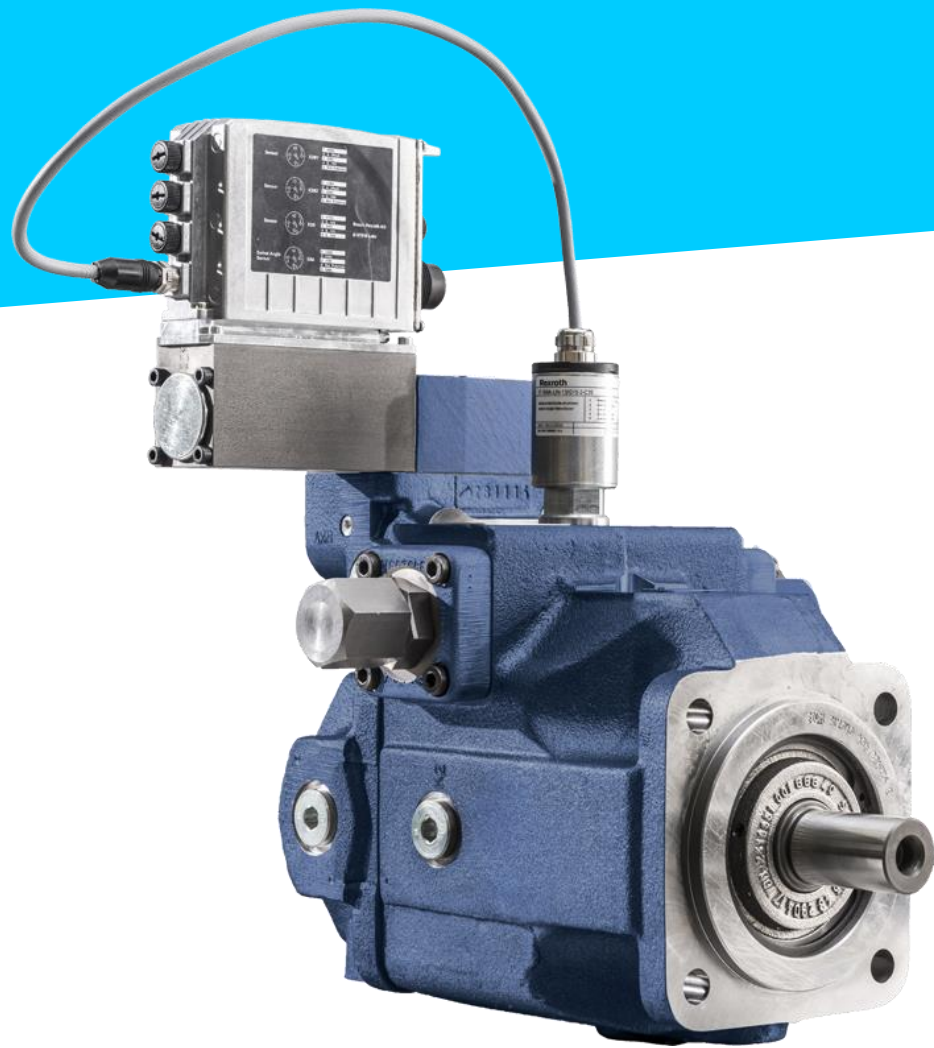


# Axial piston variable pump A4... HS5E

Digital on-board electronics (OBE) for electrohydraulic swivel angle control, pressure control and torque limitation

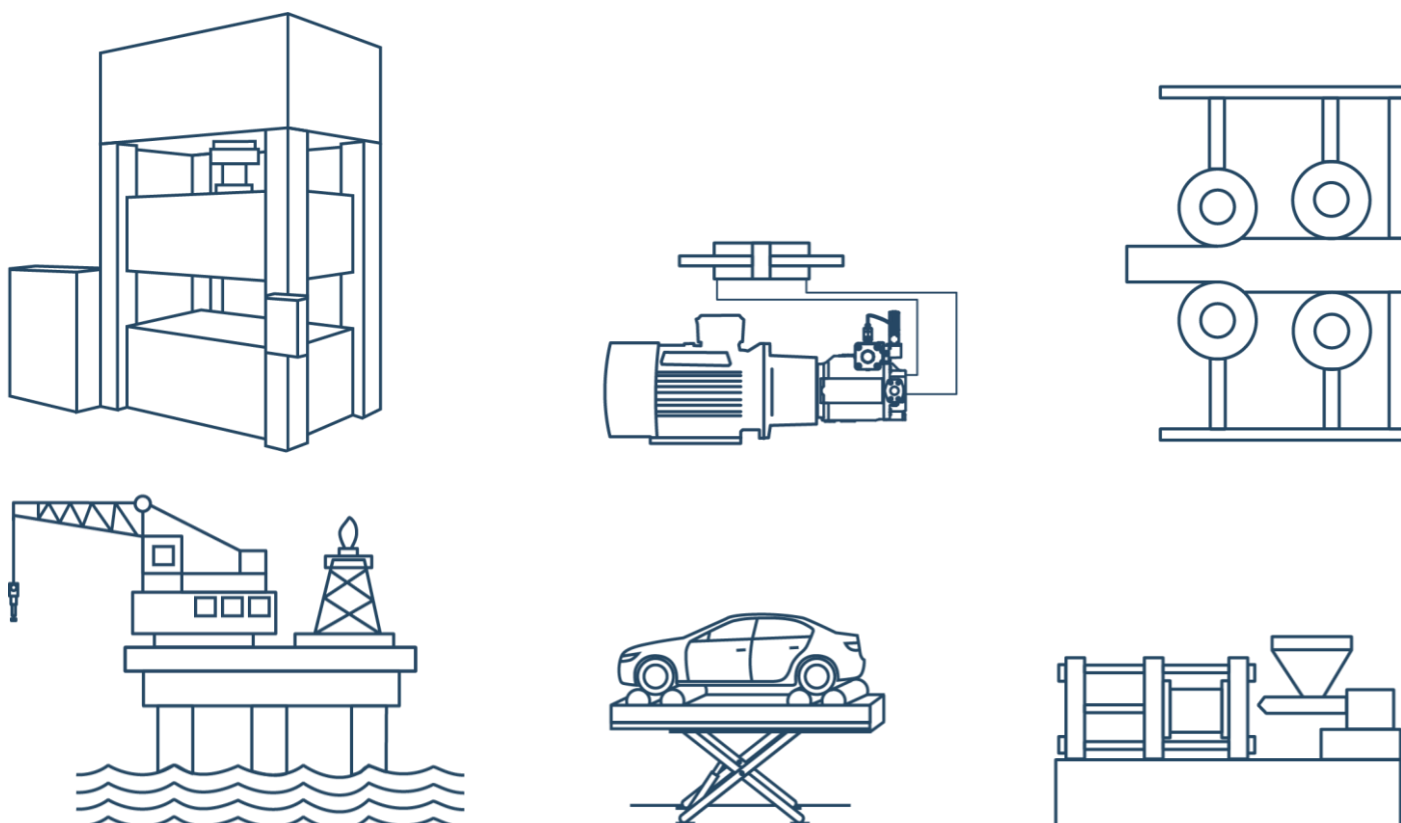


In industrial application areas, increasingly demanding requirements are being made on the pump control system, its networking and improved handling. The HS5 control offers swivel angle control, pressure control and torque limitation. By addition of digital on board electronics (OBE) this results in state of the art technology from Bosch Rexroth AG.

## CUSTOMER BENEFITS

- Connectivity with multi-Ethernet e.g. Sercos
- The controller characteristic has freely adjustable parameters
- Energy saving thanks to the displacement control
- Elimination of installation costs
- For A4VSO, A4VSG, A4CSG and A4VBO
  - for sizes 40 to 1000 cm<sup>3</sup>
  - system pressure to 450 bar
- High variation of HS5E adjustment options

## APPLICATIONS



## FUNCTION AND BENEFITS

### Connectivity with multi-Ethernet e.g. Sercos

The HS5E pilot control valve offers electrohydraulic control with open communication and quick and convenient connection. This also applies for 3rd party controls such as the function modules of a PLC according to IEC61131-3 as well as a connection to EtherNet/IP, Sercos III, Ether-CAT, Powerlink and ProfiNet RT. With this multitude of connection options completely new degrees of freedom are now possible.

### Energy saving thanks to the displacement control

High energy and cost savings are achieved by using on-board displacement control in place of external valve control, thus providing efficient control of both flow direction and flow magnitude.

### Elimination of installation costs

The control is done without a control cabinet thanks to the digital on-board HS5E electronics. This means a saving in installation costs and a reduction in sources of error due to incorrect wiring.

### High variation of HS5E adjustment options

High dynamics are achieved with the HS5E, and with variants HS5EP, HS5EV, HS5EK and HS5EKP, great flexibility is offered in many application areas.

TECHNICAL DATA

| Variable pump A4... |                 | VSO        | VSG        | CSG        | VBO               |
|---------------------|-----------------|------------|------------|------------|-------------------|
| Size:               | cm <sup>3</sup> | 40 to 1000 | 40 to 1000 | 250 to 750 | 71, 125, 250, 450 |
| Nominal pressure:   | bar             | 350        | 350        | 350        | 450               |
| Maximum pressure:   |                 | 400        | 400        | 400        | 500               |
| Data sheet A4       |                 | 92050      | 92100      | 92105      | 92122             |
| HS5E                |                 |            | 92076      |            |                   |

Simple realization of the master/slave function

The new With the master/slave function, one can hydraulically and electrically couple any HS5E control systems to obtain higher displacements. To achieve this, one master pump is specified to which the pressure transducer is connected. The master regulates both the pressure and the swivel angle according to the external command value specifications and passes on its internal swivel angle signal to the slave pumps as the swivel angle command value. Noise optimization is achieved in the system due to the synchronization of each pump's swivel angle. The multi-Ethernet bus can also be used for signal exchange.

Many different application possibilities

Whether in different press applications, marine offshore areas or drives for marine diesel, test bench technology, metallurgy or many other applications, the Bosch Rexroth A4 axial piston variable pumps with the HS5E pump control system with on-board electronics make a valuable and cost-efficient contribution. In addition, a future variant for variable-speed drives is also in development.