

【Rotary Actuator NCRA1 Series How to Order】

NCRA1

NCRA1 **B** **S** 50 - **90** **C** Z

With auto switch

NCDRA1 **B** **S** 50 - **90** **C** Z - **M9BW**

Built-in magnet

Mounting

B	Basic type
----------	------------

Shaft type

S	Single shaft
W	Double shaft

※Size 30 is double shaft only!

Size

30
50
63
80
100

Air cushion

Nil	None
C	With air cushion

Rotating angle

<Standard>	
90	90°
180	180°
<Option>※	
100	100°
190	190°

※Size 30 is 90°, 180° only.

Number of auto switches

Nil	2 pcs.
S	1 pc.

※Up to two auto switches are mountable.

Auto switch

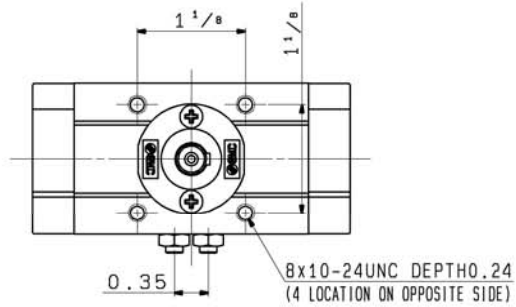
Nil	Without auto switch (Built-in magnet)
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※For applicable auto switch model, refer to the table below.

NCRA Series variations

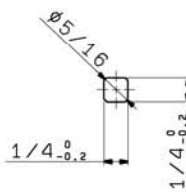
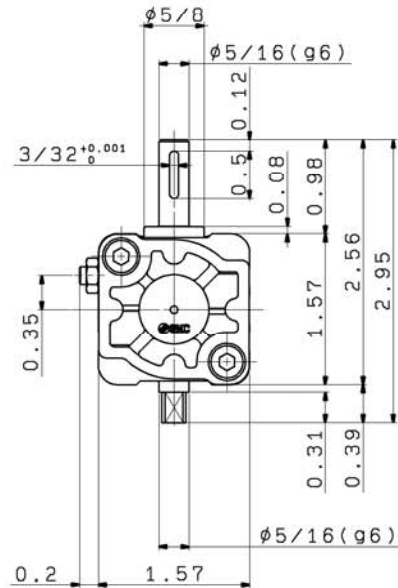
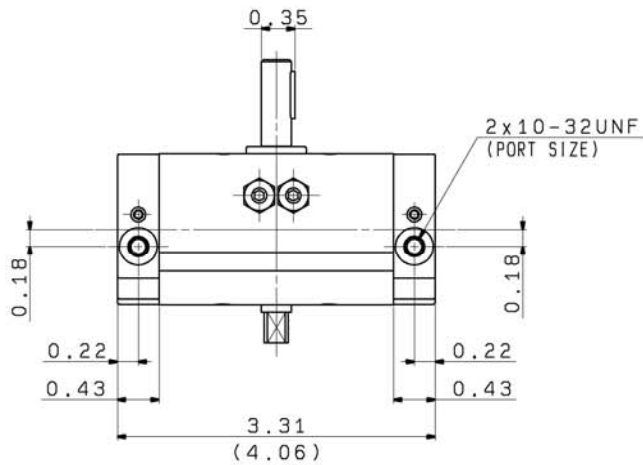
series variations

Size		30	50	63	80	100
Rotating angle	90°	○	○	○	○	○
	100°	-	○	○	○	○
	180°	○	○	○	○	○
	190°	-	○	○	○	○
Shaft type	Single shaft	S	-	○	○	○
	Double shaft	W	○	○	○	○
Air cushion	None	○	○	○	○	○
	With air cushion	-	○	○	○	○
Variations	With auto switch	○	○	○	○	○
Mounting	Basic type	○	○	○	○	○



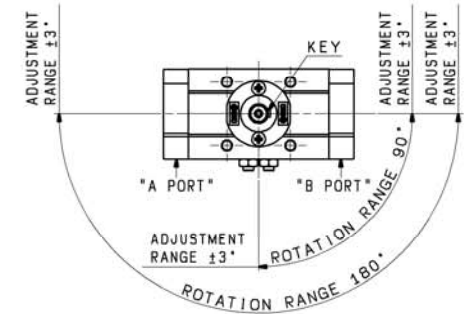
※THIS DRAWING SHOWS THE CONDITION THAT PRESSURE IS APPLIED FROM THE RIGHT PORT. ("B" PORT SIDE)

※() ARE THE DIMENSIONS FOR ROTATION OF 180°



SPECIFICATIONS

OPERATING PRESSURE RANGE	0.1~1.0MPa
OPERATING TEMPERATURE RANGE	0~60 °C (BUT NO FREEZING IS ALLOWED)
ALLOWABLE KINETIC ENERGY	0.01J
ROTATION RANGE IS AS SHOWN DOWN.	
WHEN "A" PORT SIDE IS PRESSURIZED, THE SHAFT ROTATES CLOCKWISE.	



HOW TO ORDER

NCRA1BW30-90Z

ROTATION ANGLE
90: 90° 180:180°

MOUNTING STYLE
B: BASIC

ROD END SHAPE
W: DOUBLE SHAFT

SIZE
30: φ30

ITEM	PART NO	PART NAME	MATERIAL	QTY	REMARKS
					FINISH
					PAINT
					MASS
					PACKING
REV	QTY	DESCRIPTION	DATE PREPARED	REV NO	MODEL QTY
		INITIAL RELEASE	2015-10-22 H. SHIMANE		
TOLERANCES JIS B 0405			GRADE	SCALE	
RANGE (mm)	T	M	C/	DATE	
0.5-0.63	0.05	0.1	0.2	2015-10-22	
0.63-0.8	0.05	0.1	0.3	DESIGNED	H. Shimane
0.8-1.0	0.05	0.1	0.3	DATE	2015-10-22
1.0-1.5	0.1	0.2	0.5	CHECKED	T. Kobayashi
1.5-2.0	0.15	0.3	0.8	DATE	2015-10-22
2.0-3.0	0.2	0.5	1.2	APPROVED	M. Magaribuchi
3.0-5.0	0.3	0.8	2	DATE	2015-10-23
5.0-10.0	0.5	1.2	3		

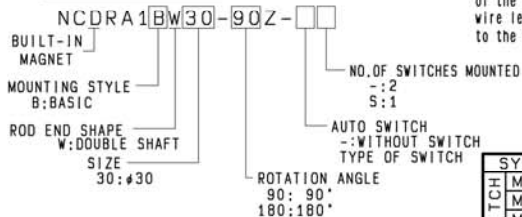
ROTARY ACTUATOR

© NCRA1BW30-※Z

※※-Z※※-0CMB1W30-90Z- ON 9A0

NOTE) 0.5m is the standard lead wire length.
When it is 3m, L is added to the end of the part number. Regarding lead wire length other than that, refer to the auto switch guide.

HOW TO ORDER



REED SWITCH SYMBOL	TYPE
A90	D-A90
A93	D-A93
A96	D-A96
A90V	D-A90V
A93V	D-A93V
A96V	D-A96V

SOLID STATE SWITCH SYMBOL	TYPE
M9N	D-M9N
M9P	D-M9P
M9B	D-M9B
M9NV	D-M9NV
M9PV	D-M9PV
M9BV	D-M9BV
M9NW	D-M9NW
M9PW	D-M9PW
M9BW	D-M9BW
M9NWV	D-M9NWV
M9PWV	D-M9PWV
M9BWV	D-M9BWV

REED SWITCH TYPE	
MODEL	D-A93(V)
LOAD VOLTAGE	AC100V/DC24V
LOAD CURRENT RANGE	5~20mA/5~40mA
RESPONSE TIME	1.2ms
SHOCK RESISTANCE	300*/s ²
INTERNAL VOLTAGE DROP	2.7V OR LESS

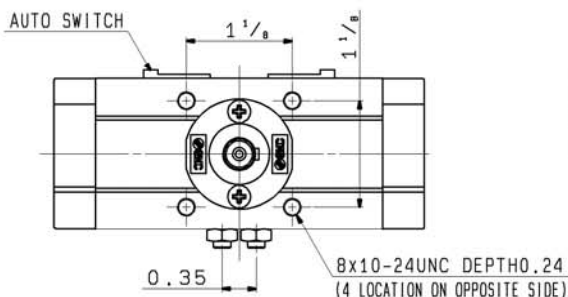
SOLID STATE SWITCH TYPE	
MODEL	D-M9N(V) D-M9B(V)
POWER SOURCE	DC5-12-24V (DC4, 5-28V)
CURRENT CONSUMPTION	10mA OR LESS
LOAD VOLTAGE	DC28V OR LESS (DC24V (DC10~28V))
RESPONSE TIME	1ms OR LESS
SHOCK RESISTANCE	1000*/s ²
INTERNAL VOLTAGE DROP	0.8V OR LESS 4V OR LESS

CAUTION

PLEASE REFER AUTO SWITCH GUIDE OF BEST PNEUMATICS FOR SPECIFICATIONS WHICH ARE NOT DESCRIBED OR OTHER MODEL.

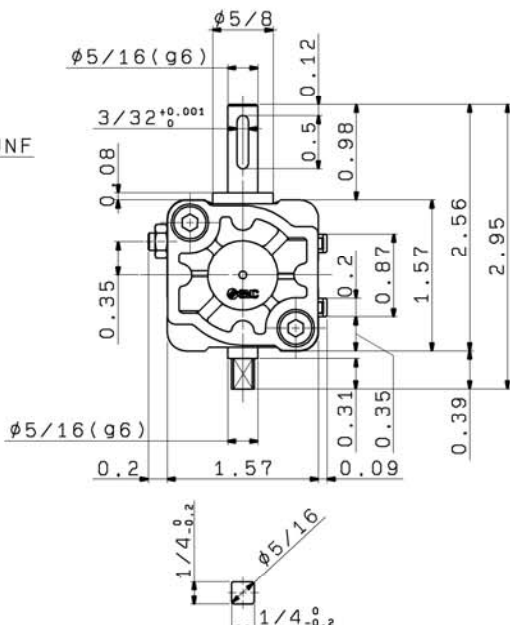
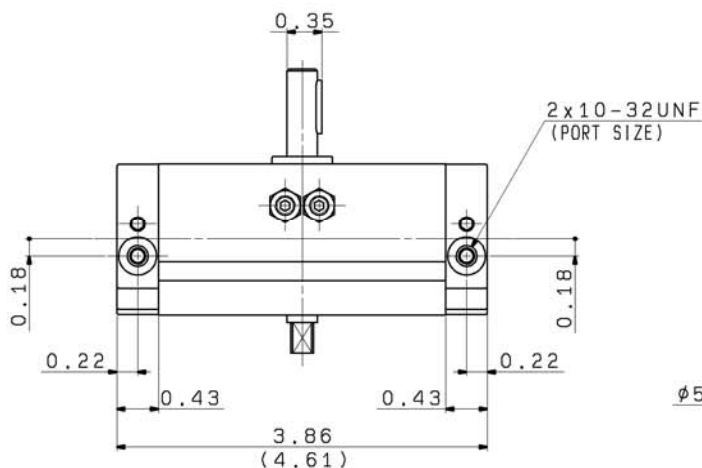
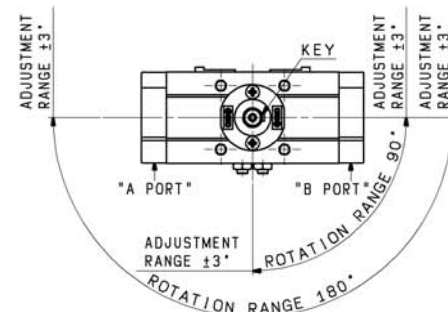
SPECIFICATIONS

OPERATING PRESSURE RANGE 0.1~1.0MPa
OPERATING TEMPERATURE RANGE 0~60°C (BUT NO FREEZING IS ALLOWED)
ALLOWABLE KINETIC ENERGY 0.01J
ROTATION RANGE IS AS SHOWN DOWN.
WHEN "A" PORT SIDE IS PRESSURIZED, THE SHAFT ROTATES CLOCKWISE.



※THIS DRAWING SHOWS THE CONDITION THAT PRESSURE IS APPLIED FROM THE RIGHT PORT. ("B" PORT SIDE)

※() ARE THE DIMENSIONS FOR ROTATION OF 180°



ITEM	PART NO	PART NAME	MATERIAL	QTY	REMARKS
			FINISH		
			PAINT		
			MASS		
			PACKING		
			MATERIAL		MODEL
			MATERIAL SIZE		QTY
					THIRD ANGLE
TOLERANCES JIS B 0405		GRADE	SCALE		
RANGE (mm)	T	M	C	FREE	
0.5-0.63	0.05	0.1	0.2	DRAWN R. Tomita	
0.63-0.8	0.05	0.1	0.3	DATE 2015-10-22	
0.8-1.0	0.05	0.1	0.3	DESIGNED H. Shimane	
1.0-1.6	0.05	0.1	0.3	DATE 2015-10-22	
1.6-2.0	0.05	0.1	0.3	CHECKED T. Kobayashi	
2.0-3.0	0.05	0.1	0.3	DATE 2015-10-22	
3.0-4.0	0.05	0.1	0.3	APPROVED M. Magaribuchi	
4.0-6.0	0.05	0.1	0.3	DATE 2015-10-23	
6.0-10.0	0.05	0.1	0.3		
10.0-15.0	0.05	0.1	0.3		
DWG NAME			DWG NO		
DWG REC			DWG ID		
DWG NAME			DWG ID		
DWG REC			DWG ID		

FINISH: 表面処理 / PAINT: 塗装 / MASS: 質量
PACKING: 包装区分 / MATERIAL: 材質
MATERIAL SIZE: 材料寸法

DWG NAME

DWG REC

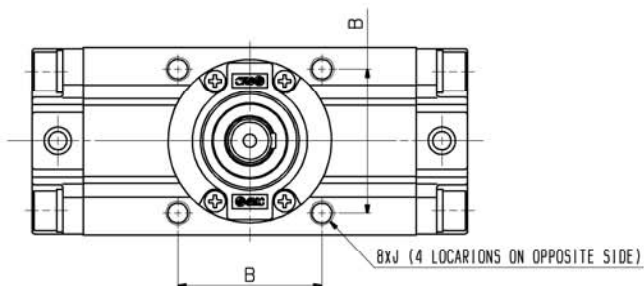
DWG ID BA45166300

SMC Corporation

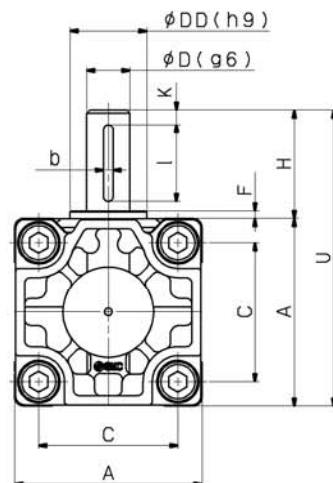
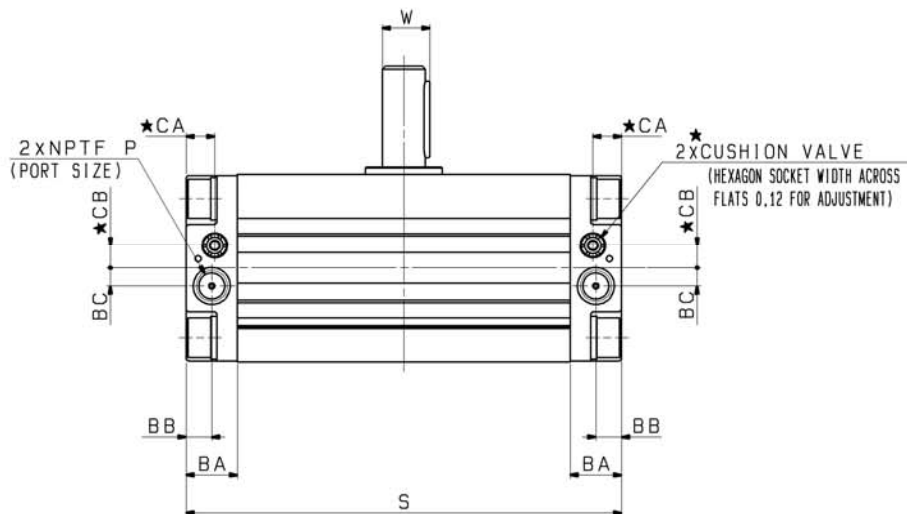
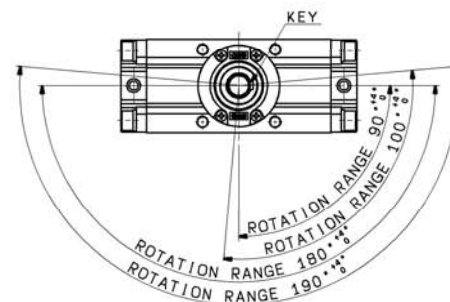
MODEL NUMBER	A	B	C	D	DD	F	H	J	K	P	S	U	W	B	BB	BCC	ACB	KEY		ALLOWABLE KINETIC ENERGY E		
																		b	TOLERANCE	WITHOUT CUSHION	WITH CUSHION	
NCRA1BS 50- ⁹⁰ / ₁₀₀ *Z	2.44	1 7/8	1.81	9/16	1	0.1	1.42	5/16-18UNC DEPTH 0.31	0.2	1/8	5.67 6.97	3.86	0.62	0.67	0.33	0.24	0.37	0.3	1/8	1	0.05J	0.98J
NCRA1BS 63- ⁹⁰ / ₁₀₀ *Z	2.99	2 3/8	2.24	5/8	1 1/8	0.1	1.61	3/8-16UNC DEPTH 0.47	0.2	1/8	6.42 7.93	4.61	0.70	0.79	0.39	0.28	0.43	0.31	3/16	1.25	0.12J	1.5J
NCRA1BS 80- ⁹⁰ / ₁₀₀ *Z	3.62	2 7/8	2.76	3/4	1 3/8	0.12	1.97	1/2-13UNC DEPTH 0.51	0.2	1/4	7.32 9.06	5.59	0.83	0.93	0.47	0.31	0.51	0.35	3/16	1.5	0.16J	2.0J
NCRA1BS 100- ⁹⁰ / ₁₀₀ *Z	4.41	3 3/8	3.35	1	1 5/8	0.16	2.36	1/2-13UNC DEPTH 0.55	0.2	3/8	9.65 12.24	6.77	1.11	0.98	0.49	0.31	0.55	0.39	1/4	1.75	0.54J	2.9J

SPECIFICATIONS

OPERATING PRESSURE RANGE 0.1~1.0MPa
 OPERATING TEMPERATURE RANGE 0~60 °C (BUT NO FREEZING IS ALLOWED)
 ALLOWABLE KINETIC ENERGY E J
 ROTATION RANGE IS AS SHOWN DOWN.
 WHEN LEFT PORT IS PRESSURIZED, THE SHAFT ROTATES CLOCKWISE.



*THIS DRAWING SHOWS THE CONDITION THAT PRESSURE IS APPLIED FROM THE RIGHT PORT.
 DIMENSIONS MARKED BY * ARE FOR "WITH CUSHION" STYLE



HOW TO ORDER

NCRA1BS50-90*Z

MOUNTING STYLE: B: BASIC
 ROD END SHAPE: S: SINGLE SHAFT
 AIR CUSHION: - : WITHOUT AIR CUSHION, C : WITH AIR CUSHION
 ROTATION ANGLE: 90: 90°, 180: 180°, 100: 100°, 190: 190°
 SIZE: 50: phi 50, 80: phi 80, 63: phi 63, 100: phi 100

ITEM	PART NO	PART NAME	MATERIAL	QTY	REMARKS
					FINISH
					PAINT
					MASS
					PACKING
D - INITIAL RELEASE		2015-10-22 H. Shimane		-	
REV	QTY	DESCRIPTION	DATE	PREPARED	REV NO
TOLERANCES JIS B 0405		GRADE		SCALE	
RANGE (mm)	T	M	C	DATE	R. Tomita
0.5-0.63	0.05	0.1	0.3	2015-10-22	FREE
0.63-0.8	0.05	0.1	0.3	DATE	H. Shimane
0.8-1.0	0.1	0.2	0.5	2015-10-22	DWG NAME
1.0-1.5	0.15	0.3	0.8	DATE	T. Kobayashi
1.5-2.0	0.2	0.5	1.2	2015-10-22	CHECKED
2.0-3.0	0.3	0.8	2	DATE	M. Magaribuchi
3.0-4.0	0.4	1.0	3	DATE	APPROVED
4.0-5.0	0.5	1.2	3	2015-10-23	DATE

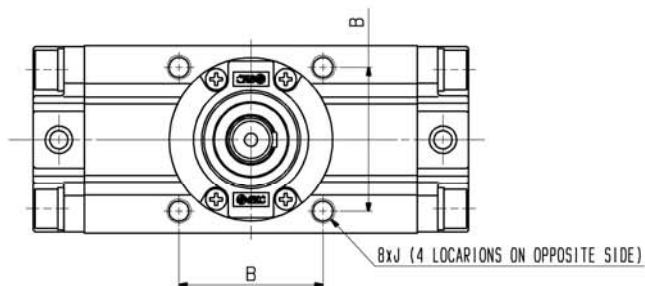
ROTARY ACTUATOR

© NCRA1BS*-**Z

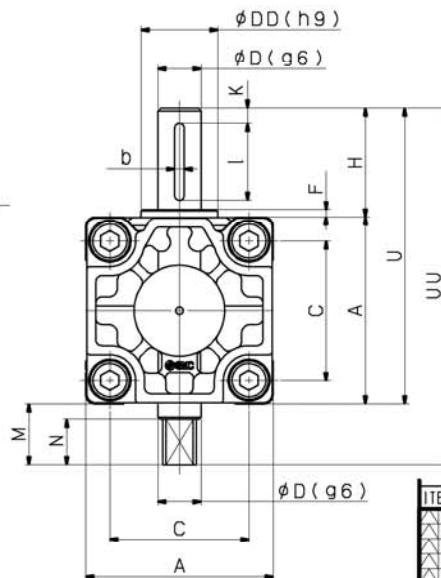
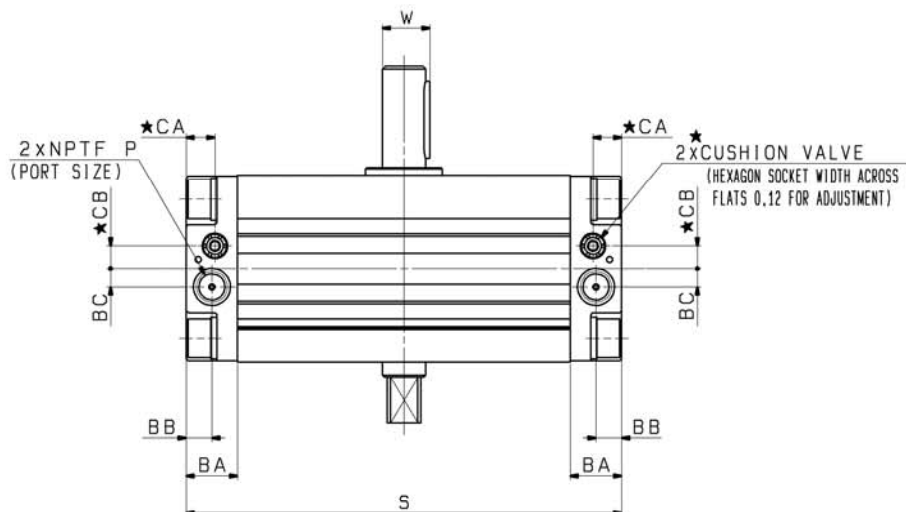
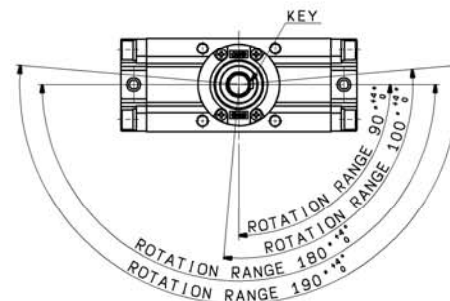
MODEL NUMBER	A	B	C	D	DD	F	G	H	J	K	L	M	N	P	S	U	UU	W	B	A	B	C	A	C	B	KEY		ALLOWABLE KINETIC ENERGY E	
																										b	TOLERANCE	WITHOUT CUSHION	WITH CUSHION
NCRA1BW 50- ⁹⁰ / ₁₀₀ *Z	2.44	17/8	1.81	9/16	1	0.1	7/16	1.42	5/16-18UNC DEPTH 0.31	0.2	9/16	0.79	0.59	1/8	5.67	3.86	4.65	0.62	0.67	0.33	0.24	0.37	0.3	1/8	1	0.05J	0.98J		
NCRA1BW 50- ¹⁸⁰ / ₁₉₀ *Z															6.97											1.25	0.12J	1.5J	
NCRA1BW 63- ⁹⁰ / ₁₀₀ *Z	2.99	2 3/8	2.24	5/8	1 1/8	0.1	1 1/2	1.61	3/8-16UNC DEPTH 0.47	0.2	5/8	0.87	0.67	1/8	6.42	4.61	5.47	0.70	0.79	0.39	0.28	0.43	0.31	3/16	1.5	0.16J	2.0J		
NCRA1BW 63- ¹⁸⁰ / ₁₉₀ *Z															7.93											1.75	0.54J	2.9J	
NCRA1BW 80- ⁹⁰ / ₁₀₀ *Z	3.62	2 7/8	2.76	3/4	1 3/8	0.12	5/8	1.97	1/2-13UNC DEPTH 0.51	0.2	3/4	0.98	0.79	1/4	7.32	5.59	6.57	0.83	0.93	0.47	0.31	0.51	0.35	3/16	1.5	0.16J	2.0J		
NCRA1BW 80- ¹⁸⁰ / ₁₉₀ *Z															9.06											1.75	0.54J	2.9J	
NCRA1BW100- ⁹⁰ / ₁₀₀ *Z	4.41	3 3/8	3.35	1	1 5/8	0.16	3/4	2.36	1/2-13UNC DEPTH 0.55	0.2	1	1.18	0.98	3/8	9.65	6.77	7.95	1.11	0.98	0.49	0.31	0.55	0.39	1/4	1.75	0.54J	2.9J		
NCRA1BW100- ¹⁸⁰ / ₁₉₀ *Z															12.24											1.75	0.54J	2.9J	

SPECIFICATIONS

OPERATING PRESSURE RANGE 0.1~1.0MPa
 OPERATING TEMPERATURE RANGE 0~60 °C (BUT NO FREEZING IS ALLOWED)
 ALLOWABLE KINETIC ENERGY E J
 ROTATION RANGE IS AS SHOWN DOWN.
 WHEN LEFT PORT IS PRESSURIZED, THE SHAFT ROTATES CLOCKWISE.



*THIS DRAWING SHOWS THE CONDITION THAT PRESSURE IS APPLIED FROM THE RIGHT PORT.
 DIMENSIONS MARKED BY * ARE FOR "WITH CUSHION" STYLE



HOW TO ORDER

NCRA1BW50-90*Z

MOUNTING STYLE: B: BASIC
 ROD END SHAPE: W: DOUBLE SHAFT
 AIR CUSHION: - : WITHOUT AIR CUSHION, C : WITH AIR CUSHION
 ROTATION ANGLE: 90: 90°, 180: 180°, 100: 100°, 190: 190°
 SIZE: 50: φ50, 80: φ80, 63: φ63, 100: φ100

ITEM	PART NO	PART NAME	MATERIAL	QTY	REMARKS
					FINISH
					PAINT
					MASS
					PACKING
① - INITIAL RELEASE		2015-10-22 H. Shimane		-	
REV	QTY	DESCRIPTION	DATE	PREPARED	REV NO
TOLERANCES JIS B 0405		GRADE		SCALE	
RANGE (mm)	T	M	C	FREE	
0.5-0.63	0.05	0.1	0.2	DRAWN R. Tomita	
0.63-0.8	0.05	0.1	0.3	DATE 2015-10-22	
0.8-1.0	0.05	0.1	0.3	DESIGNED H. Shimane	
1.0-1.6	0.1	0.2	0.5	DATE 2015-10-22	
1.6-2.5	0.15	0.3	0.8	CHECKED T. Kobayashi	
2.5-4.0	0.2	0.5	1.2	DATE 2015-10-22	
4.0-6.3	0.3	0.8	2	APPROVED M. Magaribuchi	
6.3-10.0	0.5	1.2	3	DATE 2015-10-23	

ROTARY ACTUATOR

© NCRA1BW***Z

ZSBTARON (C) ON 940

NOTE) 0.5m is the standard lead wire length.
When it is 3m, L is added to the end of the part number. Regarding lead wire length other than that, refer to the auto switch guide.

REED SWITCH TYPE	
MODEL	D-A93(V)
LOAD VOLTAGE	AC100V/DC24V
LOAD CURRENT RANGE	5~20mA/5~40mA
RESPONSE TIME	1.2ms
SHOCK RESISTANCE	300 ^m /s ²
INTERNAL VOLTAGE DROOP	2.7V OR LESS

SOLID STATE SWITCH TYPE	
MODEL	D-M9N(V) D-M9B(V)
POWER SOURCE	DC5-12-24V (DC4.5-28V)
CURRENT CONSUMPTION	10mA OR LESS
LOAD VOLTAGE	DC28V OR LESS (DC24V (DC10-28V))
RESPONSE TIME	1ms OR LESS
SHOCK RESISTANCE	1000 ^m /s ²
INTERNAL VOLTAGE DROOP	0.8V OR LESS 4V OR LESS

SPECIFICATIONS

OPERATING PRESSURE RANGE 0.1~1.0MPa
OPERATING TEMPERATURE RANGE 0~60°C (BUT NO FREEZING IS ALLOWED)
ALLOWABLE KINETIC ENERGY E J
ROTATION RANGE IS AS SHOWN DOWN.
WHEN LEFT PORT IS PRESSURIZED, THE SHAFT ROTATES CLOCKWISE.

CAUTION

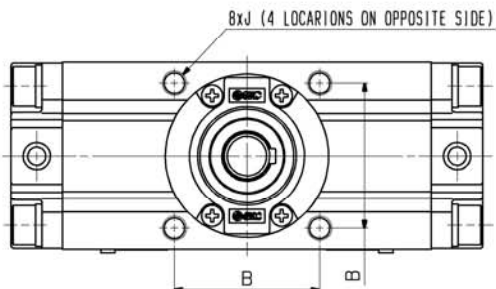
PLEASE REFER AUTO SWITCH GUIDE OF BEST PNEUMATICS FOR SPECIFICATIONS WHICH ARE NOT DESCRIBED OR OTHER MODEL.

HOW TO ORDER
NCDRA1BS□-□□Z-□□
BUILT-IN MAGNET
MOUNTING STYLE B: BASIC
ROD END SHAPE S: SINGLE SHAFT
SIZE 50: #50 80: #80 63: #63 100: #100
NO. OF SWITCHES MOUNTED -: 2 S: 1
AIR CUSHION -: WITHOUT AIR CUSHION C: WITH AIR CUSHION
ROTATION ANGLE 90: 90° 180: 180° 100: 100° 190: 190°
AUTO SWITCH -: WITHOUT SWITCH T: TYPE OF SWITCH

REED SWITCH SYMBOL	TYPE
A90	D-A90
A93	D-A93
A96	D-A96
A90V	D-A90V
A93V	D-A93V
A96V	D-A96V

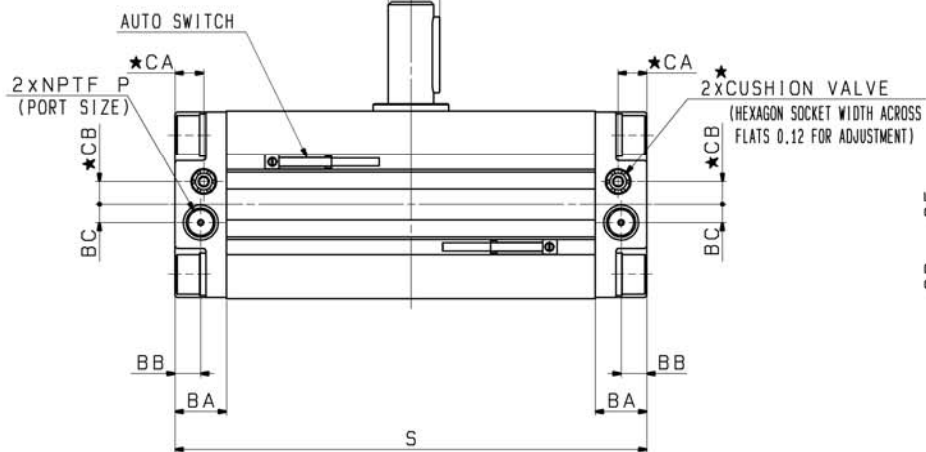
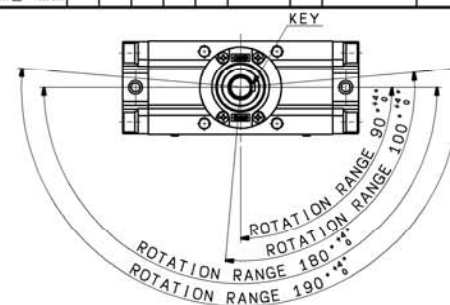
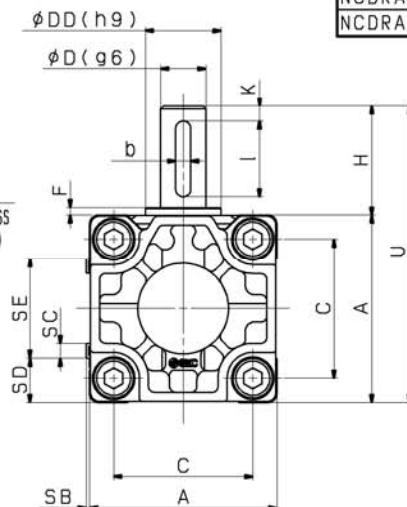
SOLID STATE SWITCH SYMBOL	TYPE
M9N	D-M9N
M9P	D-M9P
M9B	D-M9B
M9NV	D-M9NV
M9PV	D-M9PV
M9BV	D-M9BV
M9NW	D-M9NW
M9PW	D-M9PW
M9BW	D-M9BW
M9NWV	D-M9NWV
M9PVV	D-M9PVV
M9BWW	D-M9BWW

MODEL NUMBER	A	B	C	D	DD	F	H	J	K	P	S	U	W	B	BB	BCC	CA	CB	
NCDRA1BS 50- ⁹⁰ / ₁₀₀ *Z-***	2.44	1/8	1.81	9/16	1	0.1	1.42	5/16-18UNC DEPTH0.31	0.2	1/8	6.14	3.86	0.62	0.67	0.33	0.24	0.37	0.3	
NCDRA1BS 50- ¹⁸⁰ / ₁₉₀ *Z-***											7.44								
NCDRA1BS 63- ⁹⁰ / ₁₀₀ *Z-***	2.99	2/8	2.24	5/8	1	1/8	0.1	1.61	3/8-16UNC DEPTH0.47	0.2	1/8	6.89	4.61	0.70	0.79	0.39	0.28	0.43	0.31
NCDRA1BS 63- ¹⁸⁰ / ₁₉₀ *Z-***											8.41								
NCDRA1BS 80- ⁹⁰ / ₁₀₀ *Z-***	3.62	7/8	2.76	3/4	1	3/8	0.12	1.97	1/2-13UNC DEPTH0.51	0.2	1/4	7.83	5.59	0.83	0.93	0.47	0.31	0.51	0.35
NCDRA1BS 80- ¹⁸⁰ / ₁₉₀ *Z-***											9.57								
NCDRA1BS100- ⁹⁰ / ₁₀₀ *Z-***	4.41	3/8	3.35	1	1	5/8	0.16	2.36	1/2-13UNC DEPTH0.55	0.2	3/8	10.2	6.77	1.11	0.98	0.49	0.31	0.55	0.39
NCDRA1BS100- ¹⁸⁰ / ₁₉₀ *Z-***											12.8								



*THIS DRAWING SHOWS THE CONDITION THAT PRESSURE IS APPLIED FROM THE RIGHT PORT.
DIMENSIONS MARKED BY * ARE FOR "WITH CUSHION" STYLE

MODEL NUMBER	SB	SC	SD	SE	D	KEY TOLERANCE	ALLOWABLE KINETIC ENERGY E		
							WITHOUT CUSHION	WITH CUSHION	
NCDRA1BS 50- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	0.57	1.3	1/8		1	0.05J	0.98J
NCDRA1BS 50- ¹⁸⁰ / ₁₉₀ *Z-***									
NCDRA1BS 63- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	0.85	1.3	3/16	+0.001	1.25	0.12J	1.5J
NCDRA1BS 63- ¹⁸⁰ / ₁₉₀ *Z-***									
NCDRA1BS 80- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	1.16	1.3	3/16		1.5	0.16J	2.0J
NCDRA1BS 80- ¹⁸⁰ / ₁₉₀ *Z-***									
NCDRA1BS100- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	1.56	1.3	1/4		1.75	0.54J	2.9J
NCDRA1BS100- ¹⁸⁰ / ₁₉₀ *Z-***									



ITEM	PART NO	PART NAME	MATERIAL	QTY	REMARKS
			FINISH		
			PAINT		
			MASS		
			PACKING		
		INITIAL RELEASE	2015-10-22H. Shimane		
REV. QTY	DESCRIPTION	DATE PREPARED	REV. NO	MATERIAL	MODEL QTY
	TOLERANCES JIS B 0405 GRADE	DRAWN R. Tomita	SCALE	MATERIAL	THIRD ANGLE
	RANGE (mm) T M C	DATE 2015-10-22	FREE	MATERIAL SIZE	
	0.5-0.63 0.05 0.1 0.2	DESIGNED H. Shimane	DWG NAME		
	3-0.66 0.05 0.1 0.3	DATE 2015-10-22	ROTARY ACTUATOR		
	6-0.63 0.1 0.2 0.5	CHECKED T. Kobayashi	DWG NO		
	30-0.6120 0.15 0.3 0.8	DATE 2015-10-22	DWG NO		
	120-0.6400 0.2 0.5 1.2	DATE 2015-10-22	DWG NO		
	400-0.61000 0.3 0.8 2	APPROVED M. Magaribuchi	DWG NO		
	1000-0.62000 0.5 1.2 3	DATE 2015-10-23	DWG NO		

FINISH: 表面処理 / PAINT: 塗装 / MASS: 質量
PACKING: 包装区分 / MATERIAL: 材質
MATERIAL SIZE: 材料寸法

DWG NAME

DWG REC

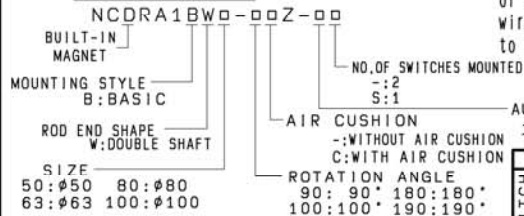
DWG ID BA45166500

SMC Corporation

Z-***M8TARDON ON 9A0

NOTE) 0.5m is the standard lead wire length.
When it is 3m, L is added to the end of the part number. Regarding lead wire length other than that, refer to the auto switch guide.

HOW TO ORDER



SIZE
50: φ50 80: φ80
63: φ63 100: φ100

SYMBOL	TYPE
A90	D-A90
A93	D-A93
A96	D-A96
A90V	D-A90V
A93V	D-A93V
A96V	D-A96V

AUTO SWITCH
-: WITHOUT SWITCH
TYPE OF SWITCH

SYMBOL	TYPE
M9N	D-M9N
M9P	D-M9P
M9B	D-M9B
M9NV	D-M9NV
M9PV	D-M9PV
M9BV	D-M9BV
M9NW	D-M9NW
M9PW	D-M9PW
M9NWV	D-M9NWV
M9PVV	D-M9PVV
M9BWW	D-M9BWW

SYMBOL	TYPE
M9N	D-M9N
M9P	D-M9P
M9B	D-M9B
M9NV	D-M9NV
M9PV	D-M9PV
M9BV	D-M9BV
M9NW	D-M9NW
M9PW	D-M9PW
M9NWV	D-M9NWV
M9PVV	D-M9PVV
M9BWW	D-M9BWW

REED SWITCH TYPE

MODEL	D-A93(V)
LOAD VOLTAGE	AC100V/DC24V
LOAD CURRENT RANGE	5~20mA/5~40mA
RESPONSE TIME	1.2ms
SHOCK RESISTANCE	300 ^m /s ²
INTERNAL VOLTAGE DROP	2.7V OR LESS

SOLID STATE SWITCH TYPE

MODEL	D-M9N(V)	D-M9B(V)
POWER SOURCE	DC5-12-24V (DC4.5-28V)	—
CURRENT CONSUMPTION	10mA OR LESS	—
LOAD VOLTAGE	DC28V OR LESS (DC24V (DC10-28V))	—
RESPONSE TIME	1ms OR LESS	—
SHOCK RESISTANCE	1000 ^m /s ²	—
INTERNAL VOLTAGE DROP	0.8V OR LESS	4V OR LESS

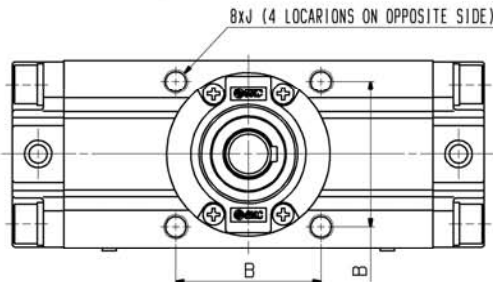
SPECIFICATIONS

OPERATING PRESSURE RANGE 0.1~1.0MPa
OPERATING TEMPERATURE RANGE 0~60°C (BUT NO FREEZING IS ALLOWED)
ALLOWABLE KINETIC ENERGY E J
ROTATION RANGE IS AS SHOWN DOWN.
WHEN LEFT PORT IS PRESSURIZED, THE SHAFT ROTATES CLOCKWISE.

CAUTION

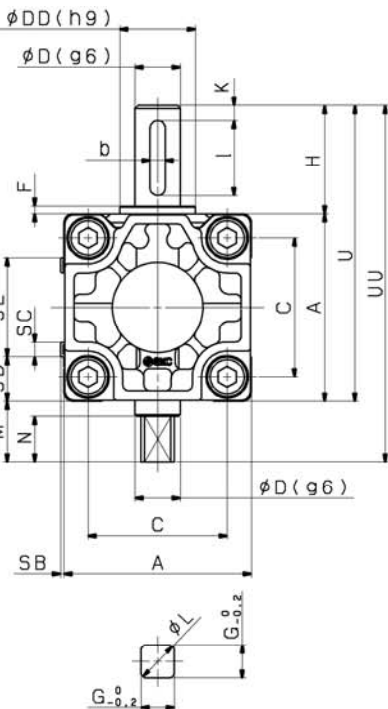
PLEASE REFER AUTO SWITCH GUIDE OF BEST PNEUMATICS FOR SPECIFICATIONS WHICH ARE NOT DESCRIBED OR OTHER MODEL.

MODEL NUMBER	A	B	C	D	DD	F	G	H	J	K	L	M	N	P	S	U	UU	W	B	BB	BCC	CA	CB
NCDRA1BW 50- ⁹⁰ / ₁₀₀ *Z-***	2.44	1.7/8	1.81	9/16	1	0.1	7/16	1.42	5/16-18UNC DEPTH.31	0.2	9/16	0.79	0.59	1/8	6.14 7.44	3.86	4.65	0.62	0.67	0.33	0.24	0.37	0.3
NCDRA1BW 50- ¹⁸⁰ / ₁₉₀ *Z-***																							
NCDRA1BW 63- ⁹⁰ / ₁₀₀ *Z-***	2.99	2 3/8	2.24	5/8	1 1/8	0.1	1/2	1.61	3/8-16UNC DEPTH.47	0.2	5/8	0.87	0.67	1/8	6.89 8.41	4.61	5.47	0.70	0.79	0.39	0.28	0.43	0.31
NCDRA1BW 63- ¹⁸⁰ / ₁₉₀ *Z-***																							
NCDRA1BW 80- ⁹⁰ / ₁₀₀ *Z-***	3.62	2 7/8	2.76	3/4	1 3/8	0.12	5/8	1.97	1/2-13UNC DEPTH.51	0.2	3/4	0.98	0.79	1/4	9.57 12.8	5.59	6.57	0.83	0.93	0.47	0.31	0.51	0.35
NCDRA1BW 80- ¹⁸⁰ / ₁₉₀ *Z-***																							
NCDRA1BW100- ⁹⁰ / ₁₀₀ *Z-***	4.41	3 3/8	3.35	1	1 5/8	0.16	3/4	2.36	1/2-13UNC DEPTH.55	0.2	1	1.18	0.98	3/8	10.2 12.8	6.77	7.95	1.11	0.98	0.49	0.31	0.55	0.39
NCDRA1BW100- ¹⁸⁰ / ₁₉₀ *Z-***																							

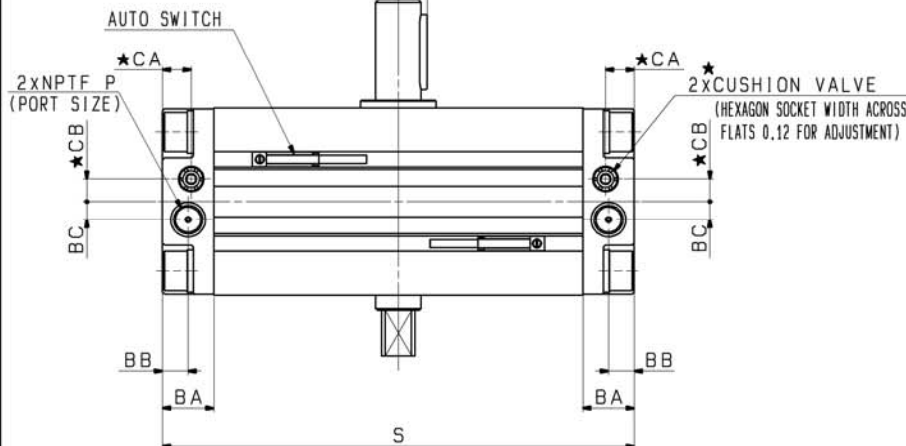
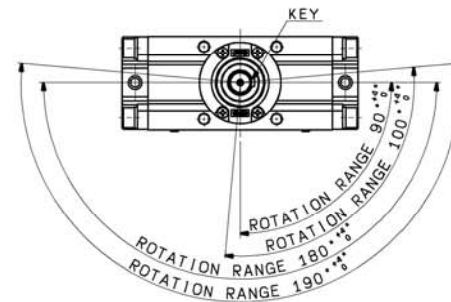


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DIMENSIONS MARKED BY * ARE FOR "WITH CUSHION" STYLE



MODEL NUMBER	SB	SC	SD	SE	D	KEY TOLERANCE		ALLOWABLE KINETIC ENERGY E		
						I	J	WITHOUT CUSHION	WITH CUSHION	
NCDRA1BW 50- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	0.57	1.3	1/8			1	0.05 J	0.98 J
NCDRA1BW 50- ¹⁸⁰ / ₁₉₀ *Z-***								1.25	0.12 J	1.5 J
NCDRA1BW 63- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	0.85	1.3	3/16	+0.001		1.5	0.16 J	2.0 J
NCDRA1BW 63- ¹⁸⁰ / ₁₉₀ *Z-***								1.75	0.54 J	2.9 J
NCDRA1BW 80- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	1.16	1.3	3/16					
NCDRA1BW 80- ¹⁸⁰ / ₁₉₀ *Z-***										
NCDRA1BW100- ⁹⁰ / ₁₀₀ *Z-***	0.06	0.2	1.56	1.3	1/4					
NCDRA1BW100- ¹⁸⁰ / ₁₉₀ *Z-***										



FINISH:表面処理 / PAINT:塗装 / MASS:質量
PACKING:包装区分 / MATERIAL:材質
MATERIAL SIZE:材料寸法

ITEM	PART NO	PART NAME	MATERIAL	QTY	REMARKS
INITIAL RELEASE 2015-10-22H, Shimane					
REV	QTY	DESCRIPTION	DATE PREPARED	REV NO	MODEL QTY
TOLERANCES JIS B 0405			GRADE	SCALE	
RANGE (mm)	T	M	C	DATE	THIRD ANGLE
0.5-0.63	0.05	0.1	0.2	2015-10-22	
0.6-0.66	0.05	0.1	0.3	DESIGNED	
0.6-0.90	0.1	0.2	0.5	DATE	
0.9-0.63	0.15	0.3	0.8	2015-10-22	
0.9-0.63	0.2	0.5	1.2	CHECKED	
1.0-0.63	0.3	0.8	2	DATE	
1.0-0.63	0.5	1.2	3	2015-10-22	
				APPROVED	
				DATE	
				2015-10-23	
DWG NO. NCDRA1BW***-***Z-***					
DWG REC. DWG ID: BA45166800					

SMC Corporation