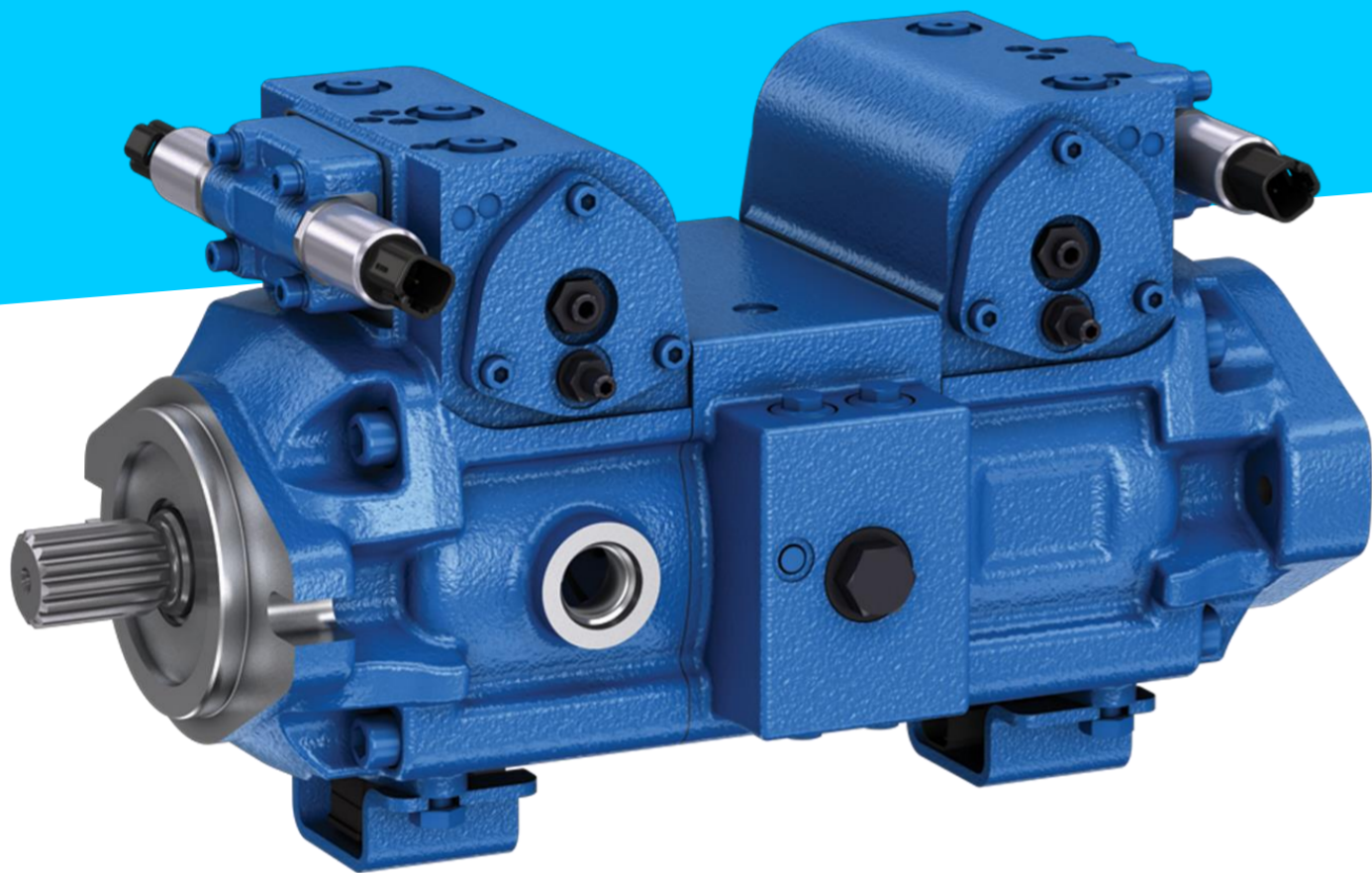


# Axial piston variable double pump

## A21VG series 10

for closed circuit applications



Bosch Rexroth's new compact double pump, the A21VG series 10, has a wide range of control options available to achieve the best fit, form, and function to machine requirements. The double pump is designed for closed-circuit applications, featuring an efficient back-to-back design that allows for installation in applications with very limited mounting space.

### CUSTOMER BENEFITS

- Variable closed-circuit double pump with increased pressure range
- Capable of eEP control operation
- One frame size for 35cc and 45cc rotary groups
- Modular add-ons available for added functionality
- Common case drain port for both pumps
- Compact design for tight installation conditions
- Low weight – best-in-class
- Suitable for wide range of applications

### FUNCTION AND BENEFITS

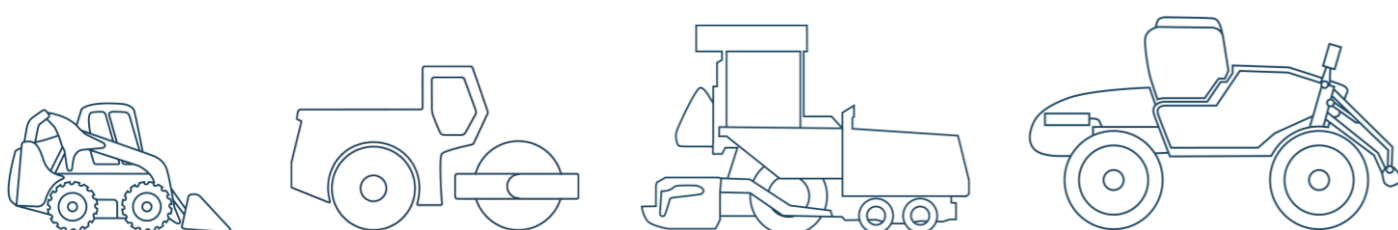
#### Compact design for many applications

The axial piston variable double pump A21VG provides the benefits of high power density with its optimized dimensions and high pressure rating. The best-in-class, low weight of the A21VG helps the customer in keeping the overall machine weight down in order to realize energy savings without compromising performance. In comparison to a tandem pump configuration, the Rexroth A21VG requires significantly less installation space and reduces the amount of plumbing connections needed. The compact pump is plug and play with pre-adjusted controls and convenient hydraulic and electric connections. Possible applications for the A21VG series 10 include skid steer loaders, compact track loaders, paving machines, compactors, rollers and sprayers among many others.

#### Variety of options

Due to the independently controlled rotary groups, the Rexroth A21VG is designed so that different control options as well as different rotary group size combinations can be selected for the front and rear pumps. The A21VG can be configured with options such as angle sensor, DA control, pilot-shutoff valve and brake release valve that allows the customer to be more in control of their machine. One-sided mechanical stroke limiters come as a standard feature on the pump to fine tune or limit the flow out of B ports so that output flow can be matched.

### APPLICATIONS



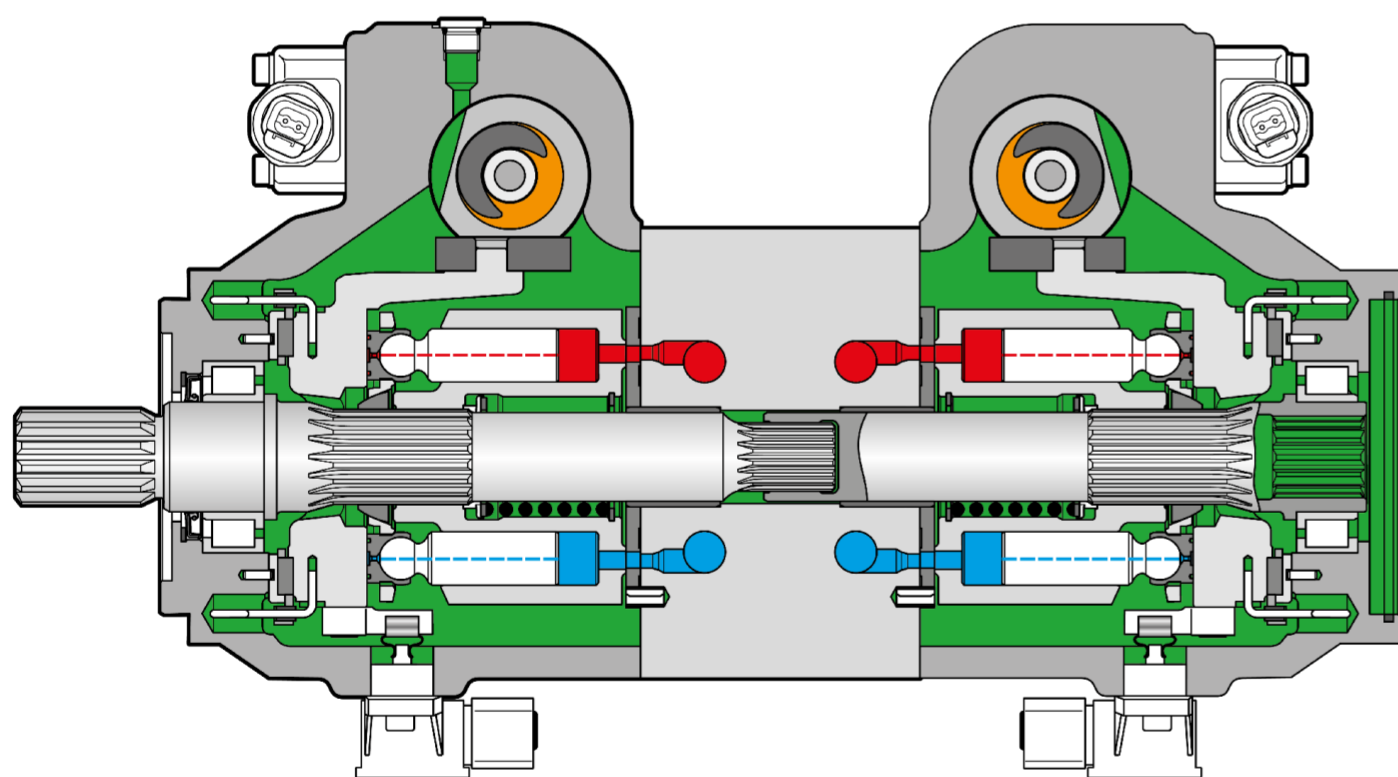
## A21VG series 10

Compact double pump for closed circuit applications

# TECHNICAL DATA

### Axial piston variable double pump A21VG series 10

Sizes:	2x35 cm <sup>3</sup> , 2x45cm <sup>3</sup> or 35/45cm <sup>3</sup> combination
Nominal Pressure:	6100 psi (420 bar)
Maximum Pressure:	6300 psi (450 bar)
Flanges:	SAE B, 2-bolt
Drive Shafts:	1 in 15T 16/32DP 1 1/4 in 14T 12/24DP
Working ports:	Flange ports A/B according to ISO 11926 1 1/16-12 UN-2B
Control devices:	HT – Hydraulic control, direct operated EP – Proportional electric control, mechanical feedback ET – Proportional electric control, direct operated HW – Proportional hydraulic control, mechanical servo
Options:	Through drive, swivel angle sensor, eEP capability, DA cartridge, pilot shutoff valve, brake release valve, mechanical stroke limiter
Installation lengths:	15.42 in (391.7 mm)
Weight:	117 lbs (53 kg)
Data sheet:	93223



### eEP – Proportional Control Operation with electronic feedback

The eEP control functionality is similar to the EP controller function but is achieved by using the ET controller, the swashplate angle sensors and the BODAS RC controller hardware with special software block. Wherein, the traditional EP controller uses a feedback lever that mechanically compensates the pump displacement achieving a high level of accuracy and response time.

### Best-in-class control performance

The design of the Rexroth A21VG series 10 pump, including the optimal placement and integration of the angle sensors, has been setup to minimize the effect of tolerances therefore achieving best-in-class control performance. A pump with load dependent ET functionality – wherein load pressure affects the swash plate position – can be controlled to provide load compensation by a simple programming parameter to emulate EP functionality. In the end, the control algorithm achieves optimized proportional control, with minimal hysteresis, independent of the system load pressure.

### Different control options and drive modes

With the opportunity to use the eEP function, customers can design machines to suit operator's personal preference on how they would like to control the machine without the need to change hardware. Some customers may prefer to have "soft controllability" of the Rexroth A21VG pump wherein they would feel the influence of machine system pressure relative to their input command. Other customers may prefer the pump to have "hard controllability" where the pump swivels to commanded displacement independent of the system operating pressure. Both "hard" and "soft" functionality are available in the control software and can be enabled on-the-fly. This opens up possibilities for different drive modes available to the machine operator and allows the OEM to program behavior preferences based on other machine operating parameters.

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