



JAT Pneumatic Actuator Rack and Pinion



**ZHEJIANG JIMAI
AUTO-TECH CO.,LTD.**

www.jimaiv.com



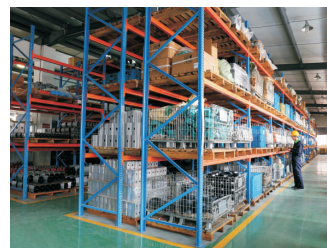
Company Profile

Zhejiang Jimai Auto-Tech Co., Ltd. is located in the national valve manufacturing base in Zhejiang Yongjia county. Jimai is one of the famous domestic and overseas valve automation solution enterprises producing pneumatic actuators, electrical actuators, actuator accessories, electric valves and pneumatic valves. Our firm continues to innovate using advanced technologies and best management practice, maintaining its technical lead, management system and quality control system in accordance with global quality standards. Its professional and well-trained workforce offer the best there is in design, technical solutions, sales, management, quality control, and after-sales service. In addition, we owe dozens of CNC machining center, CNC lathes, laser marking machines, advanced detection equipment, and other high precision and professional mechanical equipment.

Jimai products are widely used in powerplants, the petro-chemical industry, construction, water treatment, urban planning and other industries. They have a large share of the market at home and abroad, making use of various sales and marketing channels like internet, overseas sales offices, exhibitions and project bidding, with a view to getting the best possible exposure to potential customers!

Jimai employees insist on honesty, superior quality, and excellent service. We pay special attention to after-sales service, on which reputations are built! The company guarantees the quality of its products for eighteen months. Our promise during the product warranty period is to communicate with users within twenty-four hours, propose solutions, and carry these out within forty-eight hours to solve our customers' problems, and every time we ask for feedback so that we can continually improve our service level.

Jimai is willing to work together with partners from all walks of life to make our contribution to raising the standards in the valve automation industry!



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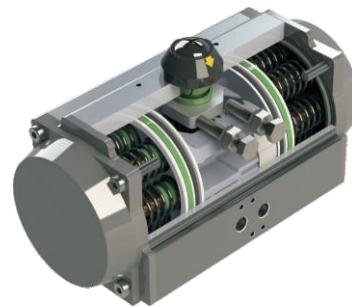
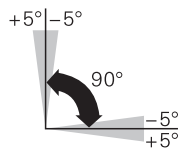
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JAT PNEUMATIC ACTUATOR

◆ Operating Conditions:

1. Operating media
Dry or lubricated air, or the non-corrosive gases
The maximum particle diameter must less than 30 um
2. Air supply pressure
The minimum supply pressure is 2 Bar
The maximum supply pressure is 8 Bar
3. Operating temperature
Standard: $-20^{\circ}\text{C} \sim +80^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim +176^{\circ}\text{F}$) NBR O-ring
Low temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ ($-40^{\circ}\text{F} \sim +176^{\circ}\text{F}$) Silicone O-ring
High temperature: $-20^{\circ}\text{C} \sim +160^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim +320^{\circ}\text{F}$) Viton O-ring
4. Travel adjustment
Have adjustment range of $\pm 5^{\circ}$ for the rotation at 0° and 90°
5. Application
Either indoor or outdoor



◆ Operating Type:

Double acting and spring return



Air supply connection is designed in accordance with NAMUR standard to install solenoid valves.



The Namur drive pinion and the Namur top mounting connection permit direct installation of accessories such as limit switch box and positioner.



Bottom mounting connection is designed in accordance with ISO5211 and DIN3337 standards for direct mounting with valve gear boxes or mounting brackets.

◆ Working Principle:

Double Acting

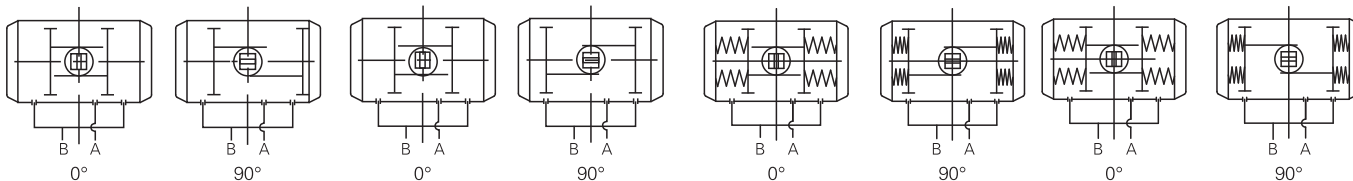
Spring Return

Counter Clockwise Rotation

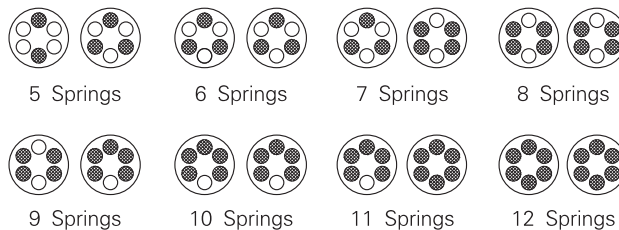
Clockwise Rotation

Counter Clockwise Rotation

Clockwise Rotation



Spring Positions of Spring Return Actuators



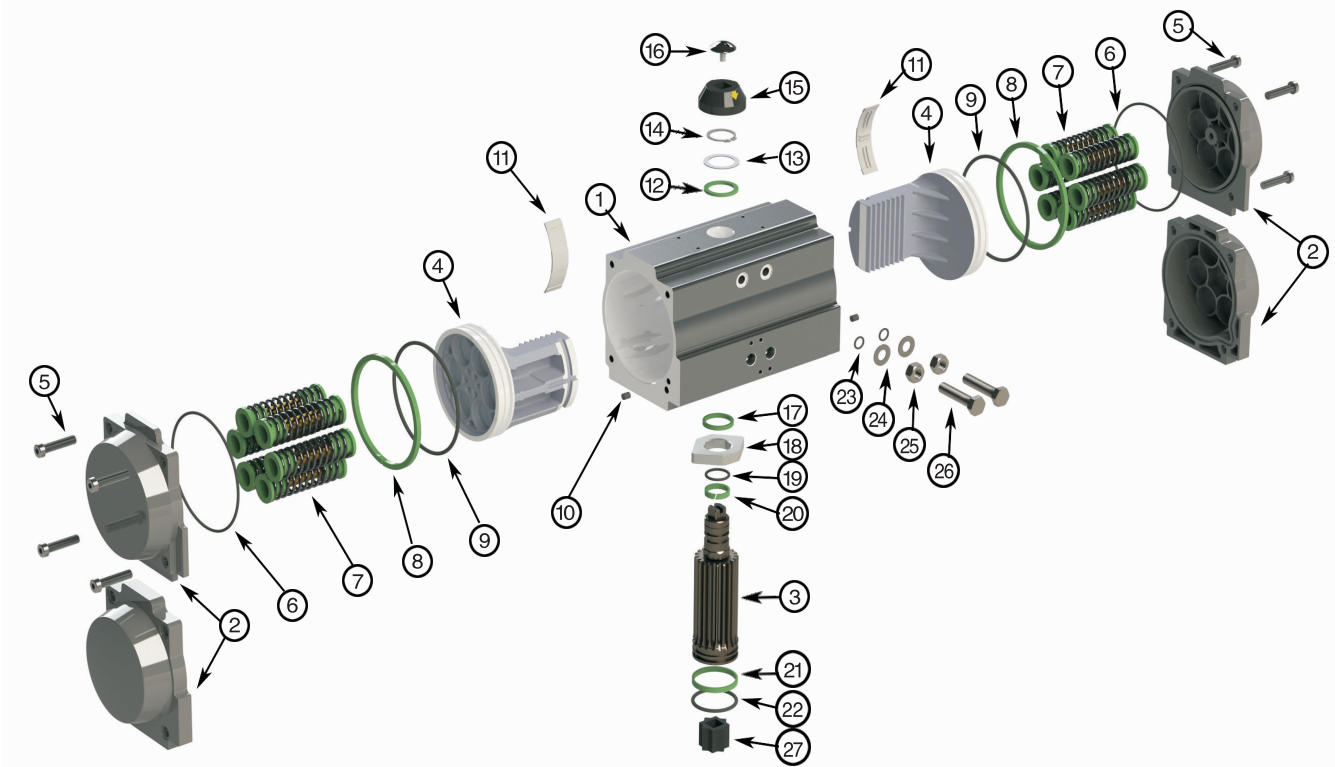
Old Type



New Type



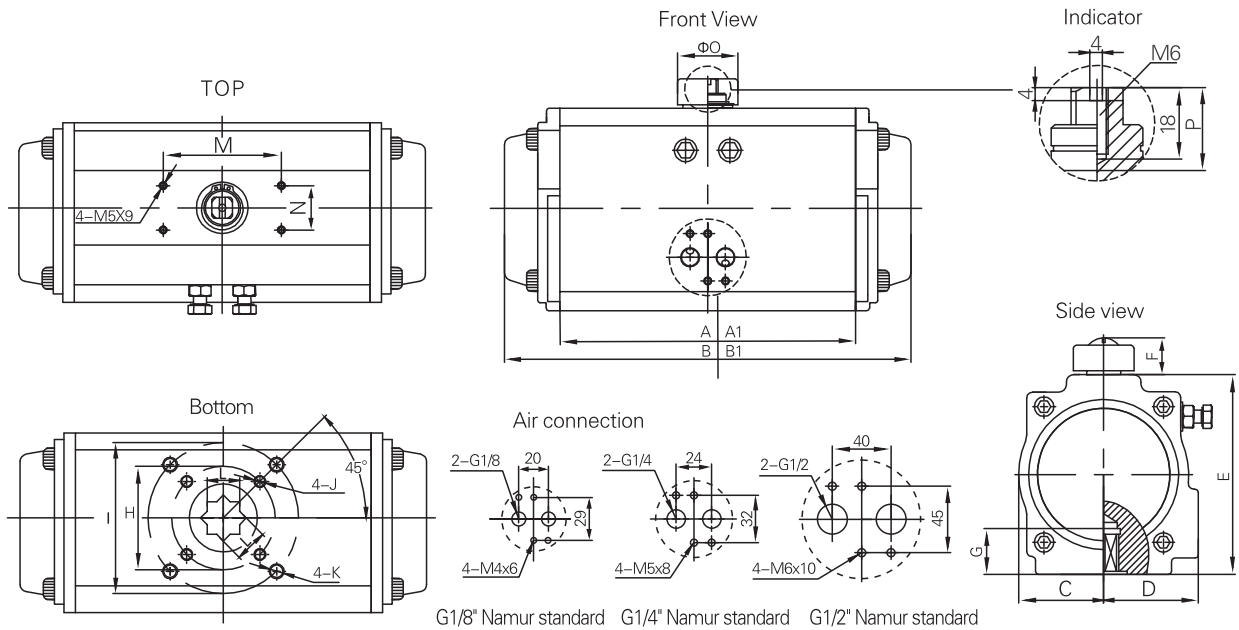
JAT PNEUMATIC ACTUATOR



No.	Description	Qty	Standard Material	Protection	Optional Material
1	Body	1	Extruded Aluminum Alloy	Hard Anodized Etc	
2	End Cap	2	Cast Aluminum		
3	Shaft	1	Carbon Steel	Nickel Plated	Stainless Steel
4	Piston	2	Cast Aluminum / Steel	Anodized/ Zinc Galvanized	Stainless Steel
5	Cap Screw	8	Stainless Steel		
6	O-ring(End Top)	2	NBR		Viton / Silicone
7	Spring	0~12	Spring Steel	Dip Coating	
8	Bearing	2	Engineering Plastics		
9	O-ring(Piston)	2	NBR		Viton / Silicone
10	Plug(Old Type)	2	NBR		Viton / Silicone
11	Guide	2	Engineering Plastics		
12	Outside Washer	1	Engineering Plastics		
13	Thrust Washer	1	Stainless Teel		
14	Spring Clip	1	Stainless Teel		
15	Indicator	1	Plastic		
16	Indicator Screw	1	Plastic		
17	Inside Washer	1	Engineering Plastics		
18	Cam	1	Alloy Steel		
19	O-ring(Shaft)	1	NBR		Viton / Silicone
20	Bearing(Top of Shaft)	1	Engineering Plastics		
21	Bearing(Bottom of Shaft)	1	Engineering Plastics		
22	O-ring(Bottom of Shaft)	1	NBR		Viton / Silicone
23	O-ring(Adjustment Screw)	2	NBR		Viton / Silicone
24	Washer	2	Stainless Steel		
25	Nut	2	Stainless Steel	Powder Polyester Painted etc	
26	Adjustment Screw	2	Stainless Steel		
27	Shaft Adapter	1	Sintered Alloy		

◆ Appearance & Connection Dimension

Connecting Standard ISO511/VDI/VDE3845



G1/8" Namur standard G1/4" Namur standard G1/2" Namur standard

Model	A	A1	B	B1	C	D	E	F	G	H	I	J	K	L	M	N	ΦO	P	Air Supply	Weight		
JAT32	DA	90	90	112	112	23.5	23.5	45	26	12	F03	/	4-M5x8	/	9x9	50	30	34	20	G1/8"	0.55	
	SR																				/	
JAT40	DA	93	93	123	123	23.5	33	60	26	12	F03	F05	4-M5x8	4-M6x10	9x9	50	30	34	20	G1/8"	0.66	
	SR																					0.74
JAT52	DA	120	108	145	145	30	41	72	26	15	F03	F05	4-M5x8	4-M6x10	11x11	80	30	34	20	G1/4"	1.2	
	SR																					1.3
JAT63	DA	140	125	169	169	46	46	89	26	15	F05	F07	4-M6x10	4-M8x12	14x14	80	30	34	20	G1/4"	1.9	
	SR																					2.1
JAT75	DA	140	128	201	201	42	52	100	26	15	F05	F07	4-M6x10	4-M8x12	14x14	80	30	34	20	G1/4"	2.8	
	SR																					3.1
JAT83	DA	160	147	209	209	46	55	109	26	15	F05	F07	4-M6x10	4-M8x12	14x14	80	30	34	20	G1/4"	3.2	
	SR													17x17								3.7
JAT92	DA	193	168	242	242	51	57.5	117	26	20	F05	F07	4-M6x10	4-M8x12	17x17	80	30	41	20	G1/4"	4.6	
	SR																					5.2
JAT105	DA	200	186	275	275	58	64	134	26	25	F07	F10	4-M8x12	4-M10x16	22x22	80	30	41	20	G1/4"	6.1	
	SR																					7.1
JAT125	DA	230	207	332	332	67.5	70	157	36	25	F07	F10	4-M8x12	4-M10x16	22x22	80	30	62	30	G1/4"	9.5	
	SR																					10.9
JAT140	DA	290	268	385	400	76	77	174	36	30	F10	F12	4-M10x16	4-M12x20	27x27	130	30	62	30	G1/4"	13.7	
	SR																					15.7
JAT160	DA	340	308	450	455	87.5	87.5	199	38	30	F10	F12	4-M10x16	4-M12x20	27x27	130	30	62	30	G1/4"	20.5	
	SR																					23.6
JAT190	DA	390	390	507	507	103	103	232	38	40	/	F12	/	4-M12x20	36x36	130	30	79	30	G1/4"	31.1	
	SR																					35.3
JAT210	DA	390	390	562	562	113	113	257	38	40	/	F12	/	4-M12x20	36x36	130	30	79	30	G1/4"	41.8	
	SR																					46.6
JAT240	DA	430	430	646	646	129	129	293	38	52	/	F16	/	4-M20x24	46x46	130	30	79	30	G1/4"	62.4	
	SR																					72.4
JAT270	DA	510	510	722	722	146	146	333	38	52	/	F16	/	4-M20x24	46x46	130	30	79	30	G1/4"	86.3	
	SR																					98.3
JAT300	DA	579	579	825	825	162	173	354	38	52	/	F16	/	4-M20x24	46x46	130	30	79	30	G1/2"	103	
	SR																					143
JAT350	DA	580	580	866	866	190	195	410	38	52	/	F16	/	4-M20x24	46x46	130	30	79	30	G1/2"	144	
	SR																					188
JAT400	DA	-	-	924	924	258	258	464	38	60	/	F25	/	8-M16x24	55x55	130	30	79	30	G1/2"	289	
	SR																					360

Note: The weights of SR model are included 12 springs.

A and B items for old type, A1 and B1 items for new type.



◆ Double Acting Output Torque In Nm

Model	Input Air Supply Pressure (Unit: Bar)						
	2	3	4	5	6	7	8
JAT32DA	3	5	6	8	9	11	12
JAT40DA	4.8	7.1	9.6	11.9	14.3	16.7	19.1
JAT52DA	8.1	12.1	16.2	20.1	24.2	28.2	32.3
JAT63DA	14.3	21.4	28.5	35.6	42.7	49.8	56.7
JAT75DA	20	30.2	40.3	50.4	60.4	70.5	80.6
JAT83DA	30.9	46.3	61.8	77.1	92.5	108	123.5
JAT92DA	44.2	66.3	88.4	110.5	133	154.8	176.7
JAT105DA	65.8	98.8	131.6	164.5	197.4	230.4	263.2
JAT125DA	102.6	153.9	205.2	256.5	307.8	359.1	410.4
JAT140DA	175.5	263.2	351	438.7	526.3	614.2	702.1
JAT160DA	267.4	401	534.9	668.8	801.8	935.8	1069.7
JAT190DA	450.4	646	861.7	1078.3	1293	1507.7	1723.3
JAT210DA	526.3	789.5	1052.6	1314.8	1578.9	1842.1	2105.2
JAT420DA	773.3	1160	1546.6	1933.3	2319.9	2706.6	3093.2
JAT270DA	1174.2	1761.3	2348.4	2935.5	3522.6	4109.7	4696.8
JAT300DA	1610.8	2416.2	3221.6	4027.1	4832.5	5637.9	6443.3
JAT350DA	2411.8	3617.6	4823.5	6029.4	7235.3	8441.1	9647.1
JAT400DA	3256	4884	6512	8140	9768	11396	13024

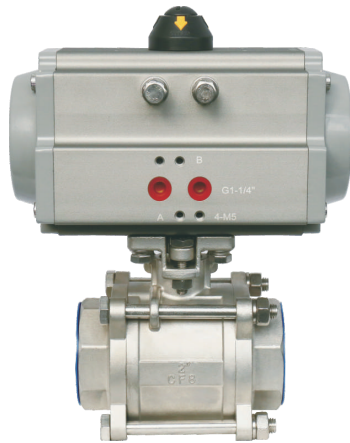
◆ Single Acting Output Torque In Nm

Model	Spring Qty	Air Supply Pressure												Output Torque Spring	
		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar		0°	90°
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End		
JAT52SR	5	8.8	7.3	13.0	11.6									5.4	4.0
	6	8.0	6.3	12.2	10.5	16.5	14.8							6.5	4.7
	7	8.2	5.2	11.5	9.4	15.7	13.7	20.0	17.9					7.6	5.5
	8	6.4	4.1	10.7	8.3	14.9	12.6	19.2	16.8	23.4	21.1			8.6	6.3
	9			9.9	7.3	14.1	11.5	18.4	15.8	22.6	20.0	26.9	24.3	9.7	7.1
	10			9.1	6.2	13.3	10.4	17.6	14.7	21.8	18.9	26.1	23.2	10.8	7.9
	11					12.5	9.4	16.8	13.6	21.0	17.9	25.3	22.1	11.9	8.7
JAT63SR	5	15.7	12.5	23.1	20.0									9.9	6.8
	6	14.3	10.5	21.8	18.0	29.3	25.5							11.9	8.1
	7	13.0	8.5	20.4	16.0	27.9	23.5	35.4	31.0					13.9	9.5
	8	11.6	6.5	19.1	14.0	26.6	21.5	34.0	29.0	41.5	36.5			15.9	10.8
	9			17.7	12.0	25.2	19.5	32.7	27.0	40.2	34.5	47.6	42.0	17.9	12.2
	10			16.4	10.0	23.8	17.5	31.3	25.0	38.8	32.5	46.3	40.0	19.9	13.6
	11					22.5	15.5	30.0	23.0	37.5	30.5	44.9	38.0	21.9	14.9
JAT75SR	5	27.0	21.6	39.3	34.0									15.5	10.2
	6	24.9	18.5	37.3	30.9	49.7	43.3							18.6	12.2
	7	22.9	15.5	35.3	27.8	47.6	40.2	60.0	52.6					21.7	14.2
	8	20.9	12.4	33.2	24.7	45.6	37.1	58.0	49.5	70.4	61.8			24.8	16.2
	9			31.2	21.6	43.6	34.0	56.0	46.4	68.3	58.7	80.7	71.1	27.8	18.3
	10			29.2	18.5	41.6	30.9	53.9	43.3	66.3	55.7	78.7	68.0	30.9	20.3
	11					39.5	27.8	51.9	40.2	64.3	52.6	76.6	64.9	34.0	22.3
JAT83SR	5	33.8	27.2	50.1	43.4									21.5	14.9
	6	30.9	22.9	47.1	39.1	63.3	55.3							25.8	17.8
	7	27.9	18.6	44.1	34.8	60.4	51.0	76.6	67.3					30.1	20.8
	8	24.9	14.3	41.2	30.5	57.4	46.7	73.6	63.0	89.9	79.2			34.4	23.8
	9			38.2	26.2	54.4	42.4	70.7	58.7	86.9	74.9	103.1	91.1	38.7	26.7
	10			35.2	21.9	51.5	38.1	67.7	54.4	83.9	70.6	100.2	86.8	43.0	29.7
	11					48.5	33.8	64.7	50.1	81.0	66.3	97.2	82.5	47.3	32.7
JAT92SR	5	48.0	39.5	71.3	62.8									30.3	21.8
	6	43.7	33.5	66.9	56.7	90.2	80.0							36.3	26.1
	7	39.3	27.4	62.6	50.7	85.8	73.9	109.1	97.2					42.4	30.5
	8	34.9	21.4	58.2	44.6	81.5	67.9	104.7	91.2	128.0	114.4			48.4	34.9
	9			53.8	38.6	77.1	61.8	100.4	85.1	123.6	108.4	146.9	131.6	54.5	39.2
	10			49.5	32.5	72.8	55.8	96.0	79.0	119.3	102.3	142.6	125.6	60.6	43.6
	11					68.4	49.7	91.7	73.0	114.9	96.3	138.2	119.5	66.6	47.9
12					64.0	43.7	87.3	66.9	110.6	90.2	133.8	113.5	72.7	52.3	

◆ Air Consumption

Model		AT032	AT040	AT052	AT063	AT075	AT083	AT092	AT105	AT125	AT140	AT160	AT190	AT210	AT240	AT270	AT300	AT350	AT400
Cylinder Air Volume (L)	Open	0.04	0.08	0.1	0.2	0.3	0.5	0.7	1.2	1.5	2.4	3.1	4.3	5.8	10.0	14.5	23.8	35.1	52.6
	Close	0.05	0.11	0.2	0.3	0.5	0.8	1.1	1.8	2.3	3.8	4.9	6.9	9.5	15.2	21.4	29.7	46.3	36
Opening & Closing Time (Second)(A)	DA Open	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.7	0.9	1.2	1.5	2.0	2.7	3.5	4.0	8.0	10.0	10.0
	SR Close	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.1	1.4	1.7	2.2	3.2	4.0	4.5	10.0	12.0	13.0
	DA Open	0.1	0.1	0.3	0.3	0.4	0.5	0.7	0.9	1.2	1.5	1.8	2.4	3.5	4.1	4.5	7.0	8.0	8.0
	SR Close	0.2	0.2	0.3	0.4	0.5	0.6	0.9	1.1	1.4	1.8	2.1	2.8	4.0	4.6	5.0	8.0	9.0	9.0

◆ Mounting Configurations: Valve Interface & Actuator



Size	ISO5211	Options		
32	F03(9x9)	/		
40	F03/F05(11x11)	11x9	11x7	
52	F05/F07(11x11)	11x9	11x7	
63	F05/F07(14x14)	14x11	14x9	
75	F05/F07(14x14)	14x11	14x9	
83	F05/F07(14x14/ 17x17)	14x11	14x9 / 17x14	17x11
92	F05/F07(17x17)	17x14	17x11	
105	F07/F10(22x22)	22x19	22x17	22x14
125	F07/F10(22x22)	22x19	22x17	22x14
140	F10/F12(27x27)	27x22	27x19	22x17
160	F10/F12(27x27)	27x22	27x19	22x17
190	F12(36x36)	36x27	36x22	36x19
210	F12(36x36)	36x27	36x22	36x19
240	F16(46x46)	46x36		
270	F16(46x46)	46x36		
300	F16(46x46)	46x36		
350	F16(46x46)	46x36		
400	F25(55x55)	/		

◆ Top Mount Interface



Namur (VDI/VDE 3845) mounting configuration of all types of top mounted accessories.

Size	Height
32	50x30-H26
40	50x30-H26
52	80x30-H26
63	80x30-H26
75	80x30-H26
83	80x30-H26
92	80x30-H26
105	80x30-H26
125	80x30-H36
140	130x30-H36
160	130x30-H38
190	130x30-H38
210	130x30-H38
240	130x30-H38
270	130x30-H38
300	130x30-H38
350	130x30-H38
400	130x30-H38