

MOTORIZED CARTRIDGES



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MOTORIZED FLOW REGULATORS

FLOW RESTRICTORS (NEEDLE VALVES)	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	12	3500	45	241	7/8-14	AE-NVA	DC4
	40	3500	150	241	1 5/16-12	AJ-NVA	DC6

2W PRES. COMPENSATED FLOW REGULATORS	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	24	3500	90	241	1 5/16-12	AJ-FCA	DC8

3W PRES. COMPENSATED FLOW REGULATORS	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	24	3500	90	241	1 5/16-12	AK-FCQ	DC10

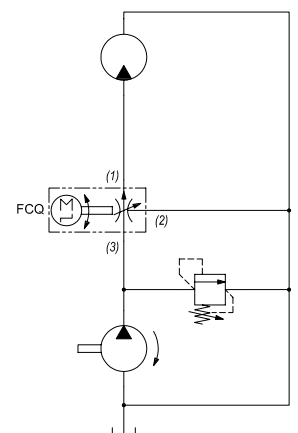
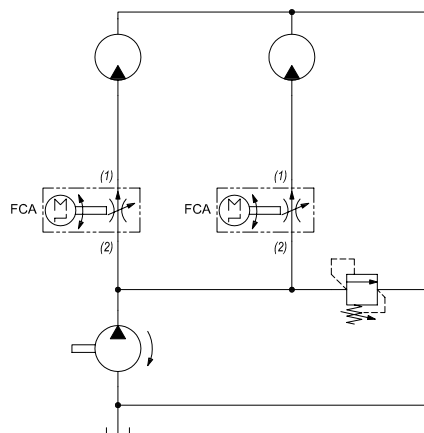
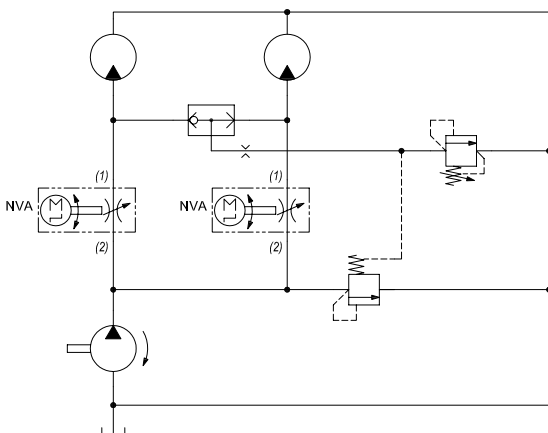
TYPICAL SCHEMATIC

Motorized flow control valves are useful in controlling flow to an actuator in applications which do not require frequent flow adjustment. Since they only require power when a flow setting change is required, they can provide an advantage over proportional flow controls which require continuous power to the coil to maintain flow.

In the example below, two AE-NVA's are used to provide independent, pressure compensated flow control to their respective hydraulic motors, while excess pump flow is bypassed to tank across a pressure compensating element, such as a TR-PCA-0P. In this circuit, maximum attainable flow rate across the AE-NVA is dependent upon the pressure setting of the compensator.

The Super series AJ-FCA provides pressure compensated, restrictive flow control up to 25gpm.

The AK-FCQ provides pressure compensated, priority flow control up to 25gpm.



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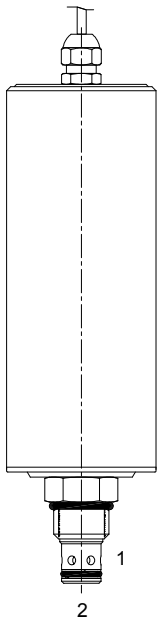


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AE-NVA MOTORIZED NEEDLE FLOW CONTROL VALVE



DESCRIPTION

10 size, 7/8-14 thread, "Delta" series, motorized needle flow control valve.

OPERATION

The AE-NVA can be adjusted to any position between fully open and fully closed applying electrical power to the motor. The amount of valve opening does not change unless the electric motor is activated. When adjusted open, the valve allows flow from (1) to (2) and (2) to (1). When fully closed the valve blocks flow from (1) to (2) and (2) to (1).

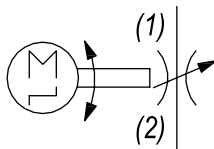
FEATURES

- Hardened parts for long life.
- Industry common cavity.

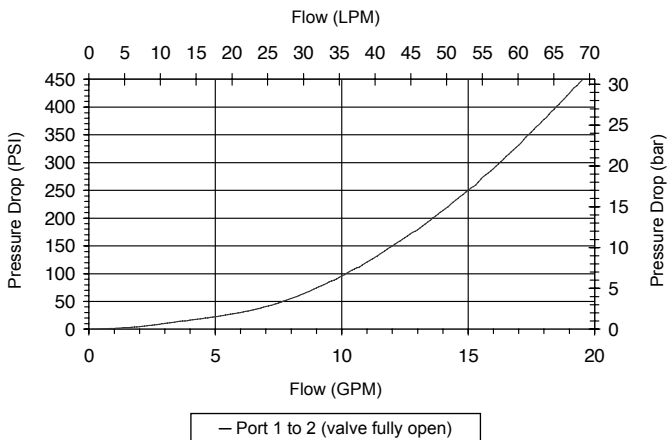


Adjustable via 12/24 VDC signal, no electronic driver required. A built-in position transducer with an analog output is available on request.

HYDRAULIC SYMBOL



PERFORMANCE



VALVE SPECIFICATIONS

Max Controlled Flow	12 GPM (45 LPM) @ 13 bar Delta P
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	1.68 lbs (.76 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Current Draw	300 mA (12 VDC) / 150 mA (24 VDC)
Electrical Connection	Double lead wire - Length: 60-70 cm
Cavity	DELTA 2W
Cavity Tools Kit (form tool, reamer, tap)	40500000
Seal Kit	21191200

Gear ratio	Response time (full closed to full open)
100	7 sec.
250	14 sec.
500	28 sec.

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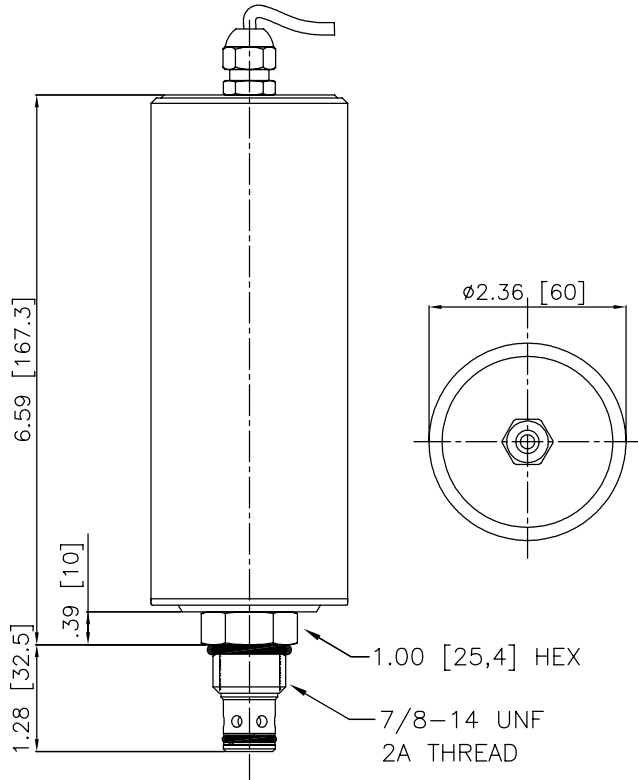


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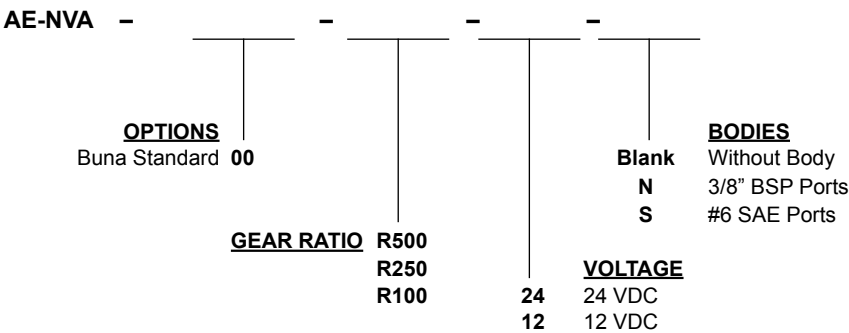
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DIMENSIONS



(for bodies style and sizes see section "Accessories")

ORDERING INFORMATION



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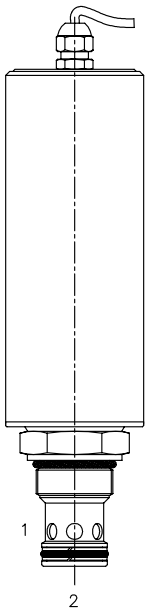


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AJ-NVA MOTORIZED NEEDLE FLOW CONTROL VALVE



DESCRIPTION

16 size, 1 5/16-12 thread, "Super" series, motorized needle flow control valve.

OPERATION

The AJ-NVA can be adjusted to any position between fully open and fully closed by applying electrical power to the motor. The amount of valve opening does not change unless the electric motor is activated. When adjusted open, the valve allows flow from (1) to (2) and (2) to (1). When fully closed the valve blocks flow from (1) to (2) and (2) to (1).

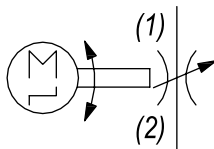
FEATURES

- Hardened parts for long life.
- Industry common cavity.

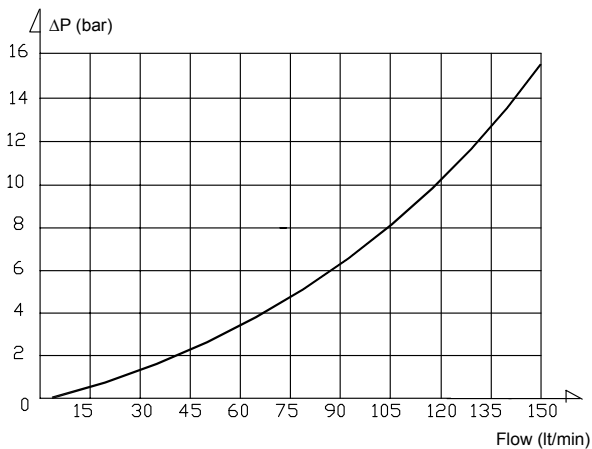


Adjustable via 12/24 VDC signal, no electronic driver required. A built-in position transducer with an analog output is available on request.

HYDRAULIC SYMBOL



PERFORMANCE



VALVE SPECIFICATIONS

Max Controlled Flow	40 GPM (150 LPM) @ 15 bar Delta P
Max Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	2.24 lbs (1.02 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Current Draw	300 mA (12 VDC) / 150 mA (24 VDC)
Electrical Connection	Double lead wire - Length: 50-60 cm
Cavity	SUPER 2W
Cavity Tools Kit (form tool, reamer, tap)	40500017
Seal Kit	21191401

Gear ratio	Response time (full closed to full open)
100	12 sec.
250	28 sec.
500	55 sec.

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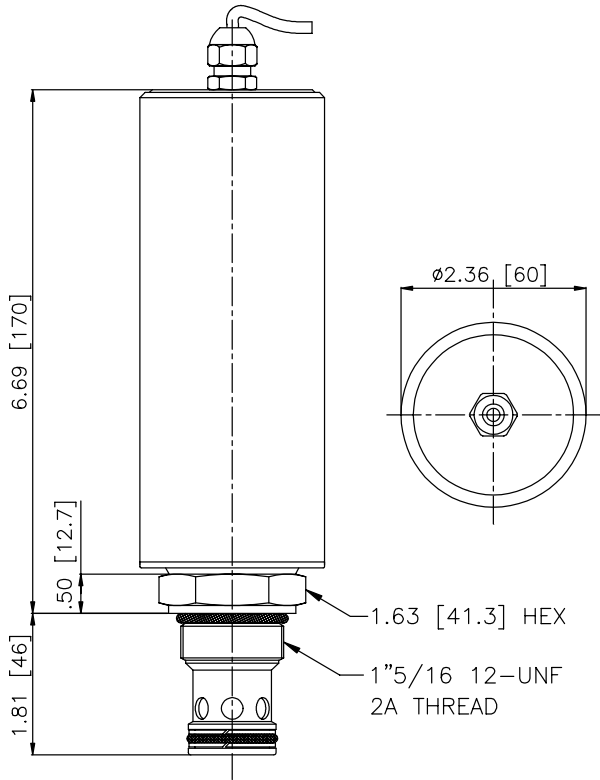


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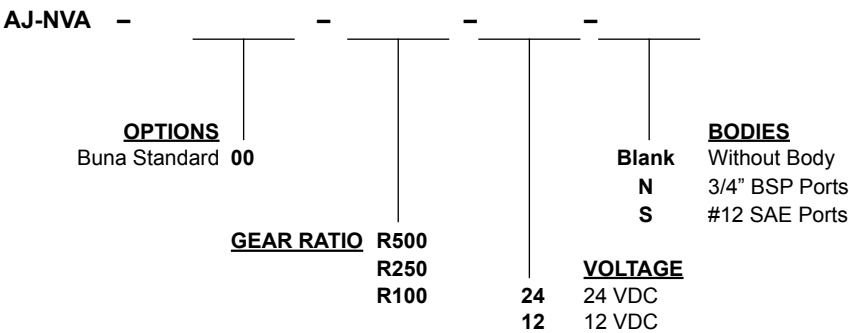
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DIMENSIONS



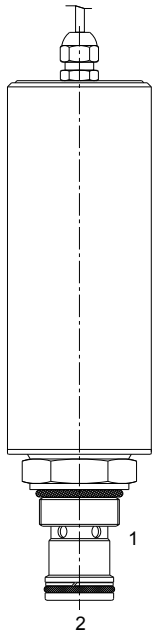
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AJ-FCA MOTORIZED ADJUSTABLE PRESSURE COMPENSATED FLOW CONTROL VALVE



DESCRIPTION

16 size, 1 5/16-12 thread, "Super" series, motorized adjustable pressure compensated flow control valve.

OPERATION

The AJ-FCA maintains a constant flow rate out of (1) regardless of load pressure changes in the circuit downstream of (1). The valve begins to respond to load changes when the flow through the valve creates a pressure differential across the control orifice greater than 100 PSI (6.9 bar), with accurate flow maintenance from 100 to 3500 PSI (6.9 to 240 bar).

Reverse flow (1) to (2) returns through the control orifice and is non-compensated.

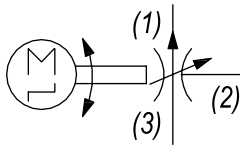
FEATURES

- Hardened parts for long life.
- Industry common cavity.
- Fine low-torque adjustment.

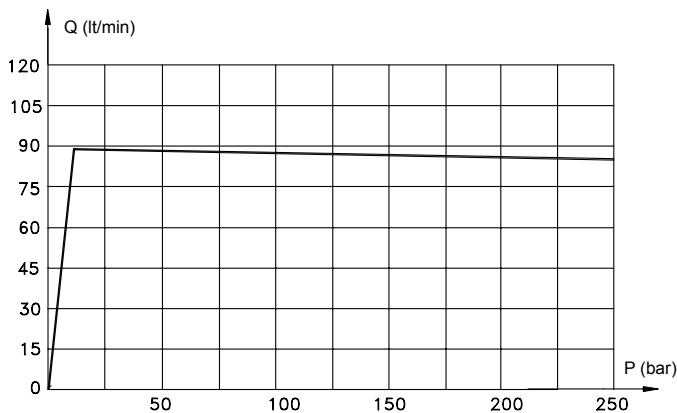


Adjustable via 12/24 VDC signal, no electronic driver required. A built-in position transducer with an analog output is available on request.

HYDRAULIC SYMBOL



PERFORMANCE



VALVE SPECIFICATIONS

Max Controlled Flow	24 GPM (90 LPM)
Max Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	2.24 lbs (1.02 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Current Draw	300 mA (12 VDC) / 150 mA (24 VDC)
Electrical Connection	Double lead wire - Length: 50-60 cm
Cavity	SUPER 2W
Cavity Tools Kit (form tool, reamer, tap)	40500017
Seal Kit	21191400

Gear ratio options (see ordering code)	Response time (full closed to full open)
100	9 sec.
250	22 sec.
500	45 sec.

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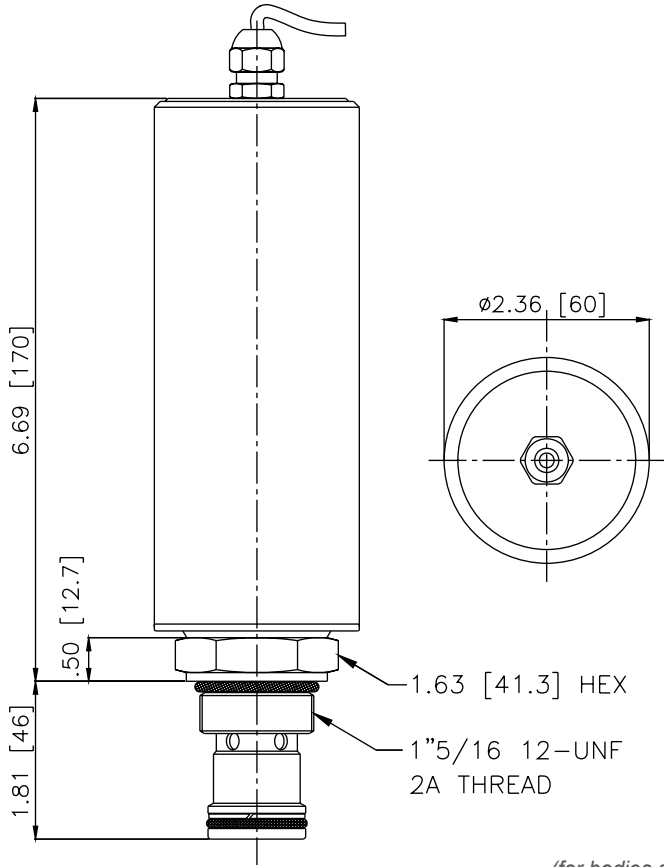


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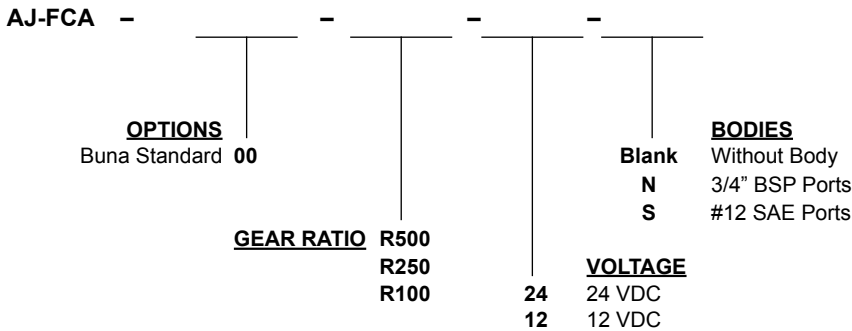
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DIMENSIONS



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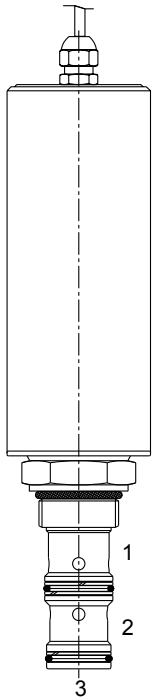


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AK-FCQ MOTORIZED ADJUSTABLE PRIORITY FLOW CONTROL VALVE



DESCRIPTION

16 size, 1 5/16-12 thread, "Super" series, motorized adjustable priority flow control valve.

OPERATION

The AK-FCQ allows pressure compensated flow from (3) to (1) regulated the pressure present at (3). Excess flow passes out (2). The spring chamber is constantly vented at (1).

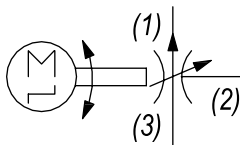
FEATURES

- Hardened parts for long life.
- Industry common cavity.



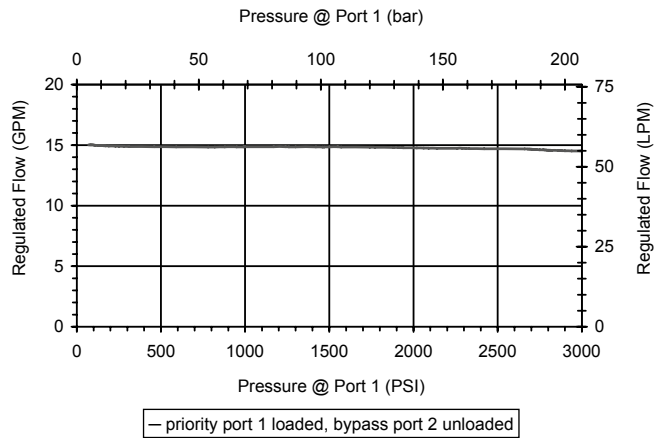
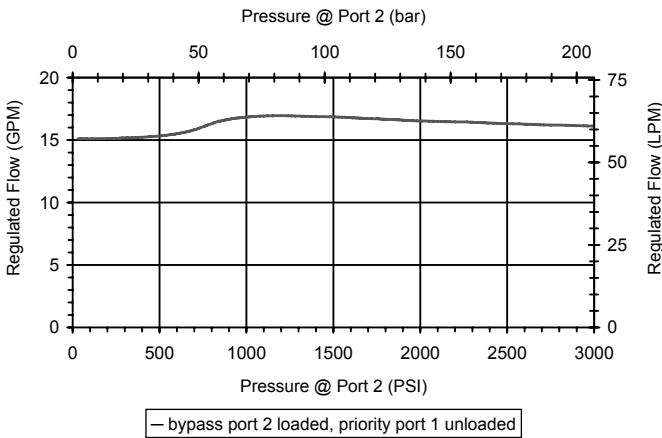
Adjustable via 12/24 VDC signal, no electronic driver required. A built-in position transducer with an analog output is available on request.

HYDRAULIC SYMBOL



PERFORMANCE

VALVE SPECIFICATIONS	
Max Regulated Flow	24 GPM (90 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	2.34 lbs (1.06 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Current Draw	300 mA (12 VDC) / 150 mA (24 VDC)
Electrical Connection	Double lead wire - Length: 50-60 cm
Cavity	SUPER 3W
Cavity Tools Kit	
(form tool, reamer, tap)	40500018
Seal Kit	21191404



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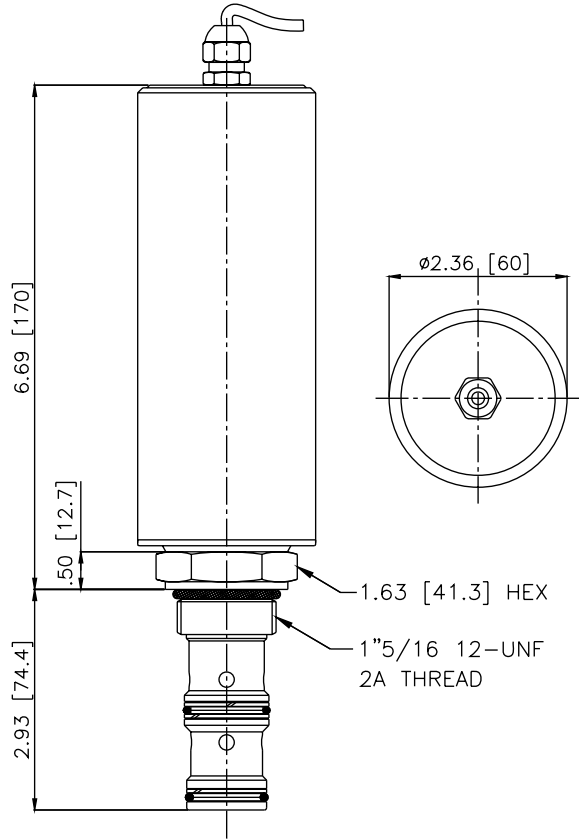


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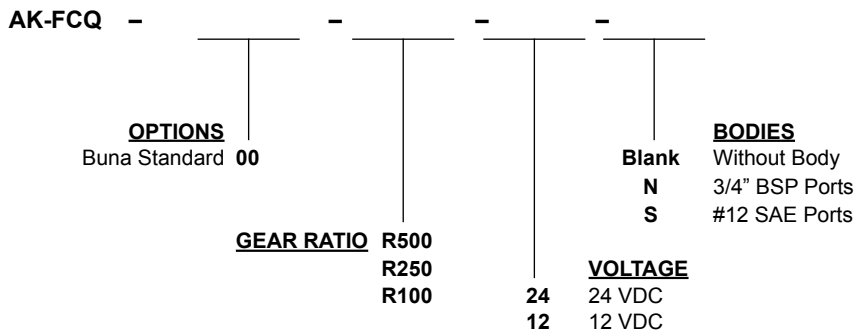
DIMENSIONS



Gear ratio options (see ordering code)	Response time (full closed to full open)
100	9 sec.
250	22 sec.
500	45 sec.

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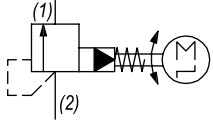


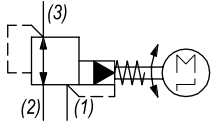
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MOTORIZED PRESSURE CONTROLS

RELIEF VALVES	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	37	3500	140	241	1 5/16-12	AJ-RVR	DC14

PRESSURE REDUCING VALVES	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	10	4000	38	276	7/8-14	AF-PRP	DC16

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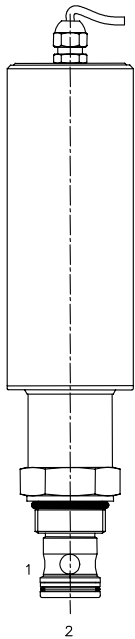


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AJ-RVR MOTORIZED PILOT OPERATED RELIEF VALVE



DESCRIPTION

16 size, 1 5/16-12 thread, "Super" series, motorized adjustable pilot-operated pressure relief valve.

OPERATION

The AJ-RVR blocks flow from (2) to (1) until sufficient pressure is present at (2). The setting of the AJ-RVR can be adjusted to any value between 14 and 245 bar (200-3500 PSI) applying electrical power to the motor. The setting does not change unless the electrical motor is activated. Reverse flow (1) to (2) occurs when the pressure at (1) is at least 2.1 bar (30 PSI) higher than at port (2).

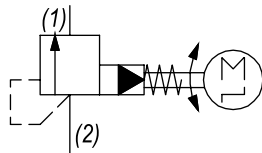
FEATURES

- Hardened parts for long life.
- Industry common cavity.
- Fine low-torque adjustment.

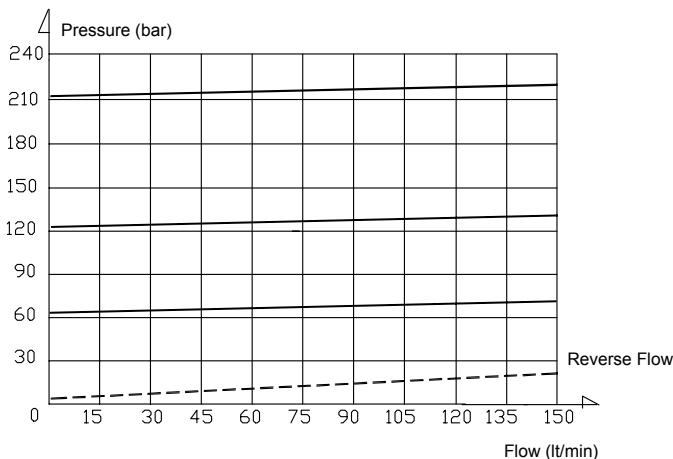


Adjustable via 12/24 VDC signal, no electronic driver required. A built-in position transducer with an analog output is available on request.

HYDRAULIC SYMBOL



PERFORMANCE



VALVE SPECIFICATIONS

Max Controlled Flow	37 GPM (140 LPM)
Max Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	2.24 lbs (1.02 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Current Draw	300 mA (12 VDC) / 150 mA (24 VDC)
Electrical Connection	Double lead wire - Length: 50-60 cm
Cavity	SUPER 2W
Cavity Tools Kit (form tool, reamer, tap)	40500017
Seal Kit	21191400

Gear ratio options (see ordering code)	Response time (full closed to full open)
250	12 sec.
500	27 sec.

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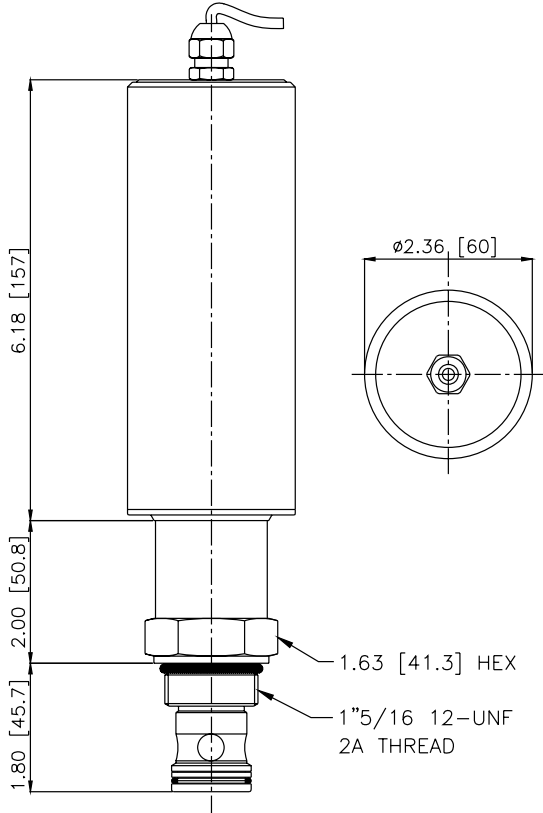


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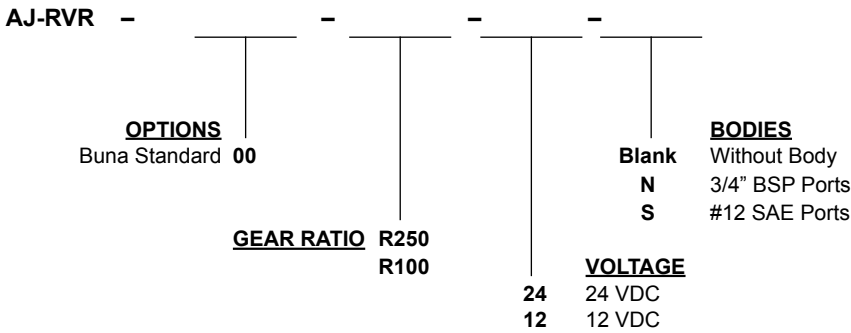
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DIMENSIONS



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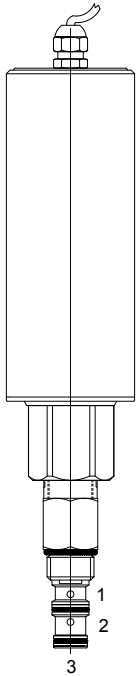


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AF-PRP MOTORIZED PRESSURE REDUCING, RELIEVING VALVE



DESCRIPTION

10 size, 7/8-14 thread, "Delta" series, motorized adjustable pressure reducing, relieving valve, pilot operated.

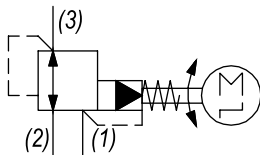
OPERATION

The AF-PRP can be adjusted to any position between fully open and fully closed applying electrical power to the motor. When a pre-determined pressure is reached at (3), the spool shifts to restrict input flow at (2), thereby reducing (restricting) flow. If valve and pressure at port (3) exceeds setting, spool shift to open passage at port (1), thereby regulating pressure at port (3) by relieving excess flow.

FEATURES

- Hardened parts for long life.
- Industry common cavity.

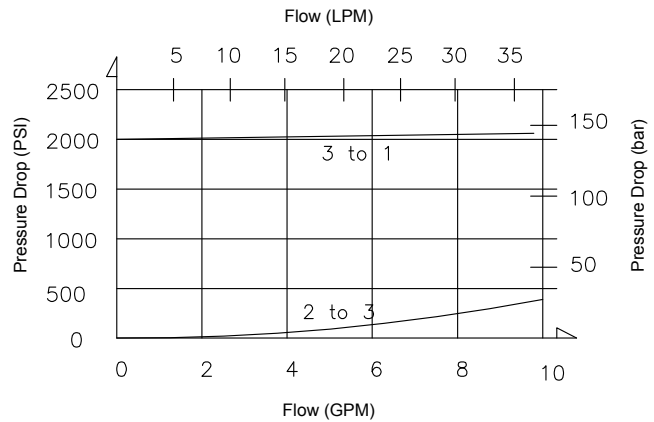
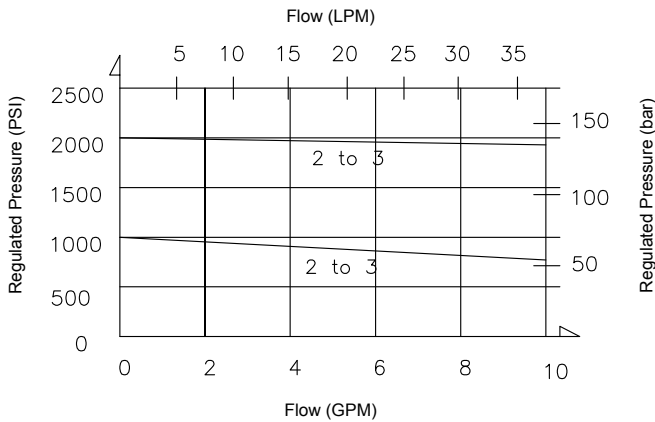
HYDRAULIC SYMBOL



PERFORMANCE

VALVE SPECIFICATIONS

Nominal Flow	10 GPM (38 LPM)
Rated Operating Pressure	4000 PSI (276 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	ISO 18/16/13
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	.59 lbs (.27 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Cavity	DELTA 3W
Cavity Tools Kit	
(form tool, reamer, tap)	40500001
Seal Kit	21191206



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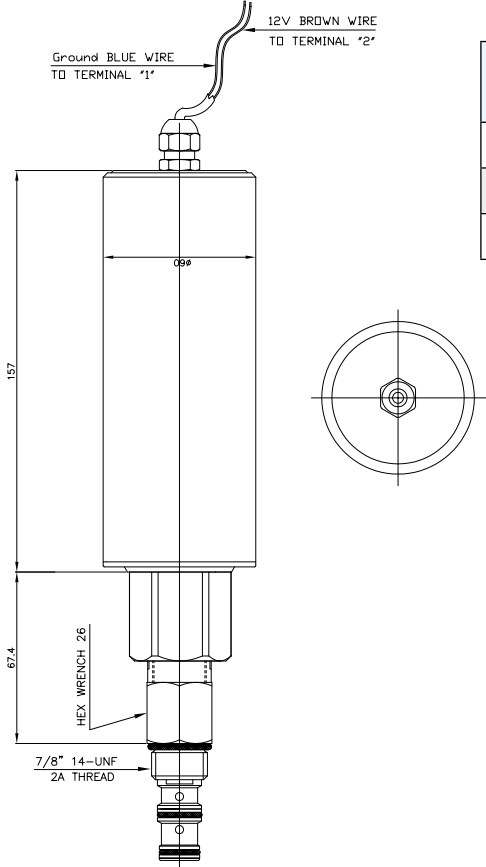


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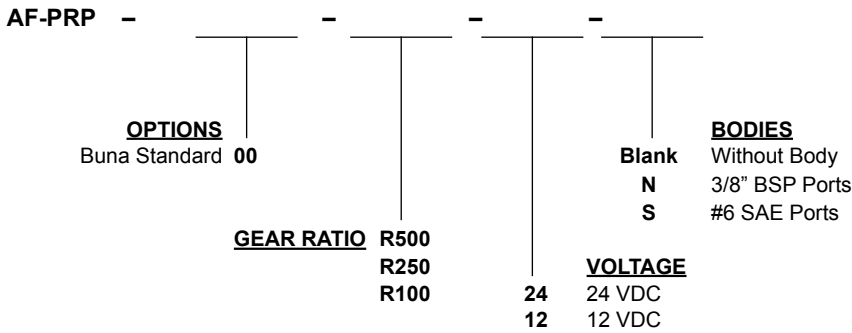
DIMENSIONS



Gear ratio	Response time (full closed to full open)
100	7 sec.
250	14 sec.
500	28 sec.

(for bodies style and sizes see section "Accessories")

ORDERING INFORMATION



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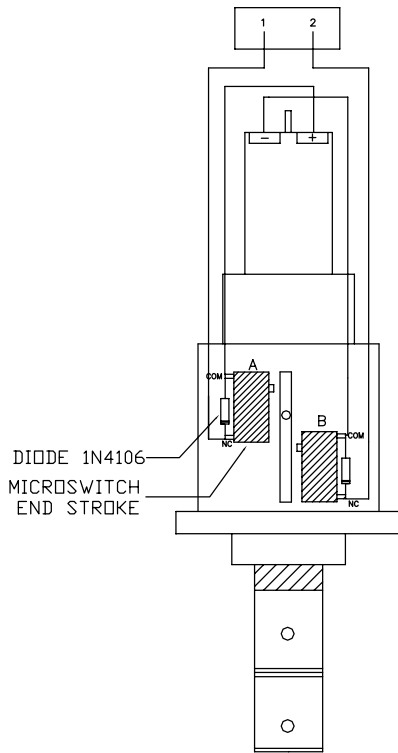


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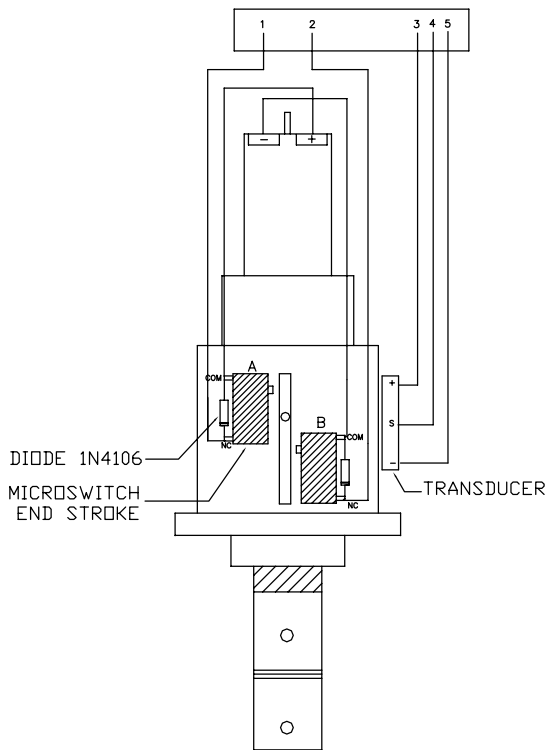
ELECTRICAL CONNECTIONS



Version without position transducer

- 1 + Supply (BLUE)
- 2 - Supply (BROWN)

ROTATION
Anticlockwise Connect 1 at +12 V and 2 at Gnd (valve opening till end of stroke A)
Clockwise (valve closing) Connect 2 at +12 V and 1 at Gnd (valve opening till end of stroke B)



Version with position transducer

- 1 + Supply (RED)
- 2 - Supply (BLACK)
- 3 + Transducer supply (BLU)
- 4 Transducer output signal (YELLOW/GREEN)
- 5 Transducer supply (BROWN)

ROTATION
Anticlockwise Connect 1 at +12 V and 2 at Gnd (valve opening till end of stroke A)
Clockwise (valve closing) Connect 2 at +12 V and 1 at Gnd (valve opening till end of stroke B)

Note: an electronic card with a led to monitor the valve position is available (**Ordering code: 24.1003.005**)

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