

Your Solution Partner In
Industrial Valve Automation...



SINGLE ACTING ALUMINIUM PNEUMATIC ACTUATOR



Features

- Single 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 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.



Mfg. & Mkt by
aira Euroautomation pvt. Ltd.

INDIA

www.airaindia.com



About Us

Clients are why we exist!

We welcome and thank you for referring out detailed catalogue.

aira is know all over continents as a manufacturer of quality products - Ball Valves, Butterfly Valves, Plug Valves, & Control On / Off Valves with Pneumatic Actuators for Pharma, Oil & Gas, Steel, Paper, Water, Chemical and all type of processing industries.

aira has walked through more than 3 decades, gaining valuable experience, offering equipment's in the products manufactured by OEMs in all spheres of engineering. **aira** products have gained reputations of consultants, and approvals of users, OEMs and other as a quality product.

aira has expanding business into foreign markets specially GCC, UAE, Asian & African countries. This is because increase its customer base and revenue, leading to overall growth and success. Now foreign users come to know and believe in the services provided by the **aira**. Along with the same, it also helps to reach a large number of users thereby leading to the increase their business.

Being and ISO 9001 BVQI certified company has put **aira** in fore front. Out motto is "Value the customer" and "Superior product", one among the best in the world.

Our Quality

- In- House full scale testing facility.
- Lean manufacturing practices
- Certified by : ISO 9001 : 2015 (BVQI LONDON), CE, ATEX, CIMFR, BIS, PESO, SIL 3, IBR
- API 609, API 6D

Our Commitment

- To understand customer's need first before proposing our products.
- To keep on providing competitive rate's by adapting to continuous process improvement, without compromising on quality.
- To provide continuous support to our customers and go beyond their expectations in terms of delivery and after sale services.

Our Manufacturing Facility

- In house R & D, manufacturing and testing facility is all located in a spread over three campuses at Ahmedabad, Gujarat, INDIA.

Network - Sales Office

- 60 Plus Branch Offices in different states in India.
- Sales office in the Bangladesh, Dubai, Kenya, Malaysia, Nepal, Qatar, Singapore, South Africa, Sri Lanka, Turkey, USA (Expanding).



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QMS (Quality Management System)

ISO 9001 : 2015

EMS (Environment Management System)

ISO 14001 : 2015

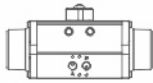
OHSAS (Occupational Health & Safety Management System)

ISO 45001 : 2018

IBR
PISTON VALVE
GLOBE CONTROL VALVE (CKD/CND)
DISC CHECK VALVE (DCV)
PRESSURE REDUCING VALVE (PRV)
POP TYPE SAFETY VALVE
BALL VALVE

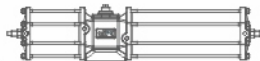
Pneumatic Actuator

CE /
ATEX /
EXIDA SIL-3 /
PROOF OF DESIGN



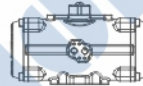
Scotch & Yoke Actuator

CE / ATEX / SIL-3



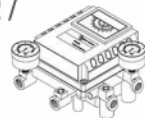
Stainless Steel Actuator

CE /
IEP ATEX



Positioner Enclosure

CE / CIMFR /
IP67 / BIS
/ PESO



aira's
SOME OF OUR
Certificates

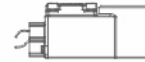
Plug Valve

FUGITIVE EMISSIONS
TEST
AS PER ISO
15848-1 / IBR



Flameproof Solenoid Valve

IEP ATEX / CE / CIMFR
/ IP65 / IP67 / IP68 /
BIS / PESO



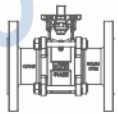
Limit Switch

IEP ATEX / CE / CIMFR
/ IP67 / BIS / PESO /
EQDC IP68



Ball Valve (Floating & Trunnion)

FIRE SAFE TEST DESIGN /
FUGITIVE EMISSIONS TEST
AS PER ISO 15848-1 / CE /
PED / EXIDA SIL-3



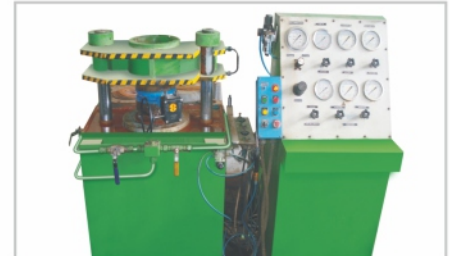
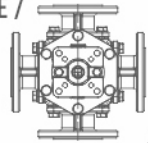
Butterfly Valve (centric / Double & Triple Eccentric)

FIRE SAFE TEST DESIGN /
FUGITIVE EMISSIONS TEST
AS PER ISO 15848-1 / CE /
PED / EXIDA SIL-3
/ IBR / PROOF OF DESIGN /
FOOD GRADE / BIS / ISI



Multiport Ball Valve

FUGITIVE EMISSIONS TEST
AS PER ISO 15848-1 / CE /
PED / EIL



Warranty Information



**Best In Class
4 - Year Warranty**

Aira 'ARA' Actuator manufactured by Aira Euro Automation Pvt. Ltd. are warranted against defects in material or workmanship for a period of four years from date of shipment. Our sole obligation under this warranty is to repair or replace, at our option, any product Aira 'ARA' Actuator products manufactured by Aira Euro Automation Pvt. Ltd. are warranted against defects in material or workmanship for a period of four year from date of shipment. Our sole obligation under this warranty is to repair or replace, at our option, any product or any part or parts thereof found to be defective. Aira Euro Automation Pvt. Ltd. MAKES NO OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The warranty set forth above is the only warranty applicable to Aira Euro Automation Pvt. Ltd. products and in no event shall Aira Euro Automation Pvt. Ltd. be liable for any delay, work stoppage, cartage, shipping, loss of use of equipment, loss of time, inconvenience, loss of profits of any direct or indirect incidental resulting from or attributable to a breach of warranty. The remedies under this warranty shall be the only remedies available. OUR MAXIMUM LIABILITY SHALL NOT IN ANY EVENT EXCEED THE CONTRACT PRICE FOR THE PRODUCT.



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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	shoud 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	shoud complies to EN 60529	OK	OK	
10	TYPE	Corrosion protection	shoud 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.	90113085	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	shoud 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	shoud complies to EN 60529	OK	OK	
10	TYPE	Corrosion protection	shoud 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 :		



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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

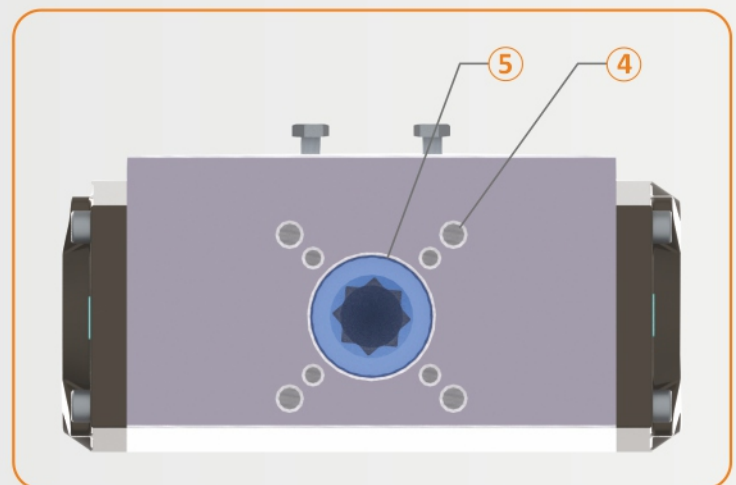
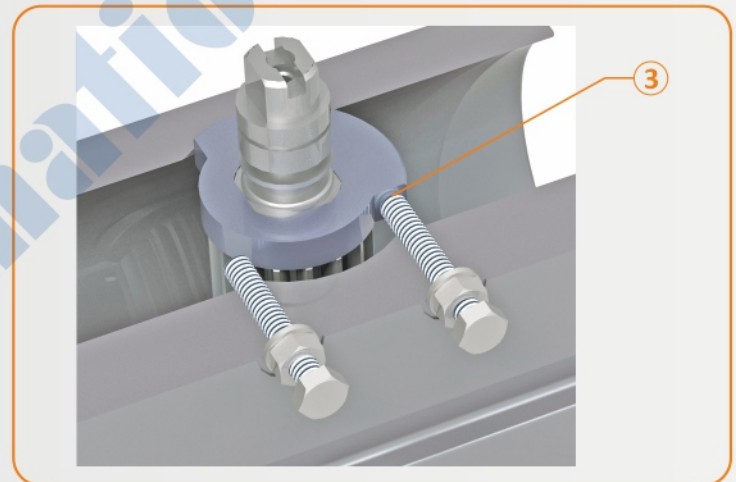
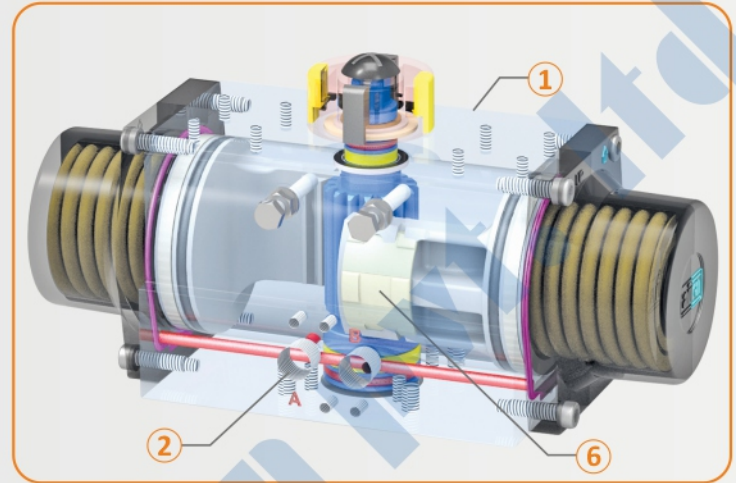
(An International Standard) Bottom of the pinion (Shaft) as female key, double square hole for assembling on valves with square key stem and in line or turned to 45° . Designed for strength and sure-fix with stem

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.

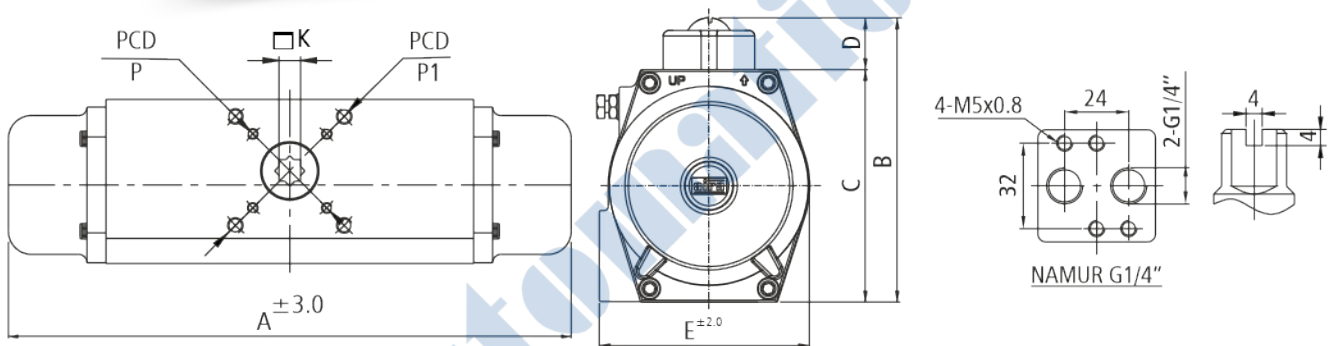


General Features

- 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 :

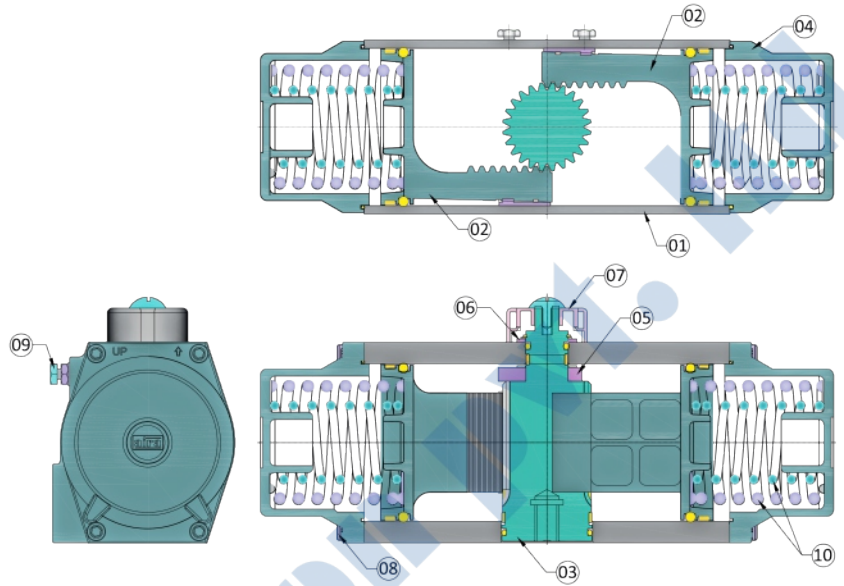
Valve Model	A	B	C	D	E	PCD P	PCD P1	SQUARE □K	WEIGHT (Approx) Kgs.	Air Consumption In Liters / Bar
ARA-DD-49-S	140.5	98	69.5	28.29	65	36	50	9X9, 11X11	1.250	0.1
ARA-DD-50-S	181.1	101.5	74	28.45	72.8	50	70	9X9, 11X11, 13X13, 14X14	1.600	0.16
ARA-DD-63-S	196	113.6	87.8	27.4	76	50	70	9X9, 11X11, 13X13, 14X14	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)



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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.
*R 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
*R 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)



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Valve Model	Spring Set	Torque by Air Pressure				Torque In Nm							
		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-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)



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.

Valve Model	Spring Set	Torque by Air Pressure				Torque In Nm							
		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)

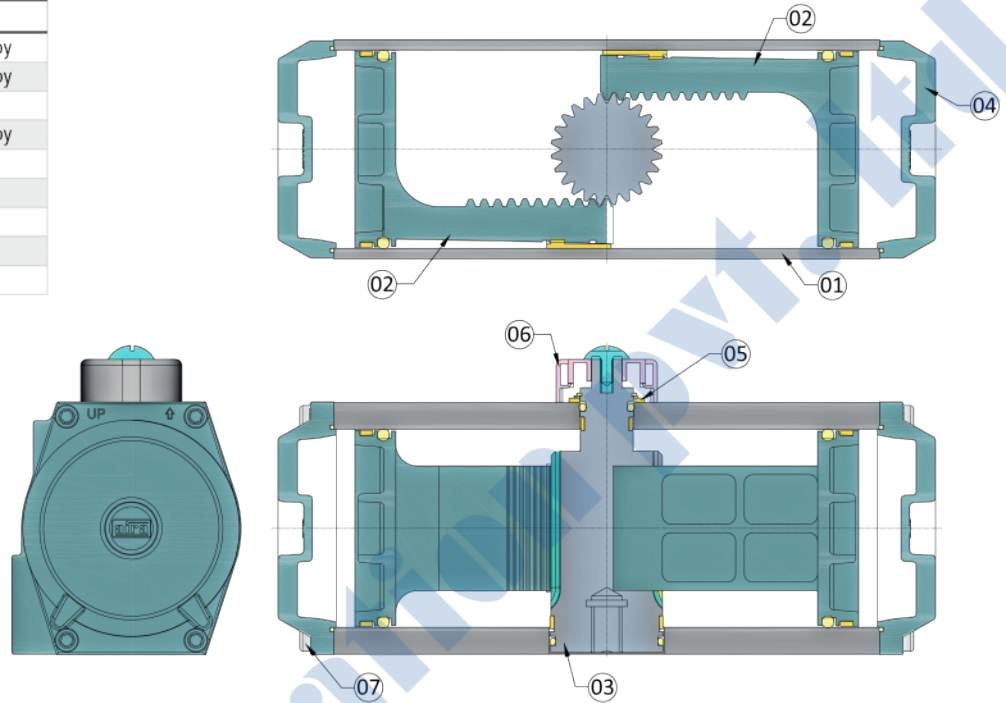
Output Torque of Actuator In Nm													
Air Pressure (Bar)		3		4		5		6		7		Spring Stroke	
Valve Model	Spring Qty.	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End
ARM-240-S	5	924	690.5	1488.1	1154.6							468.5	702
ARM-240-S	6	829.9	550.1	1294	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.

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 $\pm 3\%$.

Note : Single Acting Actuator Torque Available On Request

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 ²)
Supply Air Pressure	: 100 psi Max. (7.0 kgf/cm ²)
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 ² 0-4 kg/cm ² / 0-10 kg/cm ²
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 ²) Supply
Flow Capacity	: 80 LPM (1.4 kg/cm ²) Supply
Material	: Aluminium Die cast Body
Weight	: 1.8 Kg. (Approx)

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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 ²)
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 ² 0-4 kg/cm ² / 0-10 kg/cm ²
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 ²) Supply
Flow Capacity	: 80 LPM (1.4 kg/cm ²) Supply
Material	: Alluminium Die Cast Body
Weight	: 2.8 Kg. With a terminal box

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"aira" Weatherproof Micro Limit Switch Box Dom Indicator Type On/Off Indicator



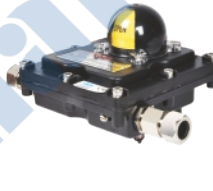
Stainless Steel



Type	: Mechanical Switch X 2 / Proximity Sensors P&F Make
Model	: LA4 - FLP - 01
Switch	: Honeywell V15 / Honeywell V15 / NJ2-V3-N (Upto 8V) / NBB3-V3-Z4 (Upto 10 to 60 VDC)
Type	: 1 NO + 1 NC / 2 NO + 2 NC
Switch Rating	: 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.

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"aira" Flameproof Limit Switch Box



Type	: Mechanical Switch X 2 / Proximity Sensors P&F Make
Model	: MLS - BX - FLP - 01
Switch	: Honeywell V15 / Honeywell V15 PCB Type / NJ2-V3-N (Upto 8V) / NBB3-V3-Z4 (Upto 10 to 60 VDC)
Type	: 1 NO + 1 NC / 2 NO + 2 NC
Switch Rating	: 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

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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	: LS4 - FLP-01
Switch	: Honeywell V15 / Honeywell V15 PCB Type / NJ2-V3-N (Upto 8V) / NBB3-V3-Z4 (Upto 10 to 60 VDC)
Type	: 1 NO + 1 NC / 2 NO + 2 NC
Switch Rating	: 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

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"aira" Weatherproof Limit Switch Box



Type	: Mechanical Switch X 2 / Proximity Sensors P&F Make
Model	: MMLS - BX - WP - 01
Switch	: Honeywell ZM / NJ2 - V3 - N (Upto 8 Voltage) / NBB - V3 - Z4 (Upto 10 to 60 VDC)
Type	: 1 NO + 1 NC
Switch Rating	: 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

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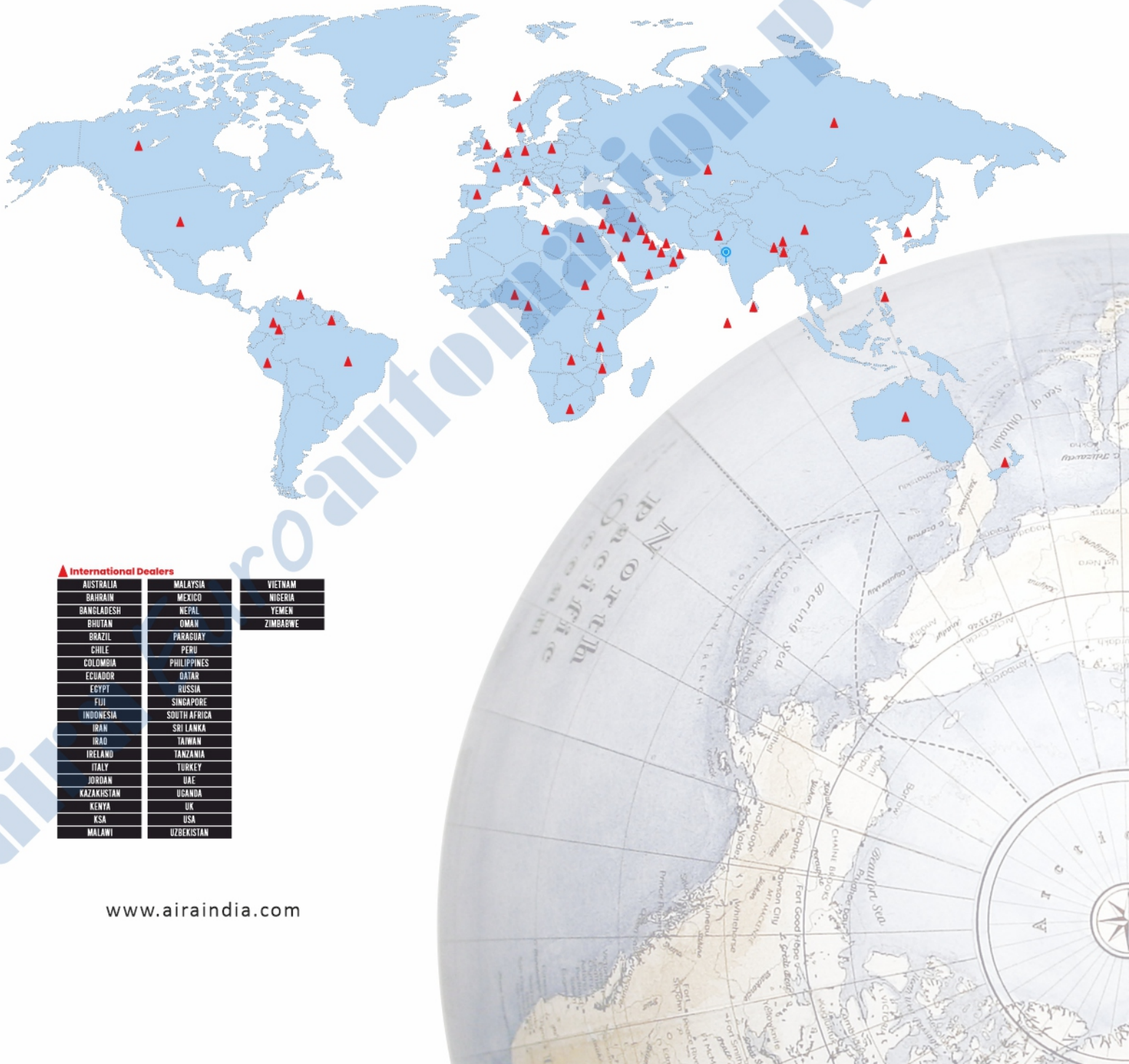
	<p>"aira" 3/2 Way Namur Direct Acting Solenoid Valve</p> <p>Model : NAM-SA-32 Coil Voltage : All Std. Voltage Available Frequency : 50 - 60 Hz Connection Type : 1/4" (BSP / NPT) Conduit : PF 1/2" Coil Insulation Grade : Class "F" Temperature : -20 °C ~ 70 °C (-4 ~ 158 °F) MOC : Aluminium Seals : NBR (Viton On Request) Working Pressure : Upto 8 BAR</p> <p>This 3/2 Namur is suitable for actuator model : 5412-S / ARA-49S / ARA-50S</p>		<p>"aira" 3/2 & 5/2 Way Convertible Poppet Type Single Namur Solenoid Valve</p> <p>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</p>
	<p>"aira" 3/2 & 5/2 Way Convertible Poppet Type Double Namur Solenoid Valve</p> <p>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</p>		<p>"aira" 3/2 & 5/2 Way Convertible Spool Type Single Namur Solenoid Valve</p> <p>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</p>
	<p>"aira" 3/2 & 5/2 Way Convertible Spool Type Double Namur Solenoid Valve</p> <p>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</p>		<p>AJ & CJ Series 3/2 Way Direct Acting Solenoid Valve (Normally Open & Closed)</p> <p>Model : AJDS / AJCS / CJDS / CJCS Size : 1/4" BSP Body : Aluminum Pressure Die Cast Orifice : 2 MM Pressure : 7 Kg/cm² / 10 Kg/cm² 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</p>
	<p>"aira" Filter + Regulator Air Combination</p> <p>Model : 4FQ / 8 FQ / FRJ Air Connection : 1/4" BSP Max. Supply Pressure : 4FQ : 0.5 to 4 Kg/cm² 8FQ : 0.5 to 8 Kg/cm² 1 to 9 Kg/cm² 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</p>		<p>"aira" Air Volume Booster</p> <p>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%</p>
	<p>"aira" Single & Double Air Lock Valve</p> <p>Model : SALV / DALV Material : Aluminum / Stainless Steel 304 Max. Supply Pressure : Max. 10.2 Kg/cm² (142 PSI) Max. Single Pressure : Max. 7.1 Kg/cm² (1000 PSI) Setting Pressure Range : 1.4-7.1 Kg/cm² (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/cm² (1.4 PSI) Hysteresis : 1% ambient Temp. : -20 °C ~ 70 °C</p>		<p>"aira" Manual Override Clutch Type (MO)</p> <p>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)</p>



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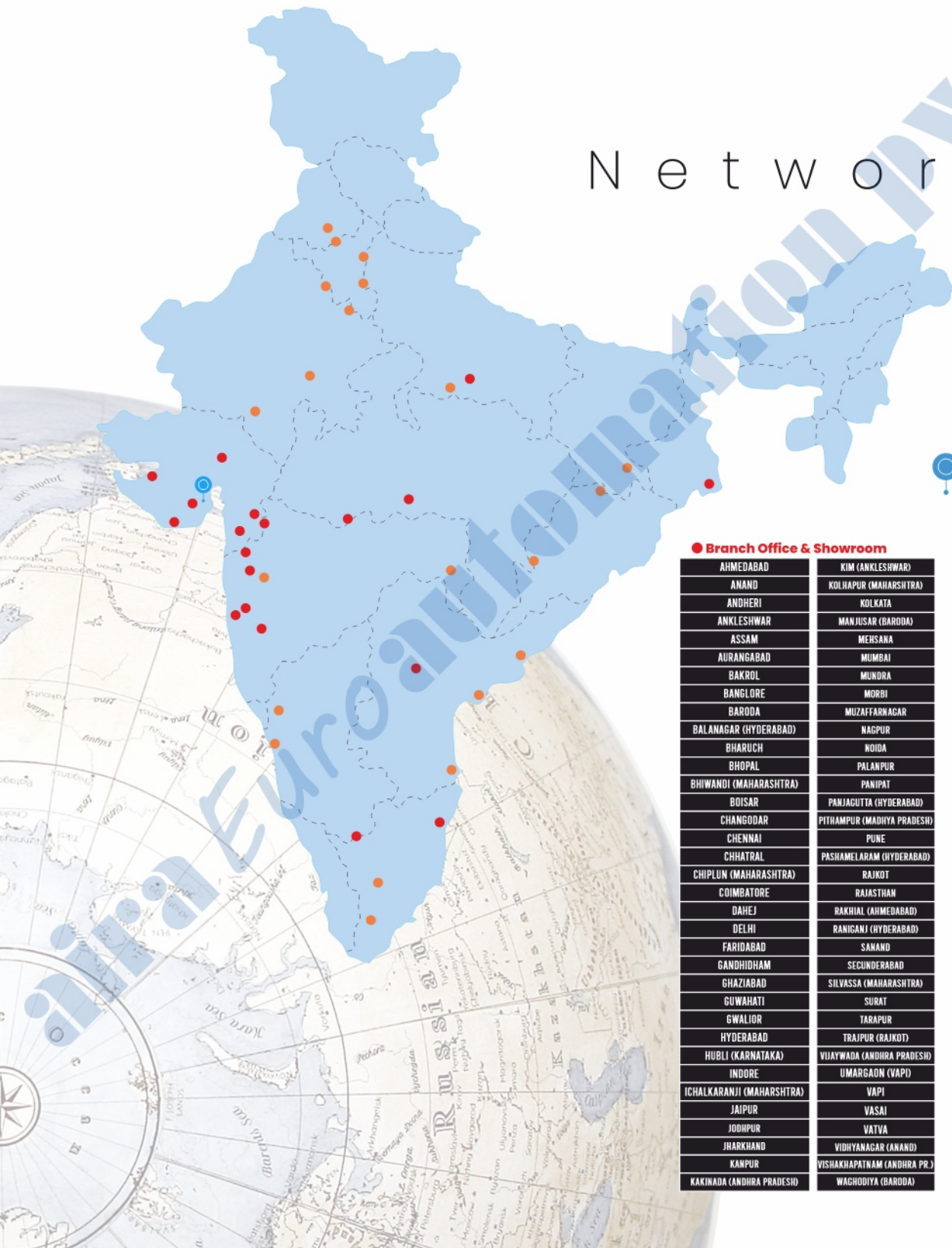
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