

Series NCA1

Auto Switch Specifications

Applicable Auto Switch/Refer to page 6-16-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m) ^(Note)			Connector	Applicable load			
					DC	AC		0.5 (Nil)	3 (L)	5 (Z)					
Reed switch	—	Grommet	Yes	2-wire	24 V	12 V	—	A53	●	●	●	—	—	PLC	
				3-wire (Equiv. NPN)	—	5 V	—	A56	●	●	—	—	IC circuit	—	
	Diagnosis indication (2-color)		—	—	24 V	—	—	100 V, 200 V	A54	●	●	●	—	—	Relay, PLC
	—					12 V	200 V or less	A59W	●	●	—	—	—	—	Relay, PLC
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	A67	●	●	—	—	—	PLC	
				3-wire (PNP)		5 V, 12 V	—	F59	●	●	○	○	○	IC circuit	—
	2-wire			—	—	100 V, 200 V	J51	●	●	○	—	—	—	—	
	Diagnosis indication (2-color)			12 V	—	J59	●	●	○	○	○	○	—	—	
				5 V, 12 V	—	F59W	●	●	○	○	○	○	IC circuit	—	
	Water resistant (2-color)			3-wire (PNP)	—	—	F5PW	●	●	○	○	○	—	—	
				2-wire	24 V	12 V	—	J59W	●	●	○	○	○	—	—
	Diagnosis output (2-color)			4-wire (NPN)	—	—	F59F	●	●	○	○	○	—	—	
	With timer			3-wire (NPN)	5 V, 12 V	—	F5NTL	—	●	○	○	○	IC circuit	—	

Note) Lead wire length symbols: 0.5 m Nil (Example) A53
 3 m L (Example) A53L
 5 m Z (Example) A53Z

* Solid state auto switches marked with "○" are produced upon receipt of order.

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data

Stainless Steel Rod



- Stainless steel piston rod is used to protect in harsh or wet environments.
- Auto switch mounting available.

Specifications

Bore size (inch)	1.5	2	2.5	3.25	4
Fluid	Air				
Max. operating pressure	250 psi (1.75 MPa)				
Min. operating pressure	8 psi (0.06 MPa)				
Rod material	Stainless steel 304				
Ambient & fluid temperature	40 to 140°F (5 to 60°C)				
Piston speed	2 to 20 inch/sec (50 to 500 mm/sec)				
Cushion	Air cushion standard				
Mounting	Basic style, Foot style, Flange style Center trunnion style, Side tapped style, Clevis style Rod side trunnion style, Head side trunnion style Side lug style				

Standard Stroke

Bore size (in)	Standard stroke
1.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

How to Order

NC **D** A1 **Mounting** **Bore** — **Stroke** **Suffix** — XC6

Ex: NCDA1B 150-0400-XC6

Auto switch capable

Stainless steel rod

Low Speed



- Smooth movements even at 0.4 to 2 inch/sec
- Auto switch mounting available.

Specifications

Bore size (inch)	1.5	2	2.5	3.25	4
Fluid	Air				
Max. operating pressure	250 psi (1.75 MPa)				
Min. operating pressure	8 psi (0.06 MPa)				
Ambient & fluid temperature	40 to 140°F (5 to 60°C)				
Piston speed	0.4 to 2 inch/sec (10 to 50 mm/sec)				
Cushion	None				
Mounting	Basic style, Foot style, Flange style Center trunnion style, Side tapped style, Clevis style Rod side trunnion style, Head side trunnion style Side lug style				

Standard Stroke

Bore size (in)	Standard stroke
1.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

How to Order

NC **D** A1 **Mounting** **Bore** — **Stroke** **N** — XB9

Ex: NCDA1B 150-0400N-XB9

Auto switch capable

Low friction/Low speed

• Standard

Series NCA1

High Temperature



- Use at high temperature up to 300°F.

Specifications

Bore size (inch)	1.5	2	2.5	3.25	4
Fluid	Air				
Max. operating pressure	250 psi (1.75 MPa)				
Min. operating pressure	8 psi (0.06 MPa)				
Ambient & fluid temperature	14 to 300°F (-10 to 150°C)				
Seal material	Fluoro rubber				
Piston speed	2 to 20 inch/sec (50 to 500 mm/sec)				
Cushion	Air cushion standard				
Mounting	Basic style, Foot style, Flange style Center trunnion style, Side tapped style, Clevis style Rod side trunnion style, Head side trunnion style Side lug style				

Standard Stroke

Bore size (in)	Standard stroke
1.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

How to Order

NCA1 **Mounting** **Bore** — **Stroke** **Suffix** — XB6

Ex: NCA1B 150-0400-XB6

High temperature

Auto switch capable not available

Low Temperature



- Use at low temperature down to -22°F.

Specifications

Bore size (inch)	1.5	2	2.5	3.25	4
Fluid	Air				
Max. operating pressure	250 psi (1.75 MPa)				
Min. operating pressure	8 psi (0.06 MPa)				
Ambient & fluid temperature	-22 to 140°F (-30 to 60°C)				
Seal material	Low durometer nitril rubber				
Piston speed	2 to 20 inch/sec (50 to 500 mm/sec)				
Cushion	None				
Mounting	Basic style, Foot style, Flange style Center trunnion style, Side tapped style, Clevis style Rod side trunnion style, Head side trunnion style Side lug style				

Standard Stroke

Bore size (in)	Standard stroke
1.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

How to Order

NCA1 **Mounting** **Bore** — **Stroke** **N** — XB7

Ex: NCA1B 150-0400N-XB7

Standard

Low temperature

Auto switch capable not available

Oversized Rod

Specifications

Bore size (inch)	2	2.5	3.25	4
Fluid	Air			
Max. operating pressure	250 psi (1.75 MPa)			
Min. operating pressure	8 psi (0.06 MPa)			
Ambient & fluid temperature	40 to 140°F (5 to 60°C)			
Piston speed	2 to 20 inch/sec (50 to 500 mm/sec)			
Cushion	Air cushion standard			
Mounting	Basic style, Foot style, Flange style, Center trunnion style, Side tapped style			

Standard Stroke

Bore size (in)	Standard stroke
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

How to Order Oversized Rod/Standard

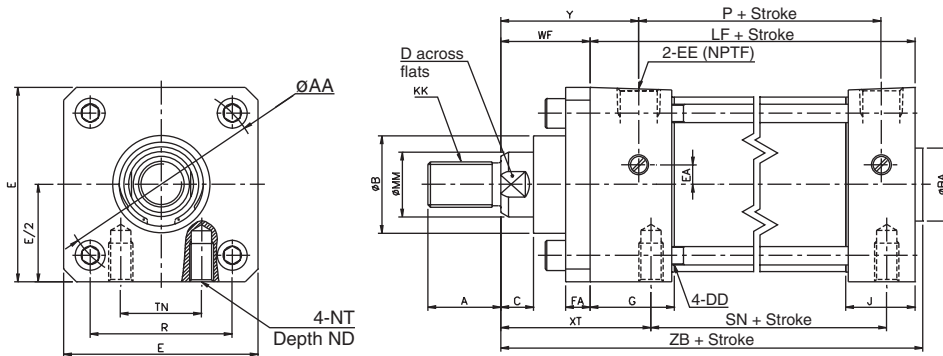
NC D A1 Mounting Bore Stroke Suffix - XB5

Ex: NCDA1B 250-0200-XB5

Auto switch capable

Oversized/rod

Oversized Rod-Basic Style: NC□A1B (XB5)



Bore size (in)	MM	KK	A	AA	B	BA	C	D	DD	E	EA	EE	FA	G	J	R	ND	NT	TN	WF	XT	Y	LF	P	SN	ZB
200 (2")	1	3/4-16	1 1/8	2.6	1 1/2	1 1/8	1/2	7/8	5/16-24	2 1/2	0.3	3/8	3/8	1.26	1.06	1.84	7/16	5/16-18	7/8	1 3/8	2 5/16	2.09	3 5/8	2.40	2 1/4	5 1/8
250 (2.5")	1	3/4-16	1 1/8	3.1	1 1/2	1 1/8	1/2	7/8	5/16-24	3	0	3/8	3/8	1.30	1.06	2.19	19/32	3/8-18	1 1/4	1 3/8	2 5/16	2.13	3 3/4	2.48	2 3/8	5 1/4
325 (3.25")	1 3/8	1-14	1 5/8	3.9	2	1 1/2	5/8	1 1/4	3/8-24	3 3/4	0	1/2	5/8	1.57	1.18	2.76	5/8	1/2-13	1 1/2	1 5/8	2 11/16	2.59	4 1/4	2.72	2 5/8	6 5/64
400 (4")	1 3/8	1-14	1 5/8	4.7	2	1 1/2	5/8	1 1/4	3/8-24	3 3/4	0	1/2	5/8	1.57	1.18	3.32	5/8	1/2-13	2 1/16	1 5/8	2 11/16	2.59	4 1/4	2.72	2 5/8	6 5/64

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data

Dual Operation—Double Rod



- 4 positions available from a single cylinder
- Auto switch capable

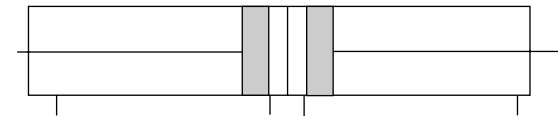
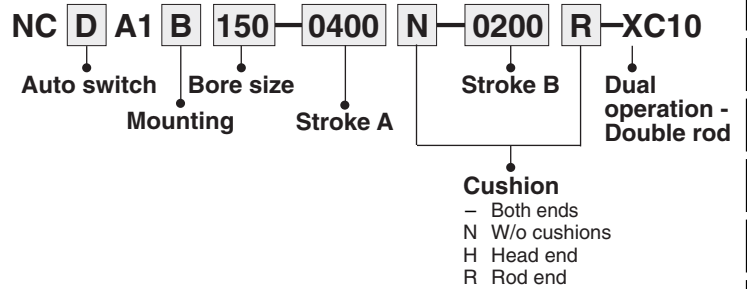
Specifications

Bore size (inch)	1.5	2	2.5	3.25	4
Fluid	Air				
Max. operating pressure	250 psi (1.75 MPa)				
Min. operating pressure	8 psi (0.06 MPa)				
Ambient & fluid temperature	40 to 140°F (5 to 60°C)				
Piston speed	2 to 20 inch/sec (50 to 500 mm/sec)				
Cushion	Air cushion standard				
Mounting	Basic style, Foot style, Flange style, Side tapped style				

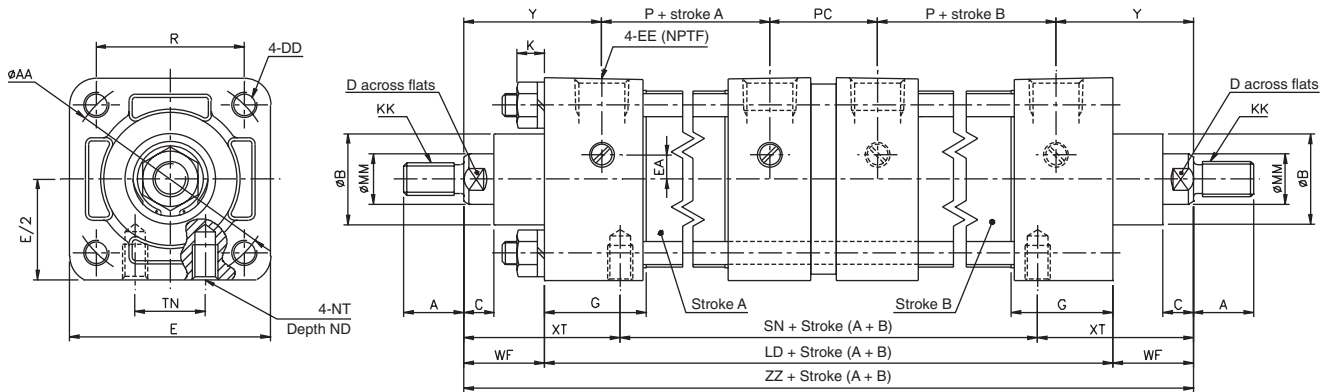
Standard Stroke

Bore size (in)	Standard stroke
1.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

How to Order



Dimensions



Bore size (in)	MM	KK	A	AA	B	C	D	DD	E	EA	EE	G	K	R	WF	Y	LD	P	PC	ZZ	SN
150 (1.5")	5/8	7/16-20	3/4	2.02	1 1/8	3/8	9/16	1/4-28	2	0.3	3/8	1.26	9/32	1.43	1	1.71	7.44	2.36	1.30	9.44	5.56
200 (2")	5/8	7/16-20	3/4	2.60	1 1/8	3/8	9/16	5/16-24	2 1/2	0.3	3/8	1.26	11/32	1.84	1	1.71	7.52	2.40	1.30	9.52	5.64
250 (2.5")	5/8	7/16-20	3/4	3.1	1 1/8	3/8	9/16	5/16-24	3	0	3/8	1.30	11/32	2.19	1	1.75	7.76	2.48	1.30	9.76	5.88
325 (3.25")	1	3/4-16	1 1/8	3.90	1 1/2	1/2	7/8	3/8-24	3 3/4	0	1/2	1.57	27/64	2.76	1 3/8	2.34	8.94	2.72	1.57	11.69	6.82
400 (4")	1	3/4-16	1 1/8	4.7	1 1/2	1/2	7/8	3/8-24	4 1/2	0	1/2	1.57	27/64	3.32	1 3/8	2.34	8.94	2.72	1.57	11.69	6.82

Bore size (in)	TN	XT	NT	ND
150 (1.5")	5/8	1 15/16	1/4-20	9/32
200 (2")	7/8	1 15/16	5/16-18	7/16
250 (2.5")	1 1/4	1 15/16	3/8-16	19/32
325 (3.25")	1 1/2	2 7/16	1/2-13	5/8
400 (4")	2 1/16	2 7/16	1/2-13	5/8

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

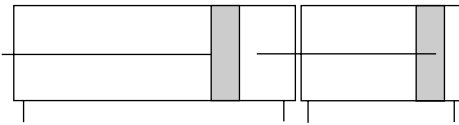
Data

Series NCA1

Dual Operation—Single Rod



- 3 positions can be obtained from a single cylinder.
- Twice the force is available for the extended stroke.
- Auto switch capable



Specifications

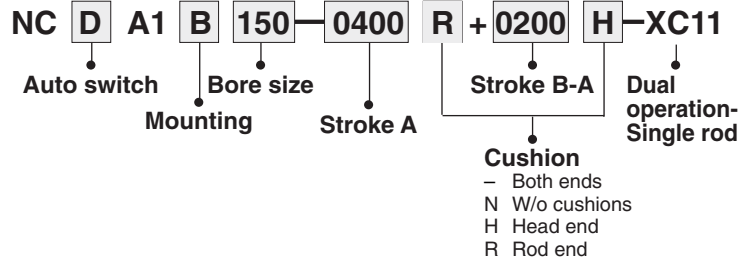
Bore size (inch)	1.5	2	2.5	3.25	4
Fluid	Air				
Max. operating pressure	250 psi (1.75 MPa)				
Min. operating pressure	8 psi (0.06 MPa)				
Ambient & fluid temperature	40 to 140°F (5 to 60°C)				
Piston speed	2 to 20 inch/sec (50 to 500 mm/sec)				
Cushion	Air cushion standard				
Mounting	Basic style, Foot style, Flange style, Clevis style, Side tapped style				

Standard Stroke

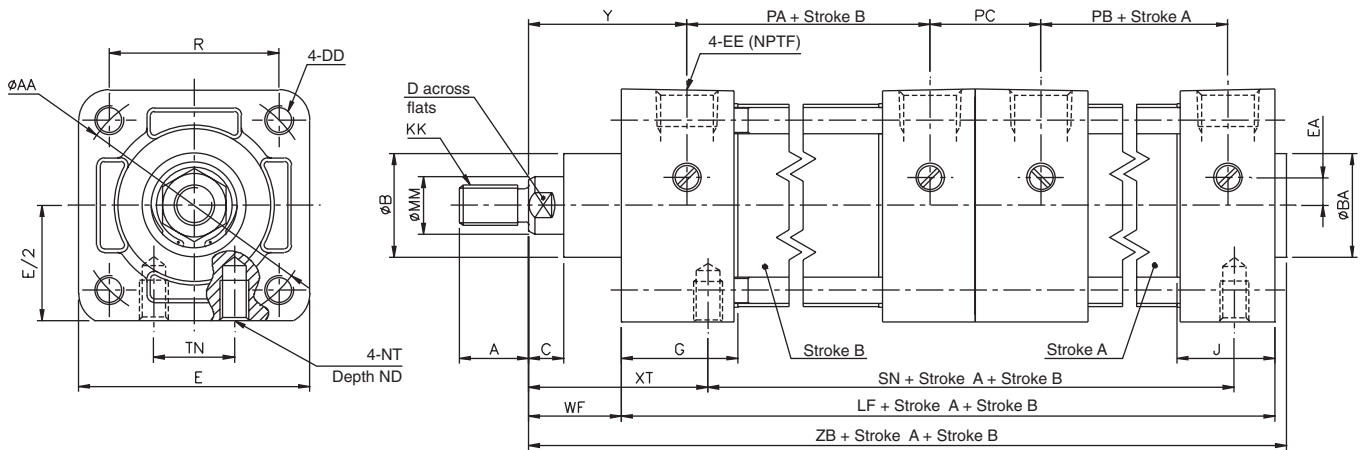
Bore size (in)	Standard stroke
1.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20
2, 2.50	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24
3.25, 4	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28

Example: NCDA1B150-0200R+0300-XC11 will stroke 2" then an additional 3" for a total stroke of 5". The front cylinder B (rod end) must be equal to 5" to allow the full stroke.

How to Order



Dimensions



Bore size (in)	MM	KK	A	AA	B	BA	C	D	DD	E	EA	EE	G	J	R	TN	WF	XT	Y	LF	PA	PB	PC
150 (1.5")	5/8	7/16-20	3/4	2.02	1 1/8	1 1/8	3/8	9/16	1/4-28	2	0.3	3/8	1.26	1.1	1.43	5/8	1	1 15/16	1.71	7.26	2.36	2.40	1.24
200 (2")	5/8	7/16-20	3/4	2.6	1 1/8	1 1/8	3/8	9/16	5/16-24	2.5	0.3	3/8	1.26	1.06	1.84	7/8	1	1 15/16	1.71	7.26	2.40	2.44	1.20
250 (2.5")	5/8	7/16-20	3/4	3.1	1 1/8	1 1/8	3/8	9/16	5/16-24	3	0	3/8	1.3	1.06	2.19	1 1/4	1	1 15/16	1/75	7.38	2.48	2.52	1.12
325 (3.25")	1	3/4-16	1 1/8	3.9	1 1/2	1 1/2	1/2	7/8	3/8-24	3.75	0	1/2	1.57	1.18	2.76	1 1/2	1 3/8	2 7/16	2.34	8.52	2.72	2.76	1.51
400 (4")	1	3/4-16	1 1/8	4.7	1 1/2	1 1/2	1/2	7/8	3/8-24	4.5	0	1/2	1.57	1.18	3.32	2 1/16	1 3/8	2 7/16	2.34	8.52	2.72	2.76	1.51

Bore size (in)	SN	ZB	NT	ND
150 (1.5")	5.89	8.39	1/4-20	9/32
200 (2")	5.89	8.39	5/16-18	7/16
250 (2.5")	6.01	8.50	3/8-16	19/32
325 (3.25")	6.89	10.1	1/2-13	5/8
400 (4")	6.89	10.1	1/2-13	5/8