



RC SERIES PNEUMATIC ACTUATOR



CDG Actuator Manufacturer

Pneumatic Actuator

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COMPANY HISTORY

1963 : Founded CDG.

1985 : CDG brand creation.

1989 : Production of pneumatic actuators, and Italy FABIA to establish acooperation.

1992 : With the United States FAIRCHILD cooperation,Production of electric actuators.

2001 : Focus on the production and assembly of CDG.

2005 : Production of hydraulic actuators.

2006 : Production of valves.

2011 : Oil station development and use.

2016 : Set up a number of representative offices in China.

ENTERPRISE PROFILE

The CDG is a famous actuator manufacturers, the company is headquartered in America's largest city, Detroit, Michigan is located in the northeastern United States, Canada, Detroit river north of Windsor an important port city. With strong industrial base and freight advantage.

CDG products have unique design, short delivery time, competitive price and excellent after-sales support. As a professional manufacturer of valves, it quickly became the industry leader.

CDG has more than 50 years experience in the valve industry. The r&d department USES these experiences to constantly design new products, improve existing products, and adapt to changing market demands and constantly improving international standards.

CDG can provide standard and non-standard solutions that can be customized according to customer needs.

CDG has created a wide range of reliable products. CDG is favored and admired by the world's leading EPC and oil and gas companies because of its high performance in extreme conditions. Its products are used in power plant, petrochemical, metallurgy, papermaking, automobile and

more Product certification based on customer requirements and government legislation is a guarantee of product quality. CDG USES advanced testing laboratories to ensure the durability of its products. Fire safety, high temperature and low temperature testing can be carried out under extreme conditions.

CDG good position, provide comprehensive after-sales support, fast, efficient, with unparalleled expertise. Our skilled engineers and technicians work 24 hours a day to respond to customer queries, solve problems, and provide reliable solutions. A comprehensive after-sales service creates a complete solution, customer support, covering all requirements.

CDG is a long-term, reliable, available and cost- effective partner for your existing and new business.

CDG brand is comprehensive, including valve and oil station, pneumatic actuator, electric actuator and hydraulic actuator and other related fields. To enable CDG to meet different needs it can be sold separately, and can be matched in a complete set, so that users can reduce their worries.

RC linear pneumatic



The RC Series Linear Pneumatic Actuator is specifically designed to control the operation of the valve. The product range includes double acting and spring return versions in a variety of sizes with output thrusts up to 300.000N.

All CDG actuators use a permanent lubrication system (CDG patented technology) to ensure that the unit is maintenance-free and smooth for life.

Standard RC series actuators can achieve faster response times without the need for an accelerator, and CDG has a special design for faster requirements.

The RC Series actuators integrate a variety of positioners and accessories to meet harsh operating conditions. Manual operating mechanisms and various mounting couplings are also available, depending on the user's specific requirements.



Material

Part Name	Material
cylinder	Aluminum alloy
End cap	Aluminum alloy
piston	Aluminum alloy
axis	stainless steel

The following RC series double acting and spring return actuators are suitable for small to medium thrusts to meet most application requirements. The body is made of corrosion-resistant cast aluminum and is suitable for use in harsh environments such as desert areas, power plants, petrochemical plants and the steel industry. The lightweight, compact and functional design ensures easy installation.

The RC Series has its own patented lifetime maintenance free lubrication system.

The general requirements for RC actuators are integrated by a range of pneumatic and electrodynamic positioners and accessories. The actuator output shaft and the flange connected to the valve can be machined according to the special requirements of the user and various application conditions.

Technical parameters

thrust	8800-40.000N
Standard	Φ160,200,250,320mm
stroke	40 ~ 150mm (Actuators that can order smaller trips)
Operating temperature	-26 ~ +80°C (-15 ~ +176°F) (Lower or higher operating temperatures can be customized upon request)
working pressure	≤1Mpa
Working medium	Dry instrument air or clean gas
Standard interface	1/4" NPTF (Can customize larger interfaces as required)



The following RC series double acting or spring return actuators are designed for large thrust applications. It consists of a cylinder made of carbon steel and an end cap for heavy-duty applications. Sizes from 260mm to 850mm are available in a wide range of special thrust requirements.

The cylinders are designed according to the stroke requirements, so the actuator has no reactive volume when fully open and closed, minimizing deviations.

The RC Series patented embedded lubrication system makes this product maintenance-free for life.

The general requirements for RC actuators are integrated by a range of pneumatic and electrical positioners and accessories. The actuator output shaft and the flange connected to the valve can be machined according to the special requirements of the user and various application conditions.

Technical parameters

thrust	26.000-300.000N (Actuators with higher thrust can be customized according to user requirements)
Standard	Φ260,330,420,520,600,800,850mm
stroke	100~400mm (Actuators that can order smaller trips)
Operating temperature	-26 ~ +80°C (-15 ~ +176°F) (Lower or higher operating temperatures can be customized upon request)
working pressure	≤1Mpa The size is above 650 and the limit is below 0.7Mpa.)
Working medium	Dry instrument air or clean gas
Standard interface	1/2" NPTF (1/4" NPTF for 260 and 330) (Can customize larger interfaces as required)



Material

Part Name	Material
cylinder	Aluminum alloy
End cap	Carbon steel
piston	Aluminum alloy
axis	stainless steel
spring	alloy steel

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Adhere to quality first, continuous improvement, and provide customers with satisfactory products

In many applications, security is often an important factor to consider. Once the fault occurs, the RC series actuator can immediately reach the safe position even if the air supply fails, and the actuator can be used to stop the actuator at the original position or the designated position (full or full). This can be done by an air lock valve system and a mechanical spring.

The spring return type actuators are available in a wide range of specifications to meet a variety of special requirements. The actuator of the aluminum alloy body can be equipped with one or more springs to meet the required thrust and stroke.

Each valve has different requirements, and the CDG offers a combination of corrosion-resistant springs to meet the various thrusts required for a specific application.

If required, the RC Series actuators can be equipped with mechanical springs to improve safety in the event of a gas supply failure.

All RC spring-loaded actuators can be disassembled without maintenance; for maximum safety, the springs are housed in a rugged enclosure to prevent over-travel restrictions.

Technical parameters

thrust	8800-40.000N (Approximate thrust; depending on the selected spring strength and compression, the thrust can change)
Standard	Φ160,200,250,320mm
stroke	40 ~ 150mm (Actuators that can order smaller trips)
Operating temperature	-26 ~ +80°C (-15 ~ +176°F) (Lower or higher operating temperatures can be customized upon request)
working pressure	≤1Mpa
Working medium	Dry instrument air or clean gas
Standard interface	1/4" NPTF (Can customize larger interfaces as required)



The RC carbon steel housing actuator has an option with a mechanical spring that allows the actuator to reach a safe position when the air supply fails.

According to the itinerary and thrust requirements, some solutions have been proposed:
*Single or multiple coaxial springs;
*a plurality of springs are arranged on the end surface around the actuator;
*Combination of the above two methods.

Material

Part Name	Material
cylinder	Carbon steel
End cap and tie rod	Carbon steel
piston	Carbon steel
axis	stainless steel
spring	alloy steel

A wide range of possibilities and a variety of spring options allow the RC actuator to meet the specific requirements of every industrial valve. Like the cast aluminum housing series, the carbon steel housing double acting series can be equipped with an additional return spring. All springs are housed in a reliable enclosure to prevent maintenance personnel from being injured when disassembling the actuator.

Technical parameters

thrust	26.000-300.000N (Approximate thrust; depending on the selected spring strength and compression , The thrust can be changed. Can customize larger thrust)
Standard	Φ260,330,420,520 , 600 , 650 , 800 , 850mm Can be customized to larger sizes
stroke	100 ~ 400mm (Actuators that can order smaller trips)
Operating temperature	-26 ~ +80°C (-15 ~ +176°F) (Lower or higher operating temperatures can be customized upon request)
working pressure	≤1Mpa Φ650 and larger diameter are limited to 0.7Mpa or less
Working medium	Dry instrument air or clean gas
Standard interface	1/2" NPTF (1/4" NPTF for Φ260 and Φ330) (Can customize larger interfaces as required)

Standard RC actuator technical data sheet

Cast aluminum housing	1	2	3	4	5	6	7	8	9
	RC actuator Bore/stroke	Maximum stroke mm	Effective cross-sectional area cm2	volume dm3	thrust, 0.5Mpa Time, N	Locator	Stroke adjustment time s	Air lock valve	With emergency travel Time s
	160/40	205	177	1	8850	TZID-C	1	GL-1/4	< 1
	200/65	205	319	2.73	15950	TZID-C	3	GL-1/4	1.5
	200/100	205	319	3.9	15950	TZID-C	4	GL-1/4	2
	200/150	205	319	5.5	15950	SL-1	5.5	GL-1/4	3
	250/80	205	497	5.25	24850	TZID-C	5.5	GL-1/4	3
	250/100	205	497	6.4	24850	TZID-C	6.5	GL-1/4	3.5
	250/150	205	497	9	24850	SL-1	9	GL-1/4	4.5
Carbon steel casing	320/100	305	794	9.85	39700	TZID-C	10	GL-1/2	5
	260/100	103	521	6	26050	TZID-C	6	GL-1/2	3
	260/150	153	521	8.7	26050	SL-1	9	GL-1/2	4.5
	260/200	205	521	11.5	26050	SL-1	12	GL-1/2	6
	330/100	103	845	9.4	42250	TZID-C	10	GL-1	5
	330/150	153	845	13.7	42250	SL-1	14	GL-1	7
	330/200	205	845	17.1	42250	SL-1	18	GL-1	9
	420/100	103	1366	14.8	68300	TZID-C	15	GL-1	7.5
	420/150	153	1366	21.7	68300	SL-2	9	GL-1	3
	420/200	205	1366	29	68300	SL-2	12	GL-1	4
	520/100	103	2104	22.4	105200	SL-2	9	GL-1 1-2	3
	520/150	153	2104	33	105200	SL-2	14	GL-1 1-2	4.5
	520/200	205	2104	44.1	105200	SL-2	18	GL-1 1-2	6
	600/100	103	2787	29.7	139350	SL-2	12	GL-1 1-2	4
	600/150	153	2787	43.8	139350	SL-2	18	GL-1 1-2	6
	600/200	205	2787	58.5	139350	SL-2	24	GL-1 1-2	8
	600/300	305	2787	86.8	139350	SL-2	35	GL-1 1-2	12
	650/100	103	3278	34.7	163900	SL-2	14	GL-1 1-2	5
	650/150	153	3278	51.3	163900	SL-2	21	GL-1 1-2	7
	650/200	205	3278	68.6	163900	SL-2	28	GL-1 1-2	9
	650/300	305	3278	101.7	163900	SL-2	41	GL-1 1-2	14
	800/100	103	4985	52.3	249250	FT	21	GL-2	7
	800/150	153	4985	77.5	249250	FT	31	GL-2	11
	800/200	205	4985	103.6	249250	FT	42	GL-2	14
	800/300	305	4985	153.8	249250	FT	62	GL-2	20
	850/100	103	5633	59	281650	FT	24	GL-2	8
	850/150	153	5633	87.4	281650	FT	35	GL-2	12
	850/200	205	5633	116.9	281650	FT	47	GL-2	16
	850/300	305	5633	173.6	281650	FT	70	GL-2	23

★ This table shows the main features of the conventional application-type actuators for cast aluminum housings and the heavy-duty actuators of carbon steel housings.

★ Column 2 gives the maximum travel for each type of actuator in column 1, including the reserved travel. smaller stroke can be customized as required, and the actuator of the cast aluminum housing is realized by configuring the stroke limit block; the carbon steel housing is specially produced to process the cylinder according to the stroke required by the user.

★ Columns 3 and 4 list the effective cross-sectional area and volume for each actuator.

★ Column 5 shows the thrust of each actuator at a working pressure of 0.5 MPa.

★ Column 8 gives the specifications for the airlock valve in the standard configuration.

★ Columns 7 and 9 list the adjustment time and emergency time for one trip of the actuator.

★ Special bore and stroke can be customized, the maximum cylinder diameter can reach 1000mm.