

爱诺RT050DA气动执行器

产品名称	爱诺RT050DA气动执行器
公司名称	上海西默斯流体设备有限公司
价格	400.00/台
规格参数	品牌:aero2 型号:RT050DA 扭矩:50nm
公司地址	上海市浦东新区川沙路500号205-350室
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产品详情

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爱诺气动执行器-结构

1、indicator 指示器

position indicator with namur is convenient for mounting accessories such as limit switch box, positioner and so on

namur 标准指示器便于安装位置开关、定位器等附件。

2、pinion 输出轴

the pinion is high-precision and integrative, made from nickelled-alloy steel, full conform to the latest standards of iso5211, din3337, namur.the dimensions can be customized and the stainless steel is available.

镀镍合金钢、高精度一体式输出轴同时符合namur、iso5211、din3337标准。可根据客户要求定制尺寸和不锈钢材料。

3、actuator body 缸体

according to the different requirements, the extruded aluminum alloy astm6005 body can be treated with hard anodized, powder polyester painted (different colours is available such as blue, orange, yellow etc.), ptfе or nickel plated.

astm6005压铸铝合金缸体可以采用硬质氧化、环氧树脂喷涂（根据要求喷涂兰色、橙色、黄色等）、ptfe涂层或镀镍满足不同要求。

4、end caps 端盖

die-casting aluminum powder polyester painted in different colours ,ptfe or nickel plated

压铸铝合金表面金属粉末喷涂各种颜色、ptfe涂层或镀镍处理。

5、pistons 活塞

the twin rack pistons are made from die-casting aluminum treated with hard anodized or made from cast steel with galvanization. symmetric mounting position, long cycle life and fast operation, reversing rotation by simply inverting the pistons.

双活塞齿条、采用铸铝硬质氧化或者铸钢镀锌处理，安装位置对称、运作迅速、使用寿命长，简单的颠倒活塞可以改变旋转方向。

6、travel adjustment 行程调节

the two independent external travel stop adjustment bolts can adjust $\pm 5^\circ$ at both open and close directions easily and precisely.

两个独立的行程调节螺钉可以进行方便、精确 $\pm 5^\circ$ 的调节开、关位置。

7、high performance springs 高性能弹簧

preloaded coating springs are made from the high quality material for resistant to corrosion and longer service life, which can be demounted safely and conveniently to satisfy different requirements of torque by changing quantity of springs.

采用优质材料、涂层处理，预压装配。具有较强的抗腐蚀性和使用寿命。能够安全、简单的拆卸单作用执行器，通过改变弹簧数量满足不同的力矩输出范围。

8、bearings & guides 轴承、导板

made from low friction, long-life compound material, to avoid the direct contact between metals. the maintenance and replacement are easy and convenient.

采用低摩擦、长寿命复合材料，避免了金属与金属的直接接触，维修更换简单方便。

9、o-rings 密封

nbr rubber o-rings provide trouble-free operation at standard temperature ranges. for high and low temperature applications viton or silicone.

在常温工作条件下使用丁腈橡胶，在高温或低温时采用氟橡胶或硅橡胶。

air to port a forces the pistons outwards, causing the pinion to turn counterclockwise while the air is being exhausted from port b.

air to port b forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from port a.

a口进气，压缩空气推动活塞向外运动，使执行器输出轴逆时针旋转(0°-90°)，b口排气。b口进气，压缩空气推动活塞向内运动，使执行器输出轴顺时针旋转(90°-0°)，a口排气。

output torque of double acting actuators 双作用执行器输出力矩(unit:nm)

气源压力输入气源压力(单位：巴)型号22.5344.555.5678rt020da8.010.012.016.018.020.021.923.927.931.9rt035da14.618.221.929.232.836.540.143.851.158.4rt050da20.125.130.140.145.150.255.260.270.280.3rt075da31.439.247.062.770.578.486.294.1109.7125.4rt110da45.156.467.790.3101.6112.9124.1135.4158.0180.6rt160da66.182.799.2132.2148.8165.3181.8198.4231.4264.5rt255da100.3125.4150.5200.6225.7250.8275.9301.0351.1401.3rt435da171.0213.8256.5342.0384.8427.5470.3513.0598.5684.0rt665da266.0332.5399.0532.0598.5665.0731.5798.0931.01064.0rt1000da425.6532.0638.4851.2957.61064.01170.41276.81489.61702.4rt1200da532.0665.0798.01064.01197.01330.01463.01596.01862.02128.0rt1800da769.5961.91154.31539.01731.41923.82116.12308.52693.33078.0rt2700da1169.61462.11754.52339.32631.72924.13216.53508.94093.74678.6rt3800da1526.01980.02288.63052.63434.03815.04196.94578.25341.06104.0rt5700da2285.02856.13427.34570.45140.65172.06283.06854.17797.09138.0rt8000da3256.34070.14884.06512.07326.08140.38954.49768.11139613024

双作用执行器的选型:在正常操作条件下，双作用执行器考虑的安全系数为20%-30%。示例：阀门力矩=100nm安全力矩=100 × (1+30%)=130nm气源压力=5bar对照双作用力矩表，选配双作用执行器小规格为rt160da，扭矩为165.3nm。

sizing: double acting actuator

the suggested safety factor for double acting actuators under normal working conditions is 20%-30%.

example:

the torque needed by valve=100n.m

the torque considered safety factor (1+30%)=130n.m ,

air supply=5bar

according to the above table, we can choose the minimum model is rt160da. torque is 165.3nm .

air to port a forces the pistons outwards, causing the springs to compress, the pinion turns counterclockwise while air is being exhausted from port b.

loss of air pressure on port a, the stored energy in the springs forces the pistons inwards. the pinion turns clockwise while air is being exhausted from port a.

a口进气,压缩空气克服弹簧力，推动活塞向外运动，执行器输出轴逆时针转动(0° - 90°)，b口排气；

执行器失气，活塞在弹簧力的作用下向内运动，执行器输出轴顺时针转动(90° - 0°)，a口排气。

pneumatic acs

output torque of spring return actuators 单作用执器输出力矩 (unit: nm)

单作用执行器输出力矩 (unit:nm)

气源压力

5bar

6bar

7bar

8bar

弹簧输出力矩(nm)

型号model

开始0°

结束90°

rt020srk10

11.5

6.7

15.5

11.6

20.3

16.8

23.4

19.3

12.4

8.5

rt035srk10

22.8

15.6

30.0

37.3

30.1

44.7

37.4

20.9

13.7

rt050srk10

28.8

21.2

39.0

31.2

49.1

41.2

59.0

51.2

29.0

21.1

rt075srk10

46.7

32.3

62.4

48.0

78.1

63.7

93.8

79.3

46.0

31.6

rt110srk10

66.2

44.1

88.8

66.7

111.3

89.2

134.0

111.8

68.7

rt160srk10

102.0

66.5

135.1

99.6

168.2

136.6

201.2

165.7

98.4

63.3

rt255srk10

146

94

196

144

247

194

297

245

157

105

rt435srk10

256

169

341

255

427

340

512

426

258

172

rt665srk10

386

248

519

381

652

514

785

647

417

279

rt1000srk10

664

446

877

658

1090

871

1302

1084

618

400

rt1200srk10

780

570

1046

836

1312

1102

1578

1368

760

550

rt1800srk10

1103

816

1488

1201

1872

1586

2257

1970

1108

821

rt2700srk10

1805

1352

2390

1937

2974

2521

3560

3107

1572

1119

rt3800srk10

2193

1458

2956

2221

3719

2984

4482

3747

2122

1460

rt5700srk10

3105

1929

4247

3071

5090

4214

6532

5356

3405

2346

rt8000srk10

4057

1738

5685

3366

7312

4993

8940

6621

5761

3674

单作用执行器的选型在正常情况下考虑安全系数为30%-40%例如:阀门力矩为80nm安全力矩为: $80 \times (1+30\%) = 104\text{nm}$ 气源压力为5bar 对照单作用输出力矩表,可以选rt435srk10压缩空气对应的力矩为: $0^\circ = 256$, $90^\circ = 169$ 此时弹簧输出的力矩对应为 $90^\circ = 258$, $90^\circ = 172$, 所有输出力矩均大于我们需求。

型号

a

b

c

d

e

f

g

h

i

j

k

l

m

n

z

气源接口

model

air connection

rt020

30

41.5

65.5

72

92

65

80

36

50

m5x8

m6x10

11

14

147

40

namur g1/4"

rt035

36

47

81

87.5

107.5

70

m8x13

18

168

rt050

42

53

99.5

119.5

184

rt075

46

57

98.5

108.7

128.7

17

21

204

rt110

50

58.5

111

116.5

136.5

98

262

rt160

57.5

64

122.5

133

153

109.5

102

m10x16

22

26

268

rt255

67.5

74.5

145.5

155

175

127.5

301

55

rt435

75

77

161

192

137.5

125

m12x20

27

31

390

rt665

87

197

217

158

458

rt1000

103

213

230

260

189

130

140

m16x25

40

525

80

rt1200

113

235.5

285

210

532

rt1800

264.5

289

319

165

m20x25

602

rt2700

299

326

356

273

722

namur g1/2"

rt3800

162

348

378

324

215

60

742

rt5700

190

402

432

380

860

rt8000

464

494

298

254

8-m16x25

55

924

工作技术条件: operating conditions

1. 工作介质operating media干燥或润滑的空气或无腐蚀性气体介质中杂质微粒小于 $30\ \mu\text{m}$ 。

dry or lubricated air, or the non-corrosive gases

the maximum particle diameter must less than $30\ \mu\text{m}$

2. 气源压力air supply pressure

小气源压力2.5巴，大气源压力8巴。

the minimum supply pressure is 2.5 bar

the maximum supply pressure is 8 bar

3. 介质环境温度operating temperature

标准：-20 ~+80

低温：-35 ~+80

高温：-15 ~150

standard:-20 ~+80

low temperature:-35 ~+80

high temperature:-15 ~+150

4.行程调节 travel adjustment 0 ° 和90 ° 两个位置有 ± 5 ° 的调节范围

have adjustment range of ± 5 ° for the rotation at 0 ° and 90

5.使用场合 application 室内或室外安装 either indoor or outdoor

执行器动作形式 operating type 单作用和双作用 double acting and spring return 1.气源接口符合 namur 标准，可简单方便地安装电磁阀。 1.air supply connection is designed in accordance with namur standard to install solenoid valves. 2.输出轴的 namur 标准槽和缸体上部标准安装孔，可使限位开关、定位器直接啮合和安装。 2.the namur drive pinion and the namur top mounting connection permit direct installation of accessories such as limit switch box and positioner. 3.底部安装孔设计符合 iso5211、din3337 标准，可以直接安装离合器(气动手轮机构)或安装支架。 3.bottom mounting connection is designed in accordance with iso5211 and din3337 standards for direct mounting with valve gear boxes or mounting brackets.

产品序列号、气源接口及底部安装孔全部电脑打字，易于辨识和跟踪服务。 each actuator is marked with a serial number, air connection and bottom mounting holes are marked for easy track and distinction.

air consumption 耗气量

开向体积和关向体积 air volume opening & closing

unit: l

air volume opening

air volume closing

air volume closing

型号

开向体积(升)

关向体积(升)

0.12

0.16

2.5

2.2

0.21

0.23

3.7

3.2

0.3

0.34

5.9

5.4

0.43

0.47

7.5

0.64

0.73

9

0.95

0.88

1.6

1.4

air consumption rest with air supply. air volume and action cycle times, expressions:

weight table 重量表

(52)

(63)

(75)

(83)

(92)

(105)

(125)

重量(da)

1.38kg

2.03kg

2.7kg

3.13kg

4.6kg

6.77kg

8.9kg

重量(sr)

1.45kg

2.05kg

2.9kg

3.6kg

5.22kg

6.85kg

10.11kg

(140)

(160)

(190)

(210)

(240)

(270)

13.25kg

20.14kg

31.3kg

46.80kg

67.28kg

96.9kg

15.55kg

24kg

35.25kg

54.8kg

80.2kg

118kg

注：1、sr为12根弹簧；2、重量为净重量。