The safety lock mechanism reliably locks the piston rod even in an emergency.

- Dropping and trouble upon occurrence of power interruption are prevented to ensure the safety of workers and equipment.
- The safety lock mechanisms for rod and cap sides are available. One of the two types can be selected according to the purpose of use.
- The lock can be released easily by manual operation.

Cylinder Specifications

Type		Standard type/Switch Set	
		With lock on rod side	With lock on cap side
Series		10A-6L1	10A-6L2
Cylinder bore (mm)		ϕ40・ϕ50・ϕ63・ϕ80・ϕ100	
Working fluid		Air	
Lubrication		Unnecessary	
Working pressure range		0.15 to 1 MPa	
Proof test pressure		1.5 MPa	
Working speed range		30 to 700 mm/s	
Working temperature range		−10 to +70℃ (No freezing)	
Structure of cushioning		With cushions on both ends (with needle removal preventing mechanism)	
Mounting style		SD・LA・LB・FA・FB・CA・CB・CC・TC	
Accessories	Boots	Standard: Nylon tarpaulin Semi-standard: Chloroprene, Conex	
	Rod end attachments	Rod eye (T-end), rod eye with spherical bearing (S-end), rod clevis (Y-end) with pin, floating joint (F-end)	
	Others	TC bracket, CB bracket	
Lock mechanism	Holding force	ϕ40: 880N・ϕ50: 1374N ϕ63: 2182N・ϕ80: 3519N ϕ100: 5498N	
	Backlash	1 mm or less (when locking)	

Notes)
- When a sensor is mounted in an intermediate position, set the cylinder maximum speed to 300 mm/s or less for reasons of the load relay response speed, etc.
- Conex, material of the boots, is the registered trademark of Teijin Limited.

Stroke Range

Unit: mm

Bore	Stroke range
ϕ40	to 1000
ϕ50 to ϕ100	to 1500

Note)
When a stroke out of the stroke range is required, consult us.

Product Lineup

Unit: mm

Series Variation	Type	Locking position	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Standard	Double acting single rod	Standard type Switch Set	Rod side 10A-6L1	●	●	●	●	●
			Cap side 10A-6L2	●	●	●	●	●

Weight Table

Unit: kg

Bore mm	Basic weight		Additional weight per mm of stroke	Mounting accessory weight							Bracket weight		Rod end attachment weight			
	With lock on rod side 10A-6L1	With lock on cap side 10A-6L2		LA	LB	FA FB	CA	CB	CC	TC	For CB	For TC	Rod eye (S-end)	Rod eye (T-end)	Rod clevis (Y-end)	Floating joint (F-end)
ϕ40	0.94	0.98	0.00300	0.20	0.13	0.37	0.18	0.27	0.38	0.48	0.70	1.00	0.11	0.16	0.27	0.19
ϕ50	1.49	1.55	0.00428	0.32	0.17	0.39	0.26	0.39	0.50	0.55	0.70	1.00	0.20	0.21	0.34	0.38
ϕ63	2.00	2.06	0.00515	0.52	0.23	0.53	0.42	0.48	0.67	0.70	0.70	1.00	0.20	0.21	0.34	0.38
ϕ80	3.58	3.69	0.00834	0.85	0.38	1.60	1.08	0.92	1.76	1.16	0.72	1.44	0.36	0.62	0.87	0.75
ϕ100	4.67	4.83	0.01061	1.28	0.47	2.22	1.39	1.24	2.04	1.53	0.72	1.44	0.36	0.62	0.87	1.35

Sensor Additional Weight

Unit: kg

Sensor / Bore	AX type			SR type
	Cord length 1.5 m	Cord length 5 m	Connector type	Cord length 5 m
ϕ40	0.05	0.13	0.04	0.22
ϕ50				
ϕ63				
ϕ80				
ϕ100				

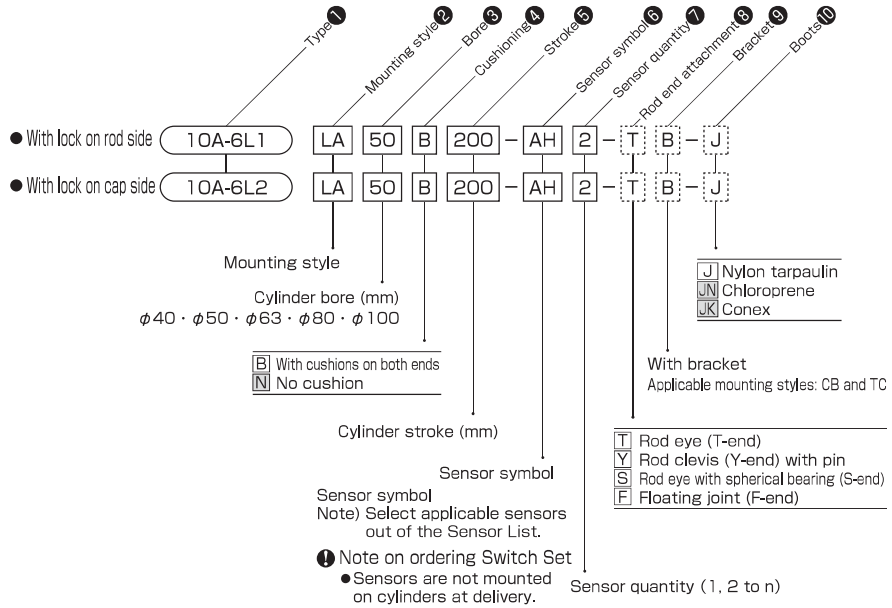
Calculation formula: Cylinder weight (kg)=basic weight+(additional weight per mm of stroke×cylinder stroke (mm))+mounting accessory weight+(sensor additional weight×sensor quantity)

Calculation example: Lock provided on rod side, bore ϕ50 mm, cylinder stroke 200 mm, mounting style FA, rod clevis (Y-end), 2 pcs of AX215 (cord length 5 m)
1.49+(0.00428×200)+0.39+0.34+(0.13×2)=3.336kg

How to order

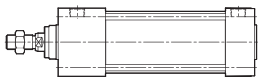
The item enclosed by broken line needs not to be entered, if unnecessary. Semi-standard specification

Standard

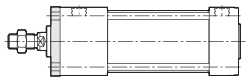


Mounting style

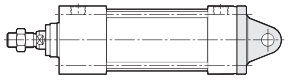
SD Basic style



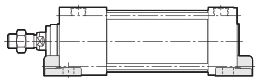
FA Rod flange



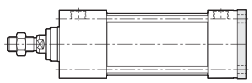
CC Cap eye



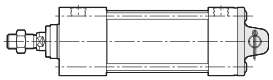
LA Side lugs



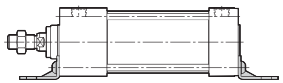
FB Cap flange



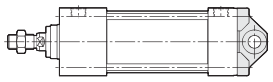
CB Cap clevis with pin



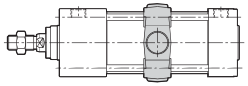
LB End angles



CA Cap eye



TC Intermediate trunnion



Sensor List

Semi-standard specification

Type	Sensor symbol	Load voltage range	Load current range	Max. switching capacity	Protective circuit	Indicating lamp	Wiring method	Cord length	Applicable load
Reed sensor	AF AX101CE	DC:5 to 30V AC:5 to 120V	DC:5 to 40mA AC:5 to 20mA	DC:1.5W AC:2VA	None	LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm, rear wiring	1.5m	Small relay, programmable controller
	AG AX105CE							5m	
	AH AX111CE				Provided			1.5m	
	AJ AX115CE							5m	
	AE AX125CE	DC:30V or less AC:120V or less	DC:40mA or less AC:20mA or less		None	None		5m	
	AK AX11ACE	AC:5 to 120V	5 to 20mA	2VA	Provided	LED (Lights in red when sensing)	4-pin connector type, rear wiring	0.5m	
	AL AX11BCE	DC:5 to 30V	5 to 40mA	1.5W				0.5m	
	AM AX135CE	AC:90 to 240V DC:90 to 240V	5 to 300mA	B contact output	Provided	LED Lights in red when not sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm, rear wiring	5m	
	S SR405	AC:80 to 220V	2 to 300mA	30VA	Provided	Neon lamp (Lights in red when not sensing)	0.5 mm², 2-core, outer dia. ϕ6 mm, rear wiring	5m	Small relay, programmable controller, small solenoid, pilot lamp
Solid state sensor	BE AX201CE-1	DC:5 to 30V	5 to 40mA	—	Provided	LED (Lights in red when sensing)	0.3 mm², 2-core, outer dia. ϕ4 mm, rear wiring	1.5m	Small relay, programmable controller
	BF AX205CE-1							5m	
	CE AX211CE-1					LED (2-LED type in red/green)		1.5m	
	CF AX215CE-1							5m	
	CT AX211CE-1					LED (2-LED type in red/green)	0.3 mm², 2-core, outer dia. ϕ4 mm, rear wiring	1.5m	
	CU AX215CE-1							5m	
	CV AX21BCE-1						4-pin connector type, rear wiring	0.5m	
	CW AZ211CE-1						0.3 mm², 2-core, outer dia. ϕ4 mm, upper wiring	1.5m	
	CX AZ215CE-1							5m	
	CY AZ21BCE-1						4-pin connector type, upper wiring	0.5m	

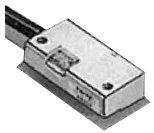
Notes)
- For the sensors without a protective circuit, be sure to provide a protective circuit (SK-100) with the load when using any induction load (relay, etc.).
- The output logic of AX135CE is a B contact. When the piston is detected, the sensor contact turns off (the lamp turns on).
- For the detailed specifications and handling of sensors, see the sensor specifications at the end of this catalog.
- The AX type sensors can be mounted on any type in addition to the above types. See the sensor specifications at the end of this catalog.
- We recommend AND Unit (AU series) for multiple sensors connected in series. For details, refer to AND Unit at the end of this catalog.

● AX type sensor

Cord type

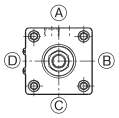
Connector type

● SR type sensor



Ordering procedures

★Standard specifications



- With cushions on both ends
- Port position Ⓐ and cushion valve position Ⓐ

Notes)
- When specifying port and cushion valve positions other than Ⓐ, consult us.
- In the case of the mounting style LA (only ϕ40 and ϕ50), the port, cushion valve, and lock mechanism are positioned on Ⓑ, Ⓑ, and Ⓐ, respectively.

★Semi-standard range
- With boots, without cushions
- Change of piston rod end (dimensional symbol: WF, A, KK)
- Change of TC accessory position (dimensional symbol PH)

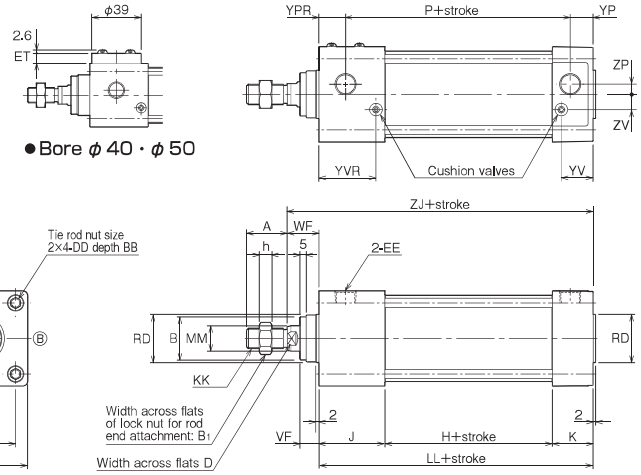
Notes)
- Contact us for specifications not stated above.

CAD/DATA is available.
10A-6L/TA6L1 Bore

SD

With lock on rod side 10A-6L1 SD Bore B Stroke

Symbol / Bore	ET
ϕ40	8
ϕ50	4

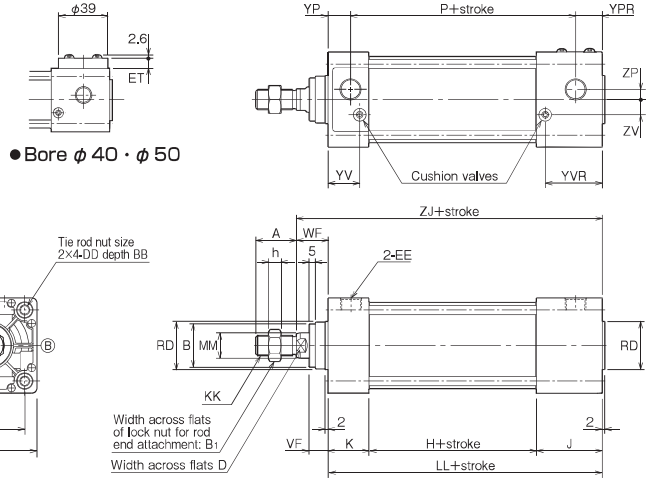


- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

With lock on cap side 10A-6L2 SD Bore B Stroke

10A-6L/TA6L2 Bore

Symbol / Bore	ET
ϕ40	8
ϕ50	4



- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Symbol / Bore	A	B	B_1	BB	D	DD	E	EE	H	J	K	KK
ϕ40	24(21)	ϕ30	19	14	14	M6×1	□50	Rc1/4	31	46	31	M12×1.25
ϕ50	32(29)	ϕ34	22	14	17	M6×1	□62	Rc1/4	31	51	31	M16×1.5
ϕ63	32(29)	ϕ34	22	14	17	M8×1.25	□75	Rc3/8	32	52	32	M16×1.5
ϕ80	40(37)	ϕ39	27	15	21	M10×1.5	□94	Rc3/8	36	61	36	M20×1.5
ϕ100	40(37)	ϕ46	27	15	26	M10×1.5	□112	Rc1/2	36	61	36	M20×1.5

Symbol / Bore	LL	MM	P	RD	RR	VF	WF	YP	YPR	YV	YVR	ZJ	ZP	ZV	h
ϕ40	108	ϕ16	69	ϕ32	□37	15	25	18	21	25.5	40.5	133	4	10	7
ϕ50	113	ϕ20	74	ϕ38	□47	15	25	18	21	24	44	138	7	12	10
ϕ63	116	ϕ20	77	ϕ38	□56	15	25	18	21	25	45	141	8	12	10
ϕ80	133	ϕ25	89	ϕ44	□70	21	35	20	24	29	54	168	11	16	12
ϕ100	133	ϕ30	89	ϕ50	□84	21	35	20	24	29	54	168	12	18	12

∗ The parenthesized values of dimension A indicate the screw length.

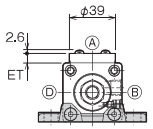
General Pneumatic Cylinders 10A-6L

CAD/DATA is available. 10A-6L/TA6L1 Bore

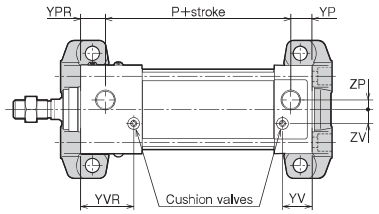
LA

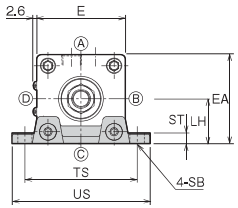
With lock on rod side 10A-6L1 LA Bore B Stroke

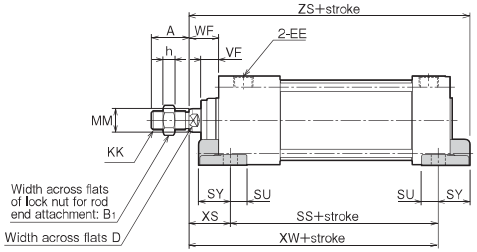
Symbol / Bore	ET
ϕ40	8
ϕ50	4



● Bore ϕ40・ϕ50





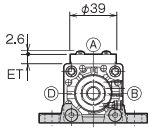


- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.
- The standard positions of the port and cushion valve on the 40 and 50 mm bore cylinders are Ⓑ. (The port and cushion valve cannot be provided on Ⓐ.)

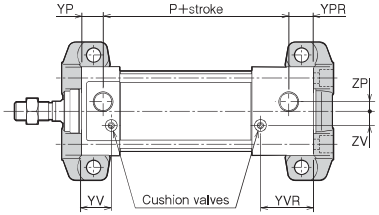
With lock on cap side 10A-6L2 LA Bore B Stroke

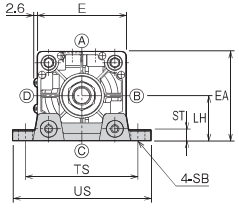
10A-6L/TA6L2 Bore

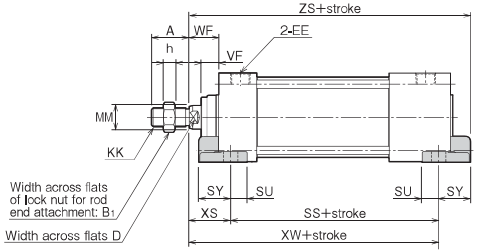
Symbol / Bore	ET
ϕ40	8
ϕ50	4



● Bore ϕ40・ϕ50







- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.
- The standard positions of the port and cushion valve on the 40 and 50 mm bore cylinders are Ⓑ. (The port and cushion valve cannot be provided on Ⓐ.)

Dimensional Table

Symbol / Bore	A	B1	D	E	EA	EE	KK	LH	MM	P	SB	SS
ϕ40	24(21)	19	14	□50	50	Rc1/4	M12×1.25	25	ϕ16	69	ϕ12	88
ϕ50	32(29)	22	17	□62	62	Rc1/4	M16×1.5	31	ϕ20	74	ϕ12	93
ϕ63	32(29)	22	17	□75	75.5	Rc3/8	M16×1.5	38	ϕ20	77	ϕ12	96
ϕ80	40(37)	27	21	□94	94	Rc3/8	M20×1.5	47	ϕ25	89	ϕ14	107
ϕ100	40(37)	27	26	□112	113	Rc1/2	M20×1.5	57	ϕ30	89	ϕ14	107

Symbol / Bore	ST	SU	SY	TS	US	VF	WF	XS	XW	YP	YPR	YV	YVR	ZP	ZS	ZV	h
ϕ40	8	14	23	70	92	15	25	35	123	18	21	25.5	40.5	4	146	10	7
ϕ50	9	14	25	83	105	15	25	35	128	18	21	24	44	7	153	12	10
ϕ63	9	14	27	95	117	15	25	35	131	18	21	25	45	8	158	12	10
ϕ80	13	18	34	121	147	21	35	48	155	20	24	29	54	11	189	16	12
ϕ100	14	18	38	140	168	21	35	48	155	20	24	29	54	12	193	18	12

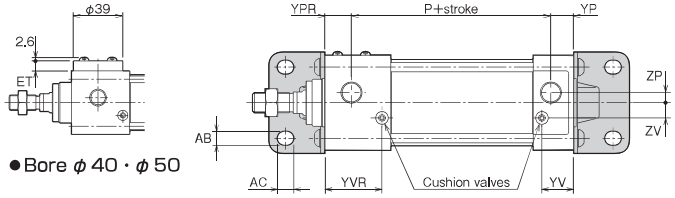
∗ The parenthesized values of dimension A indicate the screw length.

CAD/DATA is available. 10A-6L/TA6L1 Bore

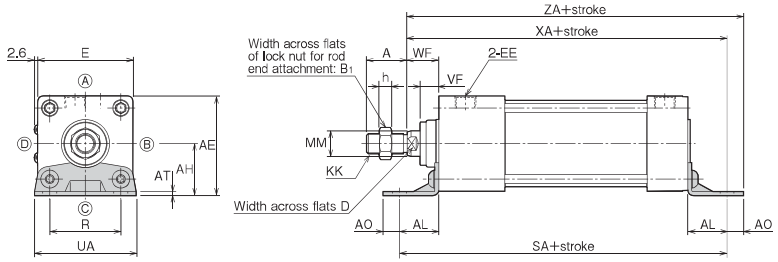
LB

With lock on rod side 10A-6L1 LB Bore B Stroke

Bore \ Symbol	ET
ϕ40	8
ϕ50	4



● Bore ϕ40 · ϕ50

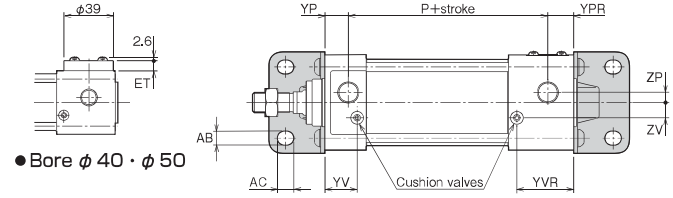


- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

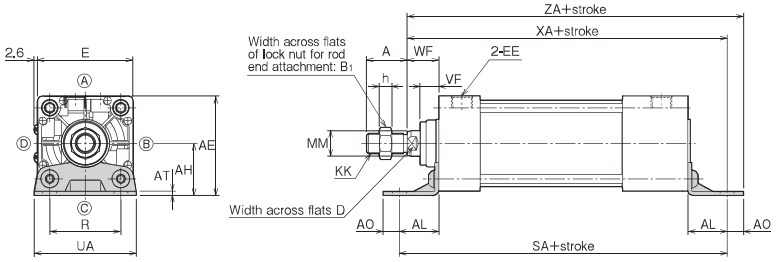
With lock on cap side 10A-6L2 LB Bore B Stroke

10A-6L/TA6L2 Bore

Bore \ Symbol	ET
ϕ40	8
ϕ50	4



● Bore ϕ40 · ϕ50



- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Bore \ Symbol	A	AB	AC	AE	AH	AL	AO	AT	B_1	D	E	EE	KK
ϕ40	24(21)	11	13	55	30	23.5	12.5	3.2	19	14	□50	Rc1/4	M12×1.25
ϕ50	32(29)	11	13	67.5	36.5	28	12	3.2	22	17	□62	Rc1/4	M16×1.5
ϕ63	32(29)	11	13	78.5	41	31	13	3.2	22	17	□75	Rc3/8	M16×1.5
ϕ80	40(37)	14	16	96	49	30	16	4	27	21	□94	Rc3/8	M20×1.5
ϕ100	40(37)	14	16	113	57	30	16	4	27	26	□112	Rc1/2	M20×1.5

Bore \ Symbol	MM	P	R	SA	UA	VF	WF	XA	YP	YPR	YV	YVR	ZA	ZP	ZV	h
ϕ40	ϕ16	69	36	155	57	15	25	156.5	18	21	25.5	40.5	169	4	10	7
ϕ50	ϕ20	74	47	169	68	15	25	166	18	21	24	44	178	7	12	10
ϕ63	ϕ20	77	56	178	80	15	25	172	18	21	25	45	185	8	12	10
ϕ80	ϕ25	89	70	193	97	21	35	198	20	24	29	54	214	11	16	12
ϕ100	ϕ30	89	84	193	112	21	35	198	20	24	29	54	214	12	18	12

∗ The parenthesized values of dimension A indicate the screw length.

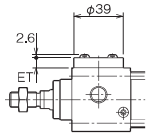
General Pneumatic Cylinders 10A-6L

CAD/DATA 10A-6L/TA6L1 Bore is available.

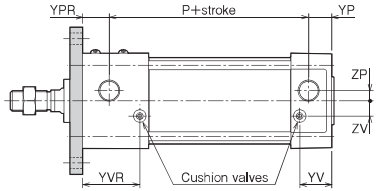
FA

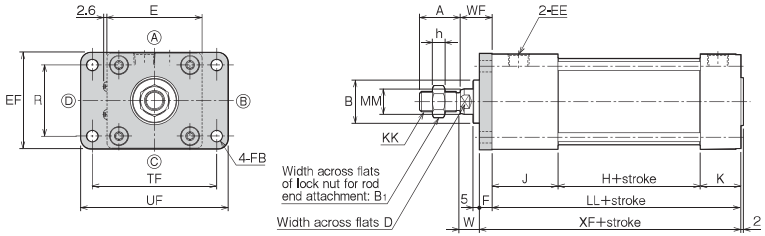
With lock on rod side 10A-6L1 FA Bore B Stroke

Symbol / Bore	ET
ϕ40	8
ϕ50	4



●Bore ϕ 40・ϕ 50



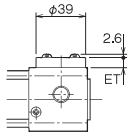


●For dimensions not shown here, refer to the SD style (basic style).
●For Switch Set Cylinders, see the dimensional drawings of Switch Set.
●For dimensional drawings of rod end attachments, refer to the accessories.

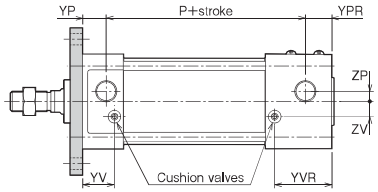
With lock on cap side 10A-6L2 FA Bore B Stroke

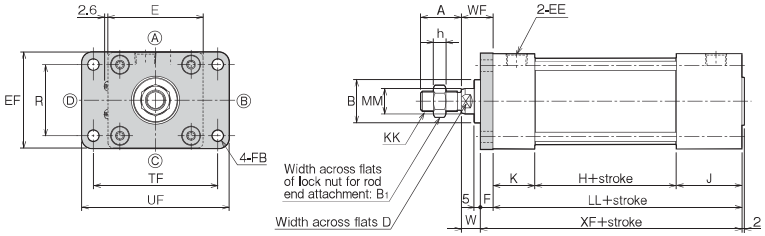
10A-6L/TA6L2 Bore

Symbol / Bore	ET
ϕ40	8
ϕ50	4



●Bore ϕ 40・ϕ 50





●For dimensions not shown here, refer to the SD style (basic style).
●For Switch Set Cylinders, see the dimensional drawings of Switch Set.
●For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Symbol / Bore	A	B	B_1	D	E	EE	EF	F	FB	H	J	K	KK
ϕ40	24(21)	ϕ30	19	14	□50	Rc1/4	52	10	ϕ7	31	46	31	M12×1.25
ϕ50	32(29)	ϕ34	22	17	□62	Rc1/4	65	10	ϕ9	31	51	31	M16×1.5
ϕ63	32(29)	ϕ34	22	17	□75	Rc3/8	76	10	ϕ9	32	52	32	M16×1.5
ϕ80	40(37)	ϕ39	27	21	□94	Rc3/8	95	16	ϕ12	36	61	36	M20×1.5
ϕ100	40(37)	ϕ46	27	26	□112	Rc1/2	115	16	ϕ12	36	61	36	M20×1.5

Symbol / Bore	LL	MM	P	R	TF	UF	W	WF	XF	YP	YPR	YV	YVR	ZP	ZV	h
ϕ40	108	ϕ16	69	36	70	84	15	25	118	18	21	25.5	40.5	4	10	7
ϕ50	113	ϕ20	74	47	86	104	15	25	123	18	21	24	44	7	12	10
ϕ63	116	ϕ20	77	56	98	116	15	25	126	18	21	25	45	8	12	10
ϕ80	133	ϕ25	89	70	119	143	19	35	149	20	24	29	54	11	16	12
ϕ100	133	ϕ30	89	84	138	162	19	35	149	20	24	29	54	12	18	12

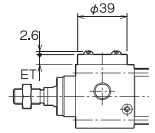
∗ The parenthesized values of dimension A indicate the screw length.

CAD/DATA
10A-6L/TA6L1 Bore is available.

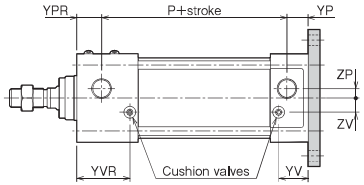
FB

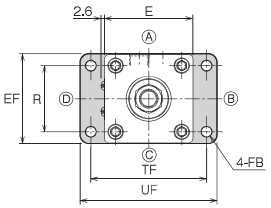
With lock on rod side 10A-6L1 FB Bore B Stroke

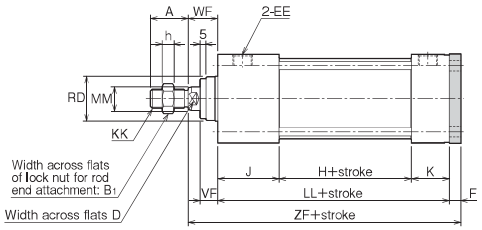
Bore \ Symbol	ET
ϕ40	8
ϕ50	4



● Bore ϕ 40・ϕ 50





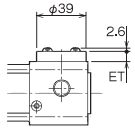


- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

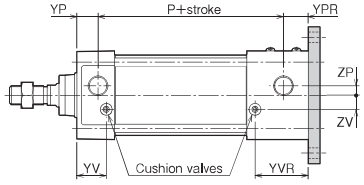
With lock on cap side 10A-6L2 FB Bore B Stroke

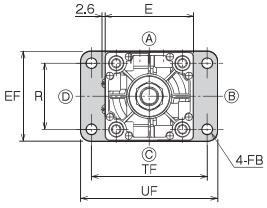
10A-6L/TA6L2 Bore

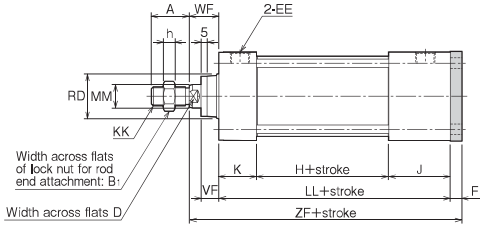
Bore \ Symbol	ET
ϕ40	8
ϕ50	4



● Bore ϕ 40・ϕ 50







- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Bore \ Symbol	A	B_1	D	E	EE	EF	F	FB	H	J	K	KK	LL
ϕ40	24(21)	19	14	□50	Rc1/4	52	10	ϕ7	31	46	31	M12×1.25	108
ϕ50	32(29)	22	17	□62	Rc1/4	65	10	ϕ9	31	51	31	M16×1.5	113
ϕ63	32(29)	22	17	□75	Rc3/8	76	10	ϕ9	32	52	32	M16×1.5	116
ϕ80	40(37)	27	21	□94	Rc3/8	95	16	ϕ12	36	61	36	M20×1.5	133
ϕ100	40(37)	27	26	□112	Rc1/2	115	16	ϕ12	36	61	36	M20×1.5	133

Bore \ Symbol	MM	P	R	RD	TF	UF	VF	WF	YP	YPR	YV	YVR	ZF	ZP	ZV	h
ϕ40	ϕ16	69	36	ϕ32	70	84	15	25	18	21	25.5	40.5	143	4	10	7
ϕ50	ϕ20	74	47	ϕ38	86	104	15	25	18	21	24	44	148	7	12	10
ϕ63	ϕ20	77	56	ϕ38	98	116	15	25	18	21	25	45	151	8	12	10
ϕ80	ϕ25	89	70	ϕ44	119	143	21	35	20	24	29	54	184	11	16	12
ϕ100	ϕ30	89	84	ϕ50	138	162	21	35	20	24	29	54	184	12	18	12

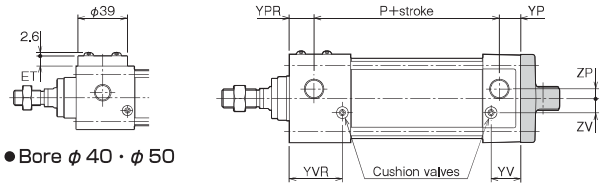
* The parenthesized values of dimension A indicate the screw length.

General Pneumatic Cylinders 10A-6L

10A-6L/TA6L1 Bore CAD/DATA is available.

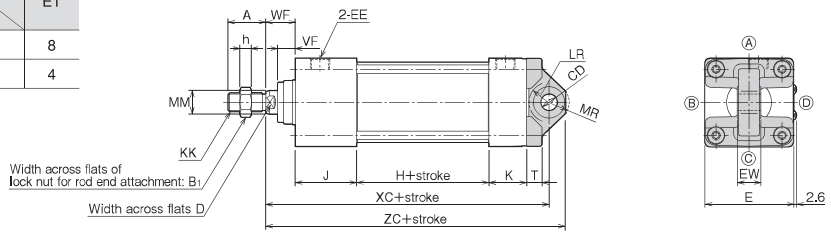
CA

With lock on rod side 10A-6L1 CA Bore B Stroke



● Bore φ40・φ50

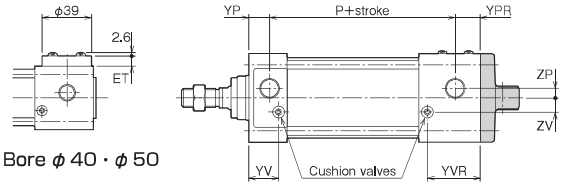
Bore \ Symbol	ET
φ40	8
φ50	4



- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

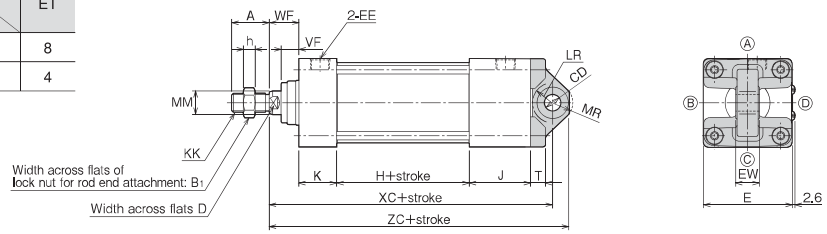
With lock on cap side 10A-6L2 CA Bore B Stroke

10A-6L/TA6L2 Bore



● Bore φ40・φ50

Bore \ Symbol	ET
φ40	8
φ50	4



- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Bore \ Symbol	A	B1	CD	D	E	EE	EW	H	J	K	KK
φ40	24(21)	19	φ14H9	14	□50	Rc1/4	$20^{0}_{-0.084}$	31	46	31	M12×1.25
φ50	32(29)	22	φ14H9	17	□62	Rc1/4	$20^{0}_{-0.084}$	31	51	31	M16×1.5
φ63	32(29)	22	φ14H9	17	□75	Rc3/8	$20^{0}_{-0.084}$	32	52	32	M16×1.5
φ80	40(37)	27	φ20H9	21	□94	Rc3/8	$32^{0}_{-0.100}$	36	61	36	M20×1.5
φ100	40(37)	27	φ20H9	26	□112	Rc1/2	$32^{0}_{-0.100}$	36	61	36	M20×1.5

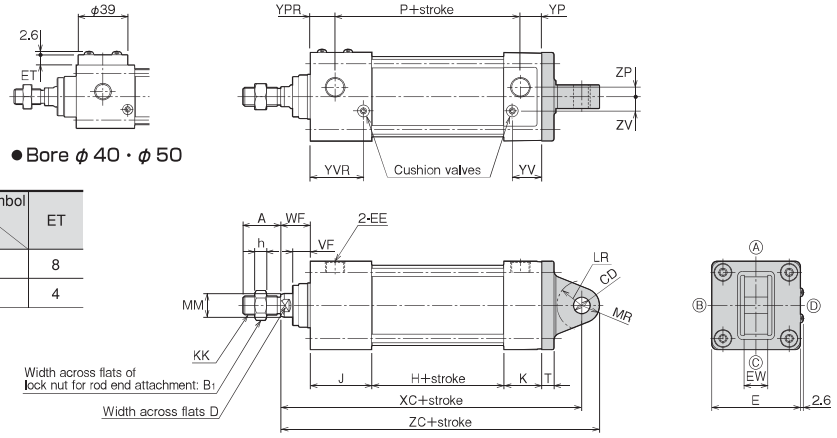
Bore \ Symbol	LR	MM	MR	P	T	VF	WF	XC	YP	YPR	YV	YVR	ZC	ZP	ZV	h
φ40	R17	φ16	R17	69	8	15	25	152	18	21	25.5	40.5	166	4	10	7
φ50	R17	φ20	R17	74	10	15	25	157	18	21	24	44	171	7	12	10
φ63	R17	φ20	R17	77	13	15	25	160	18	21	25	45	174	8	12	10
φ80	R25	φ25	R24	89	18	21	35	200	20	24	29	54	221	11	16	12
φ100	R26	φ30	R24	89	18	21	35	200	20	24	29	54	220	12	18	12

∗ The parenthesized values of dimension A indicate the screw length.

CAD/DATA is available.
10A-6L/TA6L1 Bore

CC

With lock on rod side 10A-6L1 CC Bore B Stroke



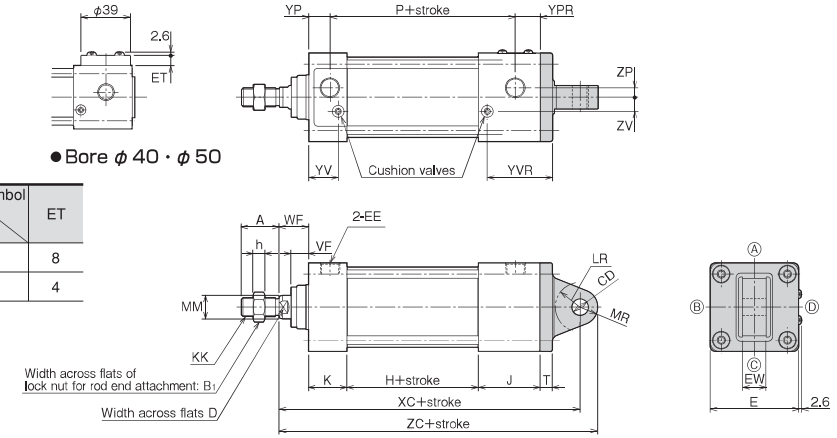
● Bore φ40 · φ50

Bore \ Symbol	ET
φ40	8
φ50	4

- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

With lock on cap side 10A-6L2 CC Bore B Stroke

10A-6L/TA6L2 Bore



● Bore φ40 · φ50

Bore \ Symbol	ET
φ40	8
φ50	4

- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Bore \ Symbol	A	B1	CD	D	E	EE	EW	H	J	K	KK
φ40	24(21)	19	φ14H9	14	□50	Rc1/4	$20^{0}_{-0.3}$	31	46	31	M12×1.25
φ50	32(29)	22	φ14H9	17	□62	Rc1/4	$20^{0}_{-0.3}$	31	51	31	M16×1.5
φ63	32(29)	22	φ14H9	17	□75	Rc3/8	$20^{0}_{-0.3}$	32	52	32	M16×1.5
φ80	40(37)	27	φ20H9	21	□94	Rc3/8	$32^{0}_{-0.3}$	36	61	36	M20×1.5
φ100	40(37)	27	φ20H9	26	□112	Rc1/2	$32^{0}_{-0.3}$	36	61	36	M20×1.5

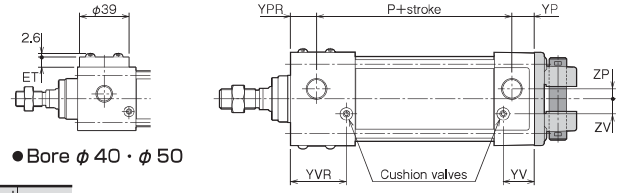
Bore \ Symbol	LR	MM	MR	P	T	VF	WF	XC	YP	YPR	YV	YVR	ZC	ZP	ZV	h
φ40	R21	φ16	R14	69	11	15	25	167	18	21	25.5	40.5	181	4	10	7
φ50	R21	φ20	R15	74	11	15	25	172	18	21	24	44	187	7	12	10
φ63	R21	φ20	R15	77	11	15	25	175	18	21	25	45	190	8	12	10
φ80	R25	φ25	R20	89	15	21	35	216	20	24	29	54	236	11	16	12
φ100	R25	φ30	R20	89	15	21	35	216	20	24	29	54	236	12	18	12

∗ The parenthesized values of dimension A indicate the screw length.

10A-6L/TA6L1 Bore CAD/DATA is available.

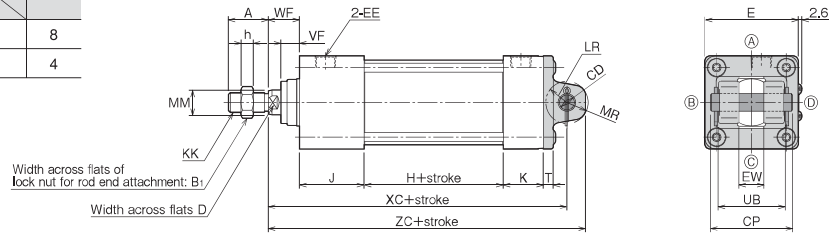
CB

With lock on rod side 10A-6L1 CB Bore B Stroke



●Bore ϕ40・ϕ50

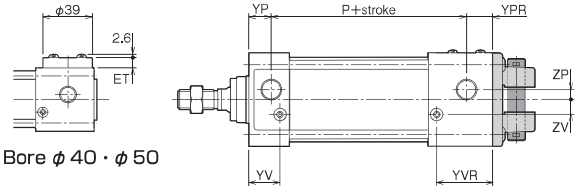
Bore \ Symbol	ET
ϕ40	8
ϕ50	4



- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

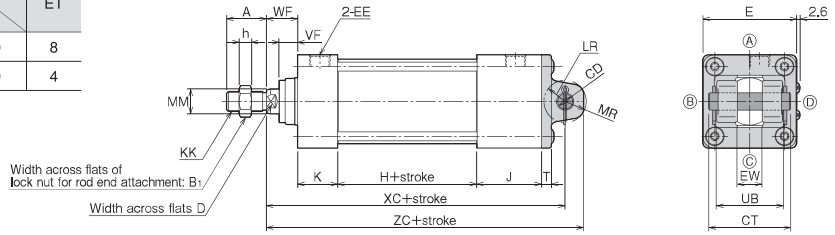
With lock on cap side 10A-6L2 CB Bore B Stroke

10A-6L/TA6L2 Bore



●Bore ϕ40・ϕ50

Bore \ Symbol	ET
ϕ40	8
ϕ50	4



- For dimensions not shown here, refer to the SD style (basic style).
- For Switch Set Cylinders, see the dimensional drawings of Switch Set.
- For dimensional drawings of rod end attachments, refer to the accessories.

Dimensional Table

Bore \ Symbol	A	B_1	CD	CP	D	E	EE	EW	H	J	K	KK
ϕ40	24(21)	19	ϕ14H9/f8	58	14	□50	Rc1/4	$20^{+0.7}_{+0.5}$	31	46	31	M12×1.25
ϕ50	32(29)	22	ϕ14H9/f8	66	17	□62	Rc1/4	$20^{+0.7}_{+0.5}$	31	51	31	M16×1.5
ϕ63	32(29)	22	ϕ14H9/f8	66	17	□75	Rc3/8	$20^{+0.7}_{+0.5}$	32	52	32	M16×1.5
ϕ80	40(37)	27	ϕ20H9/f8	78	21	□94	Rc3/8	$32^{+0.7}_{+0.5}$	36	61	36	M20×1.5
ϕ100	40(37)	27	ϕ20H9/f8	78	26	□112	Rc1/2	$32^{+0.7}_{+0.5}$	36	61	36	M20×1.5

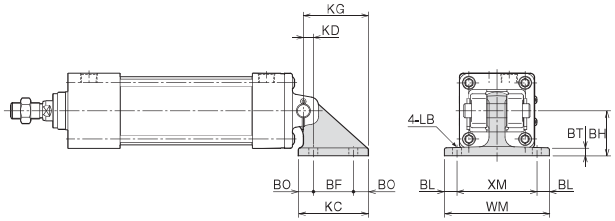
Bore \ Symbol	LR	MM	MR	P	T	UB	VF	WF	XC	YP	YPR	YV	YVR	ZC	ZP	ZV	h
ϕ40	R17	ϕ16	R15	69	8	45	15	25	152	18	21	25.5	40.5	165	4	10	7
ϕ50	R17	ϕ20	R17	74	8	53	15	25	157	18	21	24	44	172	7	12	10
ϕ63	R17	ϕ20	R17	77	8	53	15	25	160	18	21	25	45	175	8	12	10
ϕ80	R30	ϕ25	R24	89	11	67	21	35	200	20	24	29	54	221	11	16	12
ϕ100	R30	ϕ30	R24	89	11	67	21	35	200	20	24	29	54	221	12	18	12

∗ The parenthesized values of dimension A indicate the screw length.

Bracket for CB

Dimensional Table

Bore \ Symbol	Part number	BF	BH	BL	BO	BT	KC	KD	KG	LB	WM	XM
ϕ40	BCA-14-A	40	45	12.5	16.5	8	73	10	66.5	ϕ11	105	80
ϕ50												
ϕ63												
ϕ80	BCA-20-A	65	60	15	16.5	12	98	5	86.5	ϕ14	135	105
ϕ100												

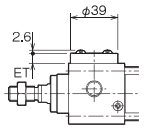


CAD/DATA is available.
10A-6L/TA6L1 Bore

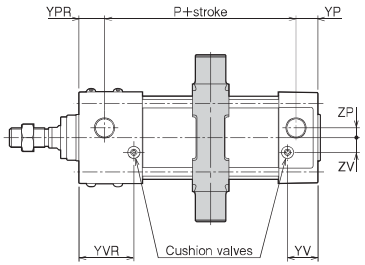
TC

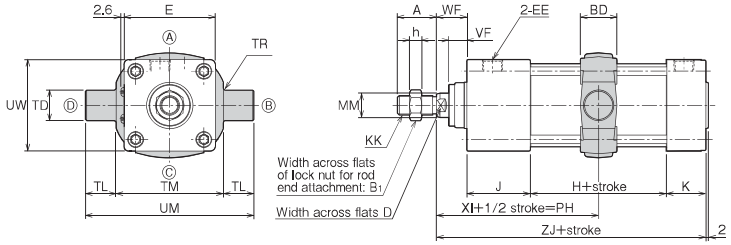
With lock on rod side 10A-6L1 TC Bore B Stroke

Bore \ Symbol	ET
ϕ40	8
ϕ50	4



●Bore ϕ40・ϕ50



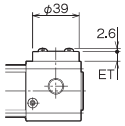


●For dimensions not shown here, refer to the SD style (basic style).
●For Switch Set Cylinders, see the dimensional drawings of Switch Set.
●For dimensional drawings of rod end attachments, refer to the accessories.
Note) In the case of the 40 mm bore small-stroke cylinder, locate the port and cushion on Ⓑ to avoid interference with the lock cover.

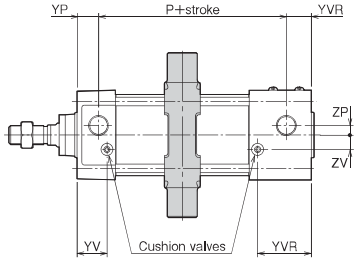
With lock on cap side 10A-6L2 TC Bore B Stroke

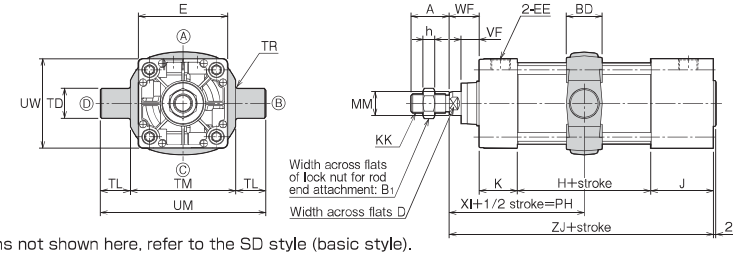
10A-6L/TA6L2 Bore

Bore \ Symbol	ET
ϕ40	8
ϕ50	4



●Bore ϕ40・ϕ50





●For dimensions not shown here, refer to the SD style (basic style).
●For Switch Set Cylinders, see the dimensional drawings of Switch Set.
●For dimensional drawings of rod end attachments, refer to the accessories.
Note) In the case of the 40 mm bore small-stroke cylinder, locate the port and cushion on Ⓑ to avoid interference with the lock cover.

Dimensional Table

Bore \ Symbol	A	B_1	BD	D	E	EE	H	J	K	KK	MM	P	Min. PH	
													10A-6L1	10A-6L2
ϕ40	24(21)	19	30	14	□50	Rc1/4	31	46	31	M12×1.25	ϕ16	69	86	71
ϕ50	32(29)	22	30	17	□62	Rc1/4	31	51	31	M16×1.5	ϕ20	74	91	71
ϕ63	32(29)	22	30	17	□75	Rc3/8	32	52	32	M16×1.5	ϕ20	77	92	72
ϕ80	40(37)	27	35	21	□94	Rc3/8	36	61	36	M20×1.5	ϕ25	89	113.5	88.5
ϕ100	40(37)	27	40	26	□112	Rc1/2	36	61	36	M20×1.5	ϕ30	89	116	91

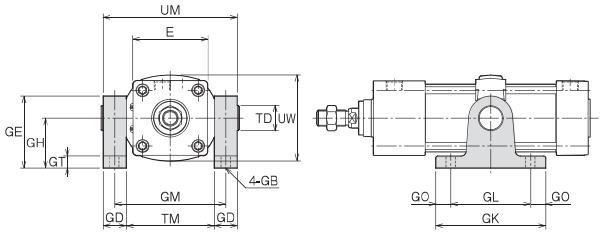
Bore \ Symbol	TD	TL	TM	TR	UM	UW	VF	WF	XI		YP	YPR	YV	YVR	ZJ	ZP	ZV	h
									10A-6L1	10A-6L2								
ϕ40	ϕ25e9	25	63	R1.6	113	60	15	25	86.5	71.5	18	21	25.5	40.5	133	4	10	7
ϕ50	ϕ25e9	25	76	R1.6	126	72	15	25	91.5	71.5	18	21	24	44	138	7	12	10
ϕ63	ϕ25e9	25	88	R1.6	138	87	15	25	93	73	18	21	25	45	141	8	12	10
ϕ80	ϕ25e9	25	114	R1.6	164	105	21	35	114	89	20	24	29	54	168	11	16	12
ϕ100	ϕ25e9	25	132	R2	182	129	21	35	114	89	20	24	29	54	168	12	18	12

∗ The parenthesized values of dimension A indicate the screw length.

Bracket for TC

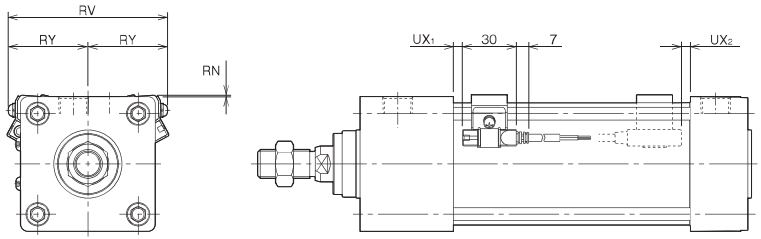
Dimensional Table

Bore \ Symbol	Part number	E	GB	GD	GE	GH	GK	GL	GM	GO	GT	TD	TM	UM	UW
ϕ40	BTA-25-A	□50	ϕ12	23	74	50	111	80	86	15.5	14	ϕ25	63	113	60
ϕ50		□62	ϕ12	23	74	50	111	80	99	15.5	14	ϕ25	76	126	72
ϕ63		□75	ϕ12	23	74	50	111	80	111	15.5	14	ϕ25	88	138	87
ϕ80	BTA-25-1-A	□94	ϕ14	23	92	70	121	85	137	18	14	ϕ25	114	164	105
ϕ100		□112	ϕ14	23	92	70	121	85	155	18	14	ϕ25	132	182	129

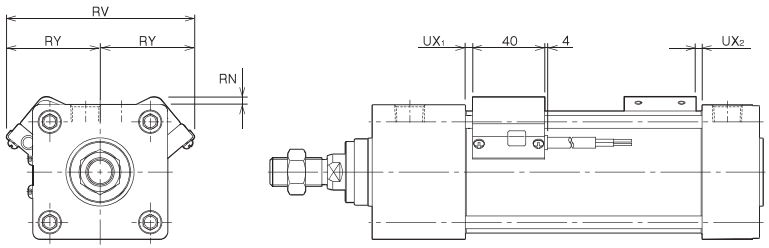


Switch Set

● AX type sensor



● SR type sensor



Dimensional Table

Symbol / Bore	RY		RV		RN		UX_1		UX_2	
	AX type	SR type	AX type	SR type	AX type	SR type	AX形	SR形	AX形	SR形
ϕ40	36	40	72	80	3	4	8	2	4	0
ϕ50	40	45	80	90	2	3	9	2	5	0
ϕ63	47	52	94	104	2	5	9	2	5	0
ϕ80	52	60	104	120	0	2	11	4	6	0
ϕ100	60	67	120	134	0	0	11	4	6	0

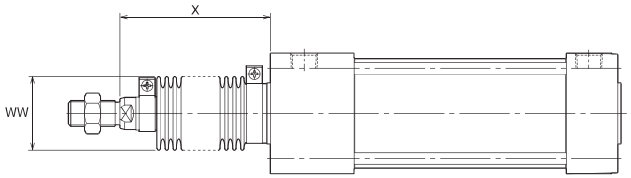
Note) Dimension UX indicates the optimum sensor mounting position for detection of stroke end.

Operating Range and Hysteresis

Bore mm	Reed sensor				Solid state sensor	
	AX1 ** type		SR type		AX2 ** type	
	Operating range	Hysteresis	Operating range	Hysteresis	Operating range	Hysteresis
ϕ40	5 to 10	1 or less	8 to 12	2 or less	3 to 6	1 or less
ϕ50	6 to 12		9 to 13		4 to 8	
ϕ63						
ϕ80						
ϕ100						

General Pneumatic Cylinders 10A-6L

With Boots

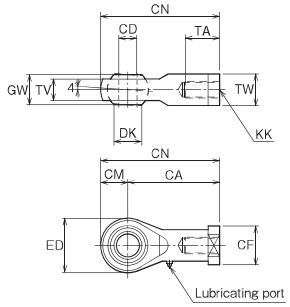


	Standard	Semi-standard	
Material	Nylon tarpaulin	Chloroprene	Conex
Heat proof	80°C	100°C	200°C

Notes) ● Conex is the registered trademark of Teijin Limited.
● Remember that the heat proof field in the table above shows the allowable temperatures for the boots, not for the cylinder.
● The boots have been mounted at our factory prior to delivery.

Rod End Attachment

● Rod eye with spherical bearing (S-end)



Dimensional Table/With boots (nylon tarpaulin/chloroprene)

Symbol / Bore	WW	X (standard strokes)												X (other than standard strokes)
		50	75	100	125	150	200	250	300	350	400	450	500	Nylon tarpaulin/chloroprene
φ40	φ41	62	70	79	87	95	112	129	145	162	179	195	212	$\frac{1}{3}$ stroke+45
φ50	φ47	67	75	84	92	100	117	134	150	167	184	200	217	$\frac{1}{3}$ stroke+50
φ63	φ47	67	75	84	92	100	117	134	150	167	184	200	217	
φ80	φ56	68	74	80	87	93	105	118	130	143	155	168	180	$\frac{1}{4}$ stroke+55
φ100	φ61	68	74	80	87	93	105	118	130	143	155	168	180	

Note) If the calculated value has a fractional part, round it up.

Dimensional Table/With boots (Conex)

Symbol / Bore	WW	X (standard strokes)												X (other than standard strokes)
		50	75	100	125	150	200	250	300	350	400	450	500	Conex
φ40	φ61	70	83	95	108	120	145	170	195	220	245	270	295	$\frac{1}{2}$ stroke+45
φ50	φ61	75	88	100	113	125	150	175	200	225	250	275	300	$\frac{1}{2}$ stroke+50
φ63	φ61	75	88	100	113	125	150	175	200	225	250	275	300	
φ80	φ61	75	85	95	105	115	135	155	175	195	215	235	255	$\frac{2}{5}$ stroke+55
φ100	φ61	75	85	95	105	115	135	155	175	195	215	235	255	

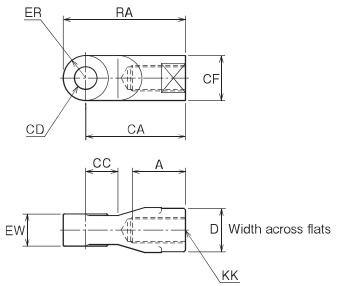
Note) If the calculated value has a fractional part, round it up.

Dimensional Table/Rod eye with spherical bearing (S-end)

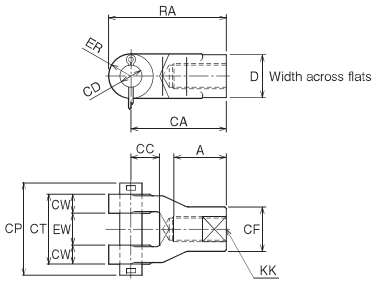
Symbol / Bore	Part number	CA	CD	CF	CM	CN	DK	ED	GW	KK	TA	TV	TW
φ40	RSA-12-A	50	φ12H9	φ22	15	65	φ15.4	30	$16_{-0.1}^{0}$	M12×1.25	24	12±0.1	19
φ50	RSA-16-A	64	φ16H9	φ27	19	83	φ19.4	38	$21_{-0.1}^{0}$	M16×1.5	33	15±0.1	22
φ63													
φ80	RSA-20-A	77	φ20H9	φ34	23	100	φ24.4	46	$25_{-0.1}^{0}$	M20×1.5	40	18±0.1	30
φ100													

Rod End Attachment

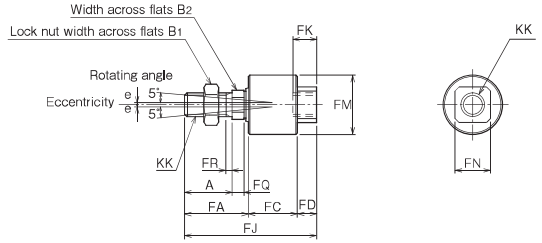
● Rod eye (T-end)



● Rod clevis (Y-end) with pin



● Floating joint (F-end)



- The insertion of the floating joint into the socket shall not equal or exceed the dimension of screw diameter.
  (Return the joint one or two turns after it gets into contact with the socket bottom, and fix it with a lock nut.)
  Excessive insertion can cause operation failure.
- Do NOT use together with CA, CB, CC, and TC accessories.

Dimensional Table/Rod eye (T-end)

Symbol / Bore	Part number	A	CA	CC	CD	CF	D	ER	EW	KK	RA
φ40	RTA-12-A	25	60	20	φ14H9	φ24	24	R12	$20_{-0.1}^{0}$	M12×1.25	72
φ50	RTA-16-A	33	60	20	φ14H9	φ28	27	R14	$20_{-0.1}^{0}$	M16×1.5	74
φ63											
φ80	RTA-20-A	41	85	30	φ20H9	φ36	36	R19	$32_{-0.1}^{0}$	M20×1.5	104
φ100											

Dimensional Table/Rod clevis (Y-end) with pin

Symbol / Bore	Part number	A	CA	CC	CD	CF	CP	CT	CW	D	ER	EW	KK	RA
φ40	RYA-12-1-A	25	60	20	$\phi 14^{H9}_{f8}$	φ24	58	44	12	24	R12	$20^{+1.5}_{+0.5}$	M12×1.25	71
φ50	RYA-16-A	33	60	18	$\phi 14^{H9}_{f8}$	φ28	58	44	12	27	R14	$20^{+1.5}_{+0.5}$	M16×1.5	74
φ63														
φ80	RYA-20-A	41	85	28	$\phi 20^{H9}_{f8}$	φ36	78	64	16	36	R19	$32^{+1.5}_{+0.5}$	M20×1.5	104
φ100														

Dimensional Table/Floating joint (F-end)

Symbol / Bore	Part number	A	B_1	B_2	e	FA	FC	FD	FJ	FK	FM	FN	FQ	FR	KK
φ40	RFS-12T	24	19	13	1	33	25.5	11	69.5	13.5	φ32	□19	7	3.5	M12×1.25
φ50 φ63	RFS-16T	32	22	17	1.5	43	33	13	89	16	φ40	□24	8	4	M16×1.5
φ80	RFS-20T080	40	27	22	2	53	42	15	110	22	φ50	□30	9	5	M20×1.5
φ100	RFS-20T100	40	27	24	2.5	56	49	18	123	24	φ64	□36	12	6	M20×1.5

10A-6L Safety Lock Cylinder

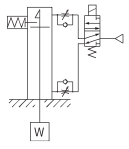
Handling procedures

Pneumatic circuit

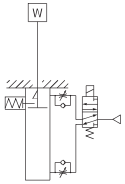
⚠WARNING

- When starting (unlocking), once apply pressure to the port without the lock mechanism.
  If the lock is released with load on the lock mechanism (lock piston), the mechanism may malfunction or be damaged, or the piston may suddenly move, thereby causing a hazardous situation.
  Avoid using an exhaust center 3-position valve from which air is discharged through both ports. It is recommended to use a 2-position 4- or 5-port valve in which one side is constantly pressurized.
- Select a valve through which the pressure on the lock side can be completely discharged. If a 3-position closed center or 3-position pressure center valve through which pressure cannot be discharged is used, the piston rod cannot be locked.
- If exhaust pressure is applied to the port on the lock side while the lock is on, the lock may be released. Design the pneumatic circuit so that exhaust pressure is not applied to the port. Care should be taken when a manifold type valve is used and the valve exhaust side is connected to centralized piping.

Recommended circuit



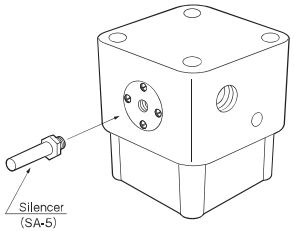
With lock on cap side



With lock on rod side

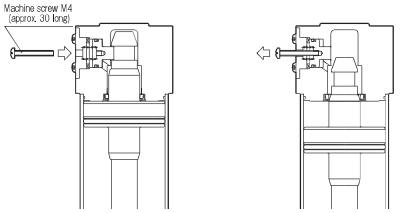
⚠CAUTION

- Control the speed based on meter-out control. In the case of meter-in control, the lock mechanism may not be released.
- Adjust the cushion appropriately. If the cushion valve is fully closed or almost fully closed, the piston rod may not reach the stroke end, and the rod may not be locked. Even if it is locked, it may not be unlocked correctly.
- If water, oil or particles may enter the manual operation port, attach the silencer (SA-5) supplied with the product. If water, oil or particles enter the manual operation port, malfunctions, such as locking failure, may be caused.

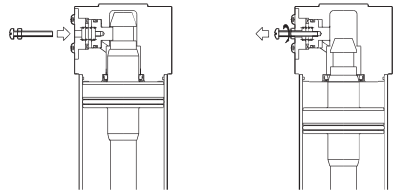


Manual unlocking procedures

- To manually unlock, insert an M4 bolt (about 30 mm long) from the manual release port, screw the bolt into the internal lock piston, and pull the bolt. Then, the lock will be released.



- To keep the lock mechanism in the released state, fit a nut to the manual unlocking bolt in advance. The nut which is tightened on the cover side with the bolt in the pulled state can prevent the bolt returning.



Backlash at stroke end on lock side

The lock is designed so that a backlash of up to 1 mm is kept when the rod is locked at the stroke end.
When air pressure is discharged from port A, the load will drop for the backlash.
Fit the screw carefully.