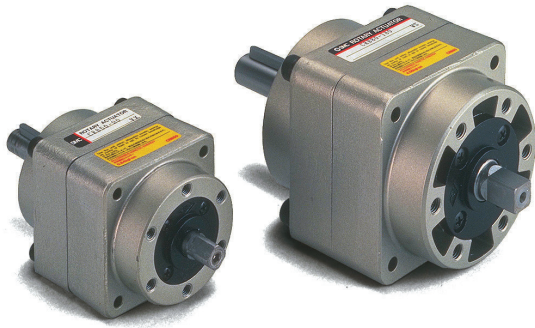


## VANE TYPE ROTARY ACTUATOR: BORE SIZES Ø50•80•100MM SERIES NCRB

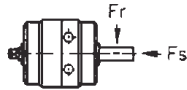


- ✓ 90°, 180°, 270° rotation
- ✓ Special vane seal design eliminates leakage
- ✓ Low operating and start-up torque
- ✓ Long operating life

### TECHNICAL SPECIFICATIONS

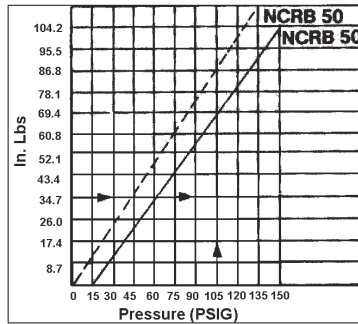
Media	Compressed Air
Working Pressure	0.1 ~ 1.5MPa / 15 ~ 220 PSI
Ambient Temperature	5 ~ 60°C / 40 ~ 140°F
Rotation Angle	90°, 180°, 270°
Seal Material	Buna N
Drive Shaft	Double Shaft, One side with key and groove, other side is a square shaft

### TORQUE SPECIFICATIONS SERIES NCRB

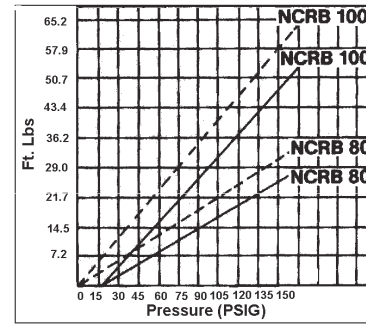


Maximum shaft loading and kinetic energy

Type	Fr (N)	Fs (N)	E max (Nm)
NCRB50	250	200	0.084
NCRB80	500	500	0.040
NCRB100	600	550	0.061

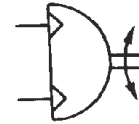


Actual —————

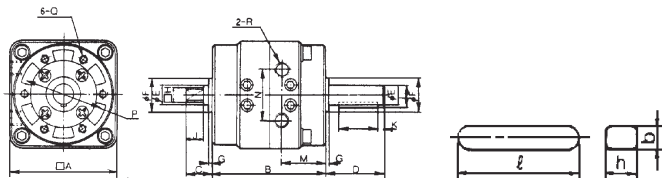


Theoretical - - - - -

### SYMBOLS



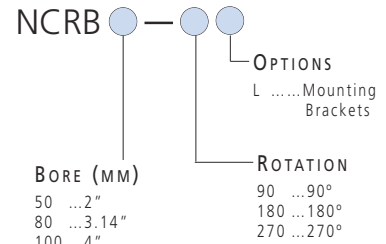
### DIMENSIONS (INCH) NCRB50~100



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	b	h	ℓ
NCRB50	2.64	3.38	0.77	1.55	0.47	0.98	0.12	0.39	0.51	0.20	0.53	1.34	1.18	1.97	M6x1x10	NPT 1/8"	0.16	0.16	0.79
NCRB80	3.74	4.06	0.93	2.11	0.67	1.18	0.12	0.51	0.63	0.20	0.75	1.57	1.77	2.75	M8x1.25x13	NPT 1/4"	0.20	0.20	1.42
NCRB100	4.92	4.92	1.18	2.56	0.98	1.77	0.16	0.75	0.87	0.20	1.10	1.97	1.97	3.15	M10x1.5x13	NPT 1/4"	0.28	0.28	1.57

### HOW TO ORDER

#### NCRB ROTARY ACTUATOR



#### BORE (MM)

- 50 ...2"
- 80 ...3.14"
- 100 ...4"

#### ROTATION

- 90 ...90°
- 180 ...180°
- 270 ...270°

### OPTIONS

#### BRACKETS NCRB50~100

Model	Bracket No	Includes
NCRB50	CRB50-Y-1	2"L" Brackets
NCRB80	CRB80-Y-1	with 8 Mounting
NCRB100	CRB100-Y-1	Screws

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DETAILS OF YOUR LOCAL SALES OFFICE



FOR FURTHER TECHNICAL  
DETAILS ON THIS  
PRODUCT REQUEST  
CATALOG REFERENCE  
N351

VANE TYPE ROTARY ACTUATOR:  
BORE SIZES Ø10•15•20•30MM  
SERIES NCRB1BW

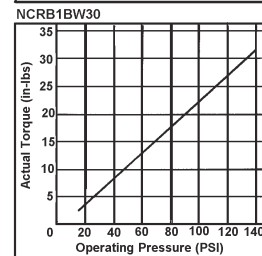
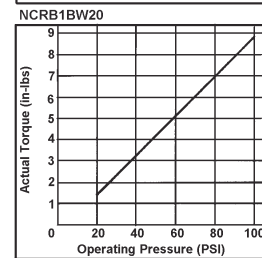
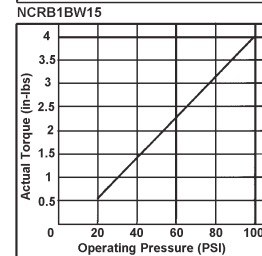
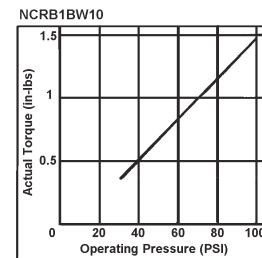
- ✓ 90°, 180°, 270° rotation
- ✓ High reliability and long life
- ✓ Light weight
- ✓ Optional auto switch and adjustable rotation



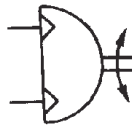
TECHNICAL SPECIFICATIONS

Model	CRB1BW10	CRB1BW15	CRB1BW20	CRB1BW30
Rotation	90° / 180° / 270°			
Fluid	Air			
Proof Pressure	1.05MPa / 153PSI		1.5MPa / 218PSI	
Operating Pressure Range	0.14 ~ 0.7MPa / 20~100PSI		0.1~0.23MPa/15~40PSI	
Rotation Speed Range (s/90°)	0.03~0.3			0.04~0.3
Maximum	90°	4	4	4
Operating	180°	3.5	3	3
Cycle (Nz)	270°	2.5	2	2
Ambient and Op Fluid Temp	5 ~ 60°C / 40 ~ 140°F			
Lubrication	No Lubrication Required			
Type Of Shaft	Double End Shaft / Both With Flat			
Type Of Mounting	Basic, Flange			
Rotation Tolerance	+5° -0	+4° -0		

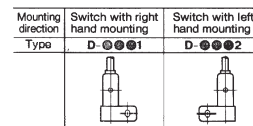
TORQUE SPECIFICATIONS



SYMBOLS

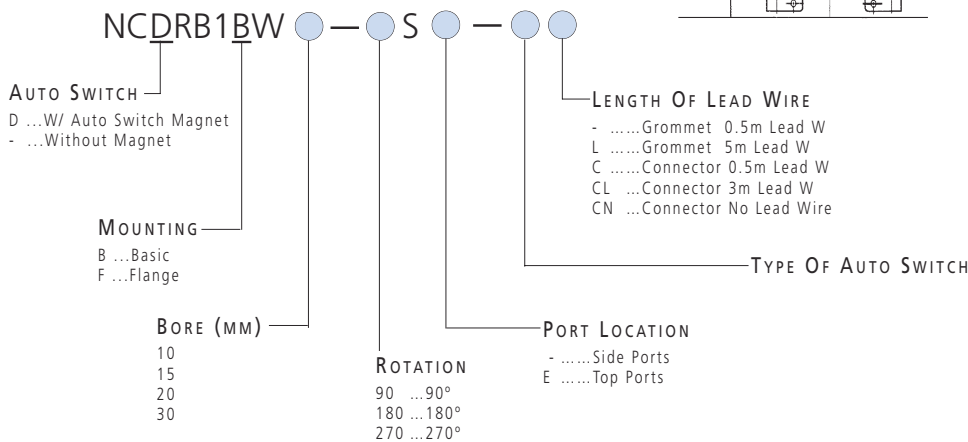


FITTING LOCATION AND ROTATION OF AUTO SWITCH



HOW TO ORDER

NCRB1BW ROTARY ACTUATOR



FOR MORE TECHNICAL INFORMATION ON THIS SERIES, PLEASE REFER TO CAT:N350

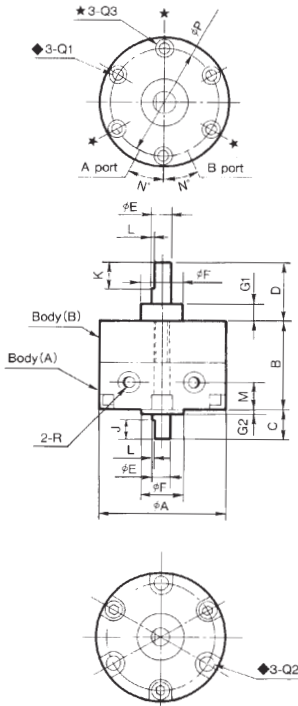
DIMENSIONS  
SEE NEXT PAGE

ACCESSORIES  
SEE NEXT PAGE

FOR FURTHER TECHNICAL DETAILS ON THIS PRODUCT, REQUEST CATALOG REFERENCE N350

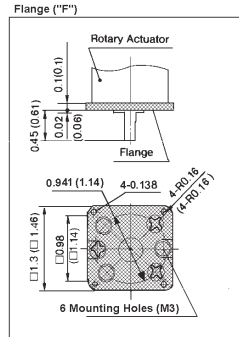
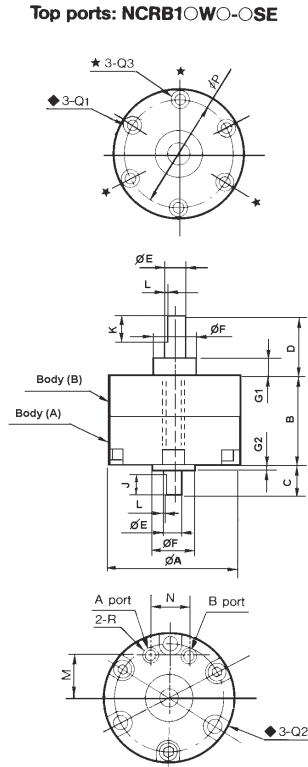
## DIMENSIONS WITH SIDE PORTS

NCRB1\_W\_-\_S ROTARY ACTUATOR

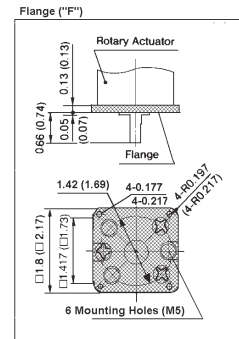


## DIMENSIONS WITH TOP PORTS

NCRB1\_W\_-\_SE ROTARY ACTUATOR



Dim for NCR1W10  
( ): Dim for NCRB1W15



Dim for NCR1W20  
( ): Dim for NCRB1W30

Model (Dimensions in Inches)	A	B	C	D	E		F		G		J	K	L	M	N	P	Q (Depth)			R		
					Tolerances	Tolerance	G1	G2	Q1	Q2							Q3	90°	180°	270°		
NCRB1_W10_-_S	1.14	0.59	0.31	0.55	5/32	-0.00015	3/8	0	0.12	0.04	0.20	0.35	0.02	0.20	25	0.95	5-40UNC (0.2)	0.14 (0.26)	-	10-32UNF	M3	
NCRB1_W10_-_SE						-0.00045		-0.0012						0.33	0.37					M3		
NCRB1_W15_-_S	1.34	0.79	0.35	0.71	3/16	-0.00015	15/32	0	0.16	0.06	0.24	0.39	0.02	0.20	25	1.14	5-40UNC (0.39)	0.14 (0.24)	5-40UNC (0.2)	10-32UNF	M3	
NCRB1_W15_-_SE						-0.00045		-0.0016						0.43	0.39					M3		
NCRB1_W20_-_S	1.65	1.14	0.39	0.79	15/64	-0.00015	9/16	0	0.18	0.06	0.28	0.39	0.02	0.35	25	1.42	8-32UNC (0.53)	0.18 (0.43)	8-32UNC (0.3)	10-32UNF		
NCRB1_W20_-_SE						-0.00045		-0.0016						0.55	0.51							
NCRB1_W30_-_S	1.97	1.57	0.51	0.87	5/16	-0.00002	5/8	0	0.20	0.08	0.31	0.47	0.04	0.39	25	1.69	10-24UNC (0.71)	0.21 (0.65)	10-24UNC (0.4)	10-32UNF		
NCRB1_W30_-_SE						-0.00006		-0.0016						0.61	0.55							

## ACCESSORIES NCRB1BW ROTARY ACTUATOR

SWITCH MOUNTING CLAMP ASSEMBLY	
Model	Part No
NCDRB1BW10	P211170-1
NCDRB1BW15	P211190-1
NCDRB1BW20	P211160-1
NCDRB1BW30	P211180-1

FLANGE MOUNTING ASSEMBLY	
Model	Part No
NC_R1FW10	P211170-2
NC_R1FW15	P211190-2
NC_R1FW20	P211160-2
NC_R1FW30	P211180-2

FOR MORE TECHNICAL INFORMATION ON  
THIS SERIES, PLEASE REFER TO CAT:N350

MORE  
DIMENSIONS  
SEE NEXT PAGE

MORE  
ACCESSORIES  
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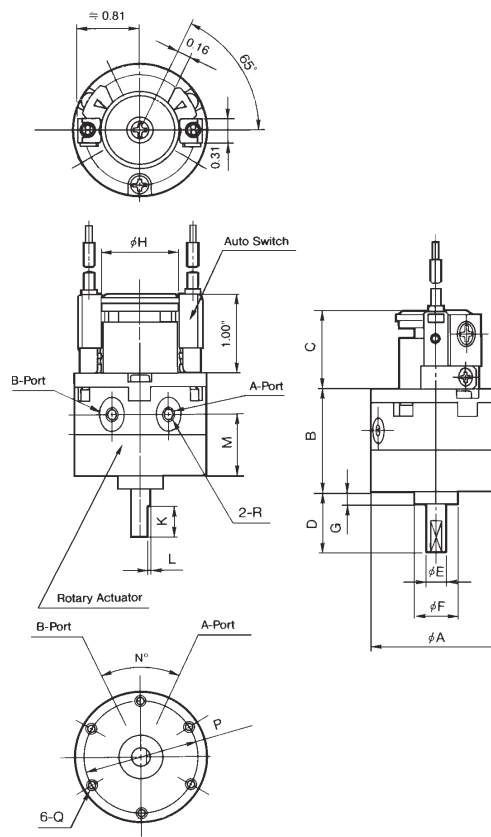
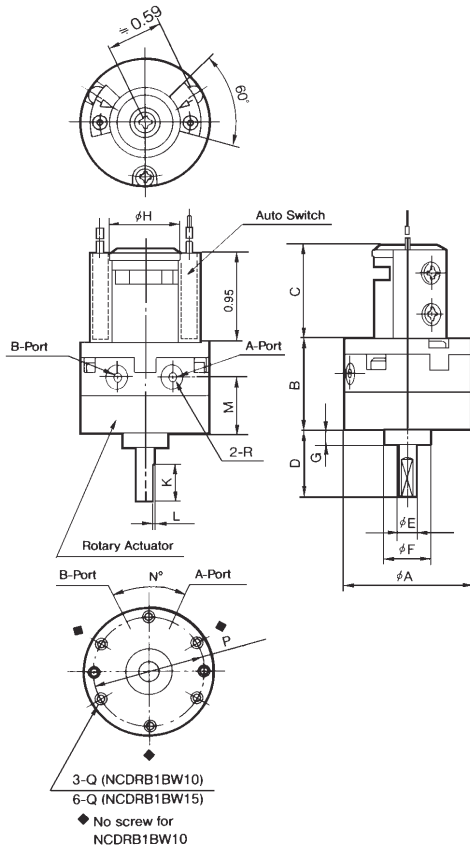
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CATALOG REFERENCE  
N350

DIMENSIONS  
SERIES NCDRB1BW10~15

DIMENSIONS  
SERIES NCDRB1BW20~30



Model (Dimensions in Inches)	A	B	C	D	E			F		G	H	K	L	M	N	P	Q (Depth)	R
					5/32	Tolerances	Tolerance											
NCDRB1BW10	1.14	0.75	0.98	0.55	5/32	-0.00015 -0.00045	0.35	0	-0.0014	0.12	0.73	0.35	0.02	0.39	50	0.94	5-40 (0.2)	M5 (10-32NOM) M3
NCDRB1BW15	1.34	0.94	0.98	0.71	3/16	-0.00001 -0.00017	0.47	0	-0.0017	0.16	0.73	0.39	0.02	0.59	50	1.14	5-40 (0.2)	M5 (10-32NOM) M3
NCDRB1BW20	1.65	1.32	1.00	0.79	15/64	-0.00015 -0.00045	9/16	0	-0.0016	0.18	0.98	0.39	0.02	0.79	50	1.42	8-32UNC (0.28)	10-32UNF
NCDRB1BW30	1.97	1.79	1.00	0.87	5/16	-0.0002 -0.0006	5/8	0	-0.0016	0.20	0.98	0.47	0.04	1.18	50	1.69	10-24UNC (0.40)	10-32UNF

ACCESSORIES  
AUTO SWITCH SPECIFICATIONS

Note: Pre-wired Switches with 3/4 Pin Connectors available, please consult SMC Customer Service

Series	Model		Type	Load Voltage	Load Current	Power Source	Internal Voltage Drop	Indicator Lamp	
	LH Mount	RH Mount							
NCRB1BW10	D-97L	-	Reed	24VDC	5~40mA	5~28VDC	Max 2.4V	ON: Red LED None	
	D-90L	-	Reed	24VDC or less	Max 50mA				
	D-S992L	D-S991L	3 Wire Solid State NPN	28VDC or less	Max 150mA				
	D-T992L	D-T991L	2 Wire Solid State	10~28 VDC	5~150mA				
NCRB1BW20	D-R732L	D-R731L	Reed	24VDC; 100VAC	5~40mA; 5~20mA	5~28VDC	Max 2.4V	ON: Red LED None	
NCRB1BW30	D-R802L	D-R801L	Reed	24VDC/AC or less; 100VDC/AC	Max 50mA; Max 20mA				
	D-S792L	D-S791L	3 Wire Solid State NPN	28VDC or less	Max 150mA				0.8V Max
	D-T792L	D-T791L	2 Wire Solid State	10~28 VDC	5~150mA				