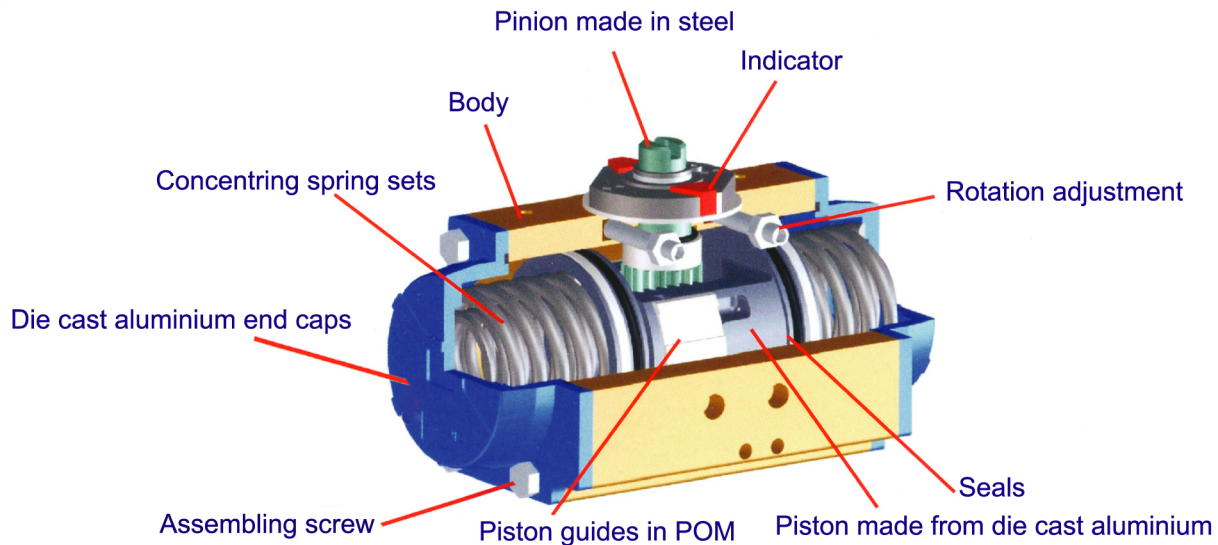




nomal values:

- Pressure rating max 8 bar
- Temperature range(-20°C ; +85°C) , high(-20°C ; +150°C) , low(-40°C ; +85°C)
- Pre lubricated for life of actuator on assembly
- Fully tested on manufacture 100%

Rotation adjustment 0 - 90°:

- From MOD.52 up to 125
 - standard $\pm 5^\circ$ in both clockwise and counter clockwise direction by means of adjusting screws outside the internet air supply chambers
 - adjusting cam with plane faces for manual intervention
 - standard optic position indicators
- MOD.160-200-270
 - standard $\pm 5^\circ$ in counter clockwise direction by means of adjusting screw in the caps
 - kit for $\pm 5^\circ$ in clockwise direction available on request

Body:

- Manufactured from extruded aluminum UNI 6060
- Hard -coat anodized as standard finish 45 -50 (micron)
- Good wear resistance
- High corrosion resistance
- Special finishes nichel -plating or epoxy coated
- Bore finished to high standard to ensure low friction and long life

Die cast aluminium end caps:

- Standard polyester powder coated
- Upon request nickel -plated for corrosive environments

Piston guides in POM:

- Large contact area
- Low friction for self lubricating material
- Long life

Concentric spring sets:

- Standard treatment phosphated
- High resistance and reliability
- Spring sets to suit different air pressure / torque requirements
- Long securing screws to allow safe dismantling for maintenance
- Same body dimensions for DA / SR versions

Pinion made in steel:

- Nichel-plated for standard version against internal and external corrosion
- Stainless steel for corrosive environments
- Anti-blowout design

Assembling screw:

- Stainless steel as standard

Pistons made from die cast aluminium

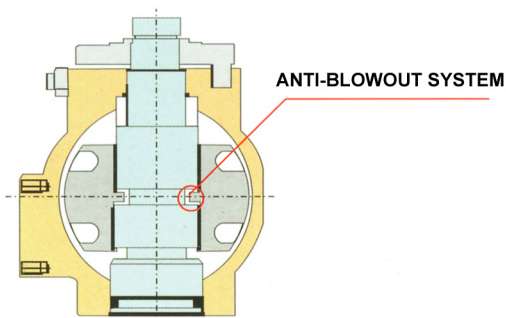
- Chemical nickel plating upon request

Indicator

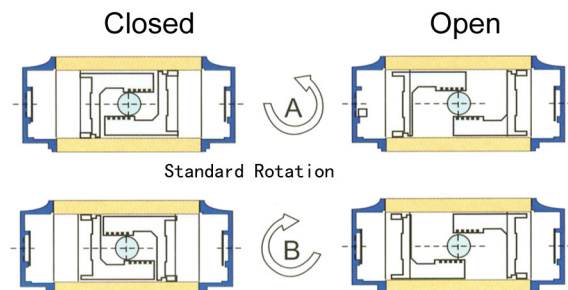
- It has indicator from DA52 - DA200

Seals:

- NBR standard version
- Viton high temperature version
- HNBR low temperature version



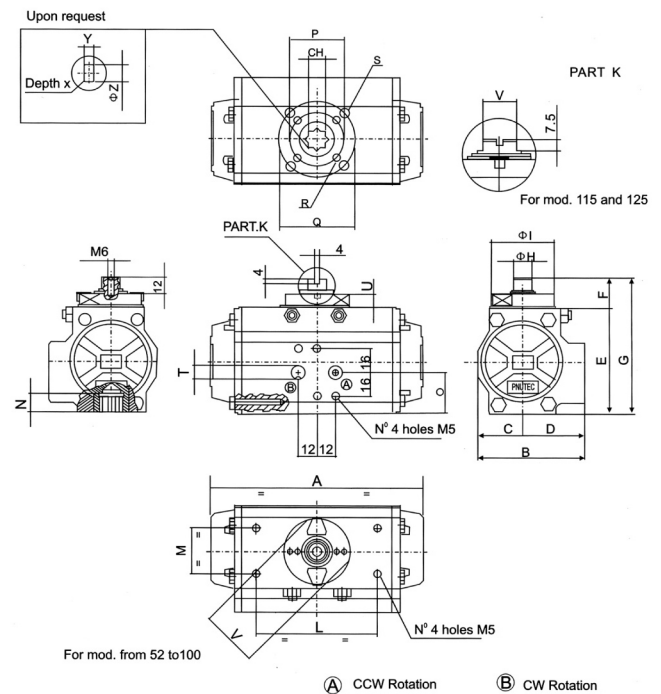
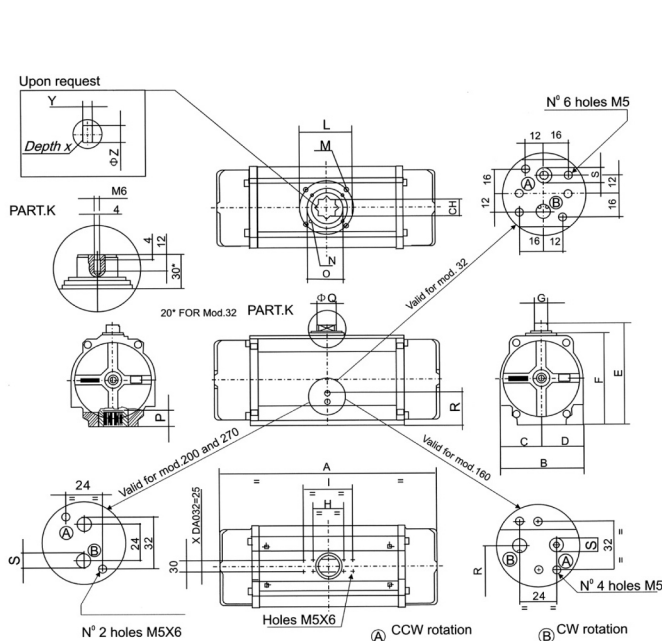
Anti-Blowout System



ROTATION VARIATIONS

◆ FOR ACTUATOR MODELS 32, 160, 200, AND 270

◆ FOR ACTUATOR MODELS 52 THROUGH 125



DIMENTIONAL DATA

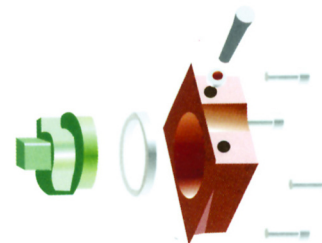
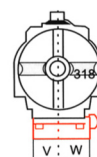
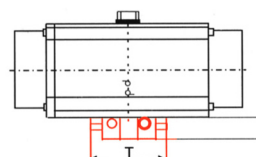
◆ FOR ACTUATOR MODELS 32, 160, 200 AND 270

MOD	ISO5211	CH	A	B	C	D	E	F	G	H	I	L	M	N	O	P	ΦQ	R	S(ISO7/1)	T	U	V	ΦZ	Y	X
P 32	F03*	9	110	45	22.5	22.5	65	45	10	50	-	36	M5×7.5	--	--	12	11.8	---	---	1/8"	---	---	12.1	9	16
P160	F10/F12	274	522	187	87	100	218	188	30	80	130	125	M12×18	M10×15	102	32	35	81.5	1/4"	160	45	56	36.2	27	48
P200	F14	36	575	218	109	109	269	239	36	80	130	140	M16×25	--	--	39	50	88	1/4"	190	51.5	64	48.2	36	64
P270	F16	46*	672	290	145	145	361	331	36	80	130	165	M20×30	---	---	52	50	121	1/4"	230	68	79	68.2	46	82

◆ FOR ACTUATOR MODELS 52 THROUGH 125

MOD	ISO5211	CH	A	B	C	D	E	F	G	ΦH	ΦI	L	M	N	O	P	Q	R(UNC)	S(UNC)	T	U	V	ΦZ	Y	X
P 52	F03/F05	11	139.5	71	30	41	69.5	20	89.5	12	44	80	30	12	26.5	36	50	M5×7.5	M6×9	1/8"	8	38	14.1	11	12
P 63	F05/F07	14	A162	80.5	35.5	45	80.5	20	100.5	14.8	50	80	30	16	27.5	50	70	M6×8	M8×12	1/8"	8	41	18.1	14	16
P 75	F05/F07	17	207	94.5	42	52.5	97	20	117	18	63	80	30	19	35	50	70	M6×8	M8×12	1/8"	9	50	22.2	17	19
P 85	F05/F07	17	237.5	106	47.5	58.5	108.5	20	128.5	20	63	80	30	19	42	50	70	M6×8	M8×12	1/8"	9	50	22.2	17	30
P100	F07/F10	17	271.5	123	55	68	121.5	20	141.5	20	63	80	30	20.5	50	70	102	M8×8	M10×14	1/4"	9	50	22.2	17	30
P115	F07/F10	22	328	137	64	73	141.5	30	171.5	32	86	130	30	24	50	70	102	M8×12	M10×15	1/4"	14.5	22	28.2	22	39
P125	F07/F10	22	366	148	68	80	153.5	30	183.5	32	86	130	30	24	61	70	102	M8×12	M10×15	1/4"	14.5	22	28.2	22	39

OPTIONAL KIT
FOR CLOSED
POSITION
ADJUSTMENT
MODELS
160-200-270



TECHNICAL DATA

Working time (sec.)												
Type \ Model		32	52	63	75	85	100	115	125	160	200	270
Counterclockwise rotation	CCW	0.03	0.03	0.06	0.12	0.20	0.30	0.53	0.83	1.15	1.74	4.50
Clockwise rotation	CW	0.03	0.04	0.08	0.12	0.19	0.27	0.47	0.66	1.10	1.70	4.50
Counterclockwise rotation	CW SR	-	0.09	0.14	0.22	0.31	0.44	0.83	1.08	1.75	2.38	4.50
Clockwise rotation	CW SR	-	0.09	0.14	0.22	0.33	0.46	0.78	0.90	1.34	2.19	6.20

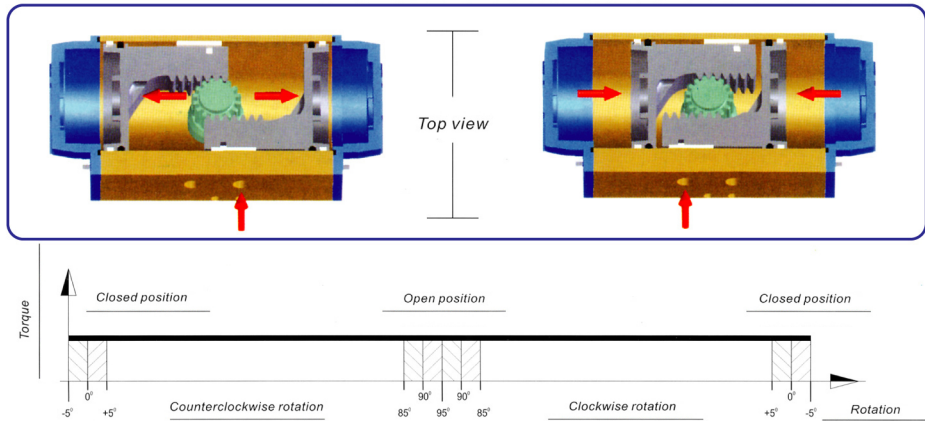
Approximative times obtained at the pressure of 6 bar without valve

Weight chart (kg)												
Type \ Model		32	52	63	75	85	100	115	125	160	200	270
DA90°		0.48	1.05	1.50	2.55	3.40	5.05	8.00	10.00	19.50	32.80	71.50
SR90°		-	1.20	1.80	3.20	4.30	6.55	10.60	13.40	24.40	50.50	88.00

Actuator air consumption chart												
Litres: 1 litre=1000cm ³												
Type \ Model		32	52	63	75	85	100	115	125	160	200	270
Counterclockwise rotation	CCW	0.04	0.10	0.19	0.36	0.51	0.79	1.29	1.63	3.61	5.70	15
Clockwise rotation	CW	0.03	0.13	0.23	0.44	0.64	1.00	1.71	2.21	4.76	9.83	17.8
Clockwise rotation SR	CW SR	-	0.11	0.19	0.36	0.53	0.80	1.38	1.78	3.52	7.58	15.5

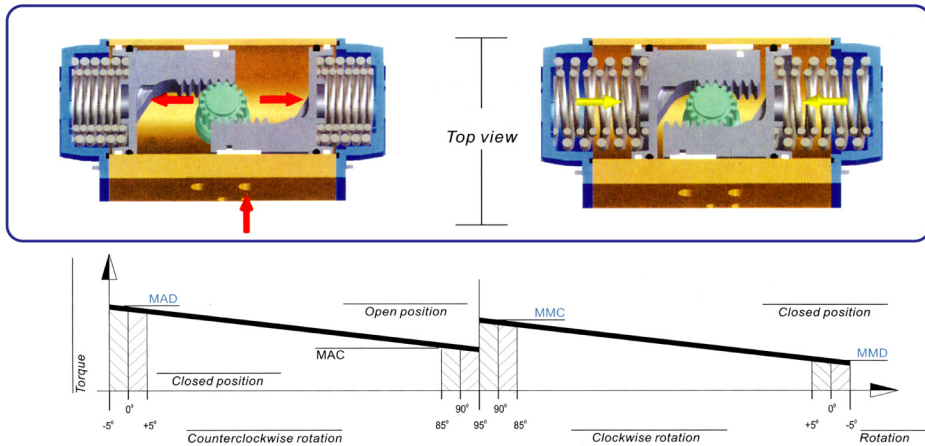
To obtain the air consumption in NI/min. multiply the value in the chart for the used parameters that's to say for the supplied pressure and the number of stroke in a minute.

DOUBLE ACTING ACTUATOR



Type	Air Supply pressure(bar)							
	2.5	3	4	5	5.5	6	7	8
	Torque output double acting actuators(Nm)							
DA32	3.5	4.2	6	7.5	8	9	10	11.5
DA42	5.4	6.5	8.7	10.9	12	13.0	15.2	17.3
DA52	8.8	10.7	14.5	18.3	20.2	22.1	25.9	29.8
DA63	15.6	19.1	25.9	32.8	36.2	39.6	46.5	53.3
DA75	28.9	35.1	47.5	59.8	66	72.2	84.5	96.9
DA85	41.4	50.4	68.6	86.7	95.8	104.9	123	141.2
DA100	65.7	79.8	108	136.3	150.4	164.6	192.8	221.1
DA115	108.8	132.2	178.9	225.6	248.9	272.3	319	365.7
DA125	143.3	174	235.3	296.6	327.3	358	419.3	480.6
DA145	216.75	260.1	346.8	433.5	476.85	520.2	606.9	693.6
DA160	300	360	480	600	660	720	840	960
DA200	562	675	900	1125	1237	1350	1575	1800
DA270	1304	1565	2086	2608	2869	3130	3651	4173

SPRING RETURN ACTUATOR



Spring setting		
SET	External spring	Internal spring
01	1	1
02	2	/
03	1	2
04	2	1
05	2	2

Valid from mod.52 to mod.125

Spring setting			
SET	External spring	Central spring	Internal spring
01	/	2	/
02	2	/	/
03	1	2	/
04	2	/	2
05	2	2	/
06	2	2	2

Valid from mod.160 and 200

Spring setting	
Pretensioned spring	
SET	N° of springs for each side
01	2/3
02	3/3
03	3/4
04	4/4
05	4/5
06	5/5
07	5/6
08	6/6

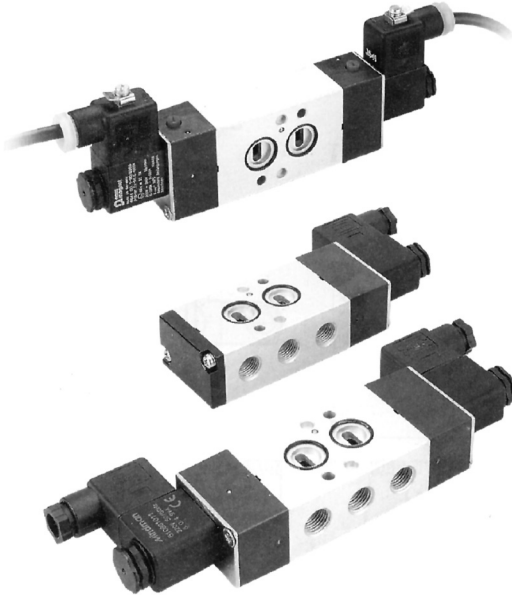
Valid from mod.270

TORQUE OUTPUT SR ACTUATORS

MOD.	SET	Spring torque (N. M)		Air supply pressure (bar)															
				2.5 Bar		3 Bar		4 Bar		5 Bar		5.5 Bar		6 Bar		7 Bar		8 Bar	
		0°C MMD	90°C MMC	0°C MAD	90°C MAC	0°C MAD	90°C MAC	0°C MAD	90°C MAC	0°C MAD	90°C MAC	0°C MAD	90°C MAC	0°C MAD	90°C MAC	0°C MAD	90°C MAC	0°C MAD	90°C MAC
SR 52	1	3.6	4.9	4.5	1.8	6.5	3.5	10.4	7.5										
	2	4.8	6.7			5.3	1.8	9.0	5.6	12.8	9.5								
	3	5.2	7.5					8.8	4.8	12.5	8.6	14.1	10.5	16.3	12.4				
	4	6.5	9.3					7.6	3.0	11.3	6.8	13.3	8.8	15.0	10.6	18.8	14.5		
	5	8.1	11.9							9.5	4.3	11.4	6.3	13.3	8.1	17.1	11.9	20.9	15.7
SR 63	1	5.0	9.6	8.5	2.6	12.0	6.0	19.0	12.9										
	2	6.6	12.3			10.5	3.4	17.5	10.0	24.2	17.0								
	3	8.0	14.5					15.9	7.9	22.8	14.8	26.2	18.2	29.6	21.7				
	4	9.6	17.2					15.0	5.2	21.2	12.0	24.6	15.5	28.1	18.9	34.9	25.8		
	5	12.5	22.1							18.2	7.1	21.7	10.6	25.1	14.0	31.9	20.9	38.8	27.7
SR 75	1	10.1	19.5	15	3.9	22.0	10.1	34.4	22.5										
	2	13.3	25.6			18.8	4.0	31.2	16.4	43.5	28.7								
	3	15.1	28.2					29.4	13.8	41.8	26.1	48.0	32.3	54.1	38.5				
	4	18.3	34.3					26.2	7.7	38.6	20.0	44.8	26.2	50.9	32.4	63.3	44.8		
	5	23.2	43.0							33.6	11.3	39.8	17.5	46.0	23.7	58.3	36.1	70.0	48.4
SR 85	1	16.1	27.3	21.5	7.8	31.5	16.7	50.0	33.8										
	2	19.9	33.7			27.5	10.4	45.8	28.5	64	46.6								
	3	24.3	40.8					41.5	21.3	59.4	39.5	68.5	48.6	77.6	57.6				
	4	28.1	47.1					37.3	15.0	55.8	33.2								
	5	36.3	60.6							47.0	19.3	55.6	28.8	65.6	37.8	83.8	55.9	101	74.1
SR 100	1	24.6	44.6	36.0	40.1	50.2	24.2	78.4	52.5										
	2	32.6	58.9			42.2	9.9	70.5	38.1	98.7	66.4								
	3	35.9	63.7					67.1	33.3	95.4	61.6	109	75.7	123	89.9				
	4	43.9	78.0					59.1	19.0	87.4	47.3	101	61.4	115	75.5	143	103		
	5	55.2	97.2							76.1	28.1	90.2	42.3	104	56.4	132	84.7	160	112
SR 115	1	41.0	74.4	61.3	18.4	84.7	41.8	131	88.5										
	2	50.7	94.4			74.9	21.8	121	68.5	168	115								
	3	60.8	108					111	54.7	158	101	181	124	205	148				
	4	70.6	128					101	34.8	148	81.5	171	104	195	128	241	174		
	5	90.4	161							128	47.8	152	71.1	175	94.5	222	141	268	187
SR 125	1	53.1	99.1	80.2	21.2	110	51.9	172	113										
	2	63.3	117			100	33.5	162	94.8	223	156.1								
	3	81.1	148					144	63.9	205	125.2	236	155	266	186				
	4	91.3	166					134	45.5	195	106.8	226	137	256	168	318	229		
	5	119	216							167	57.5	198	88.1	228	118	290	180	351	241
SR 160	1	100	152	186	126	245	188												
	2	147	225				198	116	317	234									
	3	173	264				170	74	290	193	407	311							
	4	200	321						260	136	378	255	437	312					
	5	252	376								330	191	388	251	447	310			
	6	300	473									355	161	395	220	512	332	627	445
SR 200	1	174	245	362	270	472	387												
	2	247	356			398	273	621	498										
	3	298	424			344	192	568	425	789	649								
	4	353	531					510	317	731	541	842	651						
	5	421	602							655	447	767	562	878	675				
	6	527	776									662	396	777	510	994	721	1209	935
SR 270	1	505	788	834	545	1109	819	1658	1368										
	2	606	946	726	379	1001	654	1550	1203										
	3	707	1103	619	214	893	488	1442	1037	1991	1586								
	4	808	1261	511	48	785	323	1334	872	1884	1421	2158	1695						
	5	909	1418			678	157	1227	706	1776	1255	2050	1530	2325	1804				
	6	1010	1576					1119	540	1668	1090	1943	1364	2217	1639				
	7	1111	1733					1011	375	1560	924	1835	1198	2109	1473	2659	2022		
	8	1213	1891					904	209	1453	758	1727	1033	2002	1307	2551	1856	3100	2405

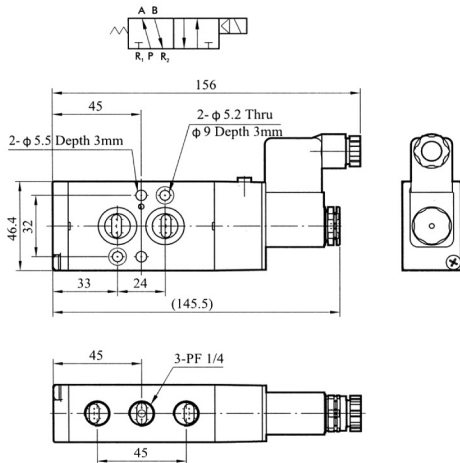
ELECTROVALVE

Specification:

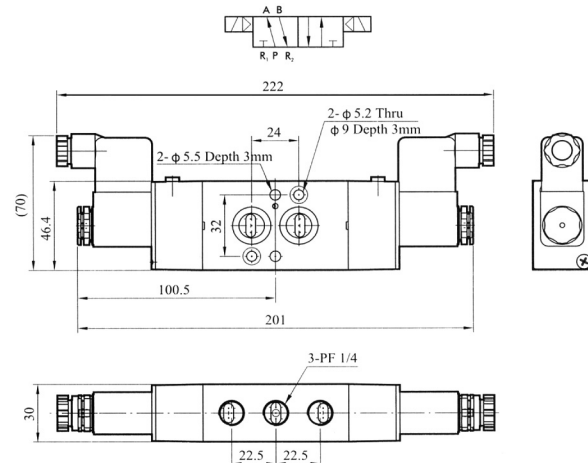


Model	4M 310 - 10	4M 320 - 10	4M 310 - 10 (C.P.R)
Aperture	8A		
Port No.	5		
Position	2	2	3
Connection	PF-1/4(PORT A,R1,R2)		
Fluid	AIR		
Working pressure	2~7kgf/cm ²		3~7kgf/cm ²
Resisting pressure	10.5kgf/cm ²		
Effective area	35mm ²		30mm ²
Reaction time	50ms		
Environmental temperature	5~50°C		
Voltage	AC110V,220V(50/60)Hz,DC24V		
Power consumption	AC=6/4.9VA DC=2.5W		
Effective voltage range	± 10%		
Insulation levels	F CLASS		
Weight	422g	507g	764g

MVSN-300-4E1



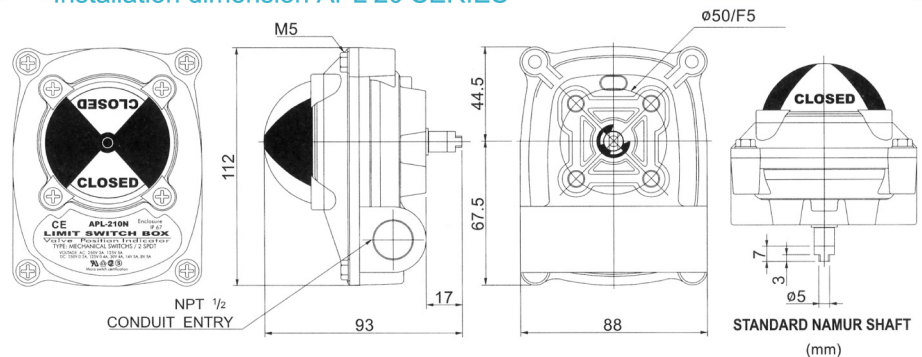
MVSN-300-4E2



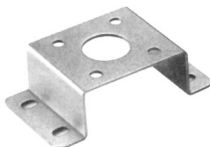
Limit Switch Box



Installation dimension APL 20 SERIES



Frame NAMUR Stadar



Model	Material	Dimension
MBP-100	Stainless steel	30 × 80 h20
MBP-200	Stainless steel	30 × 80 h30
MBP-300	Stainless steel	30 × 130 h30
MBP-400	Stainless steel	30 × 130 h50