



Directional Control Valves

From Standard
Precision
to Proportional
Intelligence

Directional Control Valve Range

Monoblock Valves 35 – 120 lt/min

Engineered for precision and long-term reliability, our monoblock directional control valves deliver flow rates from 35 to 120 L/min and withstand pressures up to 315 bar. Available for both open-center and closed-center systems, their solid cast-iron body minimizes internal leakage, while multiple spool and control configurations enable optimal performance in mobile hydraulic applications.

Sectional Valves 40 – 150 lt/min

Designed for flexibility and high performance, our sectional directional control valves manage flows up to 150 L/min and pressures reaching 350 bar. Their modular construction allows multiple working sections to be combined in open-center or closed-center circuits, ensuring precise control across complex mobile hydraulic systems.

Directional Control Valve Range

Proportional Valves 5 – 130 lt/min

Our proportional range covers the full spectrum—from simple open-center solutions to advanced load-sensing architectures—with both pre-compensated and post-compensated (flow-sharing) options that enable smooth, simultaneous, load independent multi-function control. With our hybrid design approach, the valves combine cost efficiency with application-oriented precision, ensuring stable performance across diverse mobile hydraulic systems.

Open/closed-center compatibility together with flexible actuator options ensures seamless integration into a wide range of hydraulic applications.



Monoblock Valves



KVM05

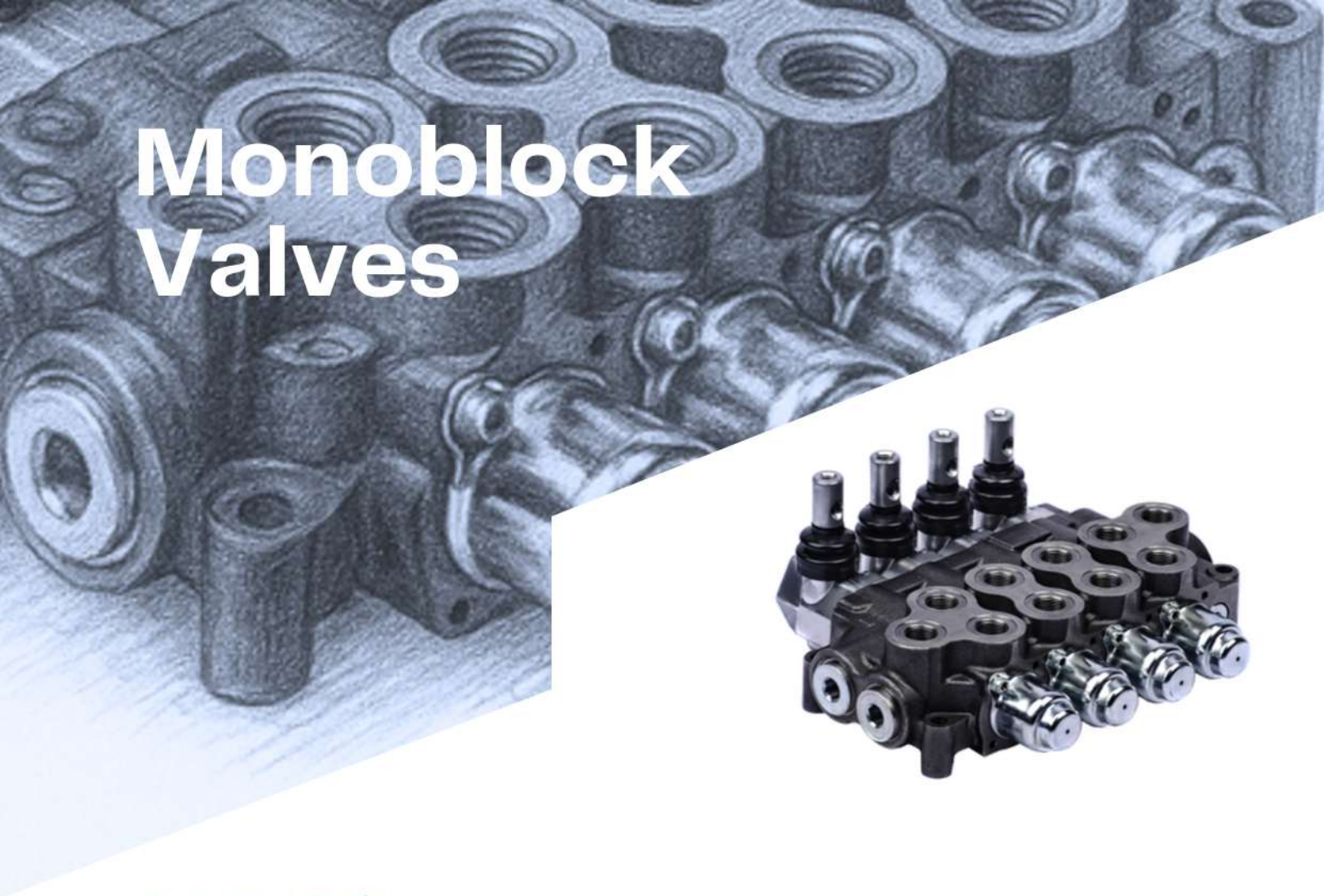
The KVM05 is a compact, single-section monoblock directional control valve designed for reliability and versatility. Its durable cast-iron body and high-precision spool design ensure smooth, efficient control of hydraulic actuators in mobile and industrial applications. With an integrated main relief valve and multiple spool configurations, KVM05 offers optimal performance and flexibility in compact hydraulic circuits.

Key Features

- Compact, single-section design for limited installation spaces
- Integrated, adjustable main relief valve
- Without check valve
- Parallel circuit standard configuration
- Multiple spool and positioner options
- Manual lever and remote cable control
- Ideal for wood splitters, agricultural machinery, industrial presses and power packs

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|---------------------------------|
| 35 L/min 10 US gpm | 1 | BSP G3/8" UNF 3/4-16 (SAE 8) |

Monoblock Valves



AMV50

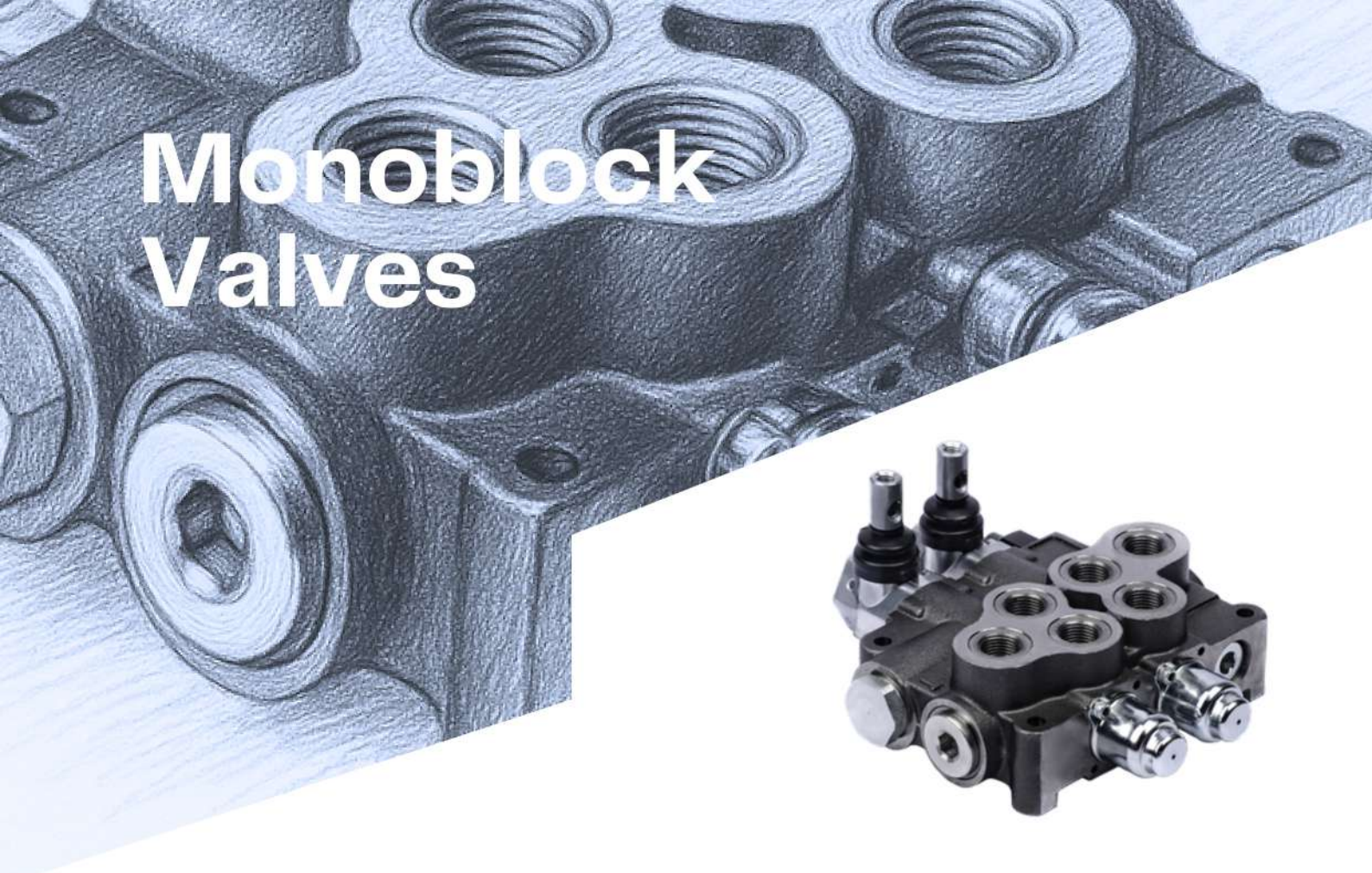
The AMV50 is a high-performance monoblock directional control valve engineered for demanding mobile hydraulic systems. It supports nominal flows up to 50 L/min with maximum pressures up to 315 bar, featuring a robust cast-iron body, integrated relief valve, and versatile section configuration.

Key Features

- Nominal flow up to 50 L/min
- Maximum rated pressure up to 315 bar
- Integrated, adjustable main relief valve
- With internal load hold check valve
- Support for open-centre and closed-centre hydraulic circuits
- Choice of parallel vs series circuit architecture
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic, direct-acting solenoid on-off
- Manual lever, remote cable control and mechanical joystick
- Ideal for mobile machinery, lifting equipment, municipal/agricultural vehicles and compact power packs

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|---|
| 50 L/min 13 US gpm | 1 - 7 | BSP G3/8" - BSP G1/2" UNF 3/4-16 (SAE 8) - UNF 7/8-14 (SAE 10) |

Monoblock Valves



AMV70

The AMV70 is a compact, high-performance monoblock directional valve designed for mobile hydraulic systems requiring both flexibility and power. With a nominal flow of 80 L/min and pressure up to 315 bar, it combines a robust cast-iron body, AMV70 ensures reliable and consistent performance.

Key Features

- Nominal flow up to 80 L/min
- Maximum rated pressure up to 315 bar
- Integrated, adjustable main relief valve
- With internal load hold check valve
- Support for open-centre and closed-centre hydraulic circuits
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic, direct-acting solenoid on-off
- Manual lever, remote cable control and mechanical joystick
- Ideal for agricultural, municipal, and lifting machinery, where mid-high flow meets limited installation space

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|----------------------------------|
| 80 L/min 21 US gpm | 1 - 7 | BSP G1/2" UNF 7/8-14 (SAE 10) |

Monoblock Valves



SM160 / SME160

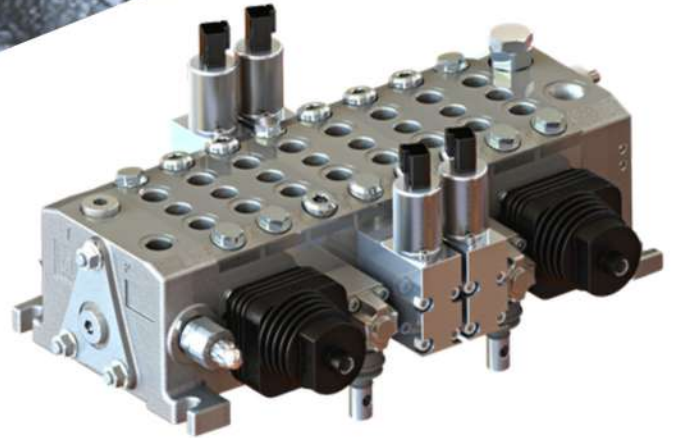
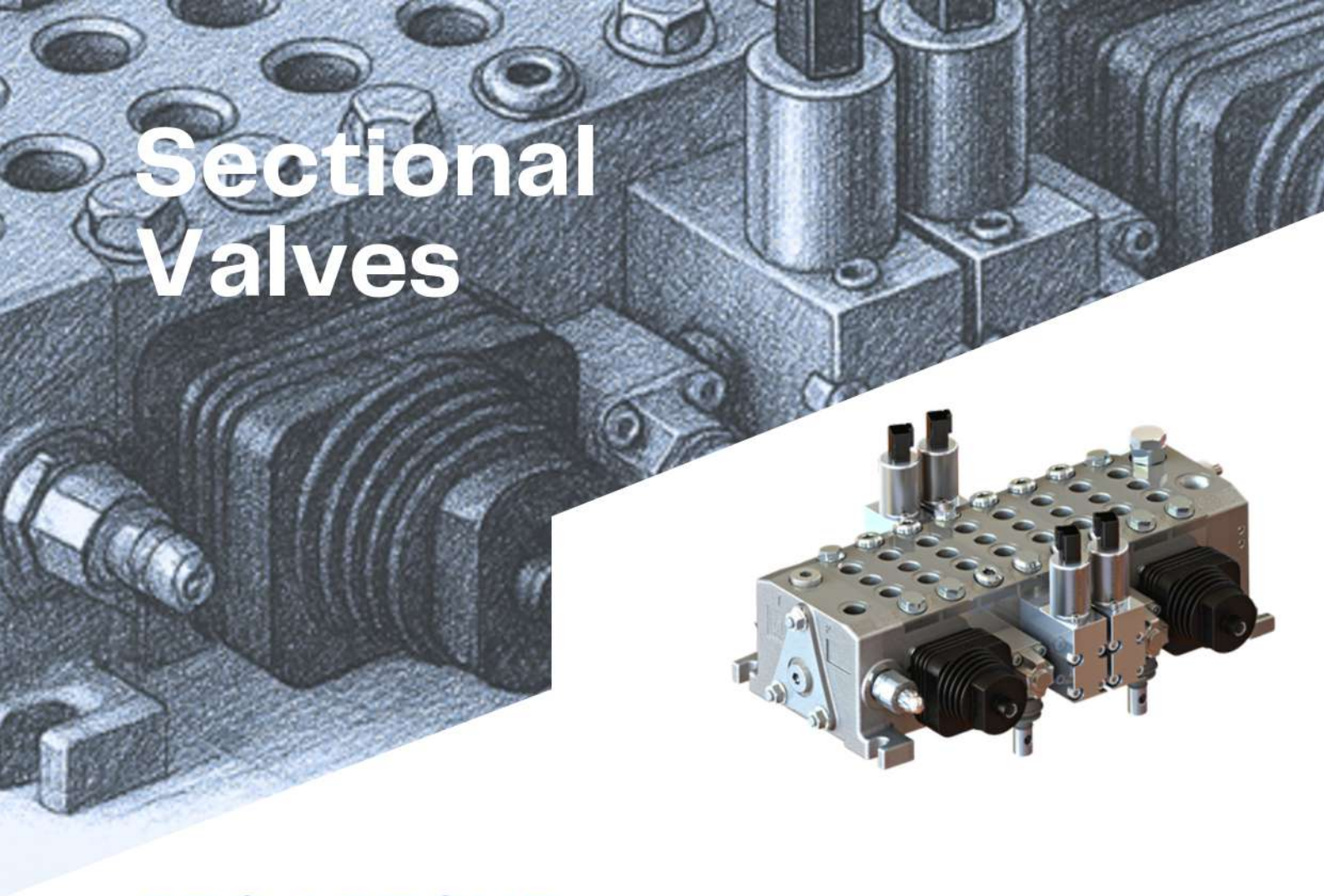
The SM160 is a high-performance monoblock directional control valve designed for open-, closed- and optional load-sensing hydraulic systems. It supports flow rates up to 160 L/min and offers up to 4 working sections. SM160 is the designation for the standard body with mechanical operation, while SME160 refers to the special body equipped with pilot lines for use with electro-hydraulic proportional actuators.

Key Features

- Robust, compact, and modular design
- Symmetrical design enables easy configuration and use
- Load-sensing architecture for efficient and demand-based flow control
- Integrated main pressure relief valve and optional load check valves in each section
- Unloading valve option for higher efficiency and safety
- Wide range of antishock & anticavitation valves
- Optional manual, cable, pneumatic, electro-pneumatic, hydraulic, and electro-hydraulic proportional, CANBus, electro-mechanical actuator (EMA)
- Low internal leakage and high energy efficiency
- Ideal for high-flow mobile machinery including municipal vehicles, truck-mounted systems, construction machines and lifting applications

| Flow Rate | Number of Sections | Port Threads |
|------------------------|--------------------|---|
| 120 L/min 31 US gpm | 1 - 4 | BSP G3/4" - BSP G1" UNF 1 1/16-12 (SAE 12) - UNF 1 5/16-12 (SAE16) |

Sectional Valves



S50 / S50HF

The S50 is a compact sectional directional control valve developed for mobile hydraulic systems requiring efficient flow management in limited installation spaces. Offered in two versions S50 - standard model rated up to 50 L/min and an enhanced version S50HF - capable of reaching 60 L/min. The valve delivers smooth and reliable control for multiple functions. S50 provides flexibility and performance suitable for a wide range of compact machinery applications.

Key Features

- Compact monoblock construction suitable for installations with limited space
- Symmetrical design enables easy configuration and use
- Integrated main pressure relief valve and load check valves in each section
- Unloading valve option for higher efficiency and safety
- Wide range of antishock & anticavitation valves
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic proportional, solenoid
- Manual lever, remote cable control and mechanical joystick
- Ideal for compact mobile machinery, agricultural equipment, municipal machinery, requiring efficient control in space-restricted systems

| Flow Rate | Number of Sections | Port Threads |
|--|--------------------|---|
| 50 L/min – 70 L/min 13 US gpm – 18 US gpm | 1 – 12 | BSP G3/8" – BSP G1/2" UNF 3/4-16 (SAE 8) – UNF 7/8-14 (SAE 10) |

Sectional Valves



LS50

The LS50 is the load-sensing version of S50 series, designed to provide precise flow control and improved system efficiency. By regulating pump delivery according to demand, it ensures smoother multi-function operation and reduced energy losses compared to conventional open-centre systems. The LS50 can be combined in hybrid configurations with SPV120 or SPX80 valves, offering cost-effective load-sensing architecture for both simple and advanced applications.

Key Features

- Maximum flow up to 60 L/min
- Integrated, adjustable main relief valve, load hold check valves in each section
- Inlet options for fixed and variable displacement pumps
- Load-sensing architecture for efficient and demand-based flow control
- Wide range of antishock & anticavitation valves
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic proportional, solenoid
- Manual lever, remote cable control and mechanical joystick
- Ideal for compact mobile machinery, agricultural equipment, municipal machinery, requiring efficient control in space-restricted systems

| Flow Rate | Number of Sections | Port Threads |
|--------------------------------------|--------------------|---------------------------------|
| 5 - 40 L/min 1 US gpm - 11 US gpm | 1 - 12 | BSP G3/8" UNF 3/4-16 (SAE 8) |

Sectional Valves



KV17

The KV17 is a sectional directional control valve designed for mobile hydraulic systems requiring a scalable multi-section architecture. It supports nominal flow up to 80 L/min and working pressure up to 315 bar, and can be configured from 1 to 12 sections for complex hydraulic circuits.

Key Features

- Nominal flow 80 L/min, maximum 90 L/min and maximum pressure rating of 315 bar
- Available in Open-Centre in standard
- Parallel circuit as standard; series and tandem on demand
- Integrated main relief valve, with load hold check valves
- Wide range of interchangeable spool types
- Wide range of antishock & anticavitation valves
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic on-off, electro-hydraulic proportional
- Suitable for multi-function machinery requiring precise and reliable directional control

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|---|
| 80 L/min 21 US gpm | 1 - 12 | BSP G1/2" - BSP G3/4" UNF 7/8-14 (SAE 10) - UNF 1 1/16-12 (SAE 12) |

Sectional Valves



KV19

The KV19 is a high-flow sectional directional control valve designed for mobile hydraulic systems operating under aggressive duty cycles and requiring fast, accurate response. With a nominal flow capacity of 110 L/min and peak capability of 120 L/min, together with a 315-bar pressure rating, KV19 is suitable for equipment demanding rapid metering and dynamic control performance.

Key Features

- Nominal flow 110 L/min, maximum 130 L/min for peak demand conditions
- Maximum working pressure 315 bar suitable for heavy-duty mobile hydraulic circuits
- Special metering spool options available for fast reaction and precise flow control under aggressive operation
- Parallel circuit standard
- Integrated main relief valve and load hold check valves
- Wide range of spools
- Wide range of antishock & anticavitation valves
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic on-off, electro-hydraulic proportional
- Suitable for equipment requiring fast cycle times and accurate flow modulation

| Flow Rate | Number of Sections | Port Threads |
|------------------------|--------------------|-------------------------------------|
| 110 L/min 30 US gpm | 1 - 12 | BSP G3/4" UNF 1 1/16-12 (SAE 12) |

Sectional Valves



KV20

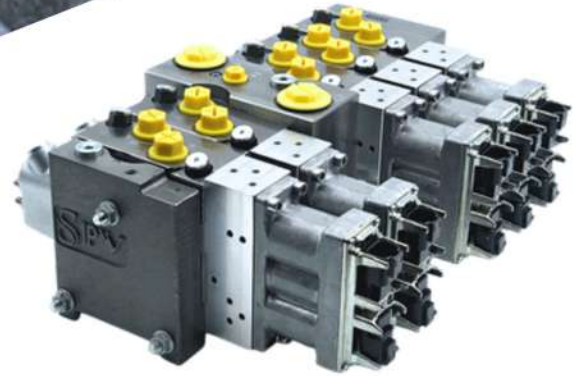
The KV20 is engineered for heavy-duty mobile hydraulic systems requiring accurate control of multiple high-flow functions. Metering spools and modular sectional design ensure reliable multi-function operation under continuous and demanding duty cycles. Configurable with multiple sections for complex hydraulic circuits, the KV20 provides stable performance, fast response and consistent control under high load conditions.

Key Features

- Nominal flow 150 L/min, maximum 180 L/min and maximum pressure rating of 315 bar
- Parallel circuit as standard; series and tandem on demand
- Integrated main relief valve, with load hold check valves
- Wide range of interchangeable spool types
- Wide range of antishock & anticavitation valves
- Multiple spool and positioner options; manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic on-off
- This versatile sectional valve is ideal for backhoe loaders, wheel loaders, garbage trucks, hook and skip loaders, drilling machines requiring stable, reliable multi-function control under demanding duty cycles

| Flow Rate | Number of Sections | Port Threads |
|------------------------|--------------------|--|
| 150 L/min 40 US gpm | 1 - 12 | BSP G3/4" - BSP G1" UNF 1 1/16-12 (SAE 12) - UNF 1 6/16-12 (SAE 16) |

Proportional Valves



SPV120

The SPV120 is a pre-compensated load-sensing proportional valve designed for advanced mobile hydraulic systems requiring smooth, accurate and simultaneous multi-function control. With load-independent metering characteristics, it delivers precise actuator control under varying load conditions. Its modular architecture making the SPV120 suitable for medium-to-high performance mobile machinery transitioning to full proportional load-sensing systems.

Key Features

- Pre-compensated LS valve with independent metering for each section
- Stable actuator speed control regardless of load pressure fluctuation
- Inlet options for fixed and variable displacement pumps
- Unloading valve option for higher efficiency and safety
- LSA/B relief valves and wide range of antishock & anticavitation valves
- Optimized spools for proportional, fine-control operation between 5 - 125 L/min
- Available with various control types: mechanical, friction detent, hydraulic pilot, open loop PWM proportional, electro-mechanical actuator (EMA) and closed loop CAN-Bus, analog signals (0-5V, 0-10V, Ratiometric) and PWM signals

| Flow Rate | Number of Sections | Port Threads |
|--|--------------------|----------------------------------|
| Compensated - 125 L/min 33 US gpm | 1 - 12 | BSP G1/2" UNF 7/8-14 (SAE 10) |
| Non-Compensated - 140 L/min 37 US gpm | | |

Proportional Valves



SPX80

The SPX80 is a post-compensated, flow-sharing proportional valve designed for advanced mobile hydraulic systems requiring smooth, precise and simultaneous multi-function control. Offers load-independent distribution between 5 - 80 L/min flow rating, the SPX80 maintains accurate actuator speeds even when pump flow is insufficient to supply all functions at once. Its modular architecture, making it suitable for compact and mid-size machinery that require enhanced controllability, stability and operator comfort under varying load conditions.

Key Features

- Pre & post compensation option with independent metering for each section
- Maintains proportional actuator speed even under pump flow deficit
- Inlet options for fixed and variable displacement pumps
- Unloading valve option for higher efficiency and safety
- Wide range of antishock & anticavitation valves
- Optimized spools for proportional, fine-control operation between 5 - 80 L/min
- Can be integrated in hybrid architectures with LS50 series
- Available with various control types: mechanical, friction detent, hydraulic pilot, open loop PWM proportional and closed loop CAN-Bus, analog signals (0-5V, 0-10V, Ratiometric) and PWM signals.

| Flow Rate | Number of Sections | Port Threads |
|--|--------------------|----------------------------------|
| Pre-Compensated - 65 L/min 17 US gpm | 1 - 12 | BSP G1/2" UNF 7/8-14 (SAE 10) |
| Post-Compensated - 80 L/min 21 US gpm | | |

Front-end Loader Valves



LVM52

LVM52 a two sections monoblock front loader valve designed for front-end loaders up to 50 l/min. Valve is designed with series circuit and offering excellent operating performance with minimum spool leakage. The rear port construction enables easy piping and assembly of control wires and ready to accept multi-quick couplings

Key Features

- 2 spools monoblock valve suitable for flow rates up to 50 L/min
- Series circuit in standard
- Integrated main pressure relief valve and load check valves in each section
- Wide range of antishock & anticavitation valves
- 4 position float and regenerative functions
- Supplied with remote cable control kits as standard, with a mechanical joystick option available
- Low spool leakage for load holding operations
- Carry-over option

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|---------------------------------|
| 50 L/min 13 US gpm | 2 | BSP G3/8" UNF 3/4-16 (SAE 8) |

Front-end Loader Valves



LVM92 / LVM92LS

LVM92 is a control valve specifically designed for front-end loaders, suitable for flow rates up to 90 L/min and operating pressures up to 250 bar. The valve body is machined to support two configuration options – Open Centre or Load-Sensing – allowing system versatility for different hydraulic architectures. Its rear-port design enables direct connection of multi-quick couplings and provides easy routing of piping and cable control lines. LVM92 delivers stable operating performance with minimal spool leakage.

Key Features

- 2 spools monoblock valve suitable for flow rates up to 90 L/min
- Open center and LS versions available
- Parallel circuit in standard
- Integrated main pressure relief valve and load check valves in each section
- Wide range of antishock & anticavitation valves
- 4 position float and regenerative functions
- Supplied with remote cable control kits as standard, with a mechanical joystick option available
- Low spool leakage for load holding operations
- Carry-over option

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|----------------------------------|
| 90 L/min 24 US gpm | 2 | BSP G1/2" UNF 7/8-14 (SAE 10) |

Front-end Loader Valves



LVM92-EHP / LVM92LS-EHP

The LVM92-EHP is an electro-hydraulic proportional monoblock valve designed for front-end loader applications, available in both open-center and load-sensing versions. Equipped with on-board electronics with ACAS - CAN-Bus control, it enables seamless integration with modern machine control systems and supports remote parameter configuration via WiFiCAN connectivity. Providing a complete plug-and-play solution when combined with Akon's CAN-Bus joystick, the LVM92-EHP delivers precise, smooth and energy-efficient operation for next-generation loader applications.

Key Features

- 2 spools monoblock valve suitable for flow rates up to 90 L/min
- Open center and LS versions available
- Electro-hydraulic proportional control with on-board electronic module
- CAN-Bus communication interface for system integration and diagnostics
- Remote configuration and parameter tuning via WiFiCAN connection
- Plug-and-play system
- Designed for front loader functions with proportional, smooth and precise actuation
- Rear-port design enabling direct connection of multi-quick couplings and simplified piping
- Integrated main relief valve and low spool leakage for stable performance

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|----------------------------------|
| 90 L/min 24 US gpm | 2 | BSP G1/2" UNF 7/8-14 (SAE 10) |

Solenoid Diverter Valves



ASV60

The ASV60 is a 6/2 solenoid-operated diverter valve designed to switch hydraulic flow between two independent circuits, allowing efficient use of auxiliary functions within mobile hydraulic systems. With a nominal flow capacity suitable for medium-to-high duty applications, the ASV60 is engineered as a compact and reliable valve stackable up to 3 valves.

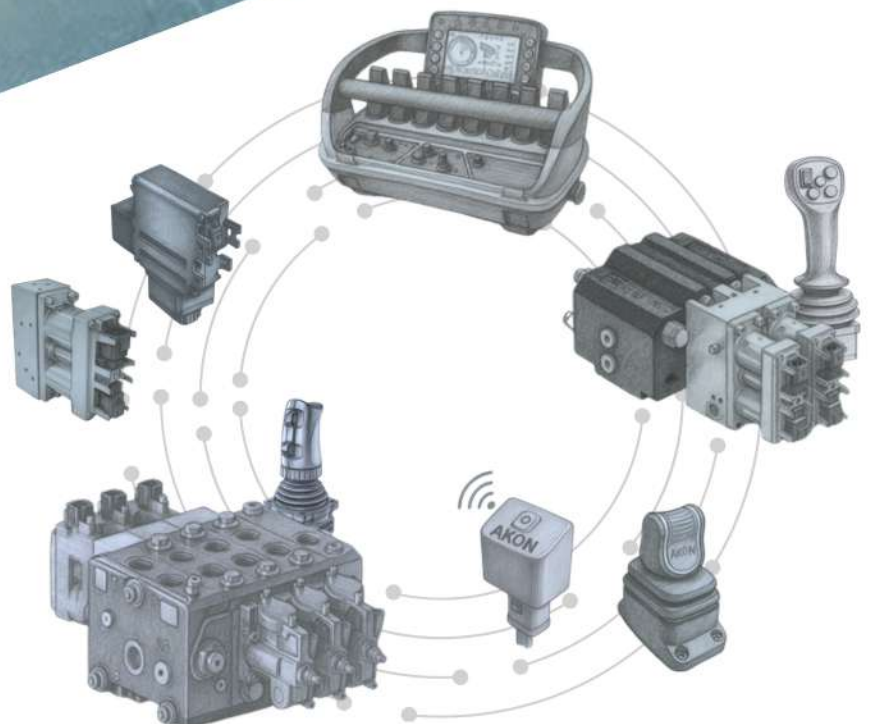
Key Features

- Nominal flow 40 L/min, maximum 60 L/min and maximum pressure rating of 250 bar
- 6/2 solenoid diverter valve for switching flow between two independent circuits
- Compact and robust design suitable for auxiliary hydraulic functions
- It supports high hydraulic power with minimal loss of pressure
- Available with different coil voltage options
- Stackable up to 4 valves

| Flow Rate | Number of Sections | Port Threads |
|-----------------------|--------------------|----------------------------------|
| 40 L/min 11 US gpm | 1 - 4 | BSP G1/2" UNF 7/8-14 (SAE 10) |



Electronic Ecosystem



Features

ACAS[®] Ecosystem

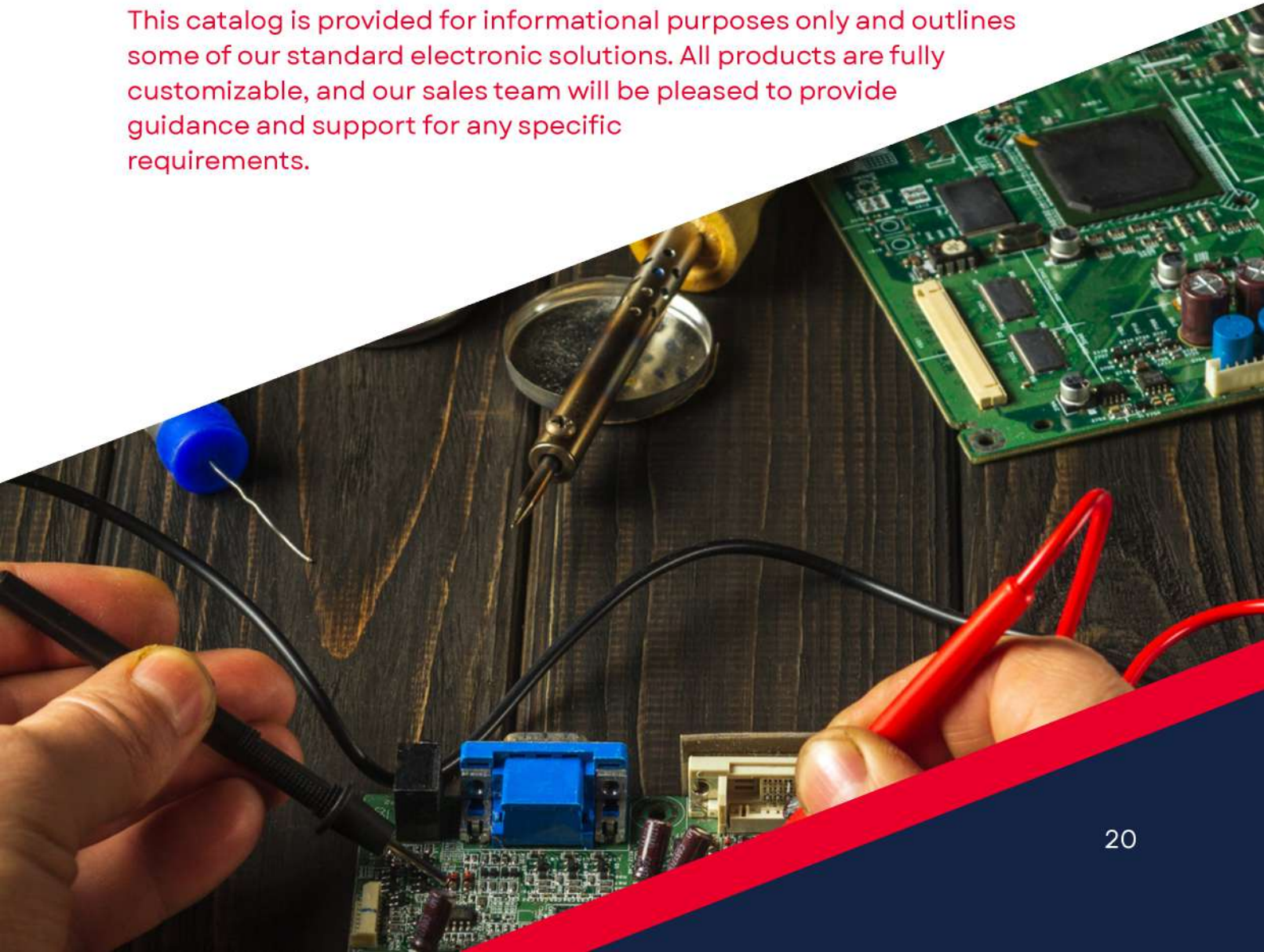
- Easy plug and play installation, reduces the risk of incorrect connections.
- Spool position sensor for extra diagnostics (hall effect).
- Faster system integration with reduced setup and calibration time,
- Optimized performance and reliability through perfectly matched electronic and hydraulic interfaces,
- Remote updates, simplified maintenance and diagnostics via smart connectivity,
- Enhanced flexibility for both OEMs and end users, enabling customized configurations for any machine architecture
- Ensures system integrity with advanced security features.

All in one; Plug & Play

Akon Electronics offers a complete ecosystem of electronic control solutions – including valves, joysticks, electro-hydraulic actuators, electromechanical actuators, finger joysticks, radio remote controllers and WiFi-CAN modules, – all seamlessly integrated to provide plug-and-play solutions for mobile machinery.

This holistic approach transforms complex control systems into efficient, ready-to-install solutions that accelerate machine development and boost overall productivity.

This catalog is provided for informational purposes only and outlines some of our standard electronic solutions. All products are fully customizable, and our sales team will be pleased to provide guidance and support for any specific requirements.





ACAS

Actuator that allows us to make proportional control for various applications. ACAS, SPV120, SPX80 and LVM92 valves are EHP primary components of AKON. Used to facilitate and control movement in the valve systems.



REMOTE CONTROLLER

Remote control is generally used in mobile vehicle-mounted equipment applications with proportional hydraulic valve control in the construction and agricultural sectors.



FINGER JOYSTICK

Finger joystick with color led feedback and electronic detent feature. CANopen, SAE J1939 and Analog (0-5V)



JOYSTICK

coordinate joysticks that incorporates compactness and functionality. All compatible with AKON proportional valves. Directly connected and no additional controller needed.



WIFI-CAN

WIFI-CAN controls messages on the CANBus and brings the power of IoT technology to the field. Provides real-time notifications for technical issues.



ONE DUAL SOLENOID VALVE CONTROL CARD

This card has both analog and CAN (Controller Area Network) inputs. It provides control of a proportional valve with PWM outputs.



DELOCAN

Delocan can be used to access the device information of ACAS, adjust its settings and perform software updates.



ELECTROMECHANICAL ACTUATOR

The step motor actuator ensures fast and precise spool control with reliable positioning accuracy, eliminating the need for additional circuits and maintaining consistent performance under pressure, temperature, and viscosity variations.



Integrated System Components



AKON CLOSED LOOP ACTUTATOR SYSTEM

ACAS (Akon Close Loop Actuator System) is an advanced actuator system that performs position control of hydraulic valves based on the closed-loop principle.

ACAS ensures precise positioning to the target by measuring the real-time position of the valve spool and continuously monitoring this position.

In this way, high accuracy, safety, and system stability are achieved. ACAS communicates using CANopen and SAE J1939 protocols in compliance with industry standards.

It also offers control options through analog signals (0-5V, 0-10V, Ratiometric) and PWM signals.

It is designed to withstand harsh operating conditions with an IP69K protection rating.

It has successfully completed EMC and extensive electrical safety testing and is certified accordingly.

Integrated System Components



PROTECTION AND KEY FEATURES

High Protection Level

Resistant to water, dust, and impacts with an IP69K protection rating.

Electrical Protection

Reverse polarity, overvoltage, short-circuit, open-circuit, and temperature protection. EMC certification is available.

Fast Installation

Plug and Play

Intelligent Error Monitoring

Intelligent Error Monitoring: Fault codes and status messages are transmitted over the CAN network.

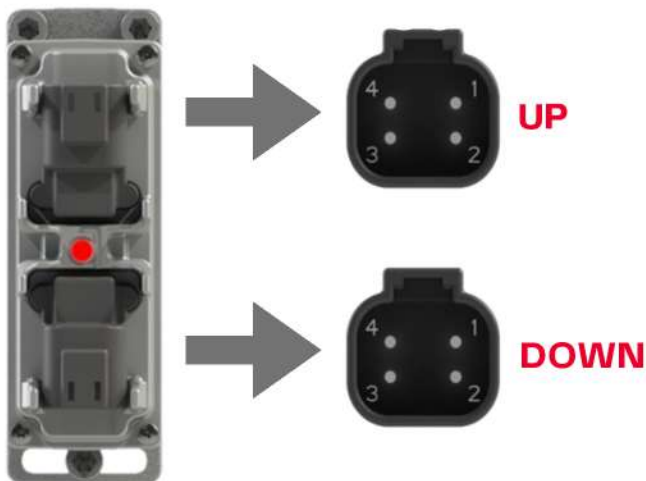
Customizable Parameters

PID, ramp, etc.

Integrated System Components



COVER FEATURES



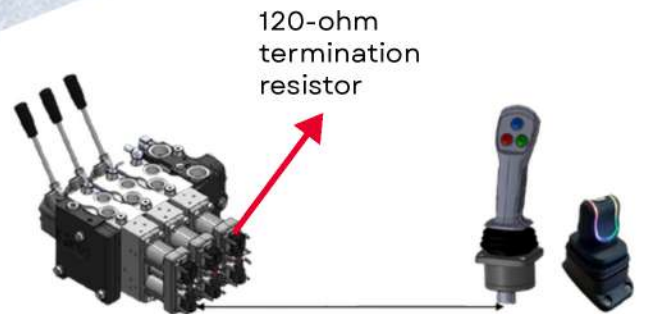
| | CAN-BUS | | ANALOG-VOLTAGE | | PWM | |
|------|---------|-------|----------------|---------------|-----|---------------|
| UP | 1 | VDC | 1 | VDC | 1 | VDC |
| | 2 | GND | 2 | GND | 2 | GND |
| | 3 | CAN-H | 3 | ALARM | 3 | PWM-A |
| | 4 | CAN-L | 4 | ANALOG INPUT | 4 | PWM-B |
| DOWN | 1 | VDC | 1 | MICROSWITCH-A | 1 | MICROSWITCH-A |
| | 2 | GND | 2 | MICROSWITCH-B | 2 | MICROSWITCH-B |
| | 3 | CAN-H | 3 | CAN-H | 3 | CAN-H |
| | 4 | CAN-L | 4 | CAN-L | 4 | CAN-L |

- 1- Only the cover configuration shown above changes to enable different drive modes.
- 2- The drive mode depends on the type of cover mounted on the housing.
- 3- A laser marking on the cover indicates which configuration is active.

The markings are as follows:

- C** - for CANbus mode
- A** for Analog mode
- R** - for Ratiometric mode
- P** - for PWM mode

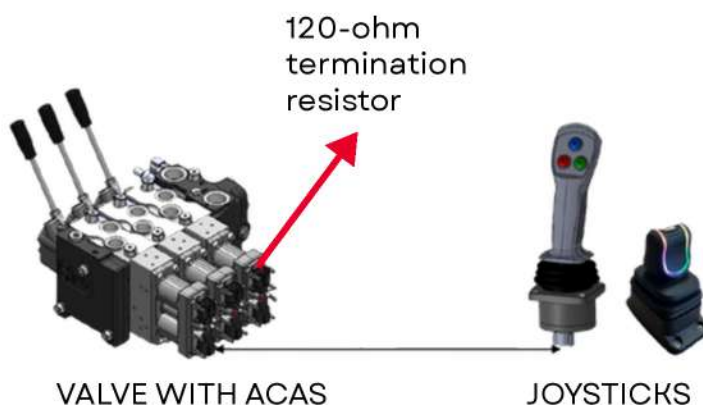
Integrated System Components



ACAS ADVANTAGES

Thanks to its easy installation and plug-and-play features, ACAS offers users rapid integration and effortless commissioning. This way, you will directly experience the ease of use provided by the ACAS ecosystem.

ACAS operates without the need for an external ECU. Equipped with an advanced STM32 microcontroller, it is capable of independently managing drive operations and functioning autonomously.



ACAS units are interconnected via a daisy chain configuration, with a 120-ohm termination resistor placed at the end of the network.

Integrated System Components



ELECTROMECHANICAL ACTUATOR

The latest intelligent pilot control unit guarantees excellent pilot control of the main spool thanks to the high degree of precision and speed. The elimination of an additional low-pressure supply circuit, contributes not only a simplified installation process, but also ensures that the system is robust against external influences such as pressure and temperature fluctuations, viscosity, or contamination.

Performance Data

| | |
|---|---|
| Temperature range for normal operation | - 40 °C to + 100 °C (ambient temp. with circulating air. EMA mounted to a sectional valve) |
| Temperature range for reduced operation | + 100 °C to + 120 °C (ambient temp. with circulating air. EMA mounted to a sectional valve) |
| Working stroke | 22 mm |
| Speed | up to 90 mm/s |
| Forces | typ. max. actuation: 315 N @ 7 A typ. max. holding: 410 N @ 7 A typ. dyn. start up: 410 N @ 8,5 A |
| Repeatability | ± 16 µm |
| Resolution | 6 µm |

Electrical Data

| | | |
|--|-------------------------------------|--|
| Voltage | 12 V | 24 V |
| Operating voltage | $U_{min} = 9 V$ $U_{max} = 16 V$ | $U_{min} = 15,5 V$ $U_{max} = 33 V$ |
| Idle current (without holding current) | 80 mA | 60 mA |
| Holding current | | |
| Extend / Retract | ~ 470 mA | 500 mA |
| Neutral | ~ 180 mA | 300 mA |

Additional data

| | |
|------------------|----------------------------|
| Weight | 1027 g (without gear rack) |
| Protection class | IP6K6 / IPX9K |

Integrated System Components



WIFI-CAN

WIFI-CAN controls messages on the CAN bus and brings the power of IoT technology to the field.

The device enables provides real-time notifications for technical issues. It is specifically designed for valve systems use ACAS and supports UNIQUE ID assignments for efficient identification.

TECHNICAL SPECIFICATIONS

IoT Integration

Real-time message monitoring over the CAN bus.
Remote access and management via IoT technology.

Real-Time Fault Notifications

Identifies which actuator within the valve system has an issue.
Provides instant alerts for quick troubleshooting.

Unique ID Support

Assigns a unique ID to each connected device for simplified identification and management.
Enables efficient device tracking and communication in complex systems.

Integrated System Components



CONNECTION TO ACAS WITH WIFI-CAN

WIFI-CAN allows us to manage a canbus data from the internet. It allows us to read and write can data in acas. For this process; phone, WIFI-CAN and internet are required. The parameter changes we make when there is no internet are kept in memory. Later, when internet access is provided, the changes made are updated in the cloud. In this way, the smallest changes are recorded in the system.

Integrated System Components



REMOTE CONTROLLER

It can be easily used in various types of machinery such as mobile hydraulic machines, construction machines, mining machines, off-road machines, and agricultural machines.

If no operation is performed for 3 minutes, the signal range is exceeded, or the battery is removed, the system switches to emergency stop mode. All models of the remote controllers are equipped with a low battery warning LED and signal LED (the 3-minute timeout is set as default and can be adjusted according to user preference).

All models of the remote controllers can be configured with various types of joysticks, buttons, switches, selectors, and potentiometers upon request (single/double axis joystick, momentary/maintained switch, 2- or 3-position switch, 0-5 selector switch).

With the remote controller, safety and precision are at the highest level. An approval button is included for operator authorization. After operator confirmation, it checks whether the joysticks are in the start position for safety.

Integrated System Components



FINGER JOYSTICK

With its compact size, comfortable use, and colorful feedback, the finger joystick provides elegant and precise control in all your applications.

The finger joystick uses different colors for each direction and a separate color for the neutral position, enhancing ease of use in your application through clear visual feedback.

Thanks to the electronic detent feature, you can perform continuous movements without keeping your finger on the joystick by simply pressing a dedicated button.

It can be easily integrated into your system with CANopen, CANJ1939, and analog control modes.

Integrated System Components



JOYSTICKS

While performing axial movements with a 2-axis joystick, you can also assign various functions using the button configurations on it, allowing you to carry out any desired operation.

Enables precise axial movements through 2-axis control. Additional button configurations on the joystick allow for custom function assignments. Facilitates the execution of multiple functions simultaneously, enhancing operational efficiency and versatility. Operates over the CAN bus and can be configured to any desired device ID. Equipped with a DEADMAN function for operator and environmental safety.

The system remains inactive unless the joystick is firmly held, preventing unintended operation. Provides visual (LED indicators) and tactile (vibration) alerts when the joystick is not properly gripped. Prevents accidental movements in case of unintended contact or impact. A selector switch located on the back allows dynamic reconfiguration of all button functions on the joystick. Enables flexible operation by adapting button assignments to different functions or modes as needed.

Integrated System Components



ONE DUAL SOLENOID VALVE CONTROL CARD

In modern hydraulic and pneumatic systems, precision and flexibility are of great importance. The One Dual Solenoid Valve Control Card is a high-precision control solution designed to meet these requirements.

This card features both analog and CAN (Controller Area Network) inputs and provides PWM outputs for precise control of a proportional valve. Thanks to its M12 connectors, it offers a robust and reliable connection. It features a single-channel output, which can be configured as PWM. It provides 2A output power per channel. The CANbus communication protocol is supported, allowing the operation of valves that work with CANbus.

Integrated System Components



DELOCAN

The Delocan device is a single-channel high-speed CANBus - USB interface. It provides easy, robust, and versatile communication between your computer and the CANBus line.

It converts messages from the **CANBus analyzer** into the appropriate CAN communication type and sends them to the CANBus line, while also transferring the corresponding device messages from the line to the CANBus analyzer. Delocan can be used to access the device information of connected devices, adjust their settings, and perform software updates.

HOW TO USE?

The connection between the device and the computer is established via the cable shown in the diagram. There are three connection points:

- 1) USB Port:** Must be connected to the USB port of your computer.
- 2) 4S Deutsch Socket (male):** Must be connected to the 4S Deutsch socket (female) of the ACAS device.
- 3) External Power:** External power must be supplied (12V/24V). If all connections are made correctly, the system will be ready for data communication via the CANBus Analyzer.

Integrated System Components



CONNECTING TO THE CAN LINE WITH CHAIN STRUCTURE

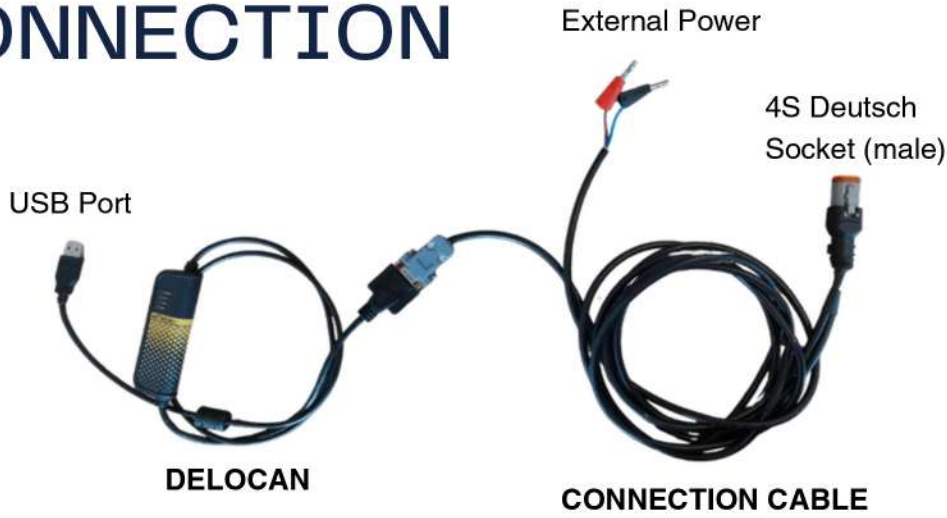
There are two connectors on the ACAS device, and in the CANbus configuration, these two connectors are the same and all pins inside the ACAS are bridged together. As shown in the diagram, the pin configuration is as follows:

- 1st pin: VCC
- 2nd pin: GND
- 3rd pin: CAN-H
- 4th pin: CAN-L

The required connections are as follows: provide positive voltage to all VCC pins in the system, provide negative voltage to all GND pins in the system, and connect all CAN-H and CAN-L pins together. To connect the ACAS devices to each other, a cable is made with both ends having a 4-way Deutsch socket. Through these cables, all pins of the ACAS devices are bridged together. Afterwards, power is supplied from any point on the power line. To prevent the CANBus from malfunctioning, 120-ohm resistor can be added to the CANBus. The appropriate CAN communication type and sends them to the CANBus line, while also transferring the corresponding device messages from the line to the CANBus analyzer. Delocan can be used to access the device information of connected devices, adjust their settings, and perform software updates.

Note: Scan the QR code on the Acas, the pin configuration changes depending on which type of cover you use.

DELOCAN CABLE KIT CONNECTION



CAN ANALYZER PROGRAM

On the CAN Analyzer program interface, you can view **message reading**, **message writing**, and other optional operations. Below, you can see the **program interface** and the **CAN bus messages of the connected system**.

Canibus Analyser v.1.28 Beta

Command Device Settings Record Viewer

Port sec: 250 k ACTIVE Connect USBCAN Start Record

Commands Bootloader Can FD

Bootloader

Activate Boot Mode Reset AKON VALF

Load

Rolling Trace Fixed Trace Console

| ID | DLC | DATA1 | DATA2 | DATA3 | DATA4 | DATA5 | DATA6 | DATA7 |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|
| 0000005Dh | 8 | 09 | 23 | 00 | 24 | 78 | 56 | |
| 000001EDh | 8 | B6 | 80 | 87 | 80 | 80 | 80 | |
| 0000028Dh | 8 | F6 | 20 | 00 | C8 | 8C | C9 | |
| 0000078Dh | 1 | 05 | | | | | | |

STATUS/CONTROL

| Subindex | Name | Max | 1 |
|----------|--------------------------------|------|---|
| | Closed Loop Control Parameters | | |
| 1 | Spool-in min. (µm) | 2500 | 0 |
| 2 | Spool-in max. (µm) | 2500 | 1 |
| 3 | Spool-in inc_ramp (ms) | 3000 | 1 |
| 4 | Spool-in dec_ramp (ms) | 3000 | 1 |
| 5 | Spool-out min. (µm) | 2500 | 0 |
| 6 | Spool-out max. (µm) | 2500 | 1 |
| 7 | Spool-out inc_ramp (ms) | 3000 | 1 |
| 8 | Spool-out dec_ramp (ms) | 3000 | 1 |

Download Download All CANBUS START CANBUS STOP CANBUS PREOP

Global Availability and Remote Support





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