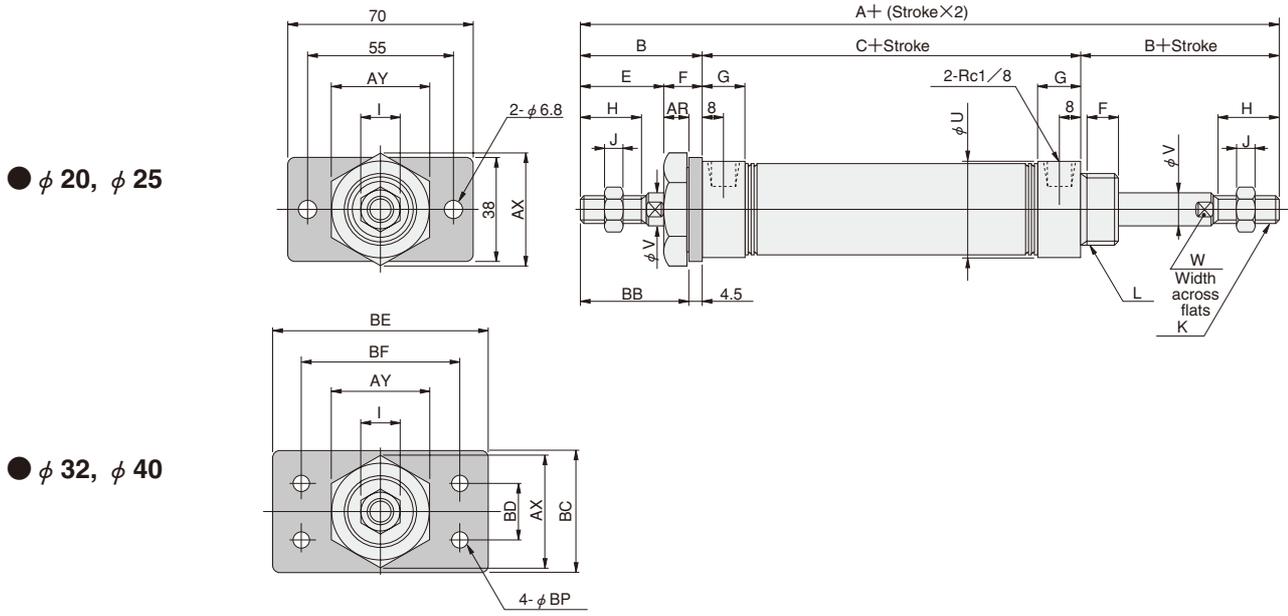


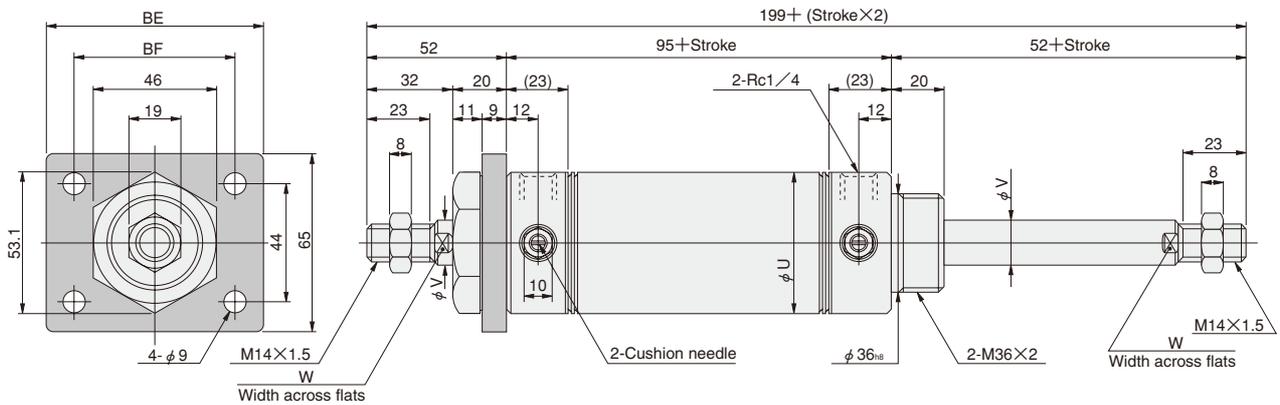
Dimensions of Double Rod Flange Mounting Type (mm)

● $\phi 20 \sim \phi 40$ DAD \times -3



Bore mm [in.]	Code	A	B	C	E	F	G	H	I	J	K	L	U	V	W	AR	AX	AY	BB	BC	BD	BE	BF	BP
20	[0.787]	146	35	76	23	12	16	15	12	5	M 8×1	M20×1.5	27	8	6	7.5	31.2	27	30.5	—	—	—	—	—
25	[0.984]	156	40	76	26	14	16	18	14	6	M10×1.25	M22×1.5	29	10	8	9.5	34.6	30	35.5	—	—	—	—	—
32	[1.260]	166	45	76	31	14	16	23	14	6	M10×1.25	M27×2	35	12	10	9.5	41.6	36	40.5	45	20	80	60	6.8
40	[1.575]	166	45	76	31	14	(15)	23	19	8	M14×1.5	M33×2	41.6	16	14	9.5	47.3	41	40.5	50	30	100	80	9

● $\phi 50, \phi 63$ DAD \times -3

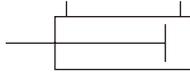


Bore mm [in.]	Code	U	V	W	BE	BF
50	[1.969]	52	16	14	80	60
63	[2.480]	65.4	16	14	100	80

SLIM LOW HYDRAULIC CYLINDERS



Symbol



Specifications

Item	Bore size mm [in.]	20~40 [0.787~1.575]	50 [1.969]	63 [2.480]
Operation type		Double acting type		
Media		Turbine oil with defoaming agent (ISO VG22~100 or equivalent) or petroleum-based hydraulic oil		
Mounting type		Basic type, Foot type, Flange type, Pivot type		
Operating pressure range	MPa [psi.]	0.2~0.9 [29~131]	0.2~0.7 [29~102]	
Proof pressure	MPa [psi.]	1.32 [191]	1.03 [149]	
Operating temperature range	°C [°F]	0~70 [32~158]		
Operating speed range	When one side is air and the other side is oil	1~100 [0.04~3.94]	0.5~150 [0.02~5.91]	0.5~100 [0.02~3.94]
	When both sides are oil	1~60 [0.04~2.36]	0.5~100 [0.02~3.94]	0.5~50 [0.02~1.97]
Cushion		Fixed type (Rubber bumper)	None	
Port size	Rc	1/8	1/4	

Notes: 1. The low hydraulic cylinder is recommended to be used with oil on both sides. The use of oil on one side and air on the other side could result in imprecise speed control, and oil could leak across to the air side. In addition, use meter-out control for the speed control.
 2. Bore sizes ϕ 50 and ϕ 63 have air bleed ports. Loosen the plugs to bleed air of the cylinder inside.

3. When using the reed switch type sensor, maintain a minimum speed of 30mm/s [1.2in./sec.] or more.
 4. Do not use nonflammable hydraulic fluid, machine oil, or spindle oil.
 5. Be aware that changes in oil temperature can alter the speed.

Bore Size and Stroke

Bore size	Standard strokes	Maximum stroke		Maximum available stroke	
		No bellows	With bellows	No bellows	With bellows
20	25 50 75 100 125 150	200		1050	740
25	25 50 75 100 125 150 200	250			
32	25 50 75 100 125 150 200	300			
40	25 50 75 100 125 150 200 250 300	400	300	900	740
50	25 50 75 100 150 200 [250 300 350 400]	300[500]	300		
63	25 50 75 100 150 200 [250 300 350 400 500]	300[600]	300		

Remarks: 1. Stroke tolerance $^{+1}_{0}$ [+0.039in.]
 2. For non-standard strokes, consult us.
 3. Figures in square brackets [] are for cases when foot mounting brackets are used for mounting.

Order Codes

DA **H** 20×50 - - - - - -

Low hydraulic cylinders
Slim double acting cylinder

Bore size × Stroke
20×50

Bellows
Blank — No bellows
J — With bellows (Made to order)

Rod end accessory
Blank — No rod end accessory
I — I type knuckle
Y — Y type knuckle (with pin)
● For the cylinder joint and cylinder rod end, see p.1568.

Mounting type
Blank — Basic type
1 — Double foot mounting type
3 — Flange mounting type
8B — Pivot mounting type with bushing (Available at ϕ 50 and ϕ 63 only)
8E — Pivot mounting type with supporting bracket (with pin) (Available at ϕ 20~40 only)
8B-8E — Pivot mounting type with bushing and supporting bracket (Available at ϕ 50 and ϕ 63 only)
● Mounting brackets are included at shipping.

Head cover specification
Blank — Standard head
A — Short head

Number of sensor switches
1 — With 1 sensor switch
2 — With 2 sensor switches
3 — With 3 sensor switches
: — :
: — :

Lead wire length (Applies to all except CS□F)
A — 1000mm [39in.]
B — 3000mm [118in.]

Sensor switch (for cylinders with sensor switches)
Blank — No sensor switch
ZG530 — 2-lead wire Solid state type with indicator lamp DC10~28V
ZG553 — 3-lead wire Solid state type with indicator lamp DC4.5~28V
CS3M — Reed switch type with indicator lamp DC10~30V AC85~230V
CS4M — Reed switch type with indicator lamp DC10~30V AC85~115V
CS5M — Reed switch type without indicator lamp DC3~30V AC85~115V
CS2F — Reed switch type with indicator lamp AC85~230V
CS3F — Reed switch type with indicator lamp DC10~30V
CS4F — Reed switch type with indicator lamp DC10~30V
CS5F — Reed switch type without indicator lamp DC3~30V
● For details of sensor switches, see p.1544.
● CS□F comes with DIN connector. All others are grommet type.

Unit: mm

Double acting type single rod/Switch set

HRST1

Dimensions

Symbol Inner diameter	A	C	D	E	EE	F	FB	FE	KK		KL	LF	LL	M
									Female screw SPEC	Male screw SPEC				
φ32	25(40)	7	14	□62	Rc1/4	15	φ6.6	62	M12×1.75	M16×1.5	15	79	64	M6×1
φ40	30(45)	7	19	□70	Rc1/4	20	φ11	70	M16×2	M20×1.5	20	85	65	M8×1.25
φ50	35(50)	8	24	□80	Rc1/4	20	φ14	85	M20×2.5	M24×1.5	24	91	70	M10×1.5
φ63	45(60)	9	30	□94	Rc1/4	20	φ14	98	M27×3	M30×1.5	33	100	77	M12×1.75
φ80	60(80)	14	41	□114	Rc3/8	25	φ18	118	M30×3.5	M39×1.5	36	120	88	M14×2

Symbol Inner diameter	MM	N	PJ	PL	R	RV	TF	TV	UF	UX1	UX2	W	Y
φ32	φ18	10	19	12	40	37	80	□47	95	29	17	10	33
φ40	φ22	10	26	12	46	41	96	□52	118	29	19	10	27
φ50	φ28	10	29	13	58	46	108	□58	135	31	22	11	28
φ63	φ36	10	34	13	65	53	124	□69	150	34	26	13	30
φ80	φ45	15	35	18	87	63	154	□86	185	39	31	17	35

Note) ● If using a locknut, A dimension is recommended. (According to the order)

● Please order the lock nut separately.

● The tolerance of MM is f8.

21MPa specification absolute method position sensing hydraulic cylinder

- The position sensor applies magnetic phenomenon in order to detect absolute position with high precision.
- Due to its origin setting, there is no need to make corrections and no need to have a switch.
- Due to its compact design, it does not take space because and is easy to install in the device.
- Since a cushion can be equipped as standard compatibility, you can safely use a normal switching valve.

