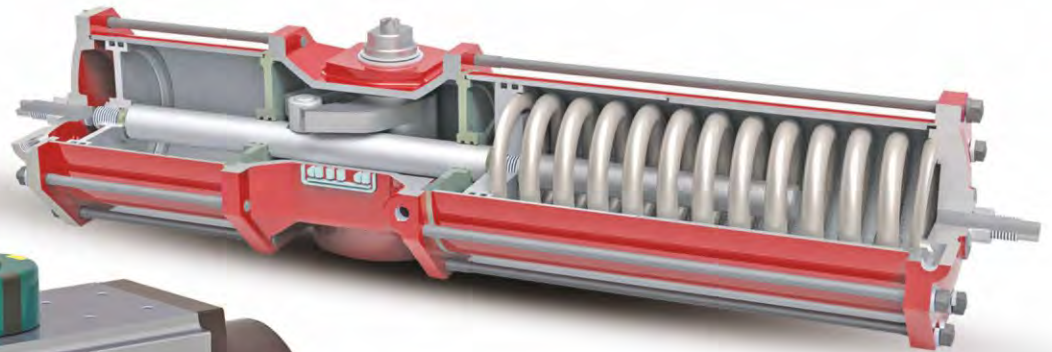


Your Solution Partner In  
Industrial Valve Automation...



# Pneumatic Actuators



## Features

- Single acting and double acting rack and pinion actuators. [SIL3, ATEX, CE APPROVED] Validated for 5,00,000 cycles
- Hard anodised Aluminium body and stainless steel version also available.
- ISO 5211 mounting pad in all rotary actuators for easy mounting
- Wide variety of torque range
- Single and double acting scotch and yoke actuators manufactured for torques upto 1,10,000NM.
- Complete automation accessories manufactured by us such as limit switches, positioner, FR, etc.
- Linear pneumatic diaphragm actuators available for controlling application with provision for On site conversion from Direct Acting & Reverse Acting.
- Pneumatic cylinder and power cylinder available for robust application needed in gate valves.



Mfg. & Mkt by  
**aira Euroautomation pvt. Ltd.**

INDIA

[www.airaindia.com](http://www.airaindia.com) / [www.airaeuro.com](http://www.airaeuro.com)



About Us

*Clients are why we exist!*

Aira Euro Automation Pvt. Ltd. headquartered in Ahmedabad, Gujarat, India accredited with ISO 9001, from BVQI – LONDON is one of the leading manufacturer and exporter of automation and manual valves in the small sector in India having over 25-years of experience, maintaining one of the largest and most diversified markets of valves globally. We export our product in more than 20+ countries and have received excellent feedbacks.

Pneumatic actuator operated valves can easily tolerate heavy loads, and are easily available and inexpensive too. Our products meet a wide range of users from different fields in fossil & cogeneration power, nuclear, refining, petrochemicals, pulp & paper, LNG & cryogenics, pharma industry.

We are continuously enhancing the ability of our staff and workers to become  
 "customers preferred company."

The motto of our organization is to become "One - stop shop" for our clients and customers. For this, we have fully dedicated staff in each field.

The Formula to our success is by remaining true to our client commitments, followed by perseverance and patience towards making our clients' dreams become reality. The formula has clearly worked, since Aira India has been steadily growing one client at a time, providing support to organizations all over India as well as abroad.

Being a small company has had its own advantages for us. We have been able to dedicate our time and attention towards developing long-standing and valued relationships with every one of our clients, some of whom we've been with since more than a decade! This has allowed us to have a complete understanding of their requirements and focus our efforts on bringing value-addition to their businesses.

We believe that truly creative solutions can only be inspired by a sense of overriding

commitment to complete client satisfaction; that is how one builds strong client relationships. And we're proud to say, that Aira India has not only strived, but also been able to achieve that special synergy with each of its clients.

For further clarification of our products & services, Please feel free to contact us.





ISO 9001:2015



ISO 14001 : 2015



ISO 18001 : 2007



CE Pneumatic Actuator



CE : Solenoid Coil & Valve Positioner



ATEX Pneumatic Actuator



ATEX Flameproof Limit Switch



ATEX Flameproof Solenoid Coil



SIL 3 Pneumatic Actuator





# Approval

## Approval

TDS, SGS, MECON, LLOYDS, PDIL, RITES, ONGC, BVIS, UHDE, BHEL, NPCIL, BARC, SAIL, Indian Navy & many more. We have always kept our Design & Development Department on their toes, Even when a product has been positively accepted in the market, We have made changes for the better instead of resting on our laurels. Also we have full fledged in house flow testing facility.

## Organisation Belief

"Customer Is The Top Priority" Continuous job training to it's employees and human resource development strengths have given a loyal, trained workforce with great motivation. We have a network of service and sales operations by qualified engineers and marketing personnel, by which the nationwide requirements are being fulfilled.

## Reputation

Client's satisfaction with quality, fast action, rates, pre and post sales services.

## Aim

To provide the most economic and quality product under the latest international manufacturing standards.



API - Ball Valve (6D)



API - Butterfly Valve (609)



CE Ball Valves



CE Micro Limit Switch



SIL 3 Double Offset Butterfly Valve



EIL Multipoint Ball Valve





**CCOE**  
Flameproof Solenoid Coil



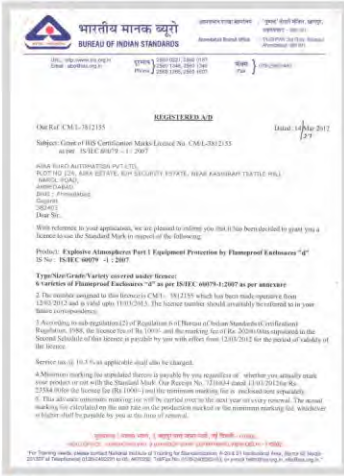
**CCOE**  
Flameproof Solenoid Coil



**CCOE**  
Flameproof Solenoid Coil



**CCOE**  
Flameproof Solenoid Coil



**BIS**  
Flameproof Solenoid Coil



**BIS**  
IS - 3000 Solenoid Coil



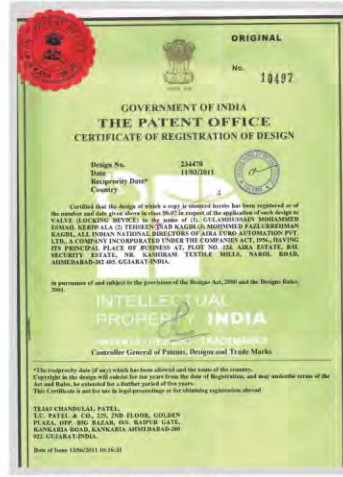
**IBR Certificate**



**DGMS**  
Valve Positioner



**Patent**  
Jacketed Ball Valve



**Patent Drum Type**  
Pressure Reducing Valve



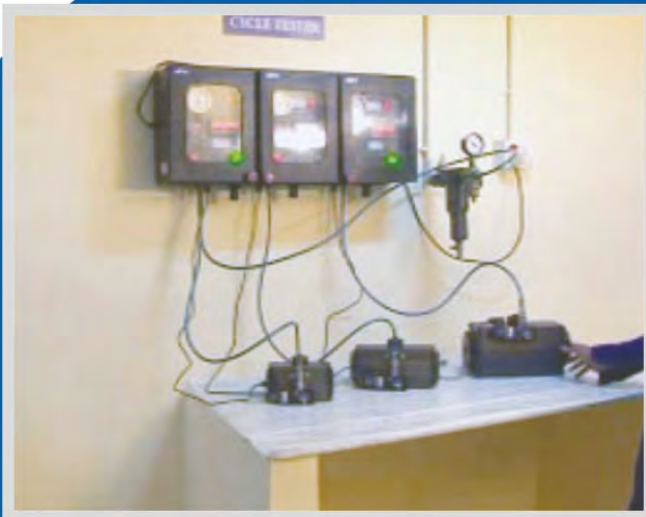
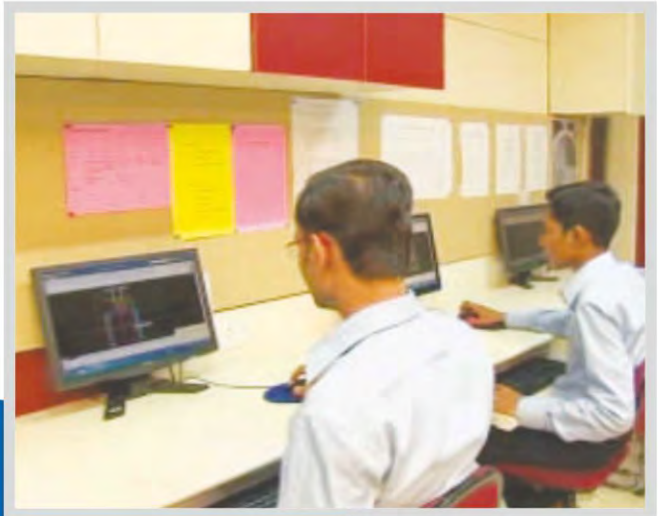
**Patent**  
Safety Valve



**ERAD**  
Pneumatic Actuator



## Company Profile



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Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.



POD Certificates validates our vision of making actuators that are at par with most critical needs of our customer

we machine these actuators on world class machinery keeping stringent quality parameters to deliver actuators that Perform

aira		AIRA EURO AUTOMATION PRIVATE LIMITED				
TEST REPORT FOR ACTUATOR AS PER BS EN 15714:2009						
W.O.NO.	PROTOTYPE	W.O.DATE : 24/02/2014				
CUSTOMER	SELF	DRAWING NO. : ARA-90-5A REV : 0				
ACTUATOR SIZE	ARA-90	ACTUATOR TYPE S/A				
ACTUATOR SR.NO.	900114029	20-03-2014				
SR.	TEST	TEST DESCRIPTION	REQUIRED VALUE	OBSERVED VALUE	RESULT	REMARKS
1	TYPE	Output Torque	Nominal Pressure 5.5 Bar/Temp.10 C to 25 C	120 NM	OK	
2	TYPE	Pressure	Shell Test at Bar 8	8 BAR	OK	
3	TYPE	Endurance	5,00,000 cycle [Cycle Time 1=4 second.]	CYCLE 5,00,000	OK	
4	TYPE	Minimum Moving Pressure	Min.Moving Pressure Bar 2 at Temp.10 C to 25 C	OK	OK	
5	ROUTINE	Leakage	should complies to en 15714	NO VISIBLE LEAKAGE	OK	
6	TYPE	Operating Time	Max 3 second	OK	OK	
7	TYPE	Angel	90 [Range - 0 to 5]	90°	OK	
8	TYPE	Air Consumption	Std.Value	OK	OK	
9	TYPE	Enclosure	should complies to EN 60529	OK	OK	
10	TYPE	Corrosion protection	should complies to ISO 9277 REP. NO	ENV/G.0890/0900	OK	
10	TYPE	Basic Design	AIRA Design	OK	OK	
11	TYPE	position Indicator	ON-OFF Positioner.	OK	OK	
Above material has been inspected and complies to BS EN 15714:2009						
Tested By :				Approved By :		

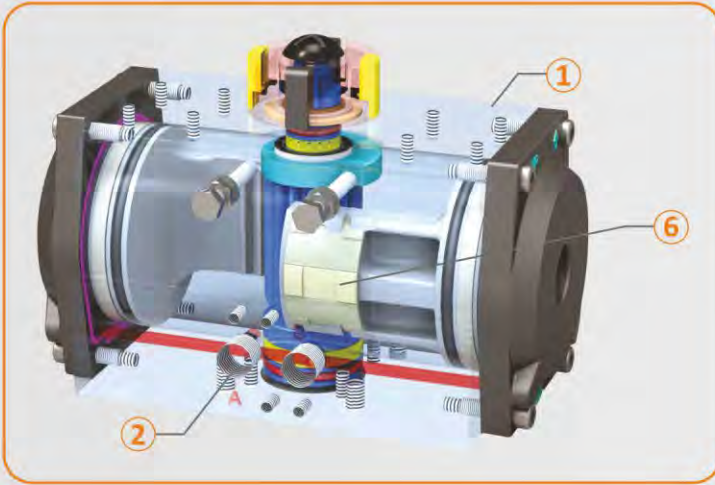
POD Certificates available for complete range of Double & Single Acting Rack & Pinion Actuators Validating **5,00,000 CYCLES**

aira		AIRA EURO AUTOMATION PRIVATE LIMITED				
TEST REPORT FOR ACTUATOR AS PER BS EN 15714:2009						
W.O.NO.	PROTOTYPE	W.O.DATE : 22/12/2013				
CUSTOMER	SELF	DRAWING NO. : ARA-90-5D REV : 0				
ACTUATOR SIZE	ARA-90	ACTUATOR TYPE D/A				
ACTUATOR SR.NO.	901113085	18/11/2013				
SR.	TEST	TEST DESCRIPTION	REQUIRED VALUE	OBSERVED VALUE	RESULT	REMARKS
1	TYPE	Output Torque	Nominal Pressure 5.5 Bar/Temp.10 C to 25 C	142 NM	OK	
2	TYPE	Pressure	Shell Test at Bar 8	8 BAR	OK	
3	TYPE	Endurance	5,00,000 cycle [Cycle Time 1=4 second.]	CYCLE 5,00,000	OK	
4	TYPE	Minimum Moving Pressure	Min.Moving Pressure Bar 2 at Temp.10 C to 25 C	OK	OK	
5	ROUTINE	Leakage	should complies to en 15714	NO VISIBLE LEAKAGE	OK	
6	TYPE	Operating Time	Max 3 second	OK	OK	
7	TYPE	Angel	90 [Range - 0 to 5]	90°	OK	
8	TYPE	Air Consumption	Std.Value	OK	OK	
9	TYPE	Enclosure	should complies to EN 60529	OK	OK	
10	TYPE	Corrosion protection	should complies to ISO 9277 REP. NO	ENV/G.0890/0900	OK	
10	TYPE	Basic Design	AIRA Design	OK	OK	
11	TYPE	position Indicator	ON-OFF Positioner.	OK	OK	
Above material has been inspected and complies to BS EN 15714:2009						
Tested By :				Approved By :		



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Rack & Pinion Actuator [ DOUBLE ACTING ]



## 1. Hard Anodized

Barrel / Body to Protect from Hazardous atmosphere & corrosion, which enhance life of actuator

## 2. Mounting Standard Pinion Top

(As Per Namur Standard) The pinion (shaft) top drilled and slotted for easy assembling of switch, positioners and other accessories.

## 3. Adjusting Bolt

Adjusting Bolts for  $0^\circ - 90^\circ \pm 5\%$  Over Travel

## 4. ISO - 5211 Standard Mounting for Valve

(An International Standard) Double bottom drilling for actuator to valve Assembling & centering. Designed for strength and easy mounting or interchangeability.

## 5. ISO - 5211 Standard Pinion Bottom

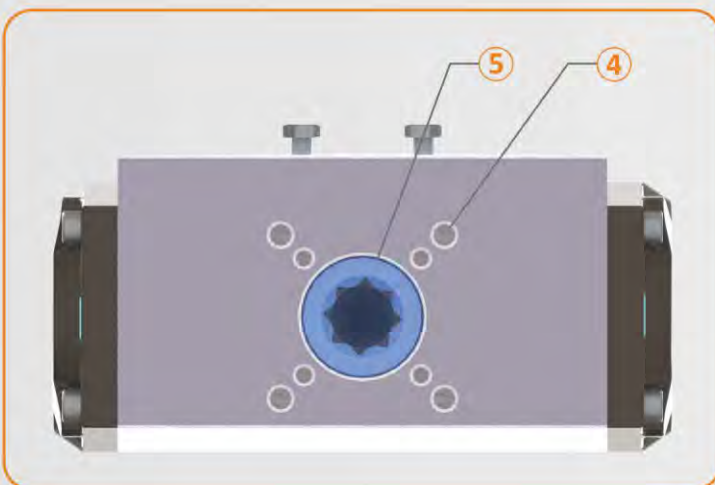
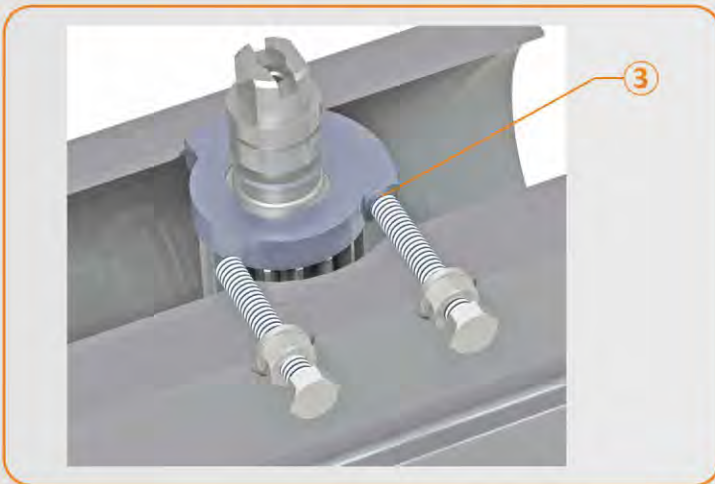
(An International Standard) Bottom of the pinion (Shaft) as female key, double square hole for assembling on valves with square key stem and in line or turned to  $45^\circ$ . Designed for strength and sure-fix with stem

## 6. Sliding Skates

The innovation for replaceable sliding skates, between Pistons (Racks) and internal bore surface of the Actuator, just to avoid metal contact, which enhances the Actuator life

## 7. Compact Design

"aira" Actuators are designed as compact double acting which offers high torque values. Internal sliding surface, machined and anodized for minimum friction and long life of actuator.



# Pneumatic Rotary Rack & Pinion Actuator [ DOUBLE ACTING ]

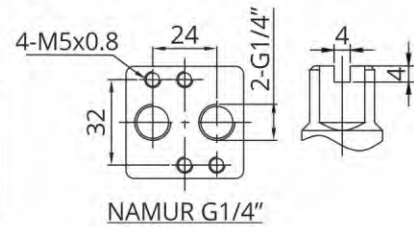
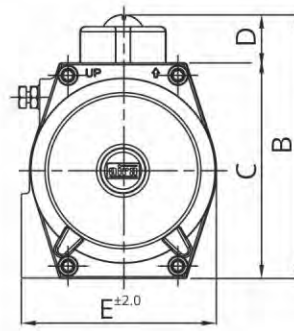
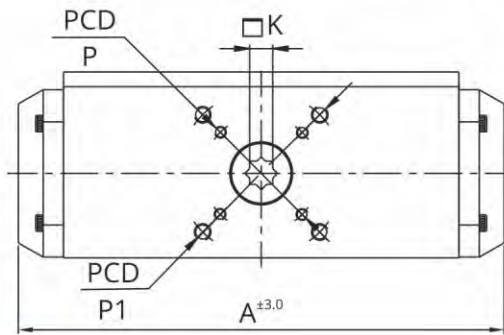
## General Features

- Operating Pressure : 3 to 8 BAR
- Temperature Range : -20 °C to 90 °C
- Air Supply : Filtered, dry or lubricated
- Ext. Protection : Corrosion resistant to 500 hours in slated fog



SIL 3

**5,00,000 Cycles**



## Dimensions :

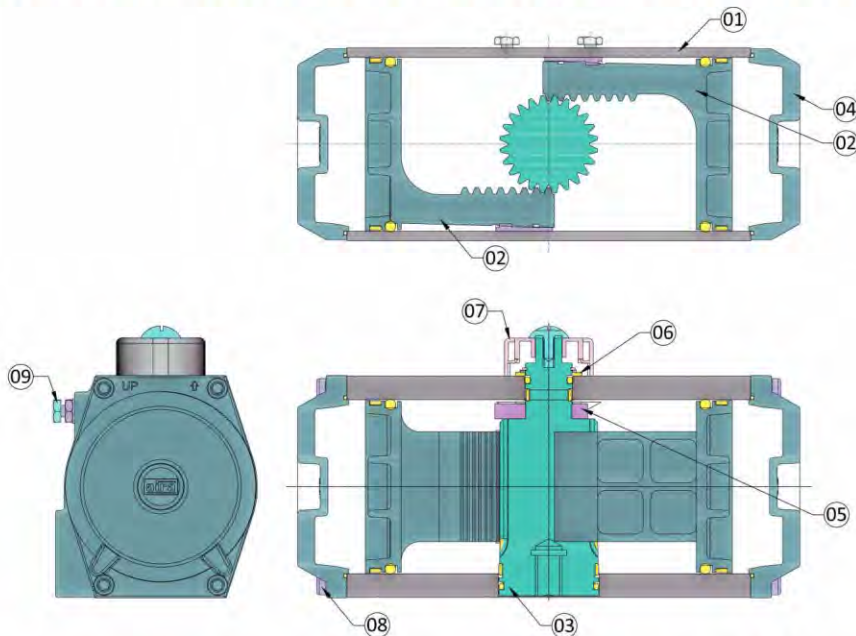
Valve Model	A	B	C	D	E	PCD P	PCD P1	Square □K	WEIGHT (Approx) Kgs.	Air Consumption In Liters / Bar
5412-DD	110	82	54.2	28.25	45	36	50	7X7, 9X9	0.600	On Request
ARA-DD-49-D	130	96.5	69.5	28.29	65	36	50	9X9, 11X11	1.100	0.2
ARA-DD-50-D	153.5	102	74	28.45	72.8	50	70	9X9, 11X11, 13X13, 14X14	1.400	0.25
ARA-DD-63-D	147.5	113.6	87.5	27.4	76	50	70	9X9, 11X11, 13X13, 14X14	2.650	0.43
ARA-DD-75-D	188	126.5	100	28.3	83	50	70	9X9, 11X11, 13X13, 14X14, 15X15, 17X17	2.800	0.66
ARA-DD-83-D	170	135.5	109	28.28	83.2	50	70	11X11, 13X13, 14X14, 17X17	3.300	0.75
ARA-DD-90-D	265.5	145.5	117	28.26	90.9	---	70	11X11, 13X13, 14X14, 15X15, 17X17	5.050	1.37
ARA-DD-110-D	267	166	140	28.3	124.9	70	102	14X14, 17X17, 22X22, 27X27	7.400	2.6
ARA-DD-127-D	312	180	153	28.26	135	102	125	14X14, 17X17, 22X22, 27X27	10.100	3.8
ARA-DD-140-D	364	198	172	38.48	144	102	125	17X17, 22X22, 27X27	14.000	4.1
ARA-DD-160-D	417	228	196	39.43	161	102	125	22X22, 27X27, 36X36	20.750	7.48
ARA-DD-200-D	405	292	253	39.81	210.4	100X150	140	27X27, 36X36	32.600	10.03
ARA-DD-210-D	563.5	292	253	39.81	210.20	100X150	140	27X27, 36X36, 46X46	59.000	10.64
ARM - 240 - D	620	320.2	292.5	28	---	---	165	46 X 46	65.000	On Request
ARM - 270 - D	733.4	364.3	328.4	36	---	---	165	46 X 46	83.500	On Request
ARM - 300 - D	825	393.7	355.7	38	---	---	165	46 X 46	109.500	On Request
ARM - 350 - D	842.2	445.6	410.6	35	---	---	165	46 X 46	147.600	On Request
ARM - 400 - D	926.5	503.6	463.4	40	---	---	165	55 X 55	310.500	On Request

(All Dimensions are in mm)



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Rack & Pinion Actuator [ DOUBLE ACTING ]



No.	Description	Material
1	Body	Aluminium Alloy
2	Piston	Aluminium Alloy
3	Shaft	EN 8
4	End Cover	Aluminium Alloy
5	Adaptor	EN 8
6	Shaft Washer	S. S.
7	Indicator	Nylon
8	L. N. Bolt for End Cap	S. S.
9	Adjustable Bolt + Nut + Washer	S. S.
10	All Seals	Hi - Nitrile
11	All Guides	Delrin

## "aira" ACTUATOR SELECTION

### Selection of Double Acting Actuator

- Conclude your required torque value.
- Increase 15% for an acceptable safety factor. (Safety factor depends on media passing through valve.)
- Now look on torque chart and find nearby higher torque value of your required torque.
- The found position shows the model of "aira" actuator & operating pressure in bar we need

### Example

- Suppose we need 55 Nm torque to drive a valve.
- Increase 15%-63.3 Nm for safety factor.
- In below table the nearby higher torque value is 78 at operating pressure 6 bar.
- This indicates to selection the "aira" actuators model ARA-DD-75-D

### DOUBLE ACTING ACTUATOR TORQUE CHART IN Nm

(10Nm = 1 kgfm)

Valve Model	3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
5412-DD	3.60	4.7	6	7.50	8.50
ARA-DD-49-D	9.50	12.6	16	19.5	22.5
ARA-DD-50-D	13.5	18.5	23	27.5	32
ARA-DD-63-D	19	25.5	32	39.5	46.0
ARA-DD-75-D	38	51	65.0	78	90.8
ARA-DD-83-D	42	56	71	85	97
ARA-DD-90-D	84	115.5	145.0	174	202.0
ARA-DD-110-D	135	170	225	265	304
ARA-DD-127-D	206	279	349	423	497
ARA-DD-140-D	301	408	514	620	694
ARA-DD-160-D	439	582	737	892	1064
ARA-DD-200-D	720	950	1182	1420	1650
ARA-DD-210-D	1138	1505	1900	2183	2486
ARM - 240 - D	1221	1628	2031	2445	2849
ARM - 270 - D	1958	2611	3264	3916	4569
ARM - 300 - D	2403	3205	4006	4807	5608
ARM - 350 - D	3598	4798	5998	7197	8397
ARM - 400 - D	5127	6837	8546	10255	11964

Note : Actuator Torques May Vary ±3%



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# Pneumatic Rotary Rack & Pinion Actuator [ SINGLE ACTING ]

## 1. Hard Anodized

Barrel / Body to Protect from Hazardous atmosphere & corrosion, which enhance life of actuator

## 2. Mounting Standard Pinion Top

(As per Namur Standard) The pinion (shaft) top drilled and slotted for easy assembling of switch, positioners and other accessories.

## 3. Adjusting Bolt

Adjusting Bolts for  $0^\circ - 90^\circ \pm 5\%$  Over Travel

## 4. ISO - 5211 Standard Mounting for Valve

(An International Standard) Double bottom drilling for actuator to valve Assembling & centering. Designed for strength and easy mounting or interchangeability.

## 5. ISO - 5211 Standard Pinion Bottom

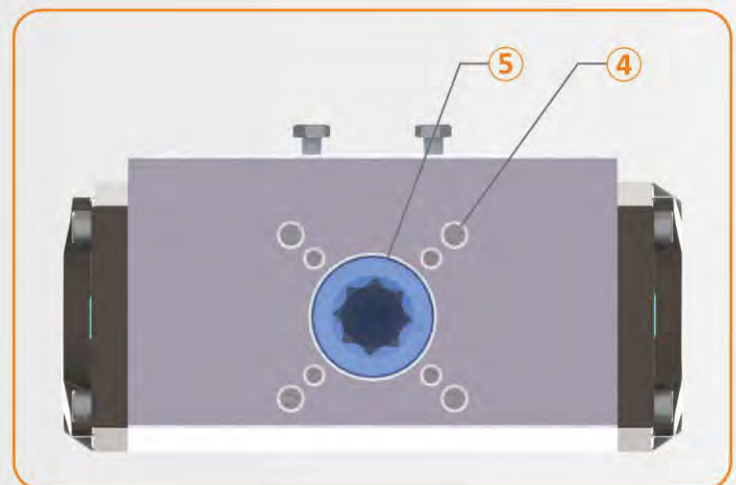
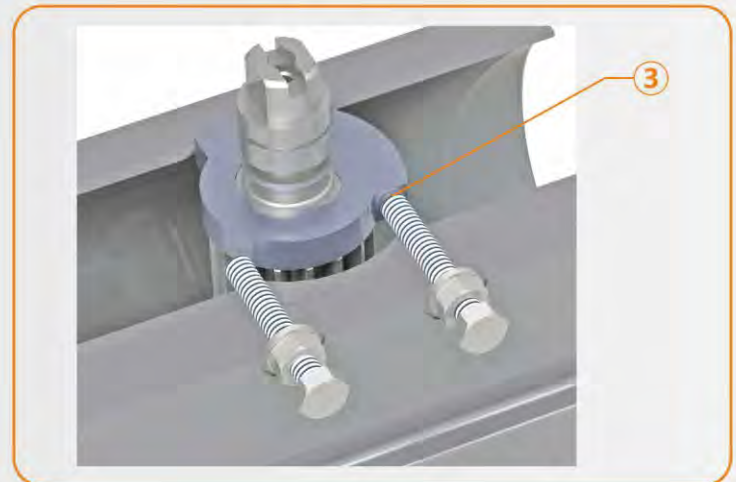
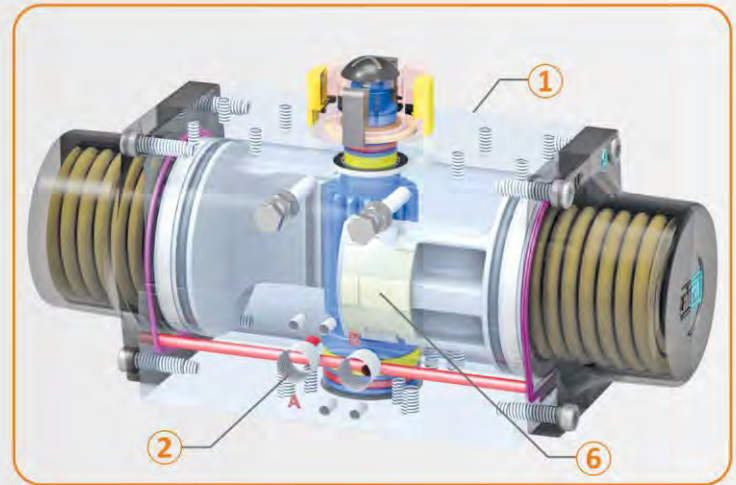
(An International Standard) Bottom of the pinion (Shaft) as female key, double square hole for assembling on valves with square key stem and in line or turned to  $45^\circ$ . Designed for strength and sure-fix with stem

## 6. Sliding Skates

The innovation for replaceable sliding skates, between Pistons (Racks) and internal bore surface of the Actuator, just to avoid metal contact, which enhances the Actuator life

## 7. Compact Design

"aira" Actuators are designed as compact double acting which offers high torque values. Internal sliding surface, machined and anodized for minimum friction and long life of actuator.



# Pneumatic Rotary Rack & Pinion Actuator [ SINGLE ACTING ]

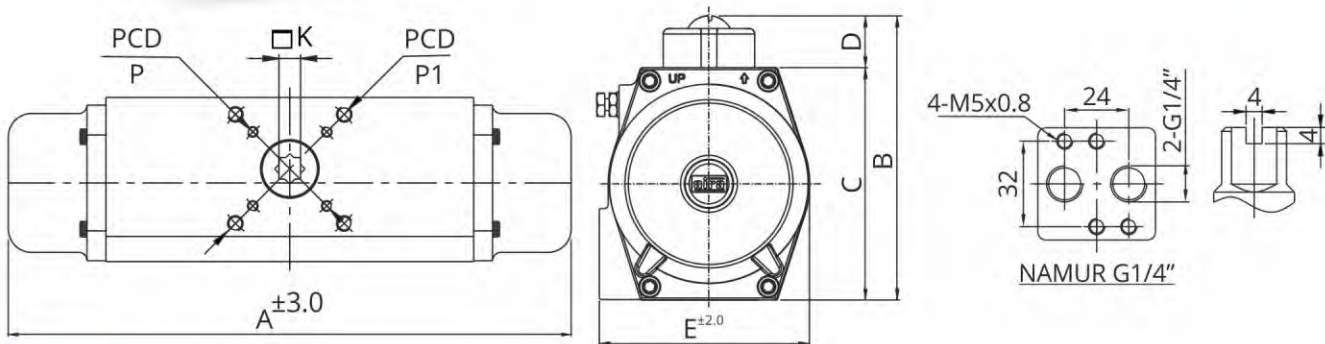


## General Features

- Operating Pressure : 3 to 8 BAR
- Temperature Range : -20 °C to 90 °C
- Air Supply : Filtered, dry or lubricated
- Ext. Protection : Corrosion resistant to 500 hours in slated fog



SIL 3



### Dimensions :

Valve Model	A	B	C	D	E	PCD P	PCD P1	SQUARE □K	WEIGHT (Approx) Kgs.	Air Consumption In Liters / Bar
ARA-DD-49-S	140.5	98	69.5	28.29	65	36	50	9X9, 11X11	1.250	0.1
ARA-DD-50-S	181.1	101.5	74	28.45	72.8	50	70	9X9, 11X11, 13X13, 14X14	1.600	0.16
ARA-DD-63-S	196	113.6	87.8	27.4	76	50	70	9X9, 11X11, 13X13, 14X14	2.200	0.27
ARA-DD-75-S	254.5	126.5	100	28.3	83	50	70	9X9, 11X11, 13X13, 14X14, 15X15, 17X17	3.750	0.31
ARA-DD-83-S	254.5	135.4	109.4	28.28	83.2	50	70	11X11, 13X13, 14X14, 17X17	3.750	0.53
ARA-DD-90-S	335.4	145.4	117	28.26	90.9	---	70	11X11, 13X13, 14X14, 15X15, 17X17	6.250	0.55
ARA-DD-110-S	335.6	166	140	28.3	124.6	70	102	14X14, 17X17, 22X22, 27X27	9.550	1.13
ARA-DD-127-S	435.1	179	153	28.26	135	102	125	14X14, 17X17, 22X22, 27X27	16.150	1.5
ARA-DD-140-S	489.8	198	172	38.48	144	102	125	17X17, 22X22, 27X27	17.550	1.75
ARA-DD-160-S	626.4	228	196	39.43	161	102	125	22X22, 27X27, 36X36	37.150	3.2
ARA-DD-200-S	550.6	275.2	232.2	39.81	210.4	100X150	140	27X27, 36X36	40.950	7.38
ARA-DD-210-S	777.4	292.3	253.1	39.81	210.20	100X150	140	27X27, 36X36, 46X46	78.650	8.46
ARM - 240 - S	620	320.2	292.5	28	---	---	165	46 X 46	72.400	On Request.
ARM - 270 - S	733.4	364.3	328.4	36	---	---	165	46 X 46	104.600	On Request.
ARM - 300 - S	825	393.7	355.7	38	---	---	165	46 X 46	196.600	On Request.
ARM - 350 - S	842.2	445.6	410.6	35	---	---	165	46 X 46	250.500	On Request.
ARM - 400 - S	926.5	503.6	463.4	40	---	---	165	55 X 55	344.500	On Request.

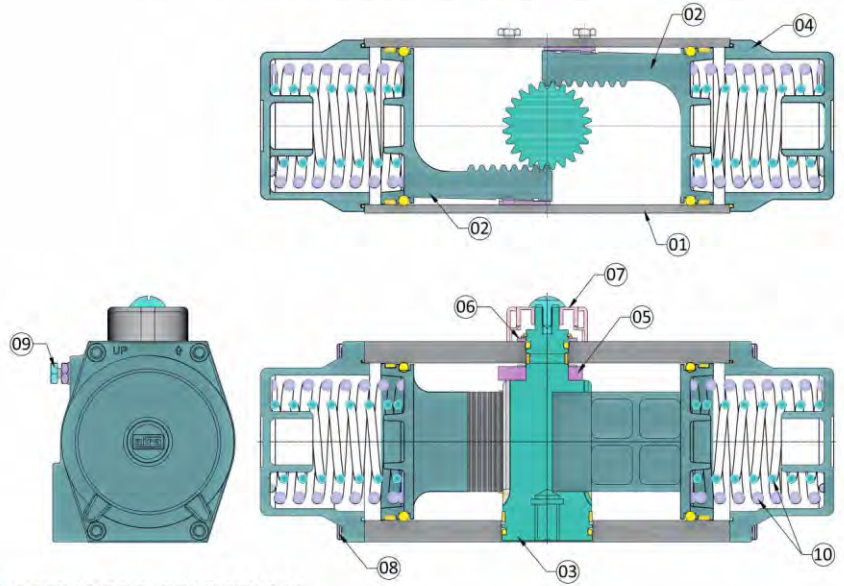
(All Dimensions are in mm)



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Rack & Pinion Actuator [ SINGLE ACTING ]

No.	Description	Material
1	Body	Aluminium Alloy
2	Piston	Aluminium Alloy
3	Shaft	EN 8
4	End Cover	Aluminium Alloy
5	Adaptor	EN 8
6	Shaft Washer	S. S.
7	Indicator	Nylon
8	L. N. Bolt for End Cap	S. S.
9	Adjustable Bolt + Nut + Washer	S. S.
10	Spring (RH / LH)	Spring Steel
11	All Seals	Hi - Nitrile
12	All Guides	Delrin



## "aira" ACTUATOR SELECTION

### Selection of Single Acting Actuator

- Conclude your required torque valve.
- Increase 25% for an acceptable safety factor. (Safety factor depends on media passing through valve.)
- Now look on TABLE your required torque value should be nearby higher value of "FIX TORQUE BY SPRING" & "TORQUE BY AIR / GAS PRESSURE"
- The found position shows the model of "aira" actuator & operating pressure in bar we need

### Example

- Suppose we need 120 Nm torque to drive a valve.
- Increase 25%-152 Nm for safety factor.
- In table given below "aira" actuator model ARA-110-S Show 162 Nm "TORQUE BY AIR / GAS PRESSURE AT 6 BAR"

### Actuator Spring Set

Valve Model	ARA-DD-49-S, ARA-DD-50-S, ARA-DD-63-S, ARA-DD-75-S, ARA-DD-83-S, ARA-DD-90-S, ARA-DD-110-S, ARA-DD-127-S, ARA-DD-140-S, ARA-DD-160-S										ARA-DD-200-S / ARA-DD-210-S							
	5	6	7	8	9	10	11	12	13	14	15	16	11	12	13	14	15	16
Spring Set	5	6	7	8	9	10	11	12	13	14	15	16	11	12	13	14	15	16
RH	0	1	2	1	2	2	---	1	2	2	2	2	0	1	2	2	2	2
LH	2	1	0	2	1	2	02	1	0	2	2	2	2	1	0	2	2	2
BIG LH			-----				---	0	0	0	1	2	0	0	0	0	1	2

Valve Model	Spring Set	Torque by Air Pressure				Torque In Nm				10Nm = 1 kgfm			
		Spring		3 BAR		4 BAR		5 BAR		6 BAR		7 BAR	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
ARA-DD-49-S	5	2.3	5.7	3	4	6.5	6.5	9.2	9.8	13.4	13.1	16.7	16.1
*R ARA-DD-49-S	*R 6	2.9	7.5	1.5	2.8	4.8	5.8	7.9	8.9	11.5	12	14.9	14.8
ARA-DD-49-S	7	2.6	9.4		1	3	2	6.2	4.6	9.6	7.8	13.1	10.7
ARA-DD-49-S	8	2.8	10.7		1.2	1.3	2.6	4.5	5.3	8.2	8	11.5	10.7
ARA-DD-49-S	9	3.1	12.8		1.5		3.4	2.6	5.6	5.8	8.1	9.2	11
ARA-DD-49-S	10	7.2	15.2		0.7		1.1		4.2	2.4	7.3	5.2	10.3
ARA-DD-50-S	5	3.1	11.5		10.5	7.1	14.5	12.1	18.8	17.2	22.8	22.5	27.4
*R ARA-DD-50-S	*R 6	5.2	15		7.5	3.6	10.8	8.7	14	13.9	17.3	18.5	21.4
ARA-DD-50-S	7	7	20		7.3	0	10.5	1.5	14.6	6.5	19.2	11.3	24.2
ARA-DD-50-S	8	4.5	13.8		6.5	2.5	11.5	7.7	15.5	12.4	20.5	17.3	25.3
ARA-DD-50-S	9	7	18.5		3.5		8.5	2	13	6.9	17.8	11.7	22.5
ARA-DD-50-S	10	8.2	22.1				6.8		11.9	3.4	16.6	8.2	21.4

Note : \*R Our Recommended Model, (For, Optimum Recommendation, Contact Factory)



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Rack & Pinion Actuator [ SINGLE ACTING ]



Valve Model	Spring Set	Torque by Air Pressure				Torque In Nm				10Nm = 1 kgfm			
		Spring		3 BAR		4 BAR		5 BAR		6 BAR		7 BAR	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
*R ARA-DD-63-S	5	4.1	5	4.3	6.7	10.3	12.2	17.4	18	24.6	24.7	31.7	31.7
*R ARA-DD-63-S	*R 6	6.5	8.1	3.6	6.4	10.5	13.6	17.6	20.5	24.7	27.6	31.8	34.7
ARA-DD-63-S	7	11.2	17		5.3		8.6	3.9	12.7	10	18.8	16.7	25.6
ARA-DD-63-S	8	10	16.7	1.5	7.5	9.2	14.6	16.4	21.4	24.1	28.3	30.8	36.5
ARA-DD-63-S	9	13.6	21.5		4	4.5	11.6	11.5	18.7	18.6	25.5	25.7	33.5
ARA-DD-63-S	10	15.7	24.5		2		8.6	4.6	15.3	11.5	22.2	18.3	29.4
ARA-DD-75-S	5	8.3	18.5	17.9	24	31.8	37	44.2	51.5	54.6	65.8	62.4	79
ARA-DD-75-S	6	10	25	12.9	15.6	25	29.2	32	42.8	41	57.6	50	70.9
*R ARA-DD-75-S	*R 7	14.5	30.3	6.2	15.5	13.2	29	19.8	42.7	25.9	56.5	32	70.5
ARA-DD-75-S	8	20	29.7	2.5	13	17	26	30	38	43	51	54.5	63.8
ARA-DD-75-S	9	24.8	35		11	12.1	24.5	24.4	37.4	35	50.2	42	63.3
ARA-DD-75-S	10	25	46.9		0.7		12	11.3	24.8	24.2	37.5	34.5	50.7
ARA-DD-83-S	5	7.5	14.7	32.3	36.6	46.9	50.8	61.5	64.8	76.6	79.2	91.1	93.5
*R ARA-DD-83-S	*R 6	19.4	30	9	23.2	24.2	37.2	39.1	51.8	53.6	66.8	67.9	81.3
ARA-DD-83-S	7	24.6	38.3	3.2	17.2	18.3	31.9	32.7	45.8	47.1	60.3	61.6	74.9
ARA-DD-83-S	8	20.3	37.8		13.2	12.5	27.3	26.6	40.9	41.6	55.6	55.6	69.3
ARA-DD-83-S	9	34.8	53.8		4.5		18.6	14.5	32.6	28.7	46.7	42.4	60.3
ARA-DD-83-S	10	51	78.5		8		12.4		17.6		23.8	12.2	34.4
ARA-DD-90-S	5	9	38.7	44.7	74.9	67.8	106.1	82.3	137.1	88.8	168.7	92.5	199.9
*R ARA-DD-90-S	*R 6	22.6	67.7	8.6	56	39.6	86.5	67.6	117.5	93.4	148.3	101	180
ARA-DD-90-S	7	19.9	110.8		39.5		68.8	30.1	100.7	60.2	132.3	88.6	163.4
ARA-DD-90-S	8	19.2	78.9		45.5	24.5	76	55.5	104	75.5	138.5	95	167.5
ARA-DD-90-S	9	21	119		35		64.5	16	92	47.2	124	79.5	153
ARA-DD-90-S	10	44.1	127.4		31.5		62.8	6.2	93.2	35.4	124.6	63.4	154.2
ARA-DD-110-S	5	47	89	30	78	74	123	117	168	162	214	206	259
*R ARA-DD-110-S	*R 6	58	117		64	41	109	85	152	127	195	170	240
ARA-DD-110-S	7	72	146		44	11	89	54	134	98	178	142	222
ARA-DD-110-S	8	85	165		32		78	22	123	68	167	112	212
ARA-DD-110-S	9	102	192		17		64		111	12	152	19	195
ARA-DD-110-S	10	121	235				34		78	6	123	47	165
ARA-DD-127-S	5	25	72	142	185	202	260	246	336	292	413	325	487
*R ARA-DD-127-S	*R 6	70	164	36	125	111	202	185	278	248	355	302	430
ARA-DD-127-S	7	107	253		85	27	154	100	223	173	297	244	371
ARA-DD-127-S	8	82	187		113	72	189	153	268	203	342	233	415
ARA-DD-127-S	9	144	277		70		145	43	206	62	282	*	358
ARA-DD-127-S	10	150	328		42		118	14	190	87	263	161	337
ARA-DD-140-S	5	58	161	153	233	248	333	300	423	335	509	370	608
*R ARA-DD-140-S	*R 6	92	219	63	212	122	317	130	423	132	528	138	633
ARA-DD-140-S	7	123	285		175	95	277	193	383	219	488	245	597
ARA-DD-140-S	8	119	296	36	205	116	308	137	412	142	515	149	615
ARA-DD-140-S	9	147	377		160		266	110	368	145	471	157	572
ARA-DD-140-S	10	172	459		142	19	245	120	349	216	455	298	557
ARA-DD-160-S	5	85	170	266	368	414	518	566	672	720	831	839	985
ARA-DD-160-S	6	120	241	168	299	316	450	459	597	522	743	586	886
ARA-DD-160-S	7	175	356	44	245	193	392	342	540	480	688	573	833
ARA-DD-160-S	8	163	343	55	246	108	407	136	563	156	718	167	873
ARA-DD-160-S	9	236	430		197	77	351	155	503	183	660	188	810
*R ARA-DD-160-S	*R 10	231	470		171	60	309	202	455	346	604	468	741

Note : \*R Our Recommended Model, (For, Optimum Recommendation, Contact Factory)



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# Pneumatic Rotary Rack & Pinion Actuator [ SINGLE ACTING ]

Valve Model	Spring Set	Torque by Air Pressure				Torque In Nm				10Nm = 1 kgfm			
		Spring		3 BAR		4 BAR		5 BAR		6 BAR		7 BAR	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
ARA-DD-200-S	12	147	251	256	495	417	739	569	977	700	1207	807	1440
ARA-DD-200-S	13	208	361	201	416	370	651	530	885	676	1120	808	1358
*R ARA-DD-200-S	*R 14	306	524	90	304	300	528	485	758	633	995	766	1238
ARA-DD-200-S	15	345	628		245	205	470	410	700	573	922	745	1166
ARA-DD-200-S	16	443	751		170	90	400	260	634	422	870	585	1099
ARA-DD-210-S	11	83	244	18	1118	20	1517	***	1912	***	***	***	***
ARA-DD-210-S	12	106	399	124	1082	130	1460	135	1833	139	***	145	***
ARA-DD-210-S	13	116	567	141	847	197	1237	217	1636	239	***	250	***
ARA-DD-210-S	14	307	815	12	680	20	1070	29	1454	30	1843	31	***
*R ARA-DD-210-S	*R 15	415	1057	4	636	7	1115	10	1385	13	1780	16	*
ARA-DD-210-S	16	475	1195		600	7	995	12	1365	16	1750	*	22

Note : \*R Our Recommended Model, (For, Optimum Recommendation, Contact Factory)

Output Torque of Actuator In Nm													
Air Pressure (Bar)		3		4		5		6		7		Spring Stroke	
Valve Model	Spring Qty.	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End
ARM-240-S	5	924	690.5	1488.1	1154.6							468.5	702
ARM-240-S	6	829.9	550.1	1294	1014.2							562.6	842.4
ARM-240-S	7	736.7	409.7	1200.8	873.8							655.8	982.8
ARM-240-S	8			1107.1	733.4	1571.3	1197.6					749.5	1123.2
ARM-240-S	9			1013.4	593	1477.6	1057.2					843.2	1263.6
ARM-240-S	10			919.7	452.6	1383.9	916.8	1848.1	1381	2312.2	1845.1	936.9	1404
ARM-240-S	11							1754.4	1240.6	2218.5	1704.7	1030.6	1544.4
ARM-240-S	12							1660.7	1100.2	2124.8	1564.3	1124.3	1684.8
ARM-270-S	5	1299.7	971.2	1952.4	1623.9							658.5	987
ARM-270-S	6	1168	773.8	1820.7	1426.5							790.2	1184.4
ARM-270-S	7	1036.3	576.4	1689	1229.1							921.9	1381.8
ARM-270-S	8			1557.3	1031.7	2210	1684.4					1053.6	1579.2
ARM-270-S	9			1425.6	834.3	2078.3	1487					1185.3	1776.6
ARM-270-S	10			1293.9	636.9	1946.6	1289.6	2599.3	1942.3	3252	2595	1317	1974
ARM-270-S	11					1814.9	1092.2	2467.6	1744.9	3120.3	2397.6	1448.7	2171.4
ARM-270-S	12					1683.2	894.8	2335.9	1547.5	2988.6	2200.2	1580.4	2368.8
ARM-300-S	5	1603	1183									800	1220
ARM-300-S	6	1483	1066									920	1337
ARM-300-S	7	1330	844	2132	1646							1073	1559
ARM-300-S	8	1177	621	1979	1423	2780	2224					1226	1782
ARM-300-S	9			1825	1201	2626	2002	3427	2803			1380	2004
ARM-300-S	10			1652	977	2473	1778	3274	2579	4075	3380	1533	2228
ARM-300-S	11							3121	2357	3922	3158	1686	2450
ARM-300-S	12							2815	1878	3686	2679	1922	2929
ARM-350-S	5	2399	1739									1199	1859
ARM-350-S	6	2120	1453									1478	2145
ARM-350-S	7	1874	1096	3074	2296							1724	2502
ARM-350-S	8	1627	738	2827	1938	4027	3138					1971	2860
ARM-350-S	9			2580	1581	3780	2781	4979	3980			2218	3217
ARM-350-S	10			2335	1223	3535	2423	4734	3622	5934	4822	2463	3575
ARM-350-S	11					3288	2066	4487	3265	5690	4465	2710	3932
ARM-350-S	12					3120	1537	4319	2736	5519	3936	2878	4461
ARM-400-S	5	3418	2479									1709	2648
ARM-400-S	6	2922	1670									2205	3457
ARM-400-S	7	2647	1239	4357	2949							2480	3888
ARM-400-S	8	2372	806	4082	2516	5191	4225					2755	4321
ARM-400-S	9			3806	2085	5515	3794	7224	5503			3031	4752
ARM-400-S	10			3531	1652	5240	3361	6949	5070	8658	6779	3306	5185
ARM-400-S	11							6672	4639	8381	6348	3583	5616
ARM-400-S	12							6154	3899	8106	5608	4101	6356

Note : Actuator Torques May Vary ±3%



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Rack & Pinion Actuator [ DOUBLE & SINGLE ACTING ] 180° ROTATION



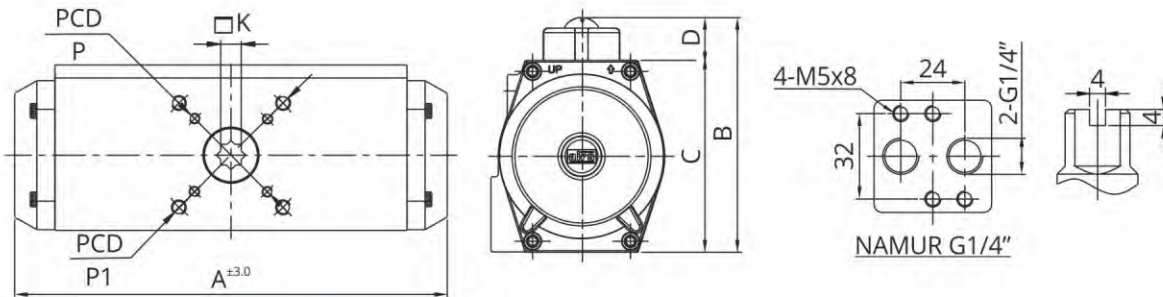
"aira" Offers ISO 5211 Standard Pneumatic Actuator for all your 180° Valves & Dampers Automation Requirements

## Features :

- Suitable typically for 3 way valves, requiring ON-OFF operation. It is available in both single acting (spring return) or double acting versions
- The single acting 180° actuator can provide center off for the 3 way ball valve, bottom entry by choosing the option, of 3 position
- The end stop adjustment is provided for opening and closing direction as a standard
- Actuator mounting is as per ISO 5211 & Accessories to Namur Solenoid Valve

## General Features

- Operating Pressure : 3 to 8 Bar
- Temperature Range : -20 °C to 90 °C
- Air Supply : Filtered, dry or lubricated
- Ext. Protection : Corrosion resistant to 500 hours in slated fog



### Double Acting Dimensions :

Valve Model	A	B	C	D	PCD P	PCD P1	SQUARE □K	WEIGHT (Approx) Kgs.	Air Consumption In Liters / Bar
ARA - 328	170	82	54.2	28.25	36	50	9 X 9	On Request	On Request
ARA - 508	218	102	74	28.45	50	70	14 X 14		
ARA - 758	293	126.5	100	28.3	50	70	17 X 17		
ARA - 908	402	145.5	117	28.26	—	70	17 X 17		
ARA - 1108	398	166	140	28.30	70	102	22 X 22		

(All Dimensions are in mm)

### Single Acting Dimensions :

Valve Model	A	B	C	D	PCD P	PCD P1	SQUARE □K	WEIGHT (Approx) Kgs.	Air Consumption In Liters / Bar
ARA - 1108 - S	550	166	140	28.30	70	102	22 X 22	On Request	On Request

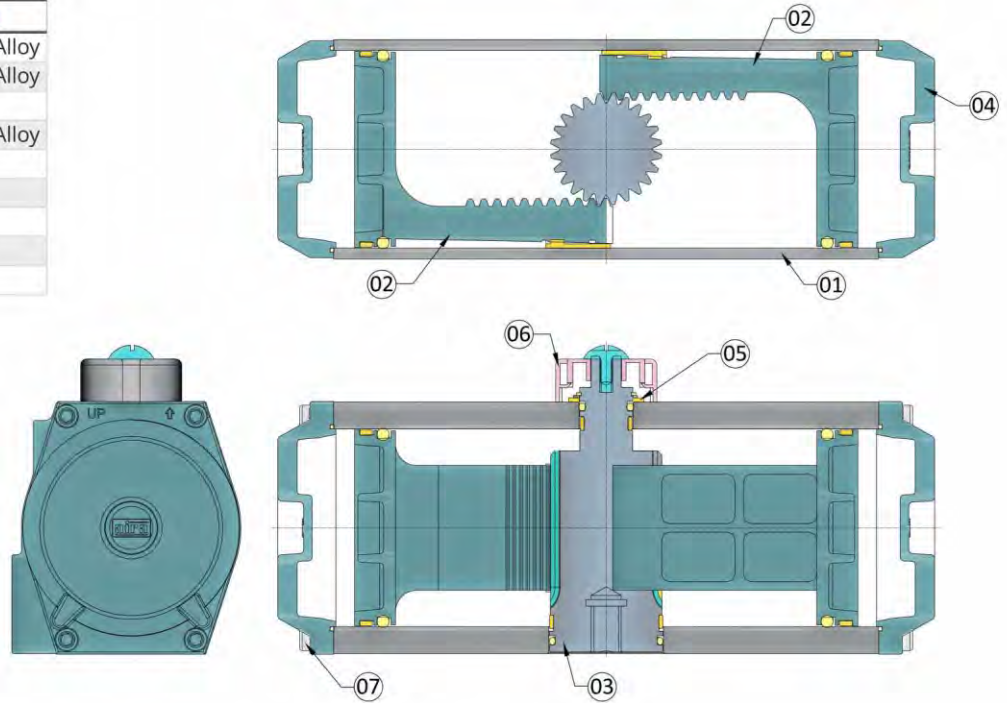
(All Dimensions are in mm)



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# Pneumatic Rotary Rack & Pinion Actuator [ SINGLE ACTING ]

No.	Description	Material
1	Body	Aluminium Alloy
2	Piston	Aluminium Alloy
3	Shaft	EN 8
4	End Cover	Aluminium Alloy
5	Shaft Washer	S. S.
6	Indicator	Nylon
7	L. N. Bolt for End Cap	S. S.
8	All Seals	Hi - Nitrile
9	All Guides	Delrin



## "aira" ACTUATOR SELECTION

### Selection of Double Acting Actuator

- Conclude your required torque valve.
- Increase 15% for an acceptable safety factor. (Safety factor depends on media passing through valve.)
- Now look on torque chart and find near by higher torque value of your required torque.
- The found position shows the model of "aira" actuator & operating pressure in bar we need

### Example

- Suppose we need 55 Nm torque to drive a valve.
- Increase 15%-63.3 Nm for safety factor.
- In below table the nearby higher torque value is 78 at operating pressure 6 bar.
- This indicators to selection the "aira" actuators model ARA-DD-75-D

**DOUBLE ACTING ACTUATOR TORQUE CHART IN Nm (10Nm = 1 kgfm)**

Valve Model	3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
ARA - 328	3.1	4.1	5.7	6.0	10.3
ARA - 508	14.7	19.5	22	25	34.6
ARA - 758	36.60	52.4	65.1	70	92
ARA - 908	65.90	96	121.5	135	170.5
ARA - 1108	114	140	177	200	253

**Note : Actuator Torques May Vary ±3%.**

**Note : Single Acting Actuator Torque Available On Request.**



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Rack & Pinion Actuator

## STAINLESS STEEL [ DOUBLE & SINGLE ACTING ]



"aira" Offers SRA Series pneumatic actuators are stainless steel actuator which incorporate latest mechanical technology, materials available and our expertises , through designing, developing, testing and engineering application, we have obtained a high grade product with the characteristics of reliability, high performance, long cycle life, large adjustment, highest levels of corrosion protection, wide selection of model with easy and economy.



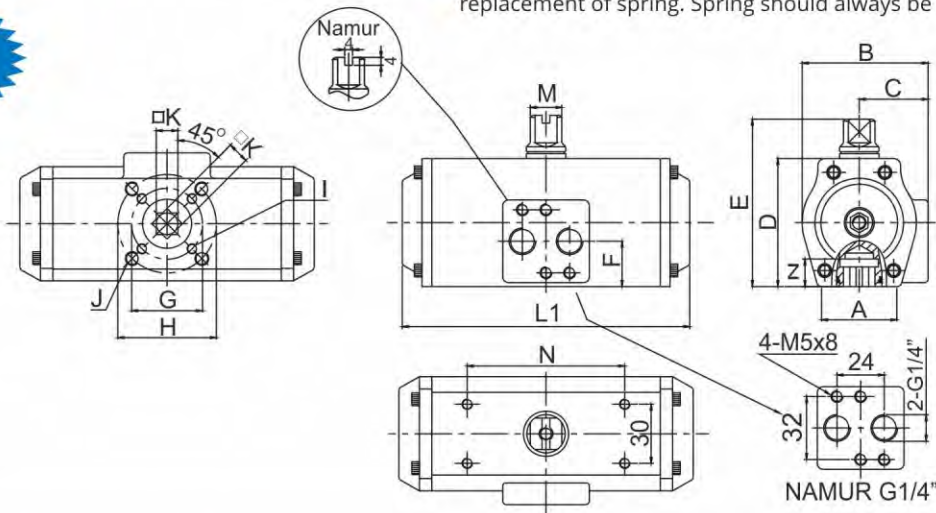
### Operating Conditions

- Operating Media Dry or lubricated air, the non-corrosive gassed or oil
- Air supply pressure double acting : 2 ~ 8 Bar : Spring return : 2 ~ 8 Bar
- Operating Temperature Standard (NBR 'O' - Ring -20 °C ~ +80 °C)  
Low Temperature (Silicon 'O' - Ring -35 °C ~ +80 °C)  
High Temperature (Viton 'O' - Ring -15 °C ~ +150 °C)
- Travel adjustment have adjustment range of  $\pm 4^\circ$  for the rotation at  $90^\circ$
- Lubrication Under normal operating condition, need not accrete lubricant
- Application Either indoor or out door
- Highest pressure the maximum input pressure is 10 Bar

### Maintenance

- It is recommended that periodic checks be performed to make sure that all fasteners remain tight.
- The actuator is supplied ready - lubricated no further lubrication is required. If lubrication is deemed necessary, Use EP - 1 grease.
- Under certain working conditions (Heavy duty, non - compatible operating media or abnormal operating conditions) Internal seals should be checked periodically and replaced when necessary.
- On spring return actuators, spring fatigue may set in requiring the replacement of spring. Spring should always be replaced in full sets.

**Stainless Steel**



### Dimensions :

Valve Model	A	B	C	D	E	F	G	H	I	J	K	L1	M	N	Z
SRA-45	42	64	35	65	85	23	36	36	M5 x 8	M6 x 10	11X11	147	16	80	14
SRA-60	48.5	74	39	81	101	23	---	50	---	M6 x 10	14X14	146	16	80	18
SRA-85	66	101	52	108	128	24	50	70	M6 x 10	M8 x 13	17X17	198	16	80	21
SRA-105	80	118	60	133	153	24	---	70	---	M8 x 13	22X22	251	16	80	26
SRA-125	100	138	69	155	185	28	70	102	M8 x 13	M10 x 16	22X22	242	22	130	26
SRA-140	115	153	77	171	201	34	102	125	M10 x 16	M12 x 20	27X27	358	22	130	31
SRA-160	132	174	87	197	227	39	102	125	M10 x 16	M12 x 20	27X27	325	22	130	31

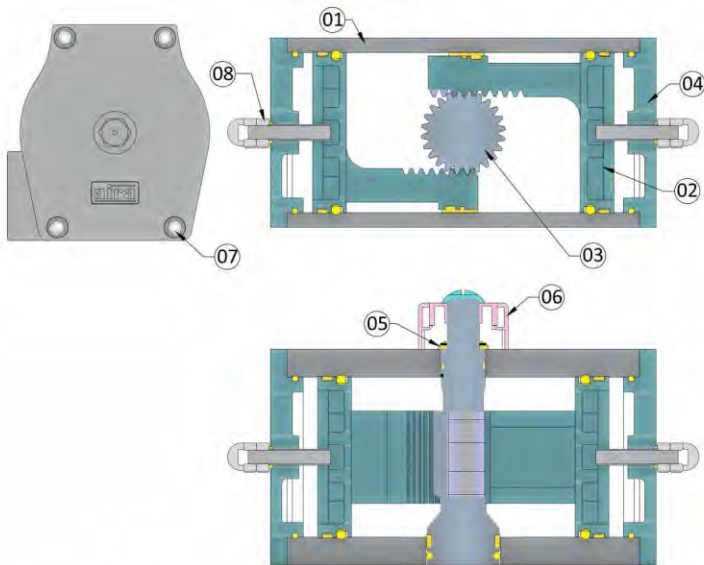
(All Dimensions are in mm)



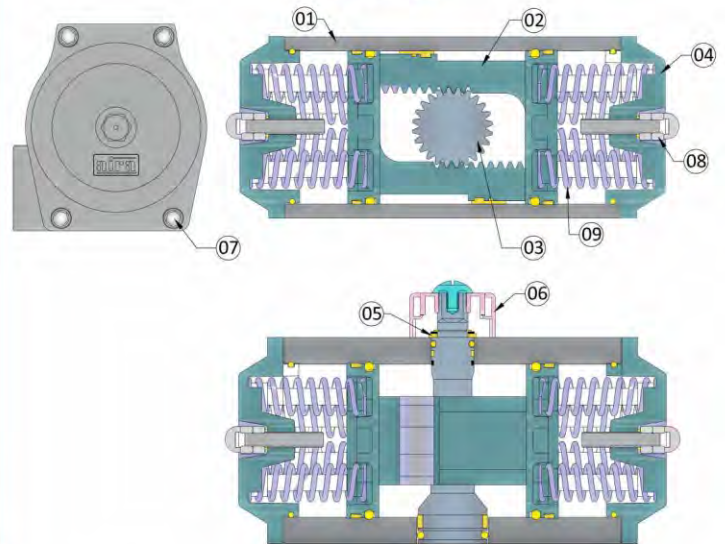
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# Pneumatic Rotary Rack & Pinion Actuator STAINLESS STEEL [ DOUBLE & SINGLE ACTING ]

**Double Acting**



**Single Acting**



No.	Description	Material
1	Body	Stainless Steel 304 / 316
2	Piston	Stainless Steel 304 / 316
3	Shaft	Stainless Steel 304 / 316
4	End Cover	Stainless Steel 304 / 316
5	Shaft Washer	S. S.

No.	Description	Material
6	Indicator	Nylon
7	L. N. Bolt for End Cap	S. S.
8	All Seals	Hi - Nitrile
9	All Guides	Delrin

**DOUBLE ACTING ACTUATOR TORQUE CHART IN Nm**

(10Nm = 1 kgfm)

Valve Model	Air Pressure (Bar)									
	2	2.5	3	4	4.5	5	5.5	6	7	8
SRA-45D	6.0	7.6	9.1	12.1	13.6	15.1	16.6	18.1	21.1	24.2
SRA-60D	14.2	17.8	21.3	28.4	32.0	35.5	39.1	42.6	49.7	56.8
SRA-85D	30.8	38.5	46.2	61.6	69.4	77.1	84.8	92.5	107.9	123.3
SRA-105D	65.8	82.2	98.7	131.6	148.0	164.4	180.9	197.3	230.2	263.1
SRA-125D	103	128	154	205	231	256	282	308	359	410
SRA-140D	175	219	263	351	395	439	482	526	614	702
SRA-160D	267	334	401	535	601	668	735	802	935	1069

Note : Actuator Torques May Vary ±3%

**SINGLE ACTING ACTUATOR TORQUE CHART IN Nm**

(10Nm = 1 kgfm)

Valve Model	Air Pressure (Bar)									
	2	2.5	3	4	4.5	5	6	7	8	
SRA-45S	1.2	2.8	3.3	5.3	13.6	7.3	9.4	11.4	14.5	
SRA-60S	3.2	6.8	8.1	13.0	32.0	17.9	22.8	27.7	34.8	
SRA-85S	6.6	14.3	17.1	27.7	69.4	38.3	48.9	59.5	74.9	
SRA-105S	14.0	30.4	36.5	59.1	148.0	81.5	104.1	126.6	159.5	
SRA-125S	20.5	45.5	55.0	89.5	231	124.0	159.5	194.0	245.0	
SRA-140S	39.3	83.3	100.1	161.0	395	221.8	281.7	342.5	430.5	
SRA-160S	47.7	114.7	137.9	228.0	601	317.2	407.3	496.5	630.5	

Note : Actuator Torques May Vary ±3%



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Scotch & Yoke Actuator

## ALUMINIUM BODY [ DOUBLE ACTING ]

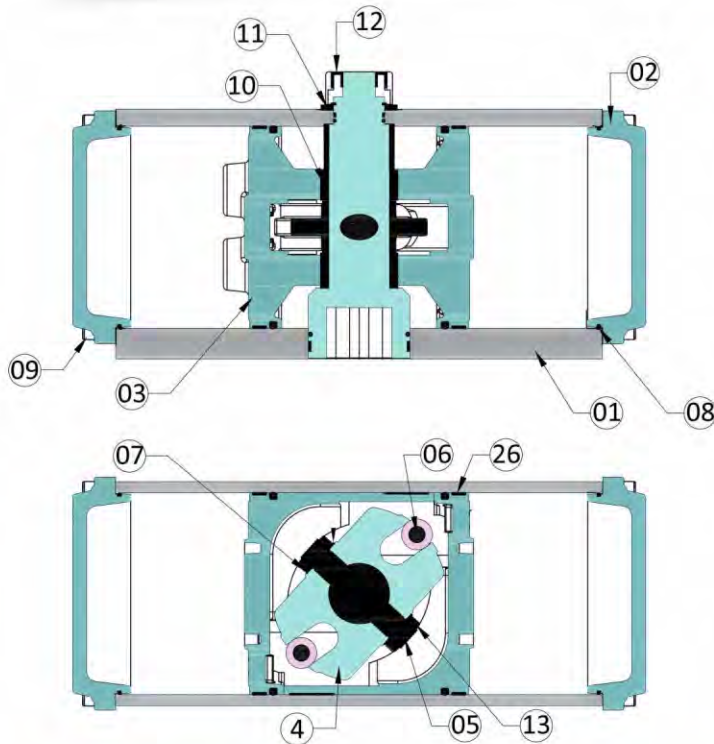


"aira" Offers The SYD Series has been equipped with a universal drive shaft which suit both DIN and ISO Standards. This even future facilitates mounting and installation. Low friction sealings in combination with a high surface finish, permanent lubrication and bearings give the actuator high efficiency, low air consumption and a long maintenance - free life, This ensure a long - term stable economy due to low energy consumption and a minimum of unplanned and costly production shutdowns. Aggressive environments and complicated application sometimes require specially adapted solution.

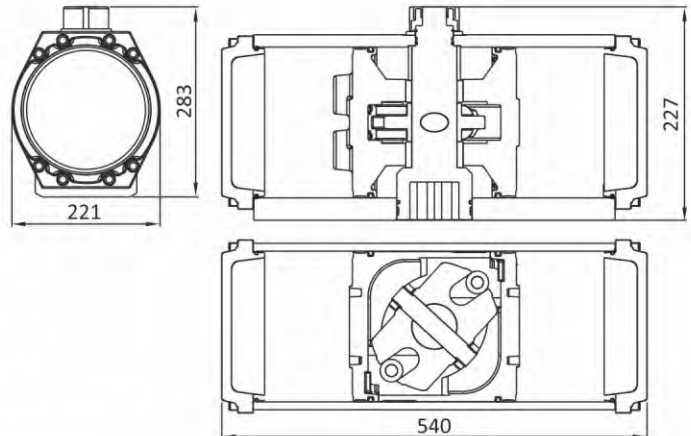


### Product Features

- For On-Off and modulating.
- Compact design.
- Connections according to international standards.
- Double acting or single acting with spring return.
- Scotch Yoke principle gives high torque in the end positions.
- 30% pre-tensioned springs to storage power for safety.
- Mounting kits for all types of quarter turn valves.
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions.
- High reliability, long life
- High efficiency, low air consumption.
- Temperature range -25°C to +90°C.



No.	Description	Material
1	Body	Aluminium Alloy - 6061-T6
2	Cover	Aluminium Alloy (Gravity / Die Cast)
3	Piston	Aluminium Alloy (Gravity / Die Cast)
4	Yoke	CF8 / CF8M
5	Yoke for Shaft	S. S. 304
6	Piston Pin & Ring	S. S. 304
7	Yoke for Shaft Washer	S. S.
8	Yoke for Shaft Nut	S. S.
9	Cover fitting L. N. Bolt	S. S.
10	Shaft	S. S. 304
11	Shaft Up Washer	S. S.
12	Indicator	Nylon
13	All Guide	Hi - Nitrile
14	All Seals	Delrin



### TORQUE CHART IN Nm

(10Nm = 1 kgfm)

Valve Model	Position 0° - Closed 90° - Open	Air Pressure (Bar)				
		3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
SYD - 88	0°	1520	2090	2610	3090	3580
	90°	1064	1463	1827	2163	2506

Note : Actuator Torques May Vary ±3%



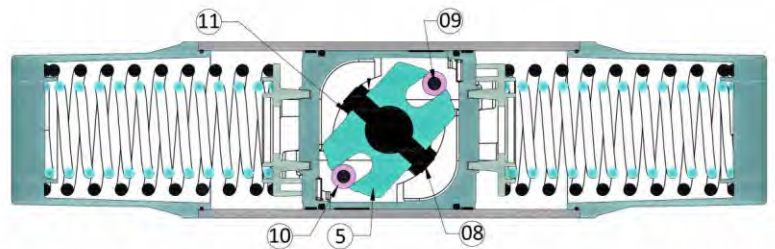
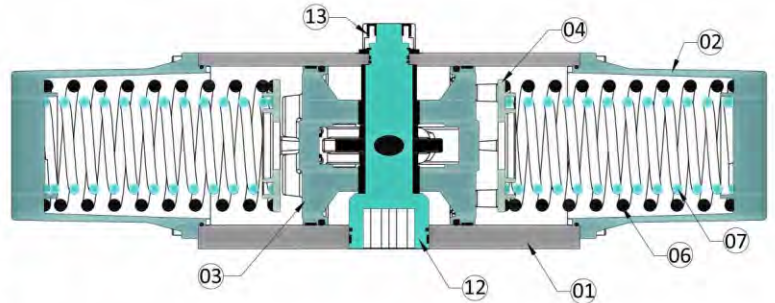
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# Pneumatic Rotary Scotch & Yoke Actuator ALUMINIUM BODY [ SINGLE ACTING ]

"aira" Offers The SYS Series has been equipped with a universal drive shaft which suit both DIN and ISO Standards. This even future facilitates mounting and installation. Low friction sealings in combination with a high surface finish, permanent lubrication and bearings give the actuator high efficiency, low air consumption and a long maintenance - free life, This ensure a long - term stable economy due to low energy consumption and a minimum of unplanned and costly production shutdowns. Aggressive environments and complicated application sometimes require specially adapted solution.

## Product Features

- For On-Off and modulating.
- Compact design.
- Connections according to international standards.
- Double acting or single acting with spring return.
- Scotch Yoke principle gives high torque in the end positions.
- 30% pre-tensioned springs to storage power for safety.
- Mounting kits for all types of quarter turn valves.
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions.
- High reliability, long life
- High efficiency, low air consumption.
- Temperature range -25°C to +90°C.



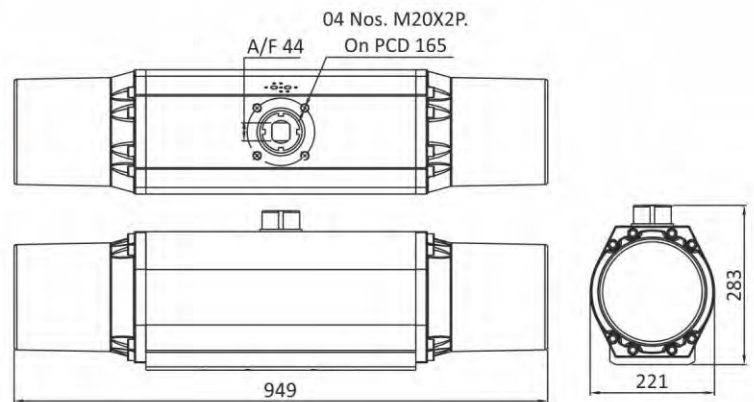
No.	Description	Material
1	Body	Aluminium Alloy - 6061-T6
2	Cover	Aluminium Alloy (Gravity / Die Cast)
3	Piston	Aluminium Alloy (Gravity / Die Cast)
4	Piston Spring Guide	Aluminium Alloy (Gravity / Die Cast)
5	Yoke	CF8 / CF8M
6	Spring R. H.	Spring Steel
7	Spring L. H.	Spring Steel
8	Yoke for Shaft	S. S. 304
9	Piston Pin	S. S. 304
10	Piston Pin Ring	S. S. 304
11	Yoke for Shaft Washer + Nut	S. S.
12	Shaft	S. S. 304
13	Indicator	Nylon
14	All Guide	Delrin
15	All Seals	Hi - Nitrile

## TORQUE CHART IN Nm (10Nm = 1 kgfm)

Valve Model	Position 0° - Closed 90° - Open	Air Pressure (Bar)				
		3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
SYS - 88	0°	753	1390	1950	2450	3000
	90°	527	973	1365	1715	2100

**Spring Maximum Torque - 2098 Nm**

**Note : Actuator Torques May Vary ±3%**



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Pneumatic Rotary Scotch & Yoke DOUBLE DECKER Actuator ALUMINIUM BODY [ DOUBLE ACTING ]



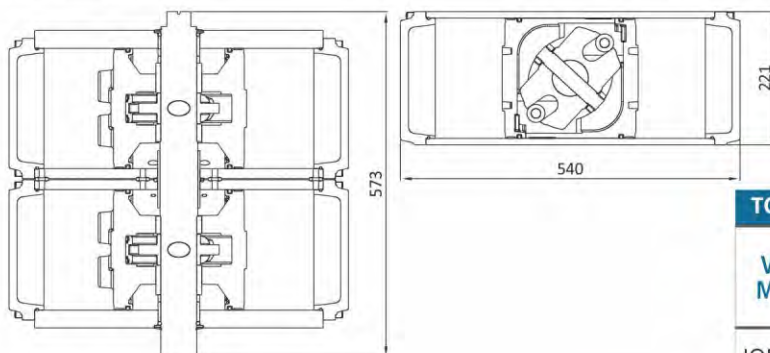
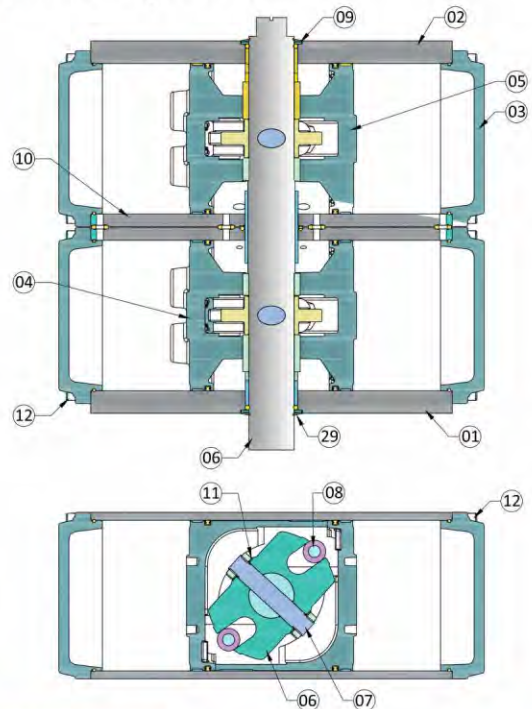
"aira" Offers The JOB Series has been equipped with a universal drive shaft which suit both DIN and ISO Standards. This even future facilitates mounting and installation. Low friction sealings in combination with a high surface finish, permanent lubrication and bearings give the actuator high efficiency, low air consumption and a long maintenance - free life, This ensure a long - term stable economy due to low energy consumption and a minimum of unplanned and costly production shutdowns. Aggressive environments and complicated application sometimes require specially adapted solution.



## Product Features

- For On-Off and modulating.
- Compact design.
- Connections according to international standards.
- Double acting or single acting with spring return.
- Scotch Yoke principle gives high torque in the end positions.
- 30% pre-tensioned springs to storage power for safety.
- Mounting kits for all types of quarter turn valves.
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions
- High reliability, long life
- High efficiency, low air consumption.
- Temperature range -25°C to +90°C.

No.	Description	Material
1	Body - 01	Aluminium Alloy - 6061-T6
2	Body - 02	Aluminium Alloy - 6061-T6
3	Cover	Aluminium Alloy (Gravity / Die Cast)
4	Piston	Aluminium Alloy (Gravity / Die Cast)
5	Yoke	CF8 / CF8M
6	Shaft	S. S. 304
7	Yoke for Shaft	S. S. 304
8	Piston Ring & Pin	S. S. 304
9	Spring Washer	Spring Steel
10	Center Ring Pin	S. S. 304
11	Yoke Shaft Washer + Nut	S. S.
12	Body + Cover Bolt Fitting	S. S.
13	All Guide	Delrin
14	All Seals	Hi - Nitrile



TORQUE CHART IN Nm		10Nm = 1 kgfm				
Valve Model	Position 0° - Closed 90° - Open	Air Pressure (Bar)				
		3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
JOB - 288	0°	3248	4282	5287	6264	7168
	90°	2275	3000	3700	4385	5018

Note : Actuator Torques May Vary ±3%



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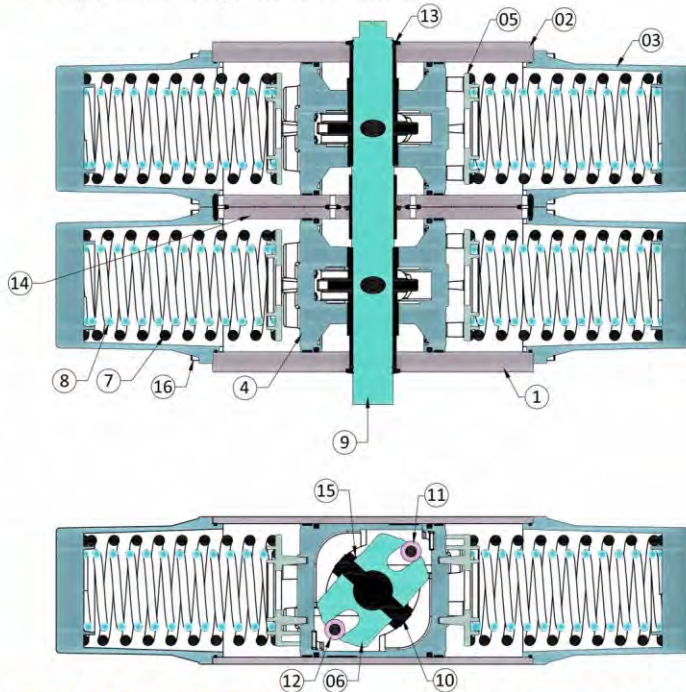
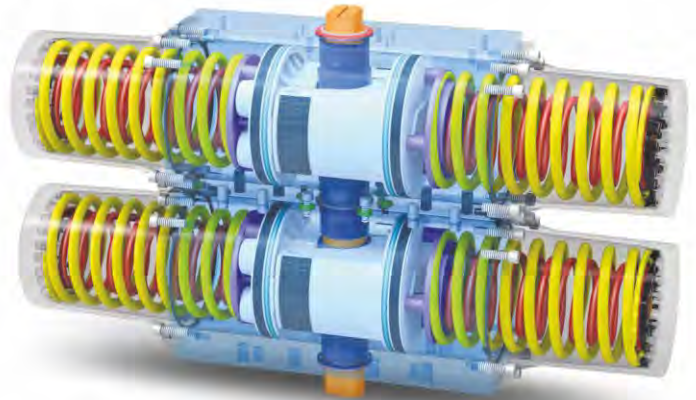


# Pneumatic Rotary Scotch & Yoke DOUBLE DECKER Actuator ALUMINIUM BODY [ SINGLE ACTING ]

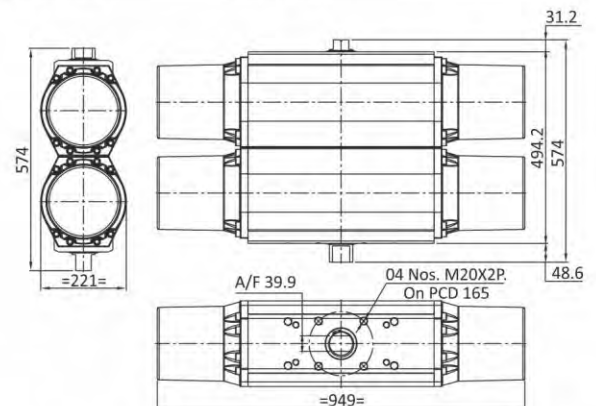
"aira" Offers The JOS Series has been equipped with a universal drive shaft which suit both DIN and ISO Standards. This even future facilitates mounting and installation. Low friction sealings in combination with a high surface finish, permanent lubrication and bearings give the actuator high efficiency, low air consumption and a long maintenance - free life, This ensure a long - term stable economy due to low energy consumption and a minimum of unplanned and costly production shutdowns. Aggressive environments and complicated application sometimes require specially adapted solution.

## Product Features

- For On-Off and modulating.
- Compact design.
- Connections according to international standards.
- Double acting or single acting with spring return.
- Scotch Yoke principle gives high torque in the end positions.
- 30% pre-tensioned springs to storage power for safety.
- Mounting kits for all types of quarter turn valves.
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions
- Housing in anodized aluminum.
- Precise control, smooth travel in the end positions.
- High reliability, long life
- High efficiency, low air consumption.
- Temperature range -25°C to +90°C.



No.	Description	Material
1	Body - 01	Aluminium Alloy - 6061-T6
2	Body - 02	Aluminium Alloy - 6061-T6
3	Cover	Aluminium Alloy (Gravity / Die Cast)
4	Piston	Aluminium Alloy (Gravity / Die Cast)
5	Piston Spring Guide	Aluminium Alloy (Gravity / Die Cast)
6	Yoke	CF8 / CF8M
7	Spring R. H.	Spring Steel
8	Spring L. H.	Spring Steel
9	Shaft	S. S. 304
10	Yoke for Shaft	S. S. 304
11	Piston Ring & Pin	S. S. 304
12	Spring Washer	Spring Steel
13	Center Ring Pin	S. S. 304
14	Yoke Shaft Washer + Nut	S. S.
15	Body + Cover Bolt Fitting	S. S.
16	All Guide	Delrin
17	All Seals	Hi - Nitrile



### TORQUE CHART IN Nm

10Nm = 1 kgfm

Valve Model	Position 0° - Closed 90° - Open	Air Pressure (Bar)				
		3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
JOS - 288	0°	1814	2855	3858	4870	5863
	90°	1270	1998.5	2700	3400	4100

**Spring Maximum Torque - 2564 Nm**

**Note : Actuator Torques May Vary ±3%**



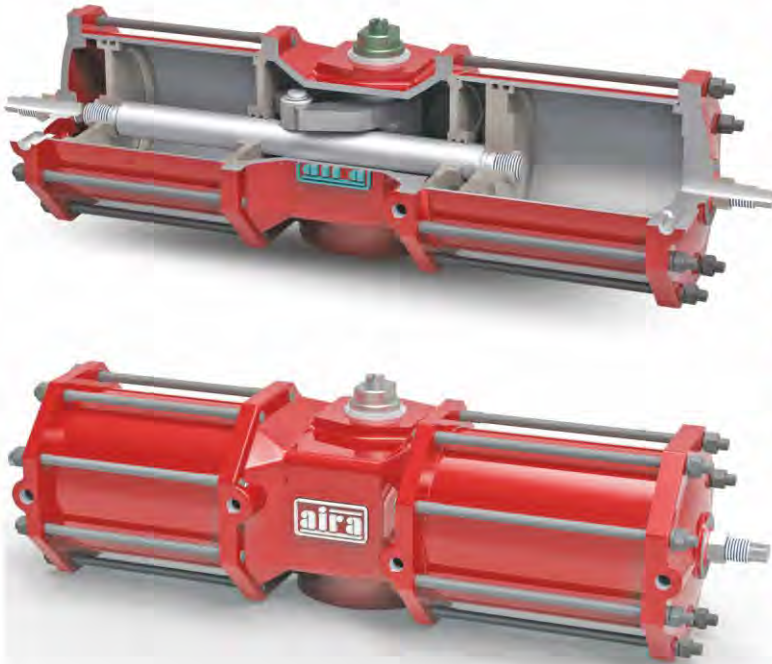
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# Pneumatic Rotary Scotch & Yoke Actuator [ DOUBLE ACTING ]

"aira" Offers SAY-DA Series heavy duty Scotch Yoke Actuators offer a broad range of torques to 116984 NM. The Scotch & Yoke is designed to operate Ball, Butterfly, Plug Valves, Dampers or any device that requires a quarter-turn movement for on-off or throttling services. Our standard offering is the symmetrical design yoke that delivers maximum torque at both ends of the 90° cycle. The square sliding bearing with guide bar gives high cycle life and smooth stroke while minimizing wear points. As with all "aira" actuators, our Scotch & Yoke comes with a complete line of accessories, including jackscrew, hydraulic overrides, limit switches, solenoids and positioners...

## Heavy Duty Scotch & Yoke Actuator Features

- Travel adjustment  $\pm 8^\circ$  for clock wise and counter-clock wise strokes
- Nitrile rubber piston O-rings offer excellent sealing and wear. Optional low and high temperature seals and lube are available
- PTFE Guide Band supports piston while providing smooth operation and extended life
- Extra large, strong piston rod for long life and torque transmission
- Namur accessory mounting pads permit mounting standardization of limit switches, positioners etc.
- Ductile iron center body
- Modular design allows for installing power groups and spring cartridges so that actuators may be set up for different air pressures and for Fail Clockwise and Fail Counter-clockwise
- Rugged heavy duty steel pressure cylinders chrome plated for long wear and corrosion resistance
- Safe, welded spring cartridges with numerous options for a broad range of air pressure conditions
- Alloy Steel, corrosion resistant and heat treated springs designed and manufactured for long high cycle life
- Steel slide block, bronze slide bearings to minimize friction and provide long cycle life Visual position indicator
- Carbon steel Scotch Yoke mechanism available in symmetric form
- Totally enclosed weatherproof central body



**Output Torque of DOUBLE ACTING Actuator**

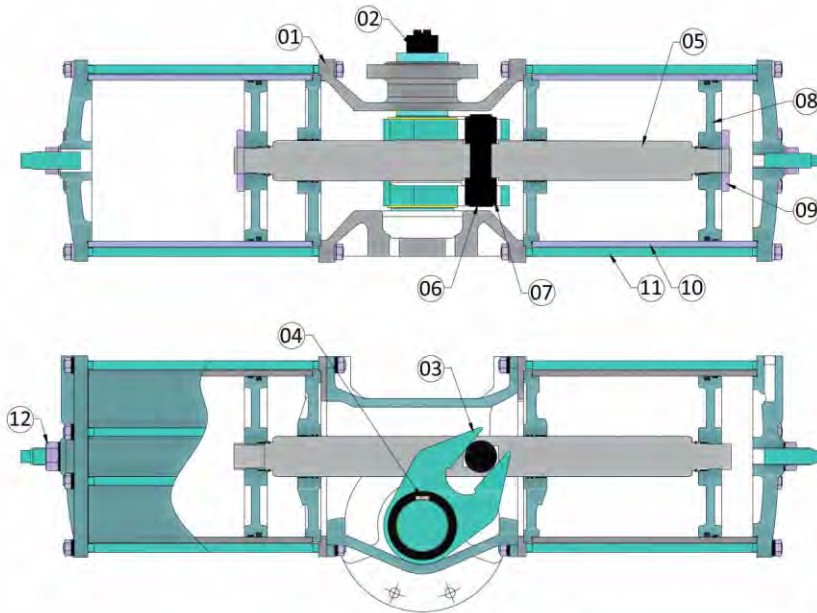
Valve Model	Torque In Nm 10Nm = 1 kgf				
	Air Pressure (Bar)				
	3	4	5	6	7
SAY-DA-14	515	620	770	930	1080
SAY-DA-18	950	1270	1590	1910	2230
SAY-DA-20A	1125	1500	1875	2250	2625
SAY-DA-20B	1540	2050	2570	3090	3590
SAY-DA-25	3075	4011	5125	6150	7175
SAY-DA-30	5150	6860	8580	10300	12020
SAY-DA-35	10120	13500	16870	20250	23620
SAY-DA-40	13220	17630	22040	26450	30860
SAY-DA-50	20790	27720	34650	41580	48510
SAY-DA-60	30120	40160	50201	60241	70281
SAY-DA-70	50136	66848	83560	100272	116984

**Note : Actuator Torques May Vary  $\pm 3\%$**

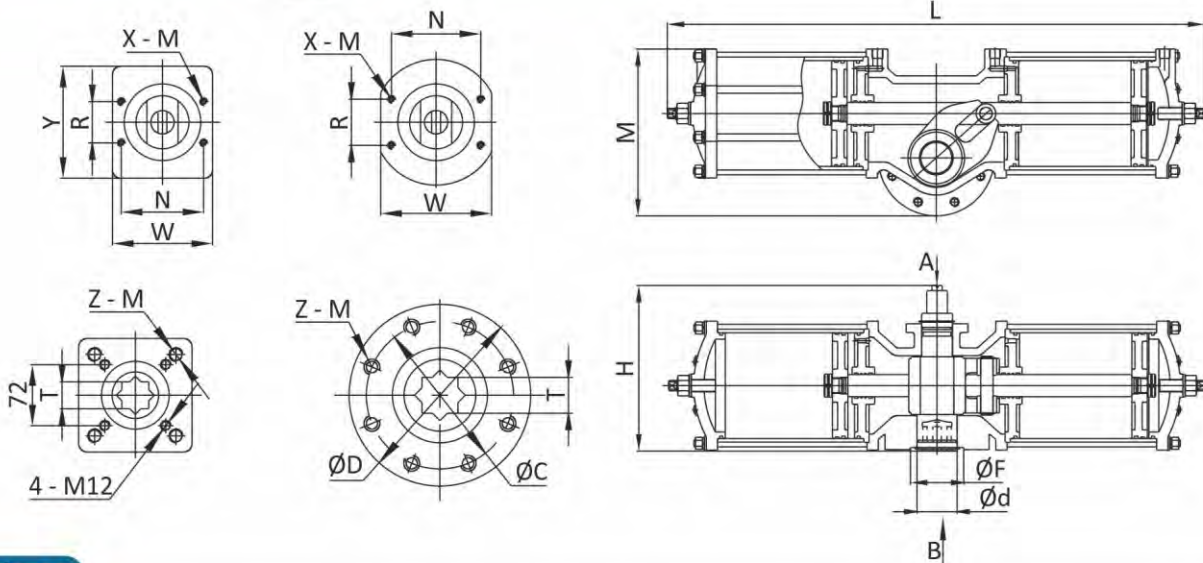


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# Pneumatic Rotary Scotch & Yoke Actuator [ DOUBLE ACTING ]



No.	Description	Material
1	Body	ASTM A 536 Gr. 64-45-12
2	Stem	EN8
3	Scotch Yoke	ASTM A216 WCB
4	Key	EN8
5	Piston Rod	EN8 Chromeplated
6	Pin	M. S.
7	Roller	M. S.
8	Piston	ASTM A 536 Gr. 64-45-12
9	Nut	M. S.
10	Cylinder	ASTM A 106 Gr. B
11	Cylinder Stud	EN8
12	Cap Nut	M. S.
13	All Guide	Delrin
14	All Seals	Hi - Nitrile



### Dimensions :

Valve Model	L	H	M	ØC	ØD	Z-M	Ød	ØF	T	W	Y	N	R	X-M	Air Supply Port	Weight Approx. Kgs
SAY-DA-14	570	180	200	102	130	4-M12	32	80	27X27	85	95	80	30	4-M6	G 1/4"	31.000
SAY-DA-18	790	230	225	140	170	4-M16	45	120	36X36	115	145	80	30	4-M6	G 3/8"	59.450
SAY-DA-20A	830	245	275	140	172	4-M16	54	130	36X36	120	150	80	30	4-M5		170.000
SAY-DA-20B	965	255	320	165	215	4-M16	54	130	36X36	120	150	90	30	4-M5	G 1/2"	170.000
SAY-DA-25	1195	295	390	200	240	8-M16	64	166	46X46	137	157	120	50	4-M5		176.200
SAY-DA-30	1340	365	415	254	310	8-M16	74	220	55X55	160	170	159	60	4-M6	G 3/4"	325.000
SAY-DA-35	1860	450	540	300	350	8-M24	100	220	28X2	204	----	170	60	4-M8		600.000
SAY-DA-40	1860	500	580	300	350	8-M24	100	220	28X2	230	----	180	60	4-M6	800.000	
SAY-DA-50	2340	615	695	356	415	8-M30	120	260	32X2	230	----	180	60	4-M8	G 3/4"	1070.000
SAY-DA-60	2430	720	720	356	415	8-M30	120	260	32X2	256	----	220	60	4-M8		1580.000
SAY-DA-70	3160	850	920	483	550	12-M36	180	370	45X2	256	----	250	60	4-M8	----	

(All Dimensions are in mm)



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# Pneumatic Rotary Scotch & Yoke Actuator [ SINGLE ACTING ]

"aira" Offers SAY-SA Series heavy duty Scotch Yoke Actuators offer a broad range of torques to 116984 NM. The Scotch & Yoke is designed to operate Ball, Butterfly, Plug Valves, Dampers or any device that requires a quarter-turn movement for on-off or throttling services. Our standard offering is the symmetrical design yoke that delivers maximum torque at both ends of the 90° cycle. The square sliding bearing with guide bar gives high cycle life and smooth stroke while minimizing wear points. As with all "aira" actuators, our Scotch & Yoke comes with a complete line of accessories, including jackscrew, hydraulic overrides, limit switches, solenoids and positioners...

## Heavy Duty Scotch & Yoke Actuator Features

- Travel adjustment  $\pm 8^\circ$  for clock wise and counter-clock wise strokes
- Nitrile rubber piston O-rings offer excellent sealing and wear. Optional low and high temperature seals and lube are available
- PTFE Guide Band supports piston while providing smooth operation and extended life
- Extra large, strong piston rod for long life and torque transmission
- Namur accessory mounting pads permit mounting standardization of limit switches, positioners etc.
- Ductile iron center body
- Modular design allows for installing power groups and spring cartridges so that actuators may be set up for different air pressures and for Fail Clockwise and Fail Counter-clockwise
- Rugged heavy duty steel pressure cylinders chrome plated for long wear and corrosion resistance
- Safe, welded spring cartridges with numerous options for a broad range of air pressure conditions
- Alloy Steel, corrosion resistant and heat treated springs designed and manufactured for long high cycle life
- Steel slide block, bronze slide bearings to minimize friction and provide long cycle life Visual position indicator
- Carbon steel Scotch Yoke mechanism available in symmetric form
- Totally enclosed weatherproof central body



Output Torque of SINGLE ACTING Actuator

Valve Model	Spring Torque		Torque In Nm 10Nm = 1 kgf						
			Air ( Bar ) Torque Nm						
	Min	Max	4		5		6		
		Min	Max	Min	Max	Min	Max	Min	Max
SAY-SA-14	230	430	183	330	330	540	490	700	
SAY-SA-18	330	670	600	930	920	1290	1230	1570	
SAY-SA-20	1190	1980	800	1670	1600	2390	2320	3100	
SAY-SA-25	1600	2510	1970	2880	3090	4000	4210	5120	
SAY-SA-30	2080	3820	3040	4880	4760	6490	6480	8210	
SAY-SA-35	4380	8070	5240	9110	8800	12490	12180	15860	
SAY-SA-40	7091	12478	5873	11260	9544	14930	13214	18600	
SAY-SA-50	14188	25463	9186	20461	16116	27391	23046	34322	
SAY-SA-60	20102	36550	13650	30098	23691	40138	33731	50178	

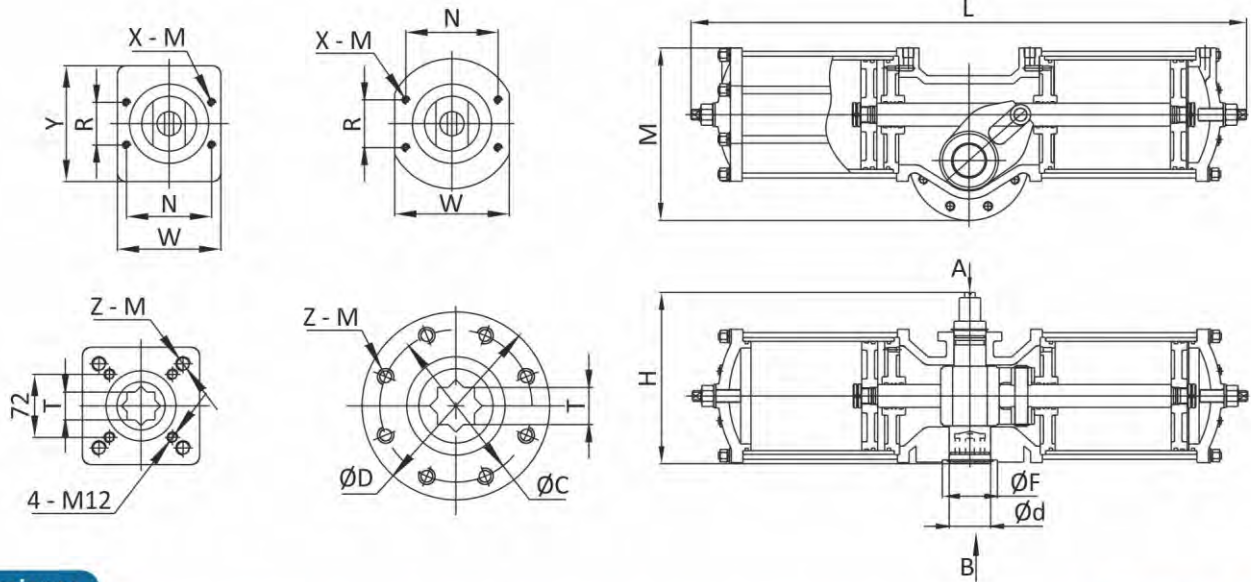
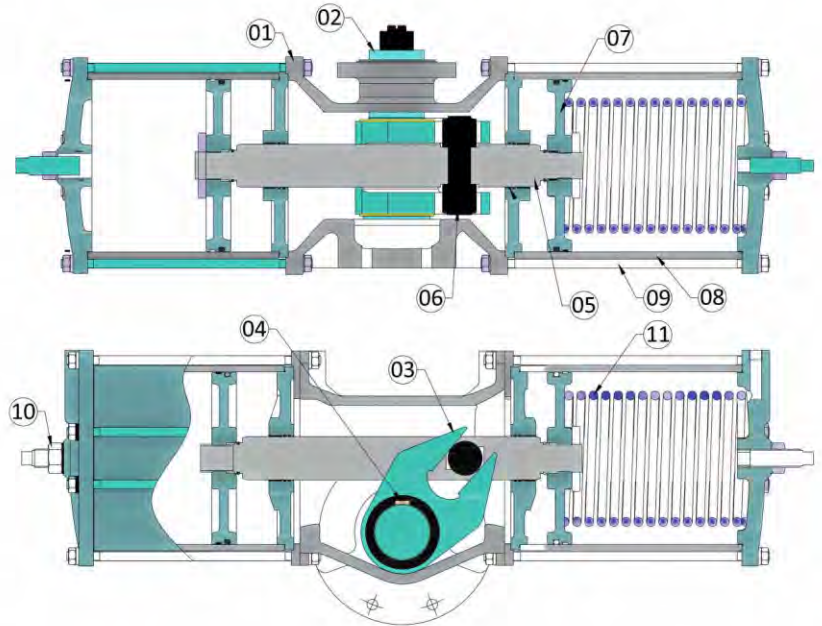
Note : Actuator Torques May Vary  $\pm 3\%$



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# Pneumatic Rotary Scotch & Yoke Actuator [ SINGLE ACTING ]

No.	Description	Material
1	Body	ASTM A 536 Gr. 64-45-12
2	Stem	EN8
3	Scotch Yoke	ASTM A216 WCB
4	Key	EN8
5	Piston Rod	EN8 Chromeplated
6	Pin + Roller	M. S.
7	Piston	ASTM A 536 Gr. 64-45-12
8	Cylinder	ASTM A 106 Gr. B
9	Cylinder Stud	EN8
10	Cap Nut	M. S.
11	Spring	Spring Steel
12	All Guide	Delrin
13	All Seals	Hi - Nitrile



### Dimensions :

Valve Model	L	H	M	ØC	ØD	Z-M	Ød	ØF	T	W	Y	N	R	X-M	Air Supply Port	Weight Approx. Kgs
SAY-SA-14	830	185	204	102	130	4-M12	32	80	27X27	95	70	80	30	4 - M6	G 1/4"	50.350
SAY-SA-18	1090	255	280	140	170	4-M16	45	120	36X36	145	100	100	30	4 - M6	G 3/8"	81.350
SAY-SA-20	1215	255	320	165	215	4-M16	54	130	36X36	150	120	90	30	4 - M5		105.400
SAY-SA-25	1630	325	387	200	235	8-M16	64	166	46X46	150	120	120	30	4 - M6	G 1/2"	129.900
SAY-SA-30	1775	365	415	254	310	8-M16	74	220	55X55	157	120	159	60	4 - M6		----
SAY-SA-35	2500	450	540	300	350	8-M24	100	220	28X2	170	130	170	60	4 - M8		----
SAY-SA-40	2500	500	580	300	350	8-M24	100	220	28X2	----	180	180	180	4 - M8	G 3/4"	----
SAY-SA-50	3210	615	695	356	415	8-M30	120	260	32X2	----	180	180	180	4 - M8		----
SAY-SA-60	3210	720	720	356	415	8-M30	120	260	32X2	----	180	180	180	4 - M8		----

(All Dimensions are in mm)



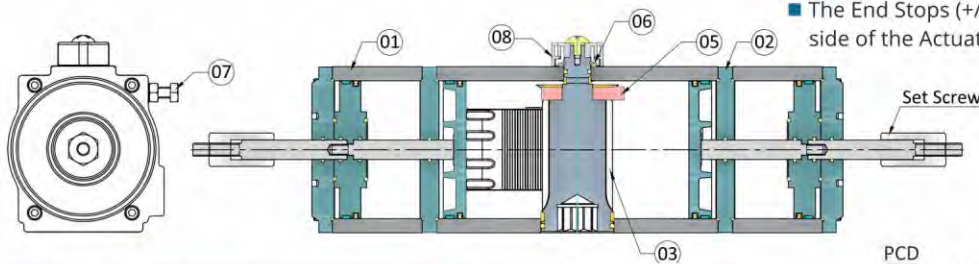
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# Pneumatic Rotary Actuator 3 Position

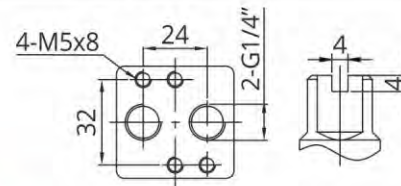
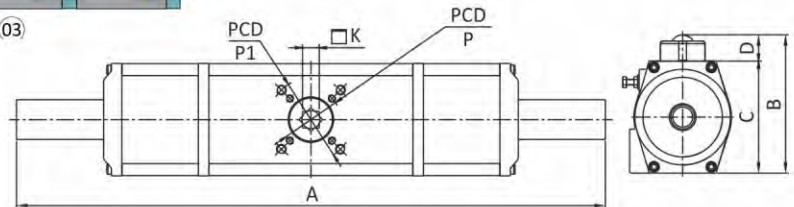
"aira" Offers Three position actuator provides an operation of 0°, 45°, 90° or the random travel of middle position. The middle position is achieved by the mechanical brake which is caused by the movement of the two auxiliary pistons. It is adjustable.

## Product Features

- Actuator is suitable for coarse - fine adjustment, typically for batching operations or processes
- The Actuator has to be Double Acting
- The repeatability is 100% since stopping is by mechanical stoppers. It is suitable for application calling for the precise fine-coarse adjustment like liquid filling system
- The Actuator can be switched to one, position from any other position very easily with the solenoid control. The 3rd position is achieved by the mechanical stopping of the piston movement, in the return stroke by pneumatic stopper pistons
- The Intermediate position is present at 20% opening. The opening can be adjusted as required by the set screw. This is field adjustable
- Actuator as a standard, works in reverse action, as opposed to conventional configuration i.e. piston inward stroke opens the valve, and piston outward stroke closes the valve
- The End Stops (+/- 10°) are provided on the closing and opening side of the Actuator for setting valve closing precisely



No.	Description	Material
1	Body	Alu. Extrusion (63400) IS:733
2	Piston	ALSI 132 (Alu. Alloy As Per MDS)
3	Shaft	EN8 (BS:970)
4	End Cover	ALSI 132 (Alu. Alloy As Per MDS)
5	Adaptor	EN8 (BS:970)
6	Shaft Washer	S. S. 304
7	Ad. Hex Bolt + Washer + Nut	S. S. 304
8	Indicator	Nylon
9	All Guide	Delrin
10	All Seals	Hi - Nitrile



NAMUR G1/4"

## Double Acting Actuator Torque Chart In Nm

Valve Model	3 BAR	4 BAR	5 BAR	6 BAR	7 BAR
MM3 - 63 - D	20.20	26.94	33.67	40.41	47.14
MM3 - 75 - D	32.48	43.24	54.10	64.86	75.72
MM3 - 100 - D	93.67	125.82	156.12	187.35	218.57
MM3 - 125 - D	160.91	214.54	268.18	321.82	375.45
MM3 - 160 - D	369.01	492.02	615.02	738.02	861.03
MM3 - 210 - D	817.33	1089.74	1362.15	1634.56	1906.98

Note : Actuator Torques May Vary ±3% (10Nm = 1 kgfm)

## Dimensions :

Valve Model	A	B	C	D	PCD P	PCD P1	Squ. □K	Air Supply Port
MM3 - 63 - D	390	105	85	20	50	70	14	1/4"
MM3 - 75 - D	480	122	102	20	50	70	14	1/4"
MM3 - 100 - D	600	147	127	20	70	102	17	1/4"
MM3 - 125 - D	720	187	157	30	70	102	22	1/4"
MM3 - 160 - D	915	226	196	30	102	140	27	1/4"
MM3 - 210 - D	1155	295	245	50	140	----	36	1/4"

(All Dimensions are in mm)



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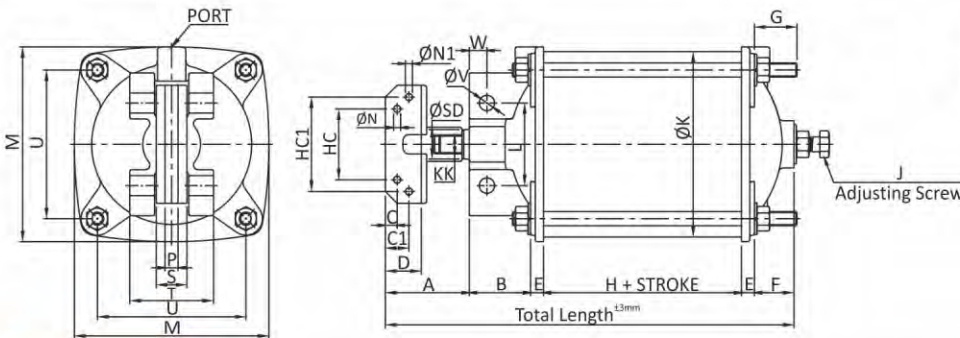
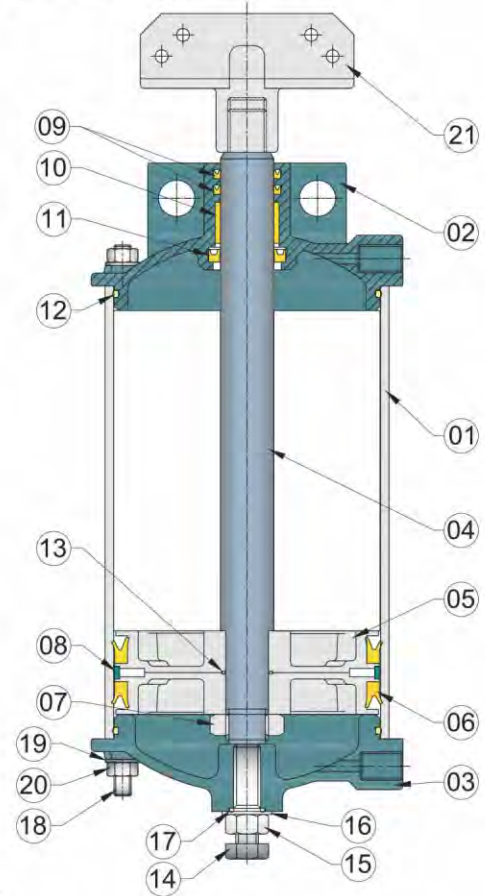
# “VAC” Model Pneumatic Linear Actuator for Double & Single Acting



## Technical Specification

- Model : VAC
- Stroke : Upto 2500mm
- Surface Treatment : Auto Finish enameling on end cover & barrel
- Temperature Range : -20 °C to +85 °C (-15 °C to 180 °C On Request)
- Pressure Range : Upto 12 BAR
- Stroke Adjustment : Providing for small adjustment of travel

No.	Description	Material
1	Round Pipe	Stainless Steel / Aluminum Alloy HE9WP (6063-T6) (IS : 733)
2	Top Cover	Aluminum Alloy Alsi 132 (BS 1490) / D. I.
3	Bottom Cover	Aluminum Alloy Alsi 132 (BS 1490) / D. I.
4	Piston Rod	Stainless Steel
5	Piston	Aluminum Alloy Alsi 132 (BS 1490) / D. I.
6	V - Seal for Piston	Hi - Nitrile / Viton
7	Lock Nut	BS-970-90,EN-8, (080M40)
8	Delrin Ring	Delrin copolymer (H. R120 - Gr. M270 Natural)
9	Duster V-Seal	Nitrile Buna-N, (SHORE-A, 70 to 75. Gr. 80 CEMI. N684B)
10	Bering Bush	D. U. Bush (PTFE COATED)
11	Shaft V-Seal	Nitrile Buna-N, (SHORE-A, 70 to 75. Gr. 80 CEMI. N684B)
12	Diameter Ring	Nitrile Buna-N, (SHORE-A, 70 to 75. Gr. 80 CEMI. N684B)
13	O-Ring for Piston	Nitrile Buna-N, (SHORE-A, 70 to 75. Gr. 80 CEMI. N684B)
14	Adjusting Bolt	ABS-970-90, EN-8 (080M40)
15	Adjusting Nut	BS-970-90, EN-8, (080M40)
16	Washer	BS-970-90, EN-8, (080M40)
17	O- Ring	Nitrile Buna-N, (SHORE-A, 70 to 75. Gr. 80 CEMI. N684B)
18	Stud	BS-970-90, EN-8, (080M40)
19	Washer for Stud	BS-970-90, EN-8, (080M40)
20	Nut for Stud	BS-970-90, EN-8, (080M40)
21	Clamp	ASTM A 351 Gr. CF8



## Dimensions :

Valve Size	A	B	C	C1	D	E	F	G	H	ØSD	J	ØK	L	M	ØN	ØN1	P	S	KK	ØV	W	T	U	PORT	HC	HC1	Total Length
MM	Inch										(Ad. Screw)																
63	2.1/2"	60	32	09	----	19	08	16.75	20	16	1/2" BSW	68	47.5	80	06	---	6	18	M16	12.5	10	27.5	60	1/4" BSP	30	---	179.75
80	3"	60	34	09	----	19	08	16.5	20	20	1/2" BSW	84	47.5	93	06	---	6	18	M16	12.5	11	30	70	1/4" BSP	30	---	186.5
100	4"	60	38.5	09	----	19	11.5	19.5	27.5	20	1/2" BSW	104	55	115	06	---	6	18	M16	13.5	14.75	58	88	1/4" BSP	30	---	203
125	5"	70	46	10	20	29	11.5	22	28	25	1/2" BSW	129	66	146	06	06	9	21	M16	17	16.5	58	110	1/4" BSP	60	80	223
150	6"	70	50	10	20	29	13	31.5	28	25	1/2" BSW	154	70	165	06	06	9	21	M16	17	15	71	126	1/4" BSP	60	80	248.5
200	8"	70	96	10	18	29	15	44	40	32	M20X2.5P	210	85.5	230	12	8.5	12	27	M30	17	16.5	105	175	3/8" BSP	65	100	340
250	10"	70	86.5	10	18	29	15	37.5	40	38	M24X3P	260	97.5	274	12	8.5	12	27	M30	17	23.5	80.5	210	3/8" BSP	65	100	309
300	10"	94	85	----	25	50	20	37	40	38	M24X3P	316	97.5	335	----	16	12	30	M30	17	23.5	80.5	250	1/2" BSP	----	100	356
350	14"	94	86	----	25	50	22	44	40	51	M24X3P	356	120	385	----	16	12	30	M30	17	23.5	144	290	3/4" BSP	----	100	358

(All Dimensions are in mm)



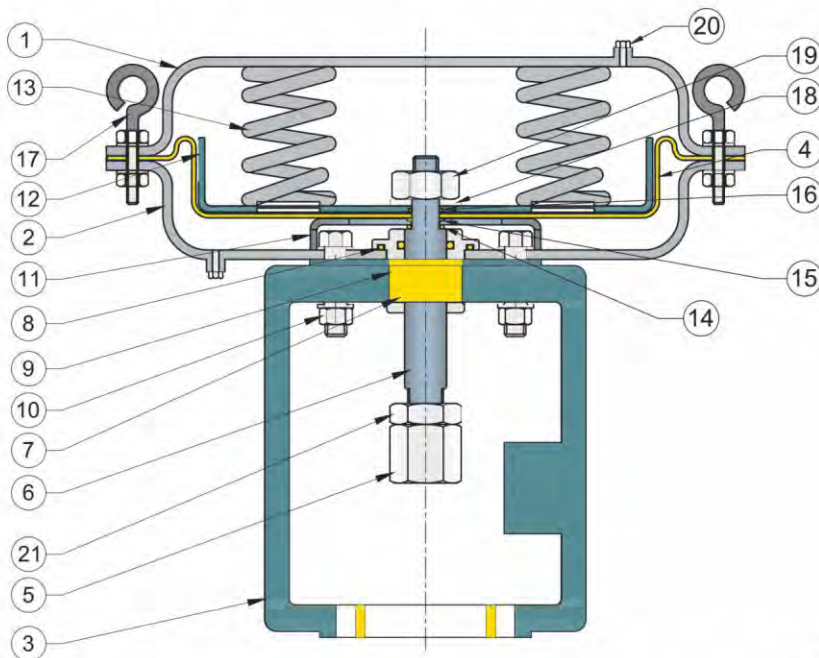
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# Pneumatic Linear Diaphragm Actuator

## Technical Specification

- Inlet Air Supply : 2.5 to 4 Kg/cm<sup>2</sup>
- Stem Movement : Linear
- Actuator Action : Direct Acting / Reverse Acting
- Air Fail Position : Stem Extended / Stem Retracted

Type	Diaphragm Area (Cm <sup>2</sup> )	Spring	Maximum Stroke (mm)	Air Pressure ( Bar )	Max Thrust ( N )	Volume (Ltrs / Stroke)
CND-01-NX	Direct	4 ~ 8	15 - 20	2.4 ~ 4	3000	0.4
	Reverse			0	500	
CND - 02	Direct	4 ~ 8	24 - 30	2.4 ~ 4	5200	1.77
	Reverse			0	920	
CND - 03	Direct	3 ~ 6	38 - 45	2.4 ~ 4	7800	4.18
	Reverse			0	720	
CND - 04	Direct	4 ~ 8	55 - 65	2.4 ~ 4	11000	8.93
	Reverse			0	3840	
CND - 06	Direct	3 ~ 6	100 - 120	2.4 ~ 4	15000	27.07
	Reverse			0	5000	

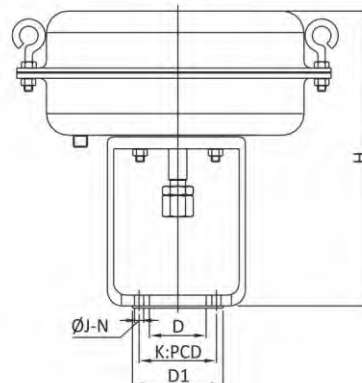


No.	Description	Material
1	Top Cover	M. S.
2	Bottom Cover	M. S.
3	Yoke	S. G. Iron
4	Diaphragm	Nitrile Rubber
5	Connecting Nut	S. S. 304
6	Stem	S. S. 304
7	Stem Seal	Viton
8	Seal For Bearing Bush	Viton
9	Bearing Bush	Aluminium
10	Bolt, Nut For Yoke	S. S. 202
11	Pressure Plate	M. S.
12	Spring Plate	M. S.
13	Spring	Spring Steel
14	'O' - Ring	Viton
15	'O' - Ring	Viton
16	'O' - Ring	Viton
17	Lifting Hook Nut, Washer	M. S.
18	Spring Washer	S. S. 202
19	Stem Lock Nut	S. S. 202
20	Silencer	Plastic
21	Check Nut	S. S. 304

### Dimensions :

Valve Model	D	D1	ØJ - N	K:PCD	H	Valve Size
CND-01-NX	60	100	9 - 4	80	280	DN15 - DN25
CND - 02	60	105	9 - 4	80	300	DN40 - DN65
CND - 03	80	135	12 - 4	105	330	DN80 - DN100
CND - 04	95	158	12 - 4	120	510	DN125 - DN150
CND - 06	100	197	14 - 8	140	620	DN200 - DN300

(All Dimensions are in mm)



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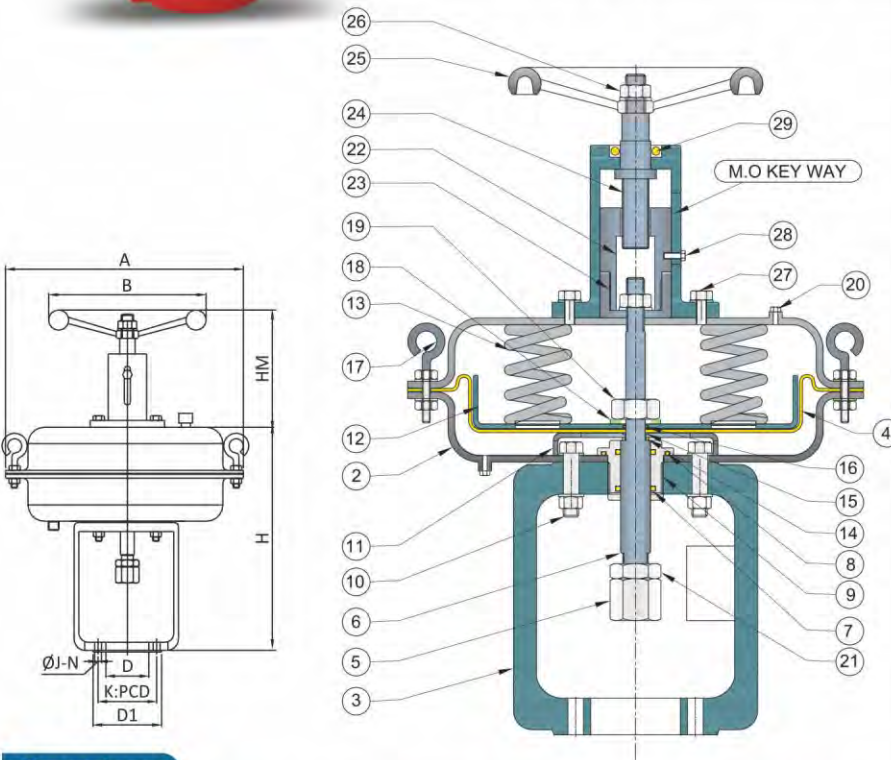
# Pneumatic Linear Diaphragm Actuator with Manual Over Ride



## Technical Specification

- Inlet Air Supply : 2.5 to 4 Kg/cm<sup>2</sup>
- Stem Movement : Linear
- Actuator Action : Direct Acting / Reverse Acting
- Air Fail Position : Stem Extended / Stem Retracted

Type	Diaphragm Area (Cm <sup>2</sup> )	Spring	Maximum Stroke (mm)	Air Pressure ( Bar )	Max Thrust ( N )	Volume (Ltrs / Stroke)
CND-01-NX	Direct	4 ~ 8	15 - 20	2.4 ~ 4	3000	0.4
	Reverse			0	500	
CND - 02	Direct	4 ~ 8	24 - 30	2.4 ~ 4	5200	1.77
	Reverse			0	920	
CND - 03	Direct	3 ~ 6	38 - 45	2.4 ~ 4	7800	4.18
	Reverse			0	720	
CND - 04	Direct	4 ~ 8	55 - 65	2.4 ~ 4	11000	8.93
	Reverse			0	3840	
CND - 06	Direct	3 ~ 6	100 - 120	2.4 ~ 4	15000	27.07
	Reverse			0	5000	



No.	Description	Material
1	Top Cover	M. S.
2	Bottom Cover	M. S.
3	Yoke	S. G. Iron
4	Diaphragm	Nitrile
5	Connecting Nut	S. S. 304
6	Stem	S. S. 304
7	Stem Seal	Viton
8	Seal for Bearing Bush	Viton
9	Bearing Bush	Aluminium
10	Bolt + Nut for Yoke	S. S. 202
11	Pressure Plate	M. S.
12	Spring Plate	M. S.
13	Spring	Spring Steel
14	'O' - Ring	Viton
15	'O' - Ring	Viton
16	'O' - Ring	Viton
17	Lifting Hook Nut + Washer	M. S.
18	Spring Washer	S. S. 202
19	Stem Lock Nut	S. S.
20	Silencer	Plastic
21	Check Nut	S. S. 304
22	Coller Big	S. S. 304
23	Coller Small	S. S. 304
24	Screw for M. O.	S. S. 304
25	Hand Wheel	S. G. Iron
26	M. O. Locknut + Washer	S. S. 202
27	Housing Nut + Bolt + Washer	S. S. 202
28	Grub Screw	M. S.
29	Thrust Bearing	S. S. 202
30	Housing Bonnet	Cast Iron

## Dimensions :

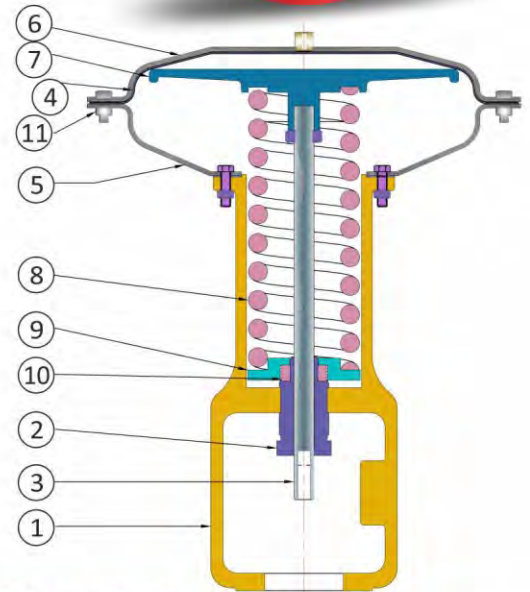
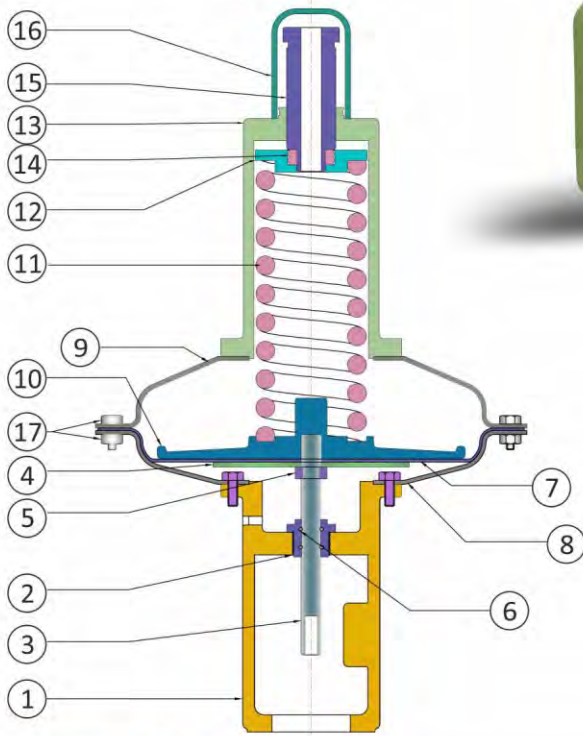
Valve Model	D	D1	ØJ - N	K:PCD	H	HM	A	B	Valve Size
CND-01-NX	60	100	9 - 4	80	280	170	205	252	DN15 - DN25
CND - 02	60	105	9 - 4	80	300	175	288	252	DN40 - DN65
CND - 03	80	135	12 - 4	105	330	220	376	355	DN80 - DN100
CND - 04	95	158	12 - 4	120	510	280	475	355	DN125 - DN150
CND - 06	100	197	14 - 8	140	620	395	594	600	DN200 - DN300

(All Dimensions are in mm)



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# Pneumatic Linear Diaphragm Actuator



## Reverse Acting

No.	Description	Material
1	Yoke	S. G. Iron
2	Bearing Bush	Aluminium
3	Shaft	S. S. 304
4	Diaphragm Locking Washer	M. S.
5	Diaphragm Lock Nut	S. S. 304
6	'O' - Ring	NBR
7	Diaphragm	Nitrile with Canvas Insert
8	Bottom Cover	M. S.
9	Top Cover	M. S.
10	Spring Plate	S. G. Iron
11	Spring	Spring Steel
12	Spring Guide	M. S.
13	Guide Bearing	STD.
14	Spring Barrel	S. G. Iron
15	Adjusting Screw	M. S.
16	Adjusting Cover	S. G. Iron
17	Nut + Washer	STD.

## Direct Acting

No.	Description	Material
1	Yoke	S. G. Iron
2	Adjusting Nut	M. S.
3	Shaft	S. S. 304
4	Diaphragm	Nitrile with Canvas Insert
5	Bottom Cover	M. S.
6	Top Cover	M. S.
7	Spring Plate	S. G. Iron
8	Spring	Spring Steel
9	Spring Guide	M. S.
10	Guide Bearing	STD.
11	Nut + Washer	S. S. 202





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**Model :** APP-1200-L  
APP-1200-R

**“aira” Rotary / Liner Type Pneumatic - Pneumatic Valve Positioner**

**Input Signal** : 3 ~ 15psi (0.2-1.0 kgf/cm<sup>2</sup>)  
**Supply Air Pressure** : 100 psi Max. (7.0 kgf/cm<sup>2</sup>)  
**Standard Stroke** : 10 ~ 80mm  
**Air Piping Connection** : 1/4" NPT (F)  
**Temperature** : -20 °C to 70 °C  
**Pressure Gauge** : Stainless Steel  
**Explosion-Proof** : Ex 'd' II CT6  
**Degree of Protection** : IP66  
**Pressure Gauge** : Stainless Steel 0-2 kg/cm<sup>2</sup>  
 0-4 kg/cm<sup>2</sup> / 0-10 kg/cm<sup>2</sup>  
**Output Characteristics** : Rotary  
**Linearity** : Within ± 1.0% F.S.  
**Sensitivity** : Within 0.2% F.S.  
**Hysteresis** : Within 0.2% F.S.  
**Repeatability** : Within ± 0.75% F.S.  
**Air Consumption** : 5.0 LPM (1.4 kg/cm<sup>2</sup>) Supply  
**Flow Capacity** : 80 LPM (1.4 kg/cm<sup>2</sup>) Supply  
**Material** : Aluminium Die cast Body  
**Weight** : 1.8 Kg. (Approx)

IS / IEC 60079-1  
CML-3812155





CCEO Nagpur


**Model :** AEP-1000-L  
AEP-1000-R

**“aira” Rotary / Liner Flameproof cum Waetherproof Electro Pneumatic Valve Positioner**

**Input Signal** : 4~20 mA DC  
**Input Resistance** : 235 ±15  
**Supply Air Pressure** : 20 ~ 100psi (7.0 kg/cm<sup>2</sup>)  
**Standard Stroke** : 10 ~ 80mm  
**Air Piping Connection** : 1/4" NPT (F)  
**Conduit Connection** : 1/2" NPT (F)  
**Explosion-proof** : Ex 'd' II CT6  
**Degree of Protection** : IP66  
**Temperature** : -20 °C to 70 °C  
**Pressure Gauge** : Stainless Steel 0-2 kg/cm<sup>2</sup>  
 0-4 kg/cm<sup>2</sup> / 0-10 kg/cm<sup>2</sup>  
**Output Characteristics** : Rotary  
**Linearity** : Within ± 1.0% F.S.  
**Sensitivity** : Within 0.2% F.S.  
**Hysteresis** : Within 0.75% F.S.  
**Repeatability** : Within ± 0.5% F.S.  
**Air Consumption** : 5.0 LPM (1.4 kg/cm<sup>2</sup>) Supply  
**Flow Capacity** : 80 LPM (1.4 kg/cm<sup>2</sup>) Supply  
**Material** : Alluminium Die Cast Body  
**Weight** : 2.8 Kg. With a terminal box


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CML-3812155




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**“aira” Weatherproof Micro Limit Switch Box Dom Indicator Type On/Off Indicator**


**Type** : Mechanical Switch X 2 / Proximity Sensors P&F Make  
**Model Switch** : LA4 - FLP - 01  
 : Honeywell V15 / Honeywell V15 / NJ2-V3-N (Upto 8V) / NBB3-V3-Z4 (Upto 10 to 60 VDC)  
**Type Switch Rating** : 1 NO + 1 NC / 2 NO + 2 NC  
 : AC 250V 3A, 125V 5A & DC 250V 0.2A, 125V 0.4A, 30V 4A  
**Enclosure Protection** : IP 67  
**Temperature** : -20 °C ~ 80 °C  
**Conduit Entry** : NPT 1/2" (PT 1/2", PF 1/2, M20, PG 13.5)  
**Terminal Mounting** : 8 Points  
**Bracket** : Namur VDI / VDE 3845, ISO 5211  
**Material** : Aluminum Pressure Die Cast / S.S.



Stainless Steel






IS / IEC 60079-1  
CML-3812155




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**“aira” Flameproof Limit Switch Box**

**Type** : Mechanical Switch X 2 / Proximity Sensors P&F Make  
**Model Switch** : MLS - BX - FLP - 01  
 : Honeywell V15 / Honeywell V15 PCB Type / NJ2-V3-N (Upto 8V) / NBB3-V3-Z4 (Upto 10 to 60 VDC)  
**Type Switch Rating** : 1 NO + 1 NC / 2 NO + 2 NC  
 : AC 250V 3A, 125V 5A & DC 250V 0.2A, 125V 0.4A, 30V 4A  
**Enclosure Protection** : IP 67 / IP 68  
**Temperature** : -20 °C ~ 80 °C  
**Conduit Entry** : NPT 1/2" (PT 1/2", PF 1/2, M20, PG 13.5)  
**Terminal Mounting** : 8 Points  
**Bracket** : Namur VDI / VDE 3845, ISO 5211  
**Material** : Aluminum Pressure Die Cast


IS / IEC 60079-1  
CML-3812155



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**“aira” Flameproof Micro Limit Switch Box with Stainless Steel 304 / 316**

**Type** : Mechanical Switch X 2 / Proximity Sensors P&F Make  
**Model Switch** : LS4 - FLP-01  
 : Honeywell V15 / Honeywell V15 PCB Type / NJ2-V3-N (Upto 8V) / NBB3-V3-Z4 (Upto 10 to 60 VDC)  
**Type Switch Rating** : 1 NO + 1 NC / 2 NO + 2 NC  
 : AC 250V 3A, 125V 5A & DC 250V 0.2A, 125V 0.4A, 30V 4A  
**Enclosure Protection** : IP 67  
**Temperature** : -20 °C ~ 80 °C  
**Conduit Entry** : NPT 1/2" (PT 1/2", PF 1/2, M20, PG 13.5)  
**Terminal Mounting** : 8 Points  
**Bracket** : Namur VDI / VDE 3845, ISO 5211  
**Material** : Stainless Steel 304 / 316



IS / IEC 60079-1  
CML-3812155




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**“aira” Weatherproof Limit Switch Box**

**Type** : Mechanical Switch X 2 / Proximity Sensors P&F Make  
**Model Switch** : MMLS - BX - WP - 01  
 : Honeywell ZM / NJ2 - V3 - N (Upto 8 Voltage) / NBB - V3 - Z4 (Upto 10 to 60 VDC)  
**Type Switch Rating** : 1 NO + 1 NC  
 : AC 250V 3A, 125V 5A & DC 250V 0.2A, 125V 0.4A, 30V 4A  
**Enclosure Protection** : IP 67  
**Temperature** : -20 °C ~ 80 °C  
**Conduit Entry** : NPT 1/2" (PT 1/2", PF 1/2, M20, PG 13.5)  
**Terminal Mounting** : 8 Points  
**Bracket** : Namur VDI / VDE 3845, ISO 5211  
**Material** : Aluminum Pressure Die Cast

IS / IEC 60079-1  
CML-3812155




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**“aira” 3/2 Way Namur Direct Acting Solenoid Valve**

Model	: NAM-SA-32
Coil Voltage	: All Std. Voltage Available
Frequency	: 50 - 60 Hz
Connection Type	: 1/4" (BSP / NPT)
Conduit	: PF 1/2"
Coil Insulation Grade	: Class "F"
Temperature	: -20 °C ~ 70 °C (-4 ~ 158 °F)
MOC	: Aluminium
Seals	: NBR ( Viton On Request )
Working Pressure	: Upto 8 BAR

This 3/2 Namur is suitable for actuator model : 5412-S / ARA-49S / ARA-50S



**“aira” 3/2 & 5/2 Way Convertible Poppet Type Single Namur Solenoid Valve**

Model	: OTX - PPT - 32 / OTX - PPT - 52
Coil Voltage	: All Std. Voltage Available
Frequency	: 50 - 60 Hz
Connection Type	: 1/4" (BSP / NPT)
Conduit	: PF 1/2"
Coil Insulation Grade	: Class "F"
Temperature	: -20 °C ~ 70 °C (-4 ~ 158 °F)
MOC	: Aluminium
Seals	: NBR ( Viton On Request )
Working Pressure	: Upto 8 BAR



**“aira” 3/2 & 5/2 Way Convertible Poppet Type Double Namur Solenoid Valve**

Model	: 2OTX - PPT - 52
Coil Voltage	: All Std. Voltage Available
Frequency	: 50 - 60 Hz
Connection Type	: 1/4" (BSP / NPT)
Conduit	: PF 1/2"
Coil Insulation Grade	: Class "F"
Temperature	: -20 °C ~ 70 °C (-4 ~ 158 °F)
MOC	: Aluminium
Seals	: NBR ( Viton On Request )
Working Pressure	: Upto 8 BAR



**“aira” 3/2 & 5/2 Way Convertible Spool Type Single Namur Solenoid Valve**

Model	: AMV-NAM-220
Coil Voltage	: All Std. Voltage Available
Frequency	: 50 - 60 Hz
Connection Type	: 1/4" (BSP / NPT)
Conduit	: PF 1/2"
Coil Insulation Grade	: Class "F"
Temperature	: -20 °C ~ 70 °C (-4 ~ 158 °F)
Body Material	: Aluminium
Seals	: NBR ( Viton On Request )
Working Pressure	: Upto 8 BAR



**“aira” 3/2 & 5/2 Way Convertible Spool Type Double Namur Solenoid Valve**

Model	: 2AMV-NAM-220
Coil Voltage	: All Std. Voltage Available
Frequency	: 50 - 60 Hz
Connection Type	: 1/4" (BSP / NPT)
Conduit	: PF 1/2"
Coil Insulation Grade	: Class "F"
Temperature	: -20 °C ~ 70 °C (-4 ~ 158 °F)
Body Material	: Aluminium
Seals	: NBR ( Viton On Request )
Working Pressure	: Upto 8 BAR



**AJ & CJ Series 3/2 Way Direct Acting Solenoid Valve (Normally Open & Closed)**

Model	: AJDS / AJCS / CJDS / CJCS
Size	: 1/4" BSP
Body	: Aluminium Pressure Die Cast
Orifice	: 2 MM
Pressure	: 7 Kg/cm <sup>2</sup> / 10 Kg/cm <sup>2</sup>
Temp.	: Upto 50 °C
Leakage	: Bubble Tight
Frequency	: 50 ~ 60 Hz
Coil Insulation Grade	: Class "F"
Media	: Air (Filtered & Lubricated)
Voltage	: All Std. Voltage Available



**“aira” Filter + Regulator Air Combination**

Model	: 4FQ / 8 FQ / FRJ
Air Connection	: 1/4" BSP
Max. Supply Pressure	: 4FQ : 0.5 to 4 Kg/cm <sup>2</sup> 8FQ : 0.5 to 8 Kg/cm <sup>2</sup> 1 to 9 Kg/cm <sup>2</sup>
Gauge Connection	: 1/8"
Ambient Temperature	: -20 °C ~ 120 °C (High Temp.) : -40 °C ~ 120 °C (Low Temp.)
Mini Filtering Size	: 5 Micron
Material	: Aluminium Pressure Die Cast



**“aira” Air Volume Booster**

Model	: VLB
Size	: 1/4" to 1" BSP
MOC	: Aluminium / S. S. 304 / 316
Seals	: NBR
Max. Supply Pressure	: Max. 1Mpa (10 Bar)
Max. Output Pressure	: Max. 0.7 Mpa (7 Bar)
Temperature	: -20 °C ~ 70 °C (Standard) : -20 °C ~ 120 °C (High) : -40 °C ~ 70 °C (Low)
Linearity	: 1 : 1
Hysteresis	: 1%



**“aira” Single & Double Air Lock Valve**

Model	: SALV / DALV
Material	: Aluminium / Stainless Steel 304
Max. Supply Pressure	: Max. 10.2 Kg/cm <sup>2</sup> ( 142 PSI )
Max. Single Pressure	: Max. 7.1 Kg/cm <sup>2</sup> ( 1000 PSI )
Setting Pressure Range	: 1.4-7.1 Kg/cm <sup>2</sup> ( 20 ~ 100 PSI )
Flow Capacity (Cv)	: 0.9
In/Output Port Connection	: 1/4" NPT
Signal Port Connection	: 1/4" NPT
Differential Pressure	: Below 0.1 Kg/cm <sup>2</sup> ( 1.4 PSI )
Hysteresis	: 1%
ambient Temp.	: -20 °C ~ 70 °C



**“aira” Manual Override Clutch Type (MO)**

Model	: AMO
Torque	: 200 Nm to 10000 Nm
Body	: Aluminium Pressure Die Cast / S. G. Iron
Lever Wheel	: Stainless Steel
Hand Wheel	: S. S. / M. S. (Fabricated)



Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Warranty Information



**Best In Class  
4 - Year Warranty**

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Note : Since, constant worldwide advancement in technology, We keep our rights reserved to make changes time to time in Technical specifications and Dimensions without prior notice.

# Notes



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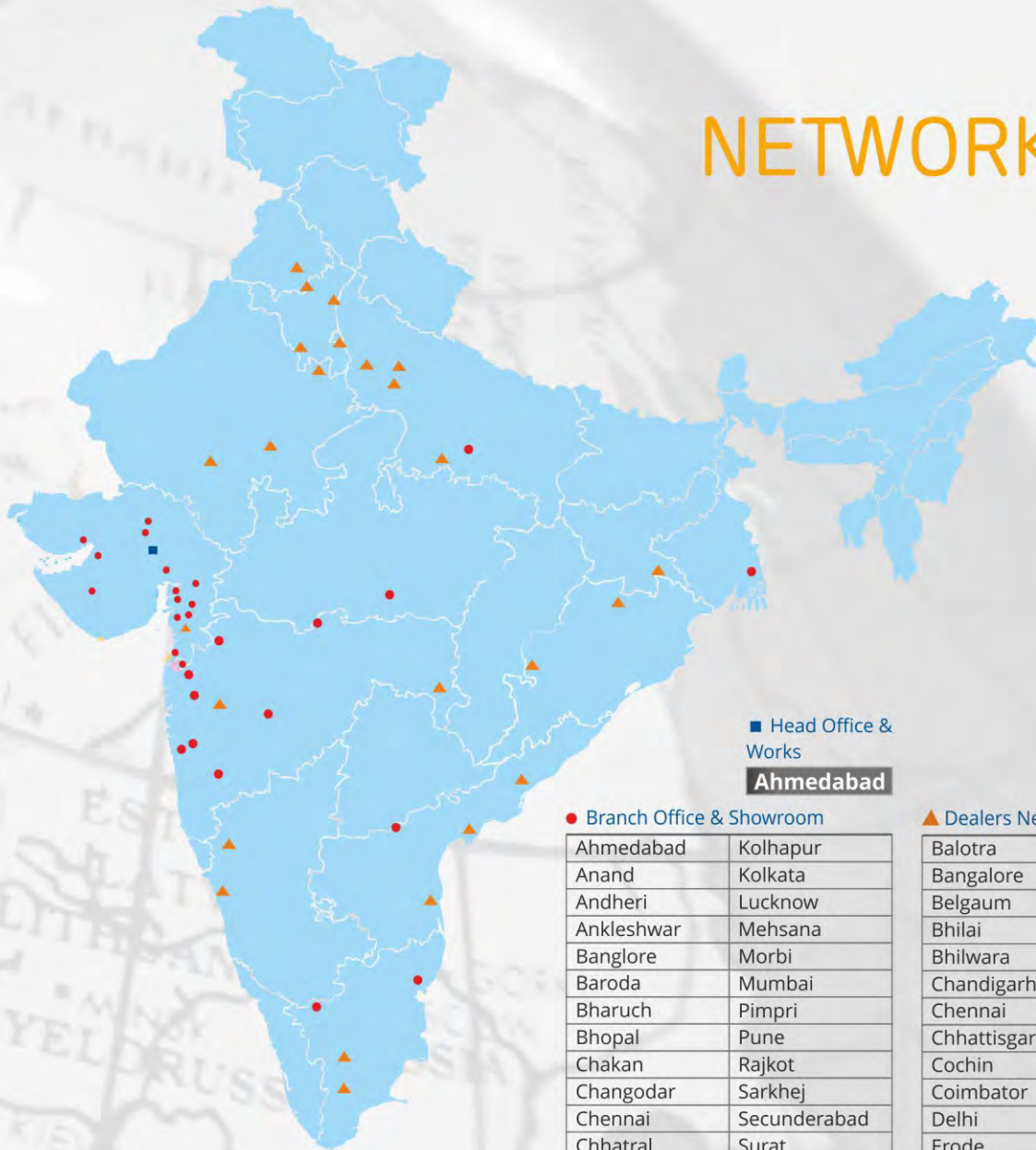
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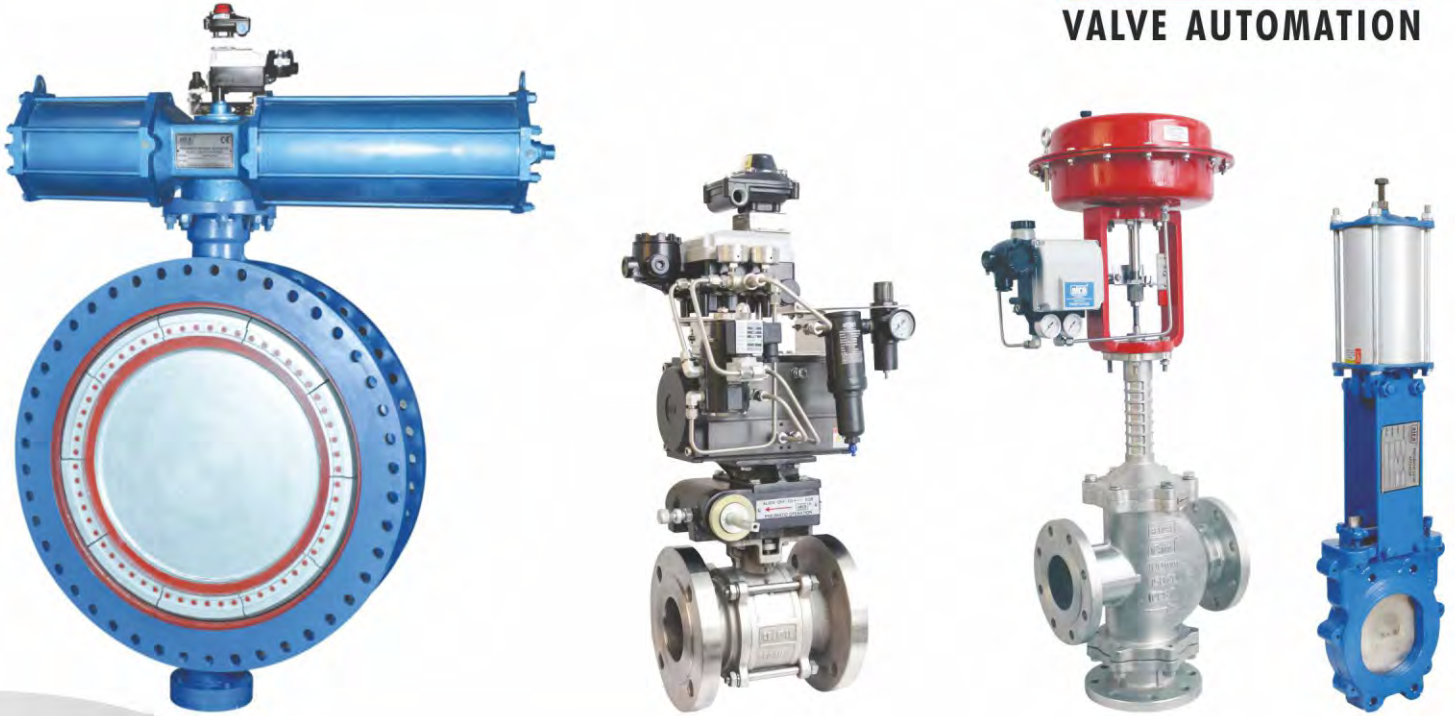
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