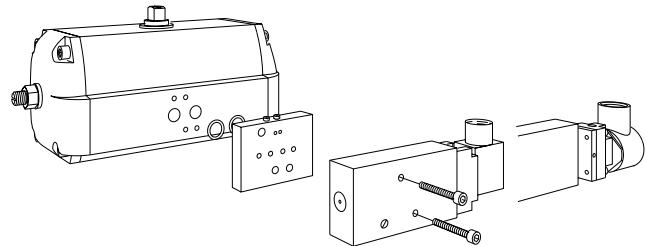


### FC1, FCDA & FCSR Flow Control

#### FC1, FCDA & FCSR Flow Control

The FC1, FCDA and FCSR are NAMUR mount flow control modules for the Automax SuperNova actuator. The modules provide a compact flow control, allowing for precise adjustment of opening and closing speeds of the SuperNova actuator. The FC1 provides flow control in one direction, while the FCDA and FCSR provides flow control in two directions. The FC1, FCDA and FCSR may be sandwich NAMUR mounted with other Automax NAMUR accessories or may be used by themselves.



FCDA Flow Control Module mounted with A25N Solenoid valve to a SuperNova actuator

#### Installation Instructions

Automax sandwich NAMUR mount accessories are easily installed to the SuperNova actuator simply by stacking one on top of the other and bolting the entire stack to the actuator NAMUR mounting surface.

##### Orientation of FC1, FCDA & FCSR:

The FC1, FCDA and FCSR should be mounted to the actuator with the NAMUR 'O'-ring grooves toward the actuator. The FCDA adjustment screws may be oriented either up or down. On a spring return actuator, the FC1 & FCSR must be oriented such that the adjustment screw is pointing up.

##### To Install:

1. Follow order of installation below in stacking accessories. If an accessory is not required, skip it and proceed to the next accessory.

##### Order of Installation:

- a: LV1 Lockout and vent valve
  - b: FC1, FCDA or FCSR flow control
  - c: APS1 or APS2\* air purge system  
or NPT1\* NAMUR-NPT adapter block  
or NPTEL B NPT elbow adaptor block
  - d: A25N\* solenoid valve
- \* One of these accessories should be the last accessory in the stack. The NPT1 and NPTEL B block provides 1/4" NPT ports in cases where FC1, FCDA, FCSR or LV1 would be last accessory in the stack.
2. Properly orient NAMUR accessory (see appropriate IOM.)
  3. Insert 'O'-rings into 'O'-ring groove on back face of accessory.
  4. Mount entire stack to SuperNova NAMUR mounting face, using appropriate bolt kit shown in chart on back page of IOM. Apply Loctite Threadlocker 222 or equivalent to screws prior to assembly.

#### Operation

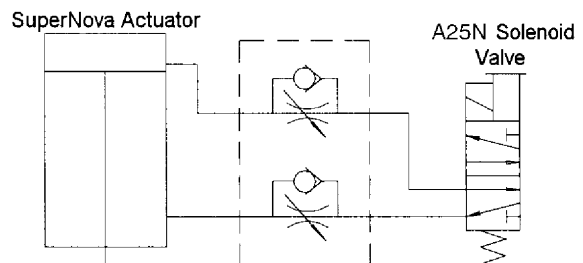
The FCDA functions as an exhaust flow control for the SuperNova double acting actuators. Free air flow is allowed into the actuator ports through a check valve. Exhaust flow is restricted by a needle valve, slowing operation of the actuator. For a direct acting actuator, the right screw controls CW speed, and the left screw controls CCW speed. For a reverse acting actuator, the left screw controls CW speed and the right screw controls CCW speed.

The FC1 functions as a single exhaust flow control for the SuperNova spring return actuators. The operation is the same as the FCDA except it only has one adjustment screw and only controls the failure speed.

The FCSR functions as a flow control for the SuperNova spring return actuators by independently restricting the supply and exhaust air flow of a common port. For a fail CW actuator, the right screw controls CCW speed, and the left screw controls CW speed. For a fail CCW actuator, the left screw controls CCW speed and the right screw controls CW speed.

#### Speed Adjustment

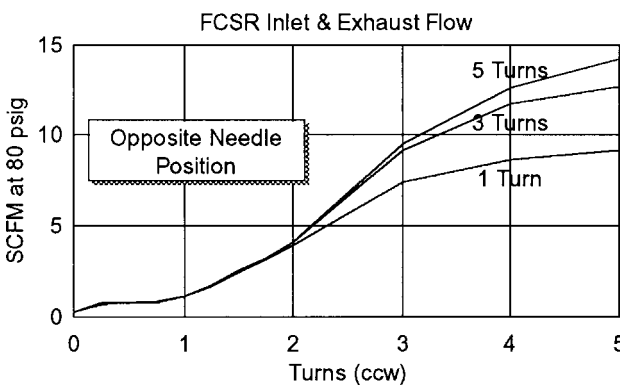
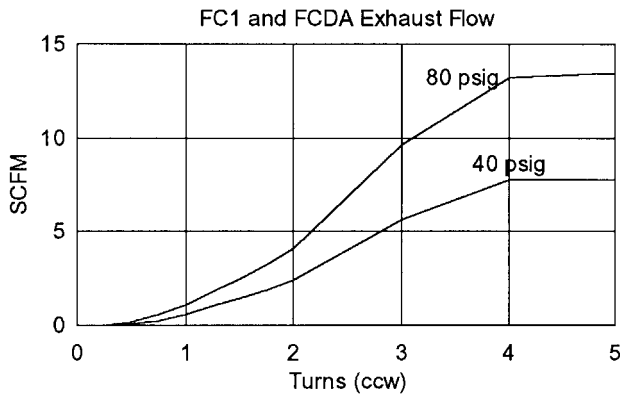
Turn adjustment screw CW for a slower speed, and CCW for a faster speed.



FCDA Flow Control

FCDA Flow Control Module with A25N Solenoid Valve

### Performance



### Maintenance

The FC1, FCDA and FCSR modules have a maximum of only two moving parts. As such, the modules are virtually maintenance free. Should any problems arise with the FC1, FCDA or FCSR, consult factory.

### How to Order

Order part number FC1 for single direction flow control. Order part number FCDA for dual direction flow control for DA actuators. Order part number FCSR for dual direction flow control for SR actuators order appropriate NAMUR mount bolt kit from chart at right.

*Example:* To order FCDA to be sandwich NAMUR mounted with A25N solenoid valve, order **FCDA** and **NBK45**.

### Bill of Material

Item	Material
Body	Aluminum, Anodized
Adjustment Screws	Brass
Check Ball	Nitrile
Retaining Ring	Spring Steel

### NAMUR Accessory Bolt Chart

FC#	LV1	APS1	APS2	NPT1	A25N	FC1/FCDA	FCSR
						Bolt Kit	Bolt Kit
✓				✓		NBK25	NBK40
✓	✓			✓		NBK50	NBK65
✓			✓			NBK50	NBK60
✓					✓	NBK45	NBK55
✓	✓				✓	NBK70	NBK80
✓		✓			✓	NBK55	NBK65
✓	✓	✓			✓	NBK80	NBK90
✓	✓		✓			NBK75	NBK85

Other NAMUR accessories:

1. LV1: Sandwich mount lockout and vent valve for use with gear overrides and/or OSHA lockout/tagout procedures.
2. APS1: Air purge system for spring return actuators sandwich mount with A25N solenoid valve.
3. APS2: Air purge system for spring return actuators Namur mount for remote/line mount solenoid valves.
4. NPT1: 1/4" NPT adapter plate.
5. A25N: NAMUR mount solenoid valve.
6. NPT1B: 1/4" NPT 90° adapter plate.

Note: See appropriate IOM's for additional information on above NAMUR accessories.

### How to Specify

The single direction flow control shall be an Automax FC1 module. The dual direction flow control for double acting actuators shall be an Automax FCDA module. The dual direction flow control for spring return actuators shall be an Automax FCSR module. The flow control module shall be capable of being sandwich NAMUR mounted with other NAMUR mount accessories.

**Temperature:** -20°F to 180°F.

**Pressure:** 20 psig to 100 psig.

**Media:** Dry or lubricated non-corrosive gas compatible with nitrile seals.

**Estimated Cv:** 0.68 inlet.

**Performance:** See graphs on above.