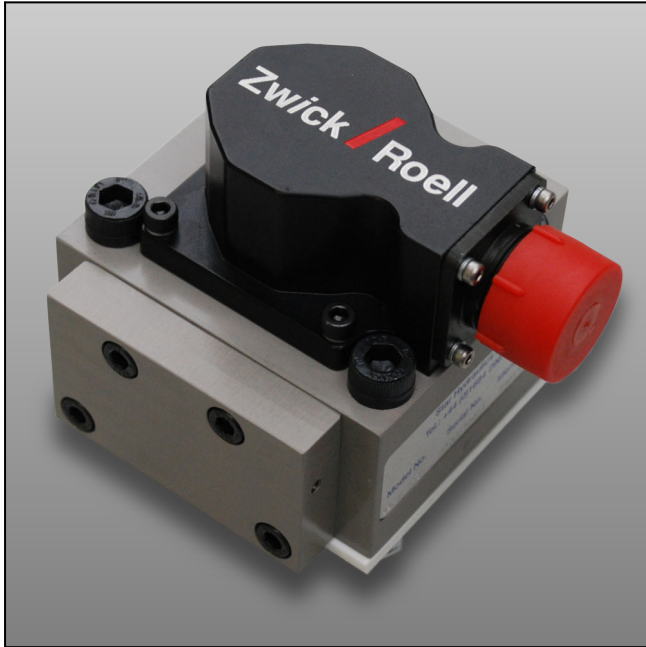


Product Information

Servo valves

CTA: 94569 94570



ZwickRoell servo valve

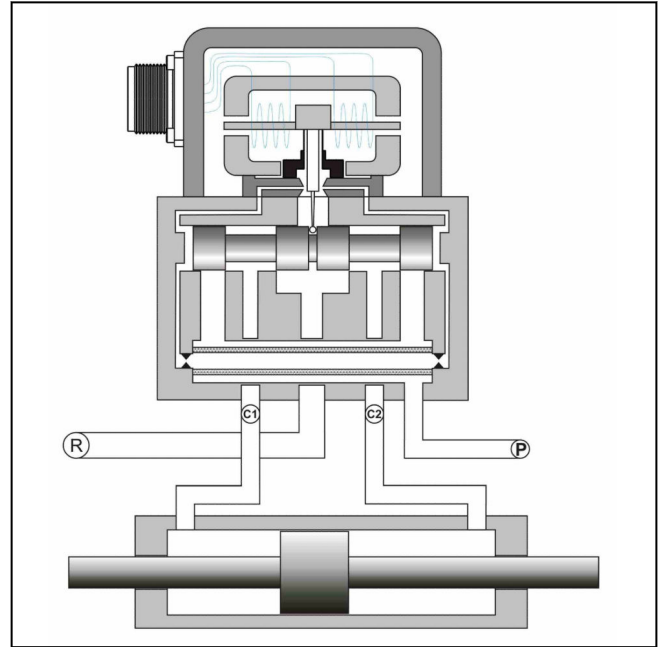
Range of application

Servo valves are used in closed control loops for high-accuracy control of hydraulic energy, with multi-kilowatt hydraulic power controlled by input signals in the milliwatt-range.

Extremely severe demands are placed on servo valves used in materials and component testing. They must react equally well to a wide range of set-value signals at extremely high or very low test speeds, with short or long travel. The correct choice of servo valve is determined by the size of the single testing actuator (nominal capacity) and the required operating point (defined by force, travel and frequency). ZwickRoell uses a suitable computer program to determine the performance characteristics of a given single testing actuator-servo valve combination.

Description of operation

The electrical control signal generates a torque in the torque motor, producing movement of the flapper-nozzle system. The resulting pressure differential acts on the end face of the spool, displacing it. The system



Operating principle

is in equilibrium when the return-spring torque is equal to that of the torque motor. This means that piston travel and control signal are proportional to each other. The 4-way spool allows the pressurized oil to flow simultaneously from the connection into one of the two actuator chambers and from the other chamber to the return line.

Advantages and features

- maximum manufacturing accuracy for exact positioning and zero crossing
- sapphire technology avoids ball wear and enables significantly longer service life
- can be used for 210 or 280-bar pressure oil supply
- large range for every application, from 4 to 75 l/min oil flow-rate at 70-bar pressure fall
- two or more servo valves can be connected in parallel for higher outputs
- high-response valves for higher dynamic response
- 5-port valves for separate feed to servo control
- standard connection port pattern to ISO 10372-04-04-0-92

Product Information

Servo valves

Technical data

$Q_n = 4 \text{ l/min}$

Description	Item number
ZwickRoell servo valve 4-280, 5-port, standard	047917
ZwickRoell servo valve 4-280, 5-port, HR	069106
ZwickRoell servo valve 4-210, 5-port, standard	925699
ZwickRoell servo valve 4-210, 5-port, HR	069110

$Q_n = 10 \text{ l/min}$

Description	Item number
ZwickRoell servo valve 10-280, 5-port, standard	021619
ZwickRoell servo valve 10-280, 5-port, HR	069107
ZwickRoell servo valve 10-210, 5-port, standard	047918
ZwickRoell servo valve 10-210, 5-port, HR	069111

$Q_n = 20 \text{ l/min}$

Description	Item number
ZwickRoell servo valve 20-280, 5-port, standard	017838
ZwickRoell servo valve 20-280, 5-port, HR	065164
ZwickRoell servo valve 20-210, 5-port, standard	935738
ZwickRoell servo valve 20-210, 5-port, HR	069109

$Q_n = 40 \text{ l/min}$

Description	Item number
ZwickRoell servo valve 40-280, 5-port, standard	047919
ZwickRoell servo valve 40-280, 5-port, HR	069108
ZwickRoell servo valve 40-210, 5-port, standard	935917
ZwickRoell servo valve 40-210, 5-port, HR	069105

$Q_n = 60 \text{ l/min}$

Description	Item number
ZwickRoell servo valve 60-280, 5-port, standard	047916
ZwickRoell servo valve 60-210, 5-port, standard	047915

$Q_n = 75 \text{ l/min}$

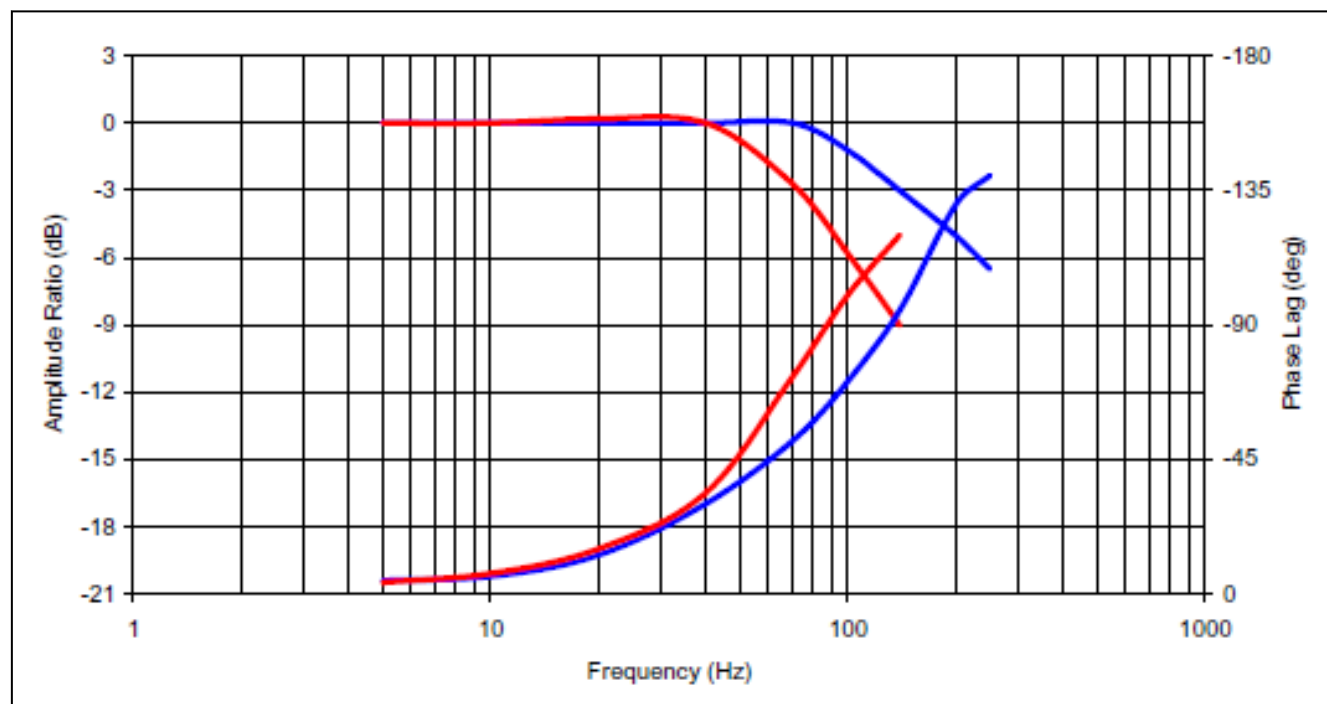
Description	Item number
ZwickRoell servo valve 75-280, 5-port, standard	047913
ZwickRoell servo valve 75-210, 5-port, standard	047912

- HR - high response version.
- Nominal flow rate Q_n is defined at 70 bar pressure-fall at the servo valve.
- Servo valves with higher nominal flow-rate and 3-stage servo valves are available on application.

Product Information

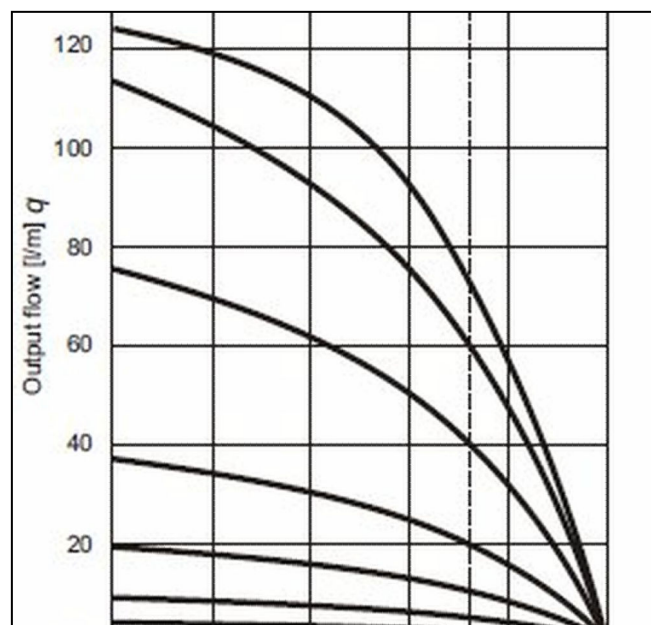
Servo valves

CTA: 94572

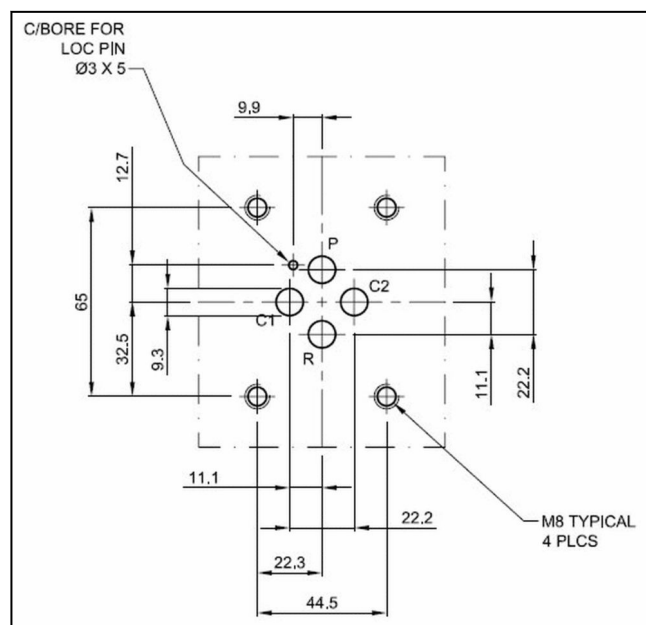


Frequency response, 280 bar, 40 l/min, 25 % signal (blue), 100 % signal (red)

CTA: 94573 94575



Oil-flow dependent on pressure fall



Hole pattern as per ISO 10372-04-0404-0-92