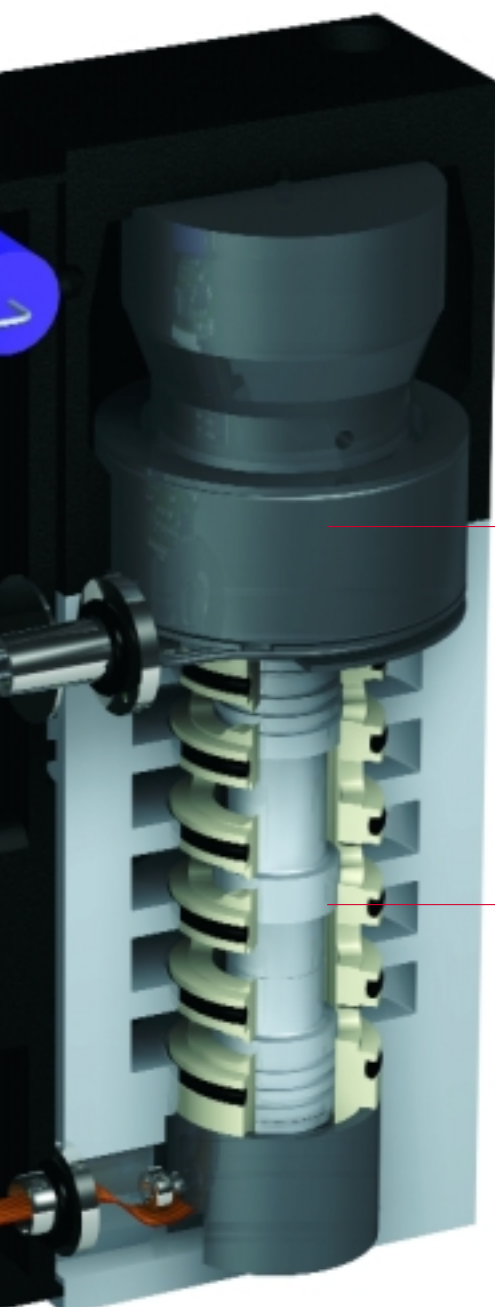
HIGH FUNCTIONALITY

- 01 ALL UNITS INCLUDE A DIGITAL ELECTRONIC BOARD WITH STATUS LED FOR FAST DIAGNOSTIC PLANNED OPTIONS: FIELDBUS, ALL PORTS BLOCKED, FLANGE VERSION
- 02 DIRECT DRIVEN SYSTEM FOR HIGH DYNAMIC DEMANDS
- 03 SPECIAL COATED GLANDLESS SPOOL DESIGN FOR HIGH RELIABILITY
- 04 EASY CONFIGURABLE FOR CUSTOMER APPLICATION SERIAL INTERFACE FOR USER SPECIFIC PROGRAMMING (OPTION)

HIGH PERFORMANCE

- >> HIGH ACCURACY [$\leq 1\%$ MAX. STROKE] ACHIEVED WITH INTERNAL PRECISE SLIDE POSITION CONTROL
- >> BI - DIRECTIONAL FLOW CONTROL
- >> FAST AND STABLE RESPONSE [RISE TIME 5MS WITH 100% AMPLITUDE]
- >> HIGH OPERATING PRESSURE MAX. 12 BAR (174 PSI)
- >> PLANNED OPTIONS: SECOND LOOP CONTROL (SPEED, POSITION, PRESSURE, EXT. FLOW)





02

03

- >> **FLOW**
SIZE 8MM FLOW PATH: MAX OUTPUT FLOW RATE
3600L/MIN (40 SCFM)
- >> **FILTER**
5 μ M FILTERED UNLUBRICATED AND
LUBRICATED COMPRESSED AIR
- >> **PORT SIZES**
G & NPT: 1/4" (ISO2 AVAILABLE ON REQUEST)
- >> **SILICONE (LABS) FREE**
(FOR USE IN AUTOMOTIVE PLANTS)

VERSIONS AVAILABLE



- >> STANDARD WITH MINI KEYPAD
AND STATUS LED



- >> SERIAL INTERFACE AND
OPTIONAL LED DISPLAY

(All versions available in size 8mm)

- >> STANDARD OPTION WITH MINI KEYPAD SHOWN

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