

Series 79PA Aluminum/Rilsan Pneumatic Rotary Actuator Specification

PART 1: SCOPE

All requirements are for Series 79PA Aluminum/Rilsan Pneumatic Rotary Actuators.

PART 2: MATERIALS

- Aluminum
- Cataphoresis
- Rilsan
- Stainless steel
- Polyaramide
- BUNA-N
- Polyacetal
- DIN-17223-C

PART 3: SPECIFICATIONS

Series 79PA Aluminum/Rilsan Single Acting (A-S) & Double Acting (A-A) Models

Single Acting Model	Single Acting Function	Single Acting Fail Mode	Air Supply Pressure	ISO 5211 Mounting	Max Operating Temperature
A79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F03/F04x11	176° F
B79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F04/F04x14	176° F
B579PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F05/F07x17	176° F
C79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F05/F07x17	176° F
C579PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F05/F07x17	176° F
D79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F05/F07x22	176° F
D579PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F07/F10x27	176° F
E79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F07/F10x27	176° F
F79PS	Air Open/Spring Close	Fail Close	80psi – 120psi	F10/F12x36	176° F
G79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F10/F14x36	176° F
L79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F16x46	176° F
M79PAS	Air Open/Spring Close	Fail Close	80psi – 120psi	F16x46	176° F

Double Acting Model	Double Acting Function	Air Supply Pressure	ISO 5211 Mounting	Max Operating Temperature
A79PA	Air Open/Air Close	80psi – 120psi	F03/F04x11	176° F
B79PA	Air Open/Air Close	80psi – 120psi	F04/F04x14	176° F
B579PA	Air Open/Air Close	80psi – 120psi	F05/F07x17	176° F
C79PA	Air Open/Air Close	80psi – 120psi	F05/F07x17	176° F
C579PA	Air Open/Air Close	80psi – 120psi	F05/F07x17	176° F

D79PA	Air Open/Air Close	80psi – 120psi	F05/F07x22	176° F
D579PA	Air Open/Air Close	80psi – 120psi	F07/F10x27	176° F
E79PA	Air Open/Air Close	80psi – 120psi	F07/F10x27	176° F
F79P	Air Open/Air Close	80psi – 120psi	F10/F12x36	176° F
G79PA	Air Open/Air Close	80psi – 120psi	F10/F14x36	176° F
L79PA	Air Open/Air Close	80psi – 120psi	F16x46	176° F
M79PA	Air Open/Air Close	80psi – 120psi	F16x46	176° F

3.1 Description

Asahi/America, Inc. Series 79PA Aluminum/Rilsan Rotary Pneumatic Actuators shall be constructed of aluminum with a 2-part coating of cathaphoresis and Rilsan, with stainless steel trim. 2-Part coating shall be inside and outside. End caps shall be secured to the actuator body via SS bolts, and utilize captive spring cartridges for single acting models. There shall be two rack and pinion versions per model/actuator size; Single Acting (air to open/spring to close) and Double Acting (air to open/air to close). With an 80psi air supply, single acting actuators shall produce 59 in-lbs – 15,660 in-lbs, and double acting actuators shall produce 137 in-lbs – 40,716 in-lbs. All Series 79PA Pneumatic Rotary Actuators shall conform to ISO 5211, VDE-3845, NAMUR, and DIN-3337 Standards.

3.2 Standard Features

- Aluminum actuator housing
- 2-part cathaphoresis and Rilsan coating
- Stainless steel trim
- Star drive output shaft
- Conform to NAMUR standard
- Conform to ISO 5211 standard
- Conform to VDE-3845 standard
- Conform to DIN-3337 standard
- Visual position indication
- Rack and pinion design
- Captive spring cartridges
- Bolted end caps
- Compact design

3.3 Approved Manufacturer

Series 79PA Aluminum/Rilsan Pneumatic Rotary Actuators shall be provided by Asahi/America, Inc. Manufacturer to be ISO-9001 certified.

PART 4: ACCESSORIES

4.1 Electro-Pneumatic Positioner (4-20mA)

An Electro-Pneumatic Positioner, where required, shall be provided and factory installed by Asahi/America, Inc. in accordance with manufacturers requirements, and shall be direct mounted to the top accessory mount of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. Positioner shall be of the SMART, Auto-Cal design and accept a 4-20mA signal with a recommended air supply of 80psi – 100psi. Positioner shall include a transmitter as well as a manual override in case of signal loss.

Optional items shall include limit switches and/or Intrinsically Safe models.

4.1.A Electro-Pneumatic Positioner Materials

- Aluminum housing with a polyester powder coat finish
- Stainless steel
- PC
- HDPE
- Nickel

4.2 Pneumatic Positioner (3-15psi)

A Pneumatic Positioner, where required, shall be provided and factory installed by Asahi/America, Inc. in accordance with manufacturers requirements, and shall be direct mounted to the top accessory mount of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. Positioner shall be of the low air consumption design and accept a 3-15psi signal with a recommended air supply of 80psi – 100psi. Positioner shall include pressure gauges as well as withstand high vibration applications.

4.2.A Pneumatic Positioner Materials

- Aluminum housing with a polyester powder coat finish
- Stainless steel
- PC
- HDPE
- Nickel

4.3 Direct Mount Solenoid

A direct mount Polyamide solenoid shall be mounted to the NAMUR face of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. Solenoid shall be NEMA Type 4X and be equipped with a 120VAC Class F coil. Solenoid features shall include speed controls, mufflers, manual override and the ability to be used as 3/2 or 5/2 depending on gasket orientation during the assembly process.

Optional items shall include various voltage coils, and/or Hazardous Locations endorsement.

4.3.A Direct Mount Solenoid Materials

- Polyamide
- Stainless steel
- NBR

4.4 Engineered Resin Double Limit Switch

An Engineered Resin Double Limit Switch shall be direct mounted to the top accessory mount of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. Engineered resin double limit switches shall be NEMA Type 4X, rated 15A@250VAC, and be calibrated via touch set cams requiring no tools. Double limit switch enclosure shall be constructed of Engineered Resin with a visual position indicator (Black/Yellow).

Optional items shall include Hazardous Locations endorsement or Intrinsically Safe models.

4.4.A Engineered Resin Double Limit Switch Materials

- Engineered resin
- Stainless steel
- Co-polyester

4.5 P-Series Double Limit Switch

P-Series Double Limit Switch shall be direct mounted to the top accessory mount of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. P-Series switches shall be NEMA Type 4X, rated 16A@250VAC, and be calibrated via touch set cams requiring no tools. Double limit switch enclosure shall be constructed of Die-cast aluminum with a thermally bonded powder coat finish, and a visual position indicator (Black/Yellow).

Optional items shall include Hazardous Locations endorsement or Intrinsically Safe models.

4.5.A P-Series Double Limit Switch Materials

- Die-cast aluminum with thermally bonded powder coat finish
- Stainless steel
- PC

4.6 Inductive Double Limit Switch

An Inductive Double Limit Switch shall be direct mounted to the top accessory mount of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator and triggered via HDPE target puck. Switches shall be NEMA Type 4X, of the PNP design with 2-NO contacts, and rated for 10-36VDC. Double limit switch enclosure shall be constructed of PBT with a SS trim, feature a visual position indicator (Black/Yellow), and connect to system via M12 quick connect.

4.6.A Inductive Double Limit Switch Materials

- PBT
- Stainless steel
- HDPE

4.7 AS-i Bus System

An AS-i Bus System shall be direct mounted to the top accessory mount of the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. System shall consist of an AS-i module with 2-digital inputs and 2-digital outputs, a low watt 24VDC direct mount NAMUR solenoid that is terminated to the AS-i module, and a target puck. AS-i bus system shall operate via AS-i software, and 24VDC. AS-i bus system shall be of the NEMA 4X design, with 3-LED's (Green for power, yellow for function, and red for error), and connect to the network via M12 quick connector.

4.7.A AS-i Bus System Materials

- PBT
- Stainless steel
- HDPE
- Anodized Aluminum

4.8 De-Clutchable Manual Override

De-Clutchable Manual Override, where required, shall be provided and factory installed by Asahi/America, Inc. in accordance with manufacturers requirements, and shall be installed between the valve and the Series 79PA (Aluminum/Rilsan) Pneumatic Rotary Actuator. De-Clutchable manual override shall be of a worm gear design, and feature an eccentric input shaft that clutches or de-clutches for manual override operation. De-clutchable manual override shall be constructed of polyurethane coated steel with a SS input shaft, and be capable of overcoming valve torque for double acting applications or overcoming valve and pneumatic actuator spring torque for single acting applications.

4.8.A De-Clutchable Manual Override Materials

- Steel
- Polyurethane
- Stainless steel

PART 5: INSTALLATION PROCEDURES

Installation practices should follow all local codes and regulations, plant/jobsite codes and regulations, and be performed by adequately trained or licensed personnel. Installation practices should also follow all manufacturers guidelines, standards, and requirements set forth in Series 79P installation, operation and maintenance manuals. All accessories should be installed in accordance with the manufacturers requirements as well as any facility requirements.