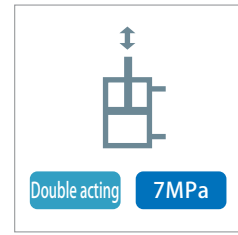


Push/pull cylinder

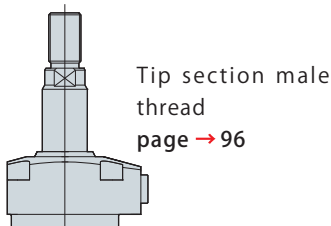
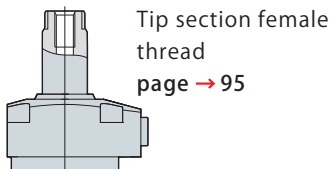
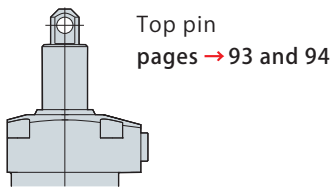
model
CNA



Product line with superior durability and wide range of applications

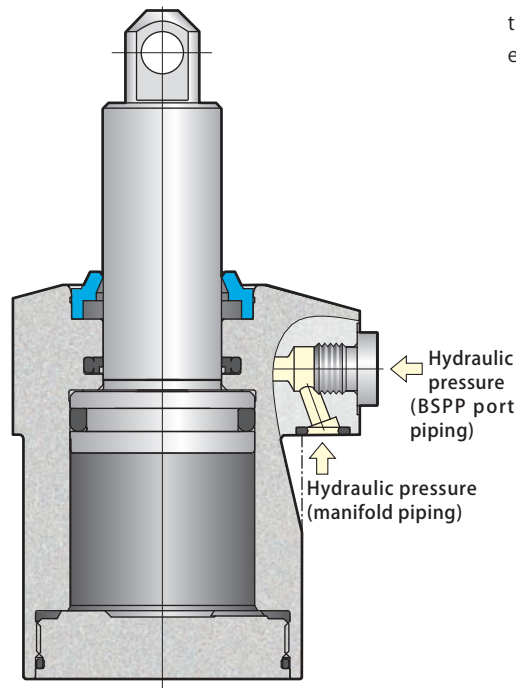
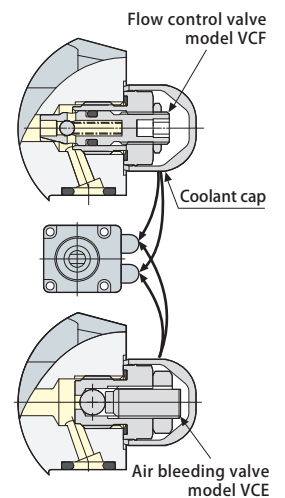
Clamp rod tip section shapes

Three types of tip section shapes are available for clamp rods.



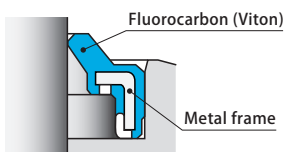
Flow control valve Patented

For manifold piping, operating speeds can be adjusted individually by mounting a flow control valve (option), making sequential operation on same circuit or control of synchronization operation easier. page → 145



High pressure coolant & metal chip protection

Special scraper prevents intrusion of high pressure coolant and metal chips into cylinder.



2-way hydraulic piping

BSPP piping connection port and manifold piping connection port are available.

7MPa clamp & work support
Swing clamp
Link clamp
Clamp cylinder
Work support
Option

Specifications

Model			CNA02	CNA04	CNA06	CNA10	CNA16	CNA25
Cylinder force *1	Push	(kN)	3.4	4.9	6.7	10.6	17.2	26.9
	Pull	(kN)	2.0	3.2	4.0	7.2	12.3	20.0
Cylinder inner diameter		(mm)	25	30	35	44	56	70
Rod diameter		(mm)	16	18	22.4	25	30	35.5
Effective area	Push	(cm ²)	4.9	7.1	9.6	15.2	24.6	38.5
	Pull	(cm ²)	2.9	4.5	5.7	10.3	17.6	28.6
Max. oil flow rate		(ℓ/min)	1.0	1.6	2.1	5.0	8.4	10.5
Recommended tightening torque of mounting screws *2		(N·m)	7	7	11	25	49	60

Working pressure range : 1 ~ 7 MPa Proof pressure : 10.5 MPa Operating temperature : 0 ~ 70°C

Fluid used : General mineral based hydraulic oil (ISO-VG32 equivalent)

*1 : Capacity values for hydraulic pressure of 7 MPa are shown.

*2 : Strength classification of mounting screws is 12.9.

Fluorocarbon has been adopted for seal sections where cutting fluid is applied, as a measure for the use of chlorine-based cutting fluid (this is not thermal resistant specification).

Model designation

CNA ①-②③④

(Example : CNA06-70PA1)

① Size

② Stroke

③ Rod tip section specifications

④ Variation code

CNA	02
	04
	06
	10
	16
	25

(10)(15)(20)(30)(40)(50)(60)(70)
(10)(15)(20) 30 (40)(50)(60)(70)
(10)(15)(20) 30 40 50 (60)(70)(80)(90)
(10) (20)(30) 40 50 60 (70)(80)(90)(100)
(10) (20)(30) 40 50 60 (70)(80)(90)(100)
(20)(30)(40) 50 60 70 (80)(90)(100)(110)

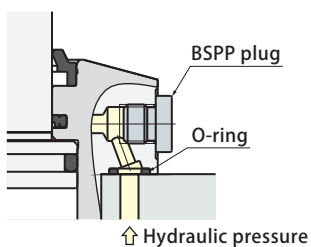
P : Top pin pages → 93 and 94
 T : Tip section female thread page → 95
 M : Tip section male thread page → 96

(Nil): Standard
 (E) : Dual rod pages → 97 and 98
 (A□) : Air sensor pages → 99 to 102

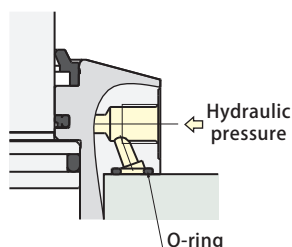
Those in brackets () are made to order. Dual rod and air sensor models are not available for those marked with an asterisk (*).

Piping method

Manifold piping



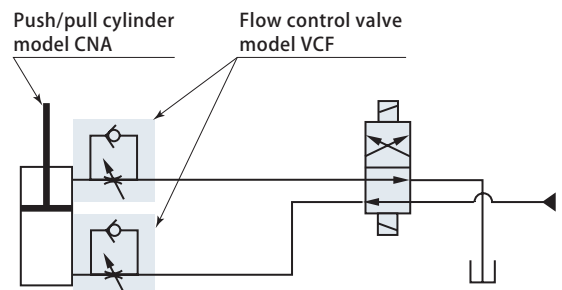
BSPP port piping



Two piping methods are available for model CNA, manifold piping and BSPP port piping. Dismount BSPP plug when using BSPP port piping (do not dismount O-ring).

Refer to page → 149 for details on BSPP port piping flareless fitting.

Hydraulic circuit diagram (reference)

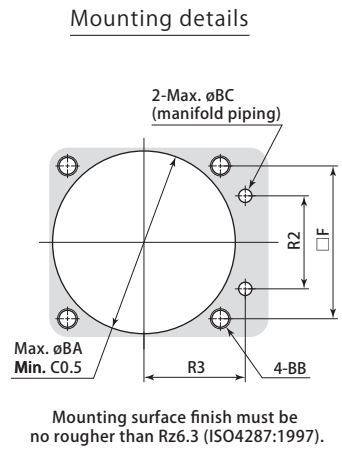
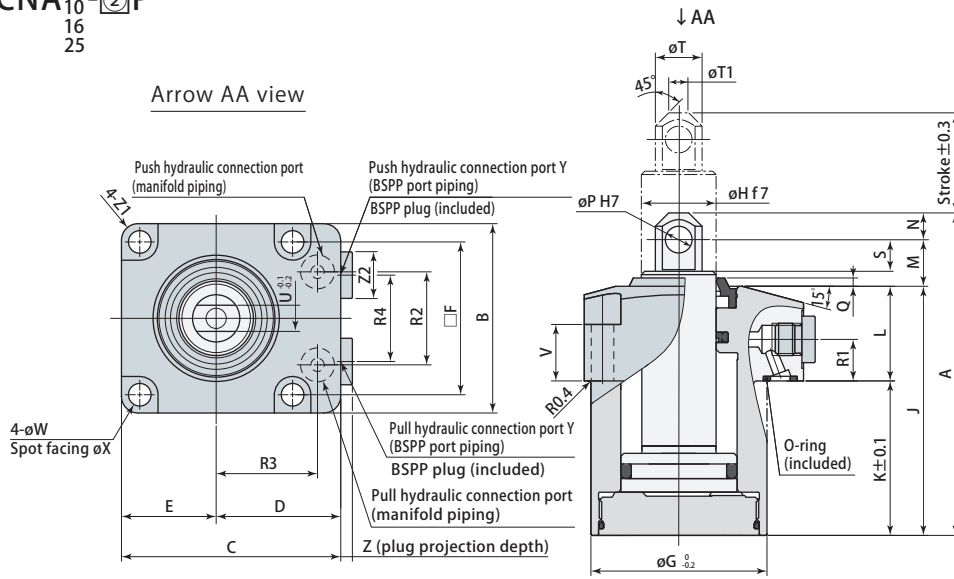


Use flow control valve for meter-in control. Using it in meter-out control results in abnormally high pressure due to back pressure on push side during pull operation, leading to malfunction.

Flow control valve model VCF, air bleeding valve model VCE are available as options for use with manifold piping. Refer to pages → 145 and 146 for details.

Dimensions

CNA
02
04
06
10
16
25
-□P



(mm)

Model	CNA02-□P	CNA04-□P	CNA06-□P	CNA10-□P	CNA16-□P	CNA25-□P
B	45	50	57	70	86	108
C	55	60	66	82	96	120
D	32.5	35	37.5	47	53	66
E	22.5	25	28.5	35	43	54
F	35	40	46	56	68	88
G	39	47	53	63	78	100
H	16 ^{-0.016} _{-0.034}	18 ^{-0.016} _{-0.034}	22.4 ^{-0.020} _{-0.041}	25 ^{-0.020} _{-0.041}	30 ^{-0.020} _{-0.041}	35.5 ^{-0.025} _{-0.050}
L	26.5	26.5	28.5	36	40	47
M	11	12	14	15	16	19.5
N	5	6	8	9	11	13
P	6 ^{+0.012} ₀	6 ^{+0.012} ₀	8 ^{+0.015} ₀	10 ^{+0.015} ₀	12 ^{+0.018} ₀	14 ^{+0.018} ₀
Q	2	2.5	2.5	2.5	2.5	2
R1	12.5	12.5	12.5	14	14	21
R2	22	24	28	36	45	50
R3	25	28	30.5	36	42	57
R4	20	22	26	30	38	50
S	6.5	7	9	10	10.8	14.5
T	10±0.2	12±0.2	14±0.2	16±0.2	20±0.2	26±0.2
T1	5	5	6	8	10	14
U	6	6	8	11	14	16
V	18	17	17	20	20	20
W	5.5	5.5	6.8	9	11	14
X	9.5	9.5	11	14	17.5	20
Y	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8
Z	3.8	3.8	3.8	4.8	4.8	4.8
Z1	3	5	5	6	7	10
Z2	14	14	14	19	19	22
O-ring *1	P7	P7	P7	P8	P8	P10
BA	40	48	54	64	79	101
BB	M5	M5	M6	M8	M10	M12
BC	4	4	4	6	6	8

*1 : Material used for O-ring is fluorocarbon (with hardness Hs90).

Note 1. Mounting screws are not included.

2. SCM435-H (HB269 to 331) is recommended as material for pin.

3. Refer to pages → 97 to 102 for specifications of dual rod and air sensor models.

CNA02-Stroke			10	15	20	30	40	50	60	70
Cylinder capacity	Push	(cm ³)	4.9	7.4	9.8	14.7	19.6	24.5	29.4	34.3
	Pull	(cm ³)	2.9	4.3	5.8	8.7	11.6	14.5	17.4	20.3
A		(mm)	70.5		85.5		105.5		125.5	
J		(mm)	54.5		69.5		89.5		109.5	
K		(mm)	28		43		63		83	
Mass	P: Top pin	(kg)	0.7		0.8		1.0	0.9	1.1	

Stroke 10, 20, 40, and 60 use spacers.

CNA04-Stroke			10	15	20	30	40	50	60	70
Cylinder capacity	Push	(cm ³)	7.1	10.6	14.1	21.2	28.3	35.3	42.4	49.5
	Pull	(cm ³)	4.5	6.8	9.0	13.6	18.1	22.6	27.1	31.7
A		(mm)	75.5		90.5		110.5		130.5	
J		(mm)	57.5		72.5		92.5		112.5	
K		(mm)	31		46		66		86	
Mass	P: Top pin	(kg)	0.9		1.1		1.3		1.5	

Stroke 10, 20, 40, and 60 use spacers.

CNA06-Stroke			10	15	20	30	40	50	60	70	80	90
Cylinder capacity	Push	(cm ³)	9.6	14.4	19.2	28.9	38.5	48.1	57.7	67.3	77.0	86.6
	Pull	(cm ³)	5.7	8.5	11.4	17.0	22.7	28.4	34.1	39.8	45.4	51.1
A		(mm)	82		97		117		137		157	
J		(mm)	60		75		95		115		135	
K		(mm)	31.5		46.5		66.5		86.5		106.5	
Mass	P: Top pin	(kg)	1.2		1.4		1.7		1.9		2.2	

Stroke 10, 20, 40, 60 and 80 use spacers.

CNA10-Stroke			10	20	30	40	50	60	70	80	90	100
Cylinder capacity	Push	(cm ³)	15.2	30.4	45.6	60.8	76.0	91.2	106.4	121.6	136.8	152.1
	Pull	(cm ³)	10.3	20.6	30.9	41.2	51.5	61.8	72.1	82.4	92.7	103.0
A		(mm)	97.5		117.5		137.5		157.5		177.5	
J		(mm)	73.5		93.5		113.5		133.5		153.5	
K		(mm)	37.5		57.5		77.5		97.5		117.5	
Mass	P: Top pin	(kg)	2.1		2.4		2.7		3.1		3.4	

Stroke 10, 30, 50, 70 and 90 use spacers.

CNA16-Stroke			10	20	30	40	50	60	70	80	90	100
Cylinder capacity	Push	(cm ³)	24.6	49.3	73.9	98.5	123.2	147.8	172.4	197.0	221.7	246.3
	Pull	(cm ³)	17.6	35.1	52.7	70.2	87.8	105.4	122.9	140.5	158.1	175.6
A		(mm)	106		126		146		166		186	
J		(mm)	79		99		119		139		159	
K		(mm)	39		59		79		99		119	
Mass	P: Top pin	(kg)	3.3		3.8		4.3		4.7		5.2	

Stroke 10, 30, 50, 70 and 90 use spacers.

CNA25-Stroke			20	30	40	50	60	70	80	90	100	110
Cylinder capacity	Push	(cm ³)	77.0	115.5	153.9	192.4	230.9	269.4	307.9	346.4	384.8	423.3
	Pull	(cm ³)	57.2	85.8	114.3	142.9	171.5	200.1	228.7	257.3	285.9	314.5
A		(mm)	129.5		149.5		169.5		189.5		209.5	
J		(mm)	97		117		137		157		177	
K		(mm)	50		70		90		110		130	
Mass	P: Top pin	(kg)	6.3		7.1		7.9		8.6		9.5	9.4

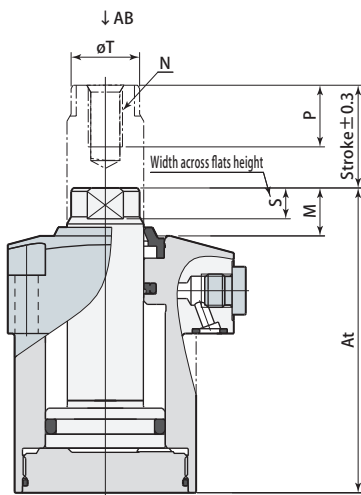
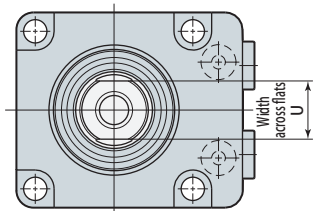
Stroke 20, 40, 60, 80 and 100 use spacers.

7MPa clamp & work support
Swing clamp
Link clamp
Clamp cylinder
Work support
Option

Dimensions

CNA-02T
 02
 04
 06
 10
 16
 25

Arrow AB view



Note 1. Mounting screws are not included.

2. Refer to pages → 93 and 94 for specifications and dimensions of products that are not listed on this page.

3. Refer to pages → 97 to 102 for specifications of dual rod and air sensor models.

(mm)

Model	CNA02-□T	CNA04-□T	CNA06-□T	CNA10-□T	CNA16-□T	CNA25-□T
M	11.5	13	14	15	17	18.5
N	M8×1.25	M8×1.25	M10×1.5	M12×1.75	M16×2	M20×2.5
P	14	14	18	21	27	33
S	7	8	9	10	12	14
T	14±0.2	16±0.2	20±0.2	23±0.2	28±0.2	33.5±0.3
U	12	14	17	19	24	30

CNA02-Stroke		10	15	20	30	40	50	60	70
At	(mm)	66		81		101		121	
Mass	T: Tip section female thread (kg)	0.7		0.8		1.0		1.1	

CNA04-Stroke		10	15	20	30	40	50	60	70
At	(mm)	70.5		85.5		105.5		125.5	
Mass	T: Tip section female thread (kg)	0.9		1.1		1.3		1.5	

CNA06-Stroke		10	15	20	30	40	50	60	70	80	90
At	(mm)	74		89		109		129		149	
Mass	T: Tip section female thread (kg)	1.2		1.4		1.7		1.9		2.2	

CNA10-Stroke		10	20	30	40	50	60	70	80	90	100
At	(mm)	88.5		108.5		128.5		148.5		168.5	
Mass	T: Tip section female thread (kg)	2.1		2.4		2.7		3.1		3.4	

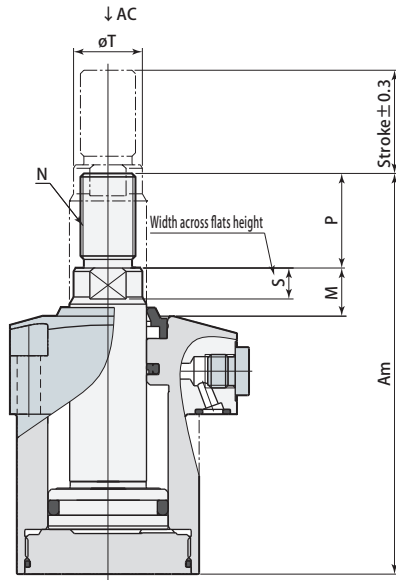
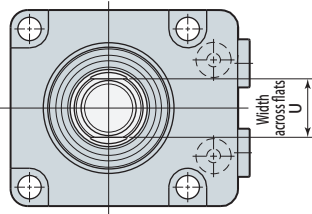
CNA16-Stroke		10	20	30	40	50	60	70	80	90	100
At	(mm)	96		116		136		156		176	
Mass	T: Tip section female thread (kg)	3.3		3.8		4.3		4.7		5.2	

CNA25-Stroke		20	30	40	50	60	70	80	90	100	110
At	(mm)	115.5		135.5		155.5		175.5		195.5	
Mass	T: Tip section female thread (kg)	6.3		7.1		7.8		8.6		9.4	

Dimensions

CNA02-□M
CNA04-□M
CNA06-□M
CNA10-□M
CNA16-□M
CNA25-□M

Arrow AC view



- Note 1. Mounting screws are not included.
 2. Refer to pages → 93 and 94 for specifications and dimensions of products that are not listed on this page.
 3. Refer to pages → 97 to 102 for specifications of dual rod and air sensor models.

(mm)

Model	CNA02-□M	CNA04-□M	CNA06-□M	CNA10-□M	CNA16-□M	CNA25-□M
M	11.5	13	14	15	17	18.5
N	M12×1.25	M14×1.5	M16×1.5	M20×1.5	M24×1.5	M30×1.5
P	20	25	27.5	30	35	45
S	7	8	9	10	12	14
T	14±0.2	16±0.2	20±0.2	23±0.2	28±0.2	33.5±0.3
U	12	14	17	19	24	30

CNA02-Stroke		10	15	20	30	40	50	60	70
Am	(mm)	86		101		121		141	
Mass	M: Tip section male thread (kg)	0.7		0.8		1.0		1.1	

CNA04-Stroke		10	15	20	30	40	50	60	70
Am	(mm)	95.5		110.5		130.5		150.5	
Mass	M: Tip section male thread (kg)	1.0		1.1		1.3		1.5	

CNA06-Stroke		10	15	20	30	40	50	60	70	80	90
Am	(mm)	101.5		116.5		136.5		156.5		176.5	
Mass	M: Tip section male thread (kg)	1.3		1.5		1.7		2.0		2.3	

CNA10-Stroke		10	20	30	40	50	60	70	80	90	100
Am	(mm)	118.5		138.5		158.5		178.5		198.5	
Mass	M: Tip section male thread (kg)	2.2		2.5		2.8		3.2		3.5	

CNA16-Stroke		10	20	30	40	50	60	70	80	90	100
Am	(mm)	131		151		171		191		211	
Mass	M: Tip section male thread (kg)	3.5		4.0		4.4		4.9		5.4	

CNA25-Stroke		20	30	40	50	60	70	80	90	100	110
Am	(mm)	160.5		180.5		200.5		220.5		240.5	
Mass	M: Tip section male thread (kg)	6.6		7.4		8.2		9.0		9.7	

Model designation

Dimensions

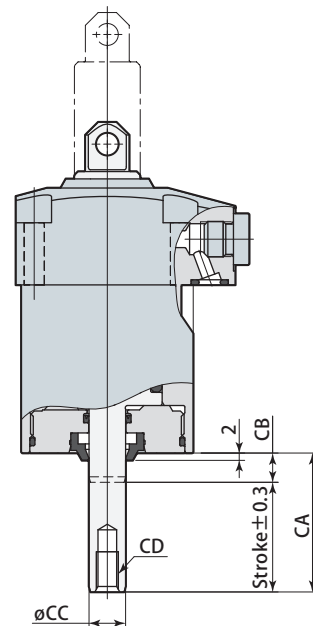
CNA ①-②③E (Example : CNA06-70PE)

① Size

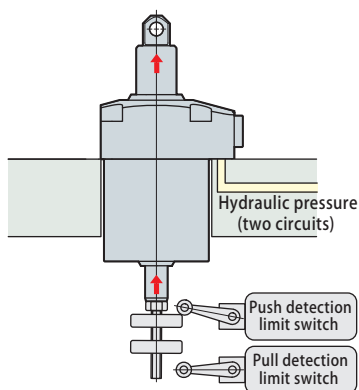
② Stroke

③ Rod tip section specifications

CNA	02	10 15 20 30 40 50	P : Top pin T : Tip section female thread M : Tip section male thread E : Dual rod Made to order
	04	10 15 20 30 40 50 60 70	
	06	10 20 30 40 50 60 70 80	
	10	20 30 40 50 60 70 80 90	
	16	20 30 40 50 60 70 80 90	
	25	20 30 40 50 60 70 80 90	



Usage example



Note 1. Refer to specifications (page → 92), dimensions (pages → 93 to 96) for specifications and dimensions of products that are not listed on this page.

- 2. Mounting screws are not included.
- 3. This diagram depicts shape of rod top pin.

CNA02-Stroke			10	15	20	30	40	50
Cylinder force *1	Push (kN)		3.1					
	Pull (kN)		2.0					
Cylinder capacity	Push (cm ³)		4.4	6.6	8.8	13.2	17.6	22.0
	Pull (cm ³)		2.9	4.3	5.8	8.7	11.6	14.5
CA	(mm)		23	23	38	38	58	58
CB	(mm)		13	8	18	8	18	8
CC	(mm)		8					
CD	(mm)		M5×0.8 depth 8					
Mass	PE : Top pin (kg)		0.7	0.7	0.8	0.8	0.9	0.9
	TE : Tip section female thread (kg)		0.7	0.7	0.8	0.8	0.9	0.9
	ME : Tip section male thread (kg)		0.7	0.7	0.8	0.8	1.0	1.0

Stroke 10, 20 and 40 use spacers. *1 : Capacity values for hydraulic pressure of 7 MPa are shown.

CNA04-Stroke			10	15	20	30	40	50	60	70
Cylinder force *1	Push (kN)		4.4							
	Pull (kN)		3.2							
Cylinder capacity	Push (cm ³)		6.3	9.4	12.6	18.8	25.1	31.4	37.7	44.0
	Pull (cm ³)		4.5	6.8	9.0	13.6	18.1	22.6	27.1	31.7
CA	(mm)		23	23	38	38	58	58	78	78
CB	(mm)		13	8	18	8	18	8	18	8
CC	(mm)		10							
CD	(mm)		M6×1 depth 11							
Mass	PE : Top pin (kg)		0.9		1.1		1.3		1.5	
	TE : Tip section female thread (kg)		0.9		1.1		1.3		1.5	
	ME : Tip section male thread (kg)		0.9		1.1		1.3		1.5	

Stroke 10, 20, 40, and 60 use spacers. *1 : Capacity values for hydraulic pressure of 7 MPa are shown.

CNA06-Stroke			10	15	20	30	40	50	60	70
Cylinder force *1	Push (kN)		6.2							
	Pull (kN)		4.0							
Cylinder capacity	Push (cm ³)		8.8	13.3	17.7	26.5	35.3	44.2	53.0	61.9
	Pull (cm ³)		5.7	8.5	11.4	17.0	22.7	28.4	34.1	39.8
CA	(mm)		23	23	38	38	58	58	78	78
CB	(mm)		13	8	18	8	18	8	18	8
CC	(mm)		10							
CD	(mm)		M6×1 depth 11							
Mass	PE : Top pin (kg)		1.2	1.2	1.4	1.4	1.7	1.7	1.9	1.9
	TE : Tip section female thread (kg)		1.2	1.2	1.4	1.4	1.7	1.7	1.9	1.9
	ME : Tip section male thread (kg)		1.3	1.3	1.5	1.4	1.7	1.7	2.0	2.0

Stroke 10, 20, 40, and 60 use spacers. *1 : Capacity values for hydraulic pressure of 7 MPa are shown.

CNA10-Stroke			10	20	30	40	50	60	70	80
Cylinder force *1	Push (kN)		9.9							
	Pull (kN)		7.2							
Cylinder capacity	Push (cm ³)		14.1	28.1	42.2	56.3	70.4	84.4	98.5	112.6
	Pull (cm ³)		10.3	20.6	30.9	41.2	51.5	61.8	72.1	82.4
CA	(mm)		28	28	48	48	68	68	88	88
CB	(mm)		18	8	18	8	18	8	18	8
CC	(mm)		12							
CD	(mm)		M8×1.25 depth 15							
Mass	PE : Top pin (kg)		2.2	2.1	2.5	2.5	2.8	2.8	3.2	3.1
	TE : Tip section female thread (kg)		2.2	2.1	2.5	2.5	2.8	2.8	3.2	3.1
	ME : Tip section male thread (kg)		2.2	2.2	2.6	2.5	2.9	2.9	3.2	3.2

Stroke 10, 30, 50, and 70 use spacers. *1 : Capacity values for hydraulic pressure of 7 MPa are shown.

CNA16-Stroke			10	20	30	40	50	60	70	80
Cylinder force *1	Push (kN)		16.4							
	Pull (kN)		12.3							
Cylinder capacity	Push (cm ³)		23.5	47.0	70.5	94.0	117.5	141.0	164.5	188.0
	Pull (cm ³)		17.6	35.1	52.7	70.2	87.8	105.4	122.9	140.5
CA	(mm)		28	28	48	48	68	68	88	88
CB	(mm)		18	8	18	8	18	8	18	8
CC	(mm)		12							
CD	(mm)		M8×1.25 depth 15							
Mass	PE : Top pin (kg)		3.4	3.3	3.9	3.8	4.4	4.3	4.9	4.8
	TE : Tip section female thread (kg)		3.4	3.3	3.9	3.8	4.3	4.3	4.8	4.8
	ME : Tip section male thread (kg)		3.5	3.4	3.9	3.9	4.4	4.4	4.9	4.9

Stroke 10, 30, 50, and 70 use spacers. *1 : Capacity values for hydraulic pressure of 7 MPa are shown.

CNA25-Stroke			20	30	40	50	60	70	80	90
Cylinder force *1	Push (kN)		25.5							
	Pull (kN)		20.0							
Cylinder capacity	Push (cm ³)		72.9	109.4	145.9	182.4	218.8	255.3	291.8	328.3
	Pull (cm ³)		57.2	85.8	114.3	142.9	171.5	200.1	228.7	257.3
CA	(mm)		38	38	58	58	78	78	98	98
CB	(mm)		18	8	18	8	18	8	18	8
CC	(mm)		16							
CD	(mm)		M10×1.5 depth 18							
Mass	PE : Top pin (kg)		6.4	6.3	7.2	7.1	8.0	7.9	8.8	8.7
	TE : Tip section female thread (kg)		6.3	6.2	7.2	7.0	7.9	7.8	8.7	8.7
	ME : Tip section male thread (kg)		6.6	6.6	7.4	7.4	8.3	8.2	9.1	9.0

Stroke 20, 40, 60, and 80 use spacers. *1 : Capacity values for hydraulic pressure of 7 MPa are shown.

CNA02-Stroke		10	15	20	30	40	50	
DA	(mm)	41			56		76	
DB	(mm)	29			44		64	
DC	(mm)	35.5			50.5		70.5	
DD	(mm)	58			73		93	
DE	(mm)	64.5			79.5		99.5	
DF	(mm)	73			103		143	
DG	(mm)	40			55		75	
DH	(mm)	53.5			68.5		88.5	
DJ	(mm)			40				
DK	(mm)			38 ^{-0.025} _{-0.050}				
DL	(mm)			38 ^{+0.039} ₀				
DM	(mm)			38.6				
DN	(mm)	8.5		23.5		43.5		
DP	(mm)			38				
O-ring		AS568-028 (fluorocarbon hardness Hs70)						
Mass	PA : Top pin (kg)	0.8		1.0		1.2		
	TA : Tip section female thread (kg)	0.8		1.0		1.2		
	MA : Tip section male thread (kg)	0.9		1.0		1.2		

CNA04-Stroke		10	15	20	30	40	50	60	70
DA	(mm)	43.5		56.5		76.5		96.5	
DB	(mm)	32		47		67		87	
DC	(mm)	38.5		53.5		73.5		93.5	
DD	(mm)	61		76		96		116	
DE	(mm)	67.5		82.5		102.5		122.5	
DF	(mm)	78.5		106.5		146.5		186.5	
DG	(mm)	43		58		78		98	
DH	(mm)	56.5		71.5		91.5		111.5	
DJ	(mm)			48					
DK	(mm)			42 ^{-0.025} _{-0.050}					
DL	(mm)			42 ^{+0.039} ₀					
DM	(mm)			42.6					
DN	(mm)	11		24		44		64	
DP	(mm)			42					
O-ring		AS568-029 (fluorocarbon hardness Hs70)							
Mass	PA : Top pin (kg)	1.1	1.1	1.4	1.3	1.6	1.6	1.9	1.9
	TA : Tip section female thread (kg)	1.1	1.1	1.4	1.3	1.6	1.6	1.9	1.9
	MA : Tip section male thread (kg)	1.2	1.2	1.4	1.4	1.7	1.6	1.9	1.9

CNA06-Stroke		10	15	20	30	40	50	60	70
DA	(mm)	43.5		56.5		76.5		96.5	
DB	(mm)	32.5		47.5		67.5		87.5	
DC	(mm)	39		54		74		94	
DD	(mm)	61.5		76.5		96.5		116.5	
DE	(mm)	68		83		103		123	
DF	(mm)	79		107		147		187	
DG	(mm)	43.5		58.5		78.5		98.5	
DH	(mm)	57		72		92		112	
DJ	(mm)			54					
DK	(mm)			42 ^{-0.025} _{-0.050}					
DL	(mm)			42 ^{+0.039} ₀					
DM	(mm)			42.6					
DN	(mm)	11		24		44		64	
DP	(mm)			42					
O-ring		AS568-029 (fluorocarbon hardness Hs70)							
Mass	PA : Top pin (kg)	1.4	1.3	1.6	1.6	1.9	1.9	2.2	2.2
	TA : Tip section female thread (kg)	1.4	1.3	1.6	1.6	1.9	1.9	2.2	2.2
	MA : Tip section male thread (kg)	1.4	1.4	1.7	1.6	2.0	2.0	2.3	2.3

CNA10-Stroke		10	20	30	40	50	60	70	80
DA	(mm)	47.5		67.5			87.5		107.5
DB	(mm)	38.5		58.5			78.5		98.5
DC	(mm)	45		65			85		105
DD	(mm)	67.5		87.5			107.5		127.5
DE	(mm)	74		94			114		134
DF	(mm)	89		129			169		209
DG	(mm)	49.5		69.5			89.5		109.5
DH	(mm)	63		83			103		123
DJ	(mm)	64							
DK	(mm)	45 ^{-0.025} / _{-0.050}							
DL	(mm)	45 ^{+0.039} / ₀							
DM	(mm)	45.6							
DN	(mm)	15		35		55		75	
DP	(mm)	64							
O-ring		AS568-030 (fluorocarbon hardness Hs70)							
Mass	PA : Top pin (kg)	2.6	2.5	3.0	2.9	3.4	3.3	3.8	3.7
	TA : Tip section female thread (kg)	2.6	2.5	3.0	2.9	3.4	3.3	3.8	3.7
	MA : Tip section male thread (kg)	2.6	2.6	3.1	3.0	3.5	3.4	3.9	3.8

CNA16-Stroke		10	20	30	40	50	60	70	80
DA	(mm)	47.5		67.5			87.5		107.5
DB	(mm)	40		60			80		100
DC	(mm)	46.5		66.5			86.5		106.5
DD	(mm)	69		89			109		129
DE	(mm)	75.5		95.5			115.5		135.5
DF	(mm)	90.5		130.5			170.5		210.5
DG	(mm)	51		71			91		111
DH	(mm)	64.5		84.5			104.5		124.5
DJ	(mm)	79							
DK	(mm)	45 ^{-0.025} / _{-0.050}							
DL	(mm)	45 ^{+0.039} / ₀							
DM	(mm)	45.6							
DN	(mm)	15		35		55		75	
DP	(mm)	79							
O-ring		AS568-030 (fluorocarbon hardness Hs70)							
Mass	PA : Top pin (kg)	4.0	3.9	4.5	4.5	5.1	5.0	5.6	5.6
	TA : Tip section female thread (kg)	4.0	3.9	4.5	4.4	5.1	5.0	5.6	5.5
	MA : Tip section male thread (kg)	4.1	4.1	4.7	4.6	5.2	5.2	5.8	5.7

CNA25-Stroke		20	30	40	50	60	70	80	90
DA	(mm)	58.5		78.5			98.5		118.5
DB	(mm)	51		71			91		111
DC	(mm)	57.5		77.5			97.5		117.5
DD	(mm)	80		100			120		140
DE	(mm)	86.5		106.5			126.5		146.5
DF	(mm)	112.5		152.5			192.5		232.5
DG	(mm)	62		82			102		122
DH	(mm)	75.5		95.5			115.5		135.5
DJ	(mm)	101							
DK	(mm)	52 ^{-0.030} / _{-0.060}							
DL	(mm)	52 ^{+0.039} / ₀							
DM	(mm)	52.6							
DN	(mm)	26		46		66		86	
DP	(mm)	101							
O-ring		AS568-032 (fluorocarbon hardness Hs70)							
Mass	PA : Top pin (kg)	6.6	6.5	7.5	7.4	8.4	8.3	9.3	9.2
	TA : Tip section female thread (kg)	6.6	6.5	7.5	7.4	8.3	8.3	9.2	9.1
	MA : Tip section male thread (kg)	6.9	6.8	7.8	7.7	8.7	8.6	9.6	9.5

7MPa clamp & work support

Swing clamp

Link clamp

Clamp cylinder

Work support

Option

Air catch sensor

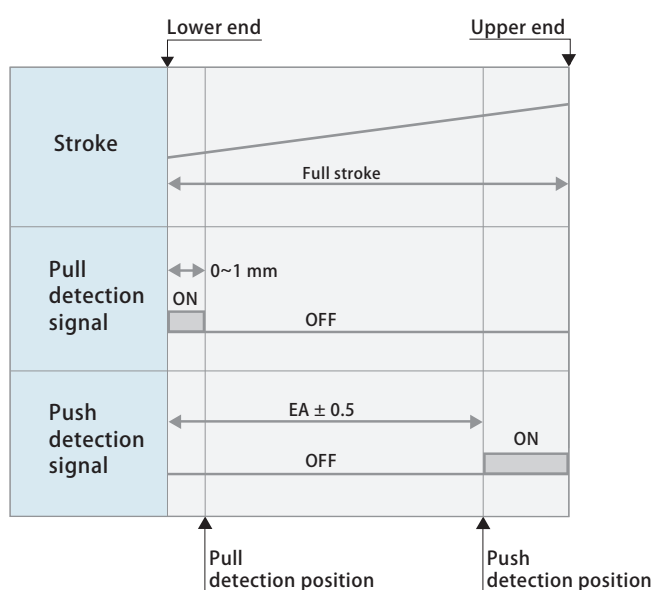
Air catch sensor is required to perform operating detection of clamp.

- Recommended sensor : ISA series manufactured by SMC or GPS2 series manufactured by CKD (refer to instruction manuals of manufacturers for details.)
- Recommended air pressure : 0.2 MPa
Supply dry air that is passed through a 5 μm filter.

- Air piping
Air piping from sensor to clamp must have inner diameter of ø 4 mm or more and length must be as short as possible. Number of clamps that can be detected by a single sensor is shown in table below.

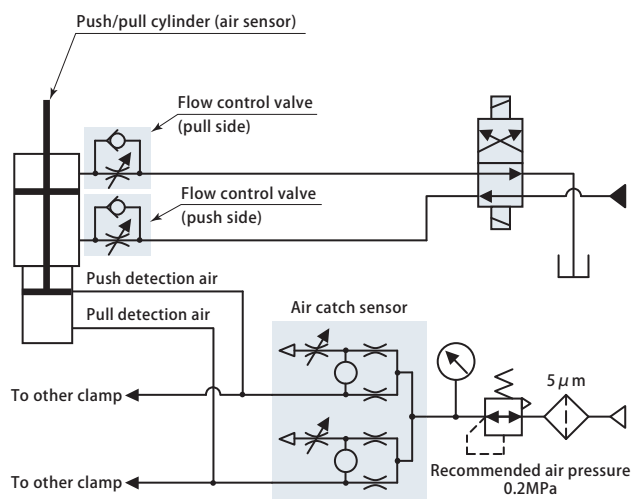
Supplied air pressure	Number of clamps	Air piping
0.2 MPa	Maximum 6	Parallel piping, inner diameter ø 4 mm
0.1 MPa	Maximum 3	Total piping length 5 m or shorter

Time chart



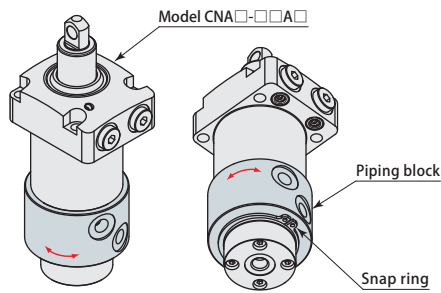
		(mm)							
CNA02-Stroke		10	15	20	30	40	50		
Push detection position	EA(A1)	9	14	19	29	39	49		
	EA(A3)	7	12	17	27	37	47		
	EA(A5)	5	10	15	25	35	45		
CNA04-CNA06-Stroke		10	15	20	30	40	50	60	70
Push detection position	EA(A1)	9	14	19	29	39	49	59	69
	EA(A3)	7	12	17	27	37	47	57	67
	EA(A5)	5	10	15	25	35	45	55	65
CNA10-CNA16-Stroke		10	20	30	40	50	60	70	80
Push detection position	EA(A1)	9	19	29	39	49	59	69	79
	EA(A3)	7	17	27	37	47	57	67	77
	EA(A5)	5	15	25	35	45	55	65	75
CNA25-Stroke		20	30	40	50	60	70	80	90
Push detection position	EA(A1)	19	29	39	49	59	69	79	89
	EA(A3)	17	27	37	47	57	67	77	87
	EA(A5)	15	25	35	45	55	65	75	85

Hydraulic and air circuit diagram (reference)



Air sensor piping type

Model CNA□-□□A□ can also be used as piping type by mounting a piping block.



Model designation

CNH ①-A② (Example : CNH06-AR)

CNH	① Size (refer to specification table)	- A : Piping block	② Air connection port thread section
	02 04 06 10 16 25		R : Rc1/8 G : G1/8

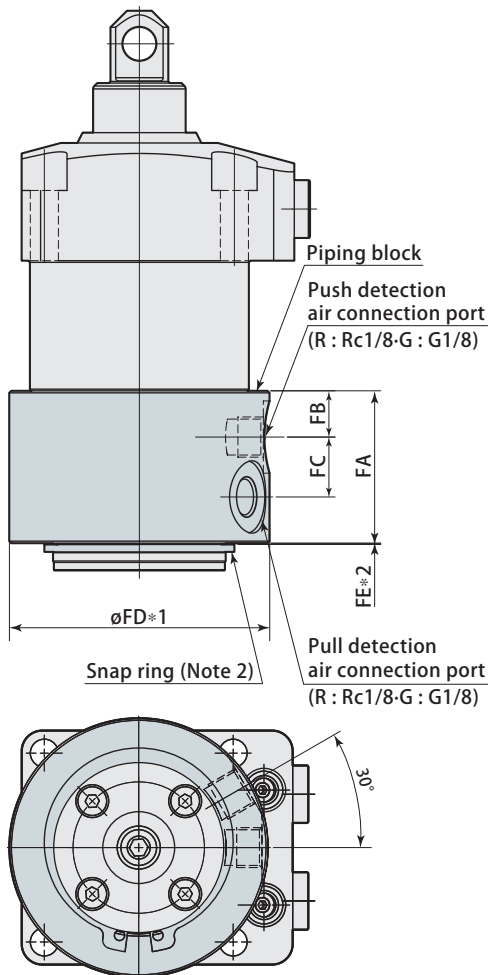
Piping block

(mm)

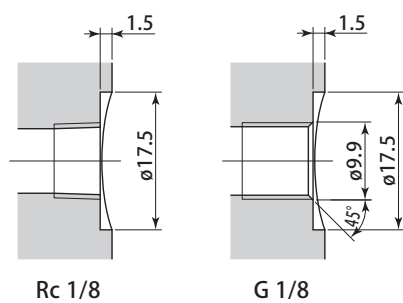
Model	CNH02-AR CNH02-AG	CNH04-AR CNH04-AG	CNH06-AR CNH06-AG	CNH10-AR CNH10-AG	CNH16-AR CNH16-AG	CNH25-AR CNH25-AG
FA	36.9	36.9	36.9	36.9	36.9	36.9
FB	11.2	11.2	11.2	11.2	11.2	11.2
FC	14.5	14.5	14.5	14.5	14.5	14.5
FD (R) *1	56	60	60	63	63	70
FD (G) *1	59	63	63	66	66	73
FE *2	0.35	0.35	0.35	0.35	0.35	0.4
Snap ring	STW38	STW42	STW42	STW45	STW45	STW52
Clamp models	CNA02- ^P / _M A	CNA04- ^P / _M A	CNA06- ^P / _M A	CNA10- ^P / _M A	CNA16- ^P / _M A	CNA25- ^P / _M A

*1 : FD (R) dimensions show R type and FD (G) dimensions show G type dimensions.
*2 : FE dimensions show space between piping block and snap ring.

- Note 1. Refer to specifications (page → 92), dimensions (pages → 93 to 96, 99 to 101) for specifications and dimensions of products that are not listed on this page.
2. Snap ring for securing piping block is included.
3. This product is made to order.



Air connection port thread section



7MPa clamp & work support

Swing clamp

Link clamp

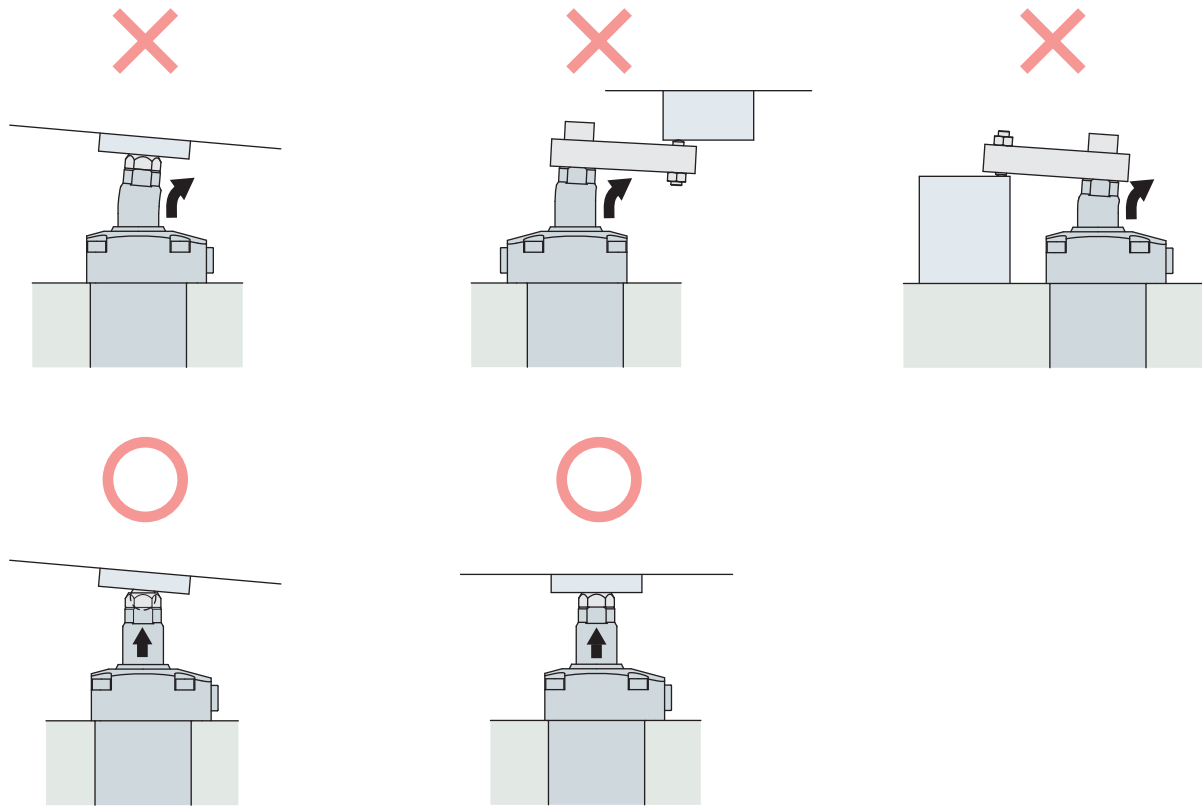
Clamp cylinder

Work support

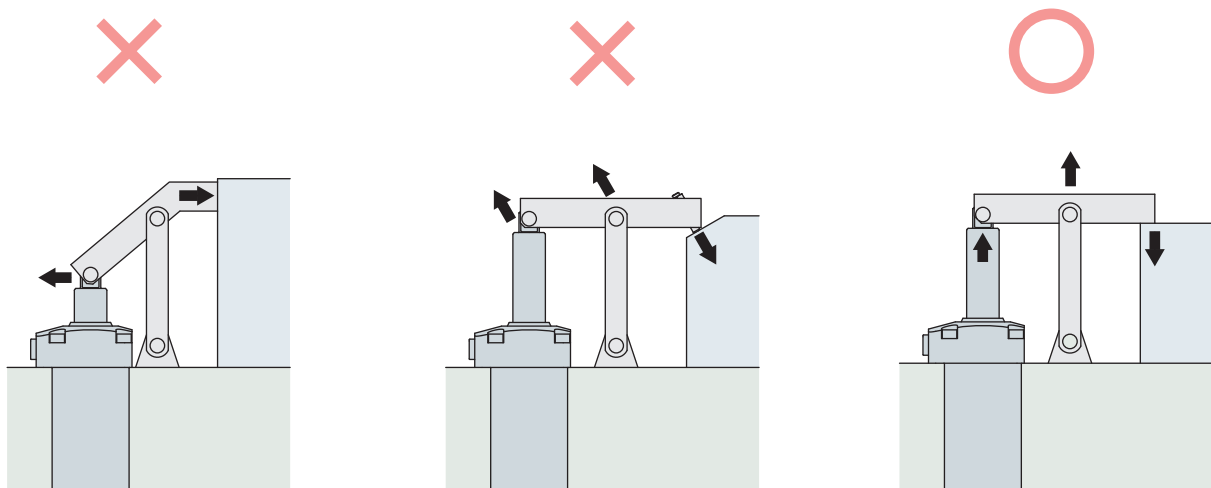
Option

Please avoid the usage that may apply eccentric load and non-axial force to the piston rod.
This may break the piston rod.

Tip section female thread • male thread CNA□ - □T • □M



Top pin CNA□ - □P



7MPa clamp & work support

Swing clamp

Link clamp

Clamp cylinder

Work support

Option

Mounting of clamp and work support

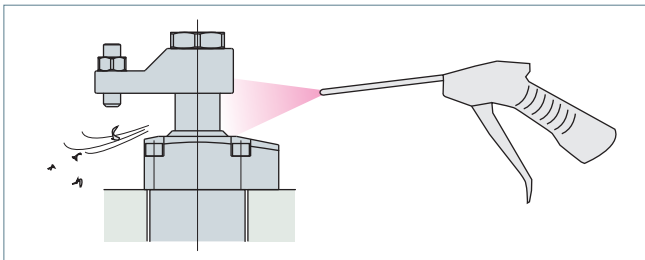
Use screws with strength class of 12.9 for mounting clamp and work support and be sure to apply specified torque for tightening, by referring to recommended tightening torque of mounting screws indicated below.

Recommended tightening torque of mounting screws (strength class 12.9)

Mounting screws size	Tightening torque
M4 ×0.7	2.8 N·m
M5 ×0.8	7 N·m
M6 ×1	11 N·m
M8 ×1.25	25 N·m
M10×1.5	49 N·m
M12×1.75	60 N·m

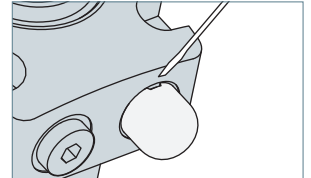
Caution in use of equipment

1. Clamp and work supports have been developed for the purpose of clamping workpiece for machine tools. Do not use them for other purposes.
2. Always protect them with a cover to ensure sliding surfaces are not exposed to weld slags when using them as fixture for welding.
3. Clean sliding surfaces and top part of clamp body with air blowing periodically to ensure smooth operations.



Mounting & dismantling of optional parts

1. When mounting or dismantling a flow control valve or air bleeding valve, be sure to set pressure within hydraulic circuit to 0 MPa before starting.
2. When mounting a flow control valve or air bleeding valve, be sure to tighten it with the specified tightening torque (refer to pages → 145 and 146 for recommended tightening torque).
3. When mounting a coolant cap (resin : POM), firmly press the body of cover. If it is not mounting properly, use a plastic mallet to tap it into place.
4. When dismantling a coolant cap, use a sharp-pointed tool such as a precision screw driver by hooking the notched portion.



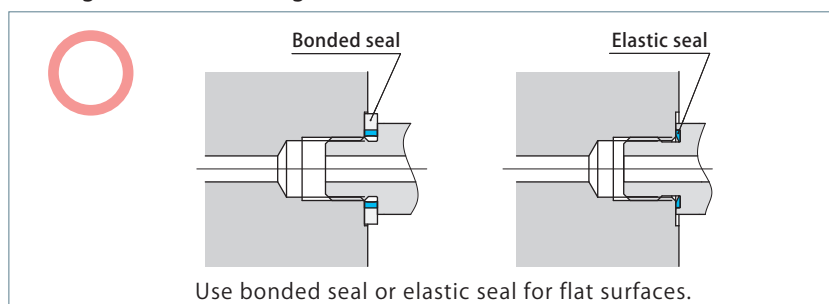
Caution for hydraulic piping

1. Most problems that occur with hydraulic equipment are caused by foreign substances such as metal chips and dust that enter into hydraulic circuits. Refer to "Piping Hydraulic & Pneumatic Equipment-Practical Notes" provided with the product for mounting and hydraulic piping of the product.
2. After performing hydraulic piping, always be sure to bleed out air in the hydraulic circuit. Insufficient bleeding can lead to malfunction.
3. When using multiple clamps, operating speeds and timings vary due to variance in pipe resistance and internal resistance of clamps. Adjust operating speeds and timings using flow control valve.
4. The special scraper has superior scraping capability to remove oil film on the surface of the rod, there are cases where grease and working fluid (oil films) inside the clamp are scraped and expelled to the outside. This may result in accumulation of oil in the external perimeters of piston rod on the upper part of the scraper, but this does not indicate an oil leak.

BSPB port sealing method

1. "Sealing method for flange surfaces" has been adopted as standard means for this product. Use fittings and connectors of bonded seal or elastic body seal. Do not use fittings of "Sealing method for tapered surfaces" (O-ring seal method).
2. Seal tapes and liquid packing are not necessary. Seal fittings with included with packing.
3. When mounting, clean metal chips and dust off surfaces that will come into contact with packing.

Sealing method for flange surfaces



Sealing method for tapered surfaces

