



3.5MPa Double acting hydraulic cylinders

DOC Double Acting - Pivot Type	
DOA Double Acting - Front Nose Mounting Type	
DOD Double Acting - Double End Rod Type	
DON...A, DON...B Double End Rod Type - Adjustable	 A:25mm B:50mm



● Piston with magnet is standard accessory in the DO series cylinder.

Specification

Bore sizes of cylinder (mm)	φ 20	φ 32
Power fluid	Filtered oil	
Material of cylinder barrel	Anodised aluminium alloy	Stainless steel
The range of pressure (MPa)	3.5(35Kg/cm ²)	
Proof pressure (MPa)	5(50Kg/cm ²)	
The range of speed (mm/sec)	0.5~300	
The range of temperature (°C)	-10~+60	

How to order

DON	32	100	A	LB	Y	LN-01H	×	2
Type	Bore	Stroke	Adjustable stroke	Accessory		Sensor switch		Quantity
 DOC	20—φ 20mm 32—φ 32mm	50—50mm 100—100mm 150—150mm 200—200mm 250—250mm 300—300mm	None: standard A: Adjustable 25mm B: Adjustable 50mm Note: this number can only be used for the adjustable type.	 FA	 FB	 LB	 Y	 I
 DOA						 LN01H: Suited for φ 20 LN01G: Suited for φ 32		1: 1pc 2: 2pcs
 DOD						Note: 1.Can choose NPN or PNP type (3-Wire type, 24VDC). 2.Can choose plug-in cable. 3.For details see page 4-1.2.		
 DON								

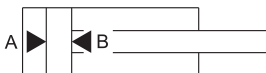


Standard stroke

Unit : mm

Bore	25	50	75	100	125	150	200	250	300
φ 20	●	●	●	●	●	●	●	-	-
φ 32	●	●	●	●	●	●	●	●	●

Note: May to order of unstandard stroke



Theoretic Force

Unit : N

Bore (mm)	Rod (mm)	Pressure area (mm ²)	Operating pressure (MPa)							
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	
φ 20	φ 12	A	314	157	314	471	628	785	942	1099
		B	201	101	201	302	402	503	603	704
φ 32	φ 16	A	707	354	707	1061	1414	1768	2121	2475
		B	506	253	506	759	1012	1265	1518	1771

The method of calculation (Hydraulic cylinders' force)

$$F = P \times A - f$$

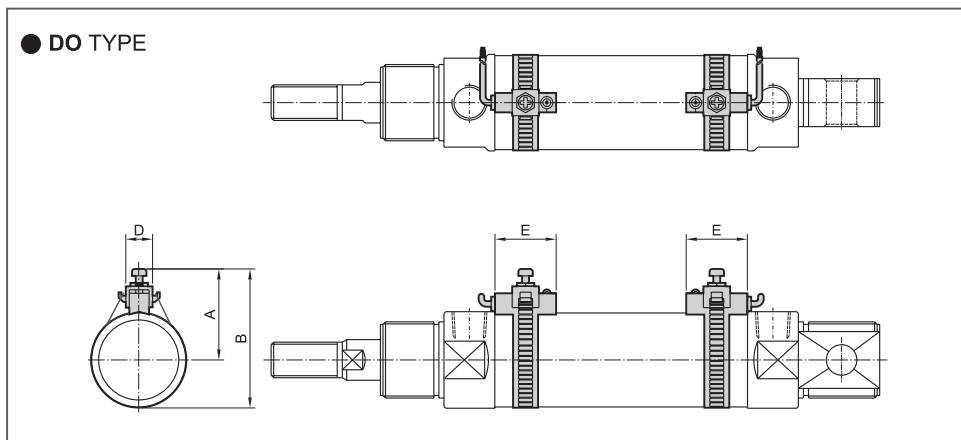
F: Cylinders' force (N)

P: Operating pressure (Mpa)

A: Piston area (mm²)

f: Friction drag (N)

Installation of sensor switches



Dimensional Table

Bore	Sensor switch	A	B	D	E
φ 20	LN01H	28	40.5	7	22
φ 32	LN01G	33	49.5	7	22

TC

TS

RP

HC

HC_M

HCK

TH

DO

DX
DW

DM

DH

DK

How to order the seal kit

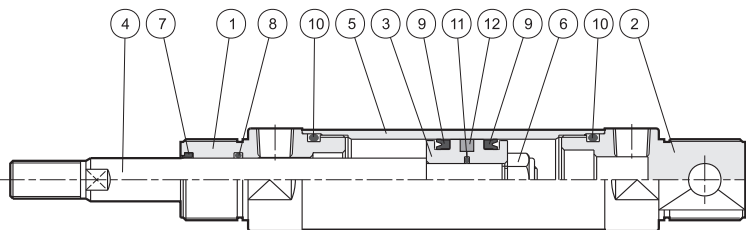
DOSK

Bore	Seal kit
20	DOSK20 - Including No.8,9,10,11,12
32	DOSK32 - Including No.8,9,10,11,12

DODSK

Bore	Seal kit
20	DODSK20 - Including No.6,7,8,9,10
32	DODSK32 - Including No.6,7,8,9,10

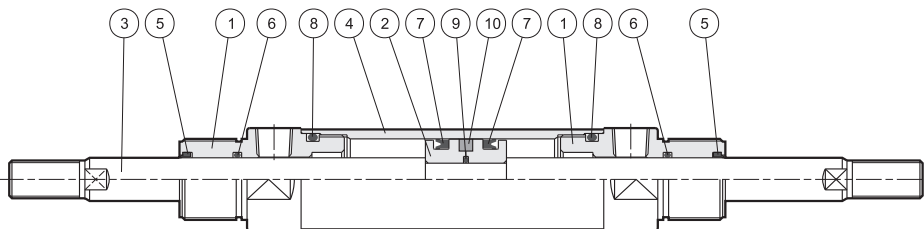
● DOA / DOC TYPE



Parts List

No.	Part name	Quantity	No.	Part name	Quantity	No.	Part name	Quantity
1	Rod cover	1	5	Cylinder tube	1	9	Piston packing	2
2	Head cover	1	6	Nut	1	10	Cylinder gasket	2
3	Piston	1	7	Dust wiper	1	11	Piston gasket	1
4	Piston rod	1	8	Rod packing	1	12	Magnet	1

● DOD TYPE

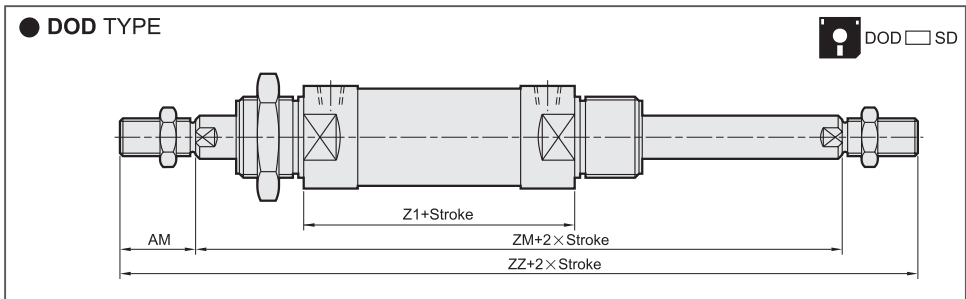
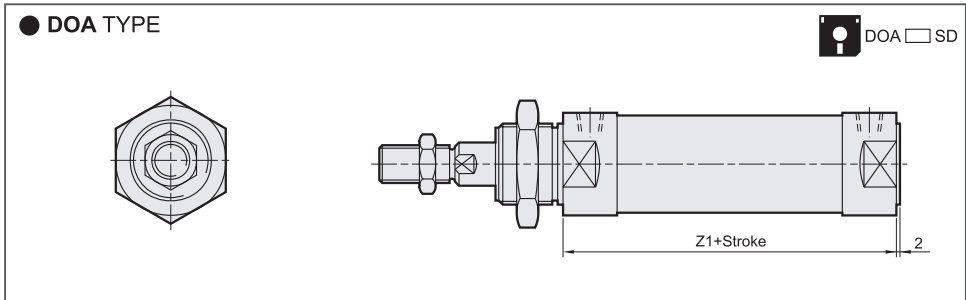
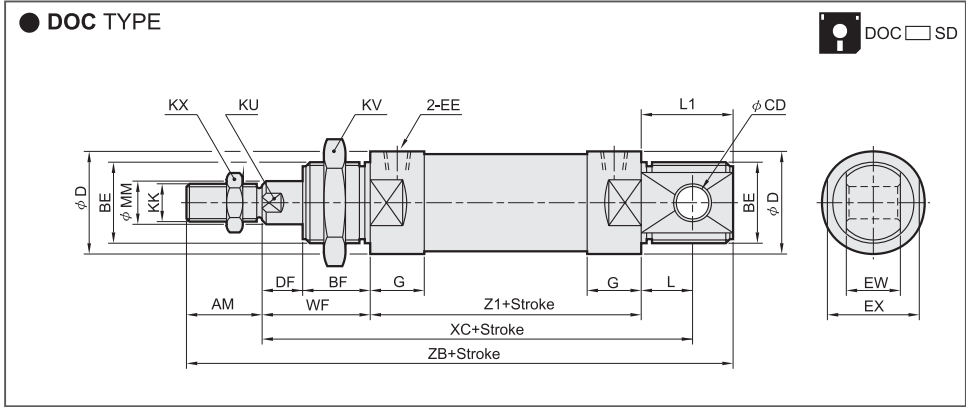


Parts List

No.	Part name	Quantity	No.	Part name	Quantity	No.	Part name	Quantity
1	Rod cover	2	5	Dust wiper	2	9	Piston gasket	1
2	Piston	1	6	Rod packing	2	10	Magnet	1
3	Piston rod	1	7	Piston packing	2			
4	Cylinder tube	1	8	Cylinder gasket	2			



Dimensional features



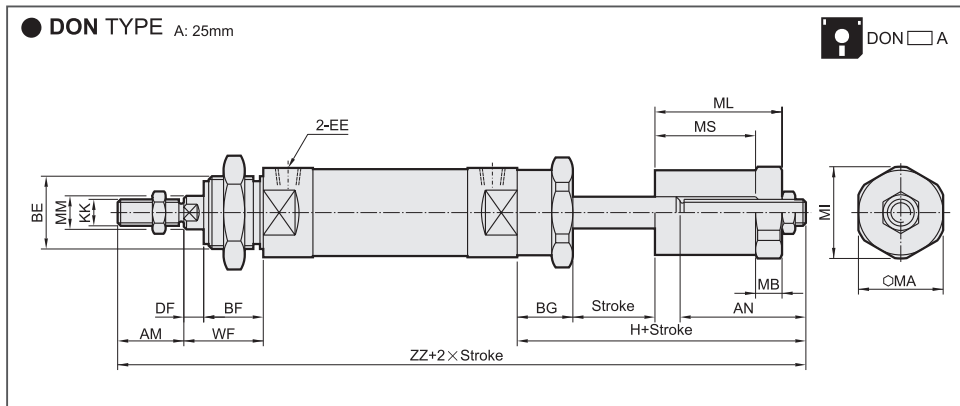
- TC
- TS
- RP
- HC
- HC_M
- HCK
- TH
- DO
- DX
- DW
- DM
- DH
- DK

Dimensional Table

Bore	AM	BE	BF	CD	D	DF	EE	EX	EW	G	KK	KU	KV	KX	L	L1	MM	WF	XC	Z1	ZB	ZM	ZZ
φ 20	20	M22×1.5	20	10	28	8	PT1/8	25	12	16	M10×1.25	10	27	17	15	25	12	28	130	87	160	143	183
φ 32	28	M30×1.5	25	12	38	15	PT1/4	35	20	20	M14×1.5	14	41	22	17	32	16	40	159	102	202	182	238

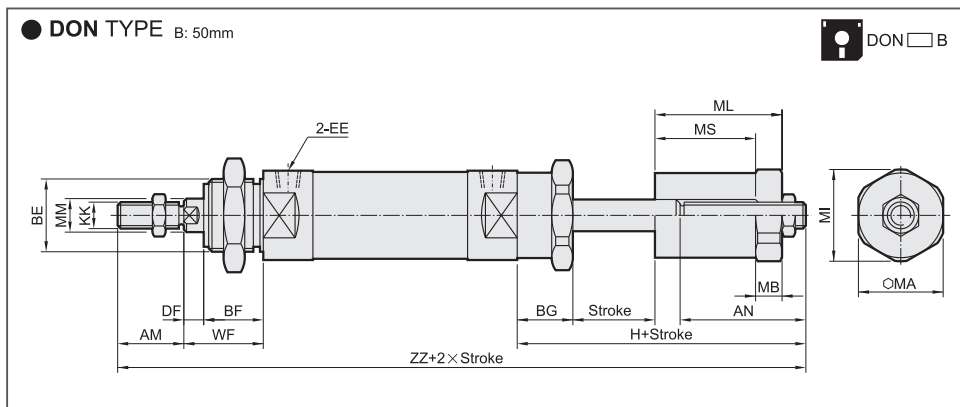


Dimensional features



Dimensional Table

Bore	AN	AM	BE	BF	BG	DF	EE	H	KK	MA	MB	MI	ML	MM	MS	WF	ZZ
φ 20	48	20	M22 × 1.5	20	25	8	G1/8	81	M10 × 1.25	27	10	29	47	12	35	28	216
φ 32	48	28	M30 × 1.5	25	30	15	G1/4	88	M14 × 1.5	32	10	44	47	16	37	40	258

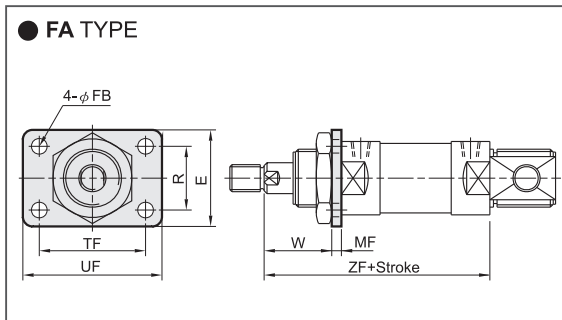


Dimensional Table

Bore	AN	AM	BE	BF	BG	DF	EE	H	KK	MA	MB	MI	ML	MM	MS	WF	ZZ
φ 20	73	20	M22 × 1.5	20	25	8	G1/8	106	M10 × 1.25	27	10	29	72	12	60	28	241
φ 32	73	28	M30 × 1.5	25	30	15	G1/4	113	M14 × 1.5	32	10	44	72	16	62	40	283



Dimensional features

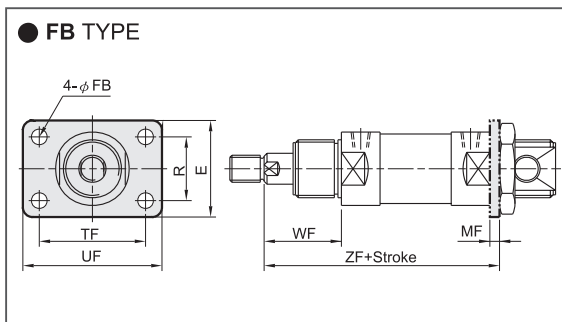


Dimensional Table



Type	Bore	E	FB	MF	R	TF	UF
FA-20	φ 20	38	7	6	21	51	68
FA-32	φ 32	50	7	9	33	55	72

Type	Bore	W	ZF
FA-20	φ 20	22	115
FA-32	φ 32	31	142

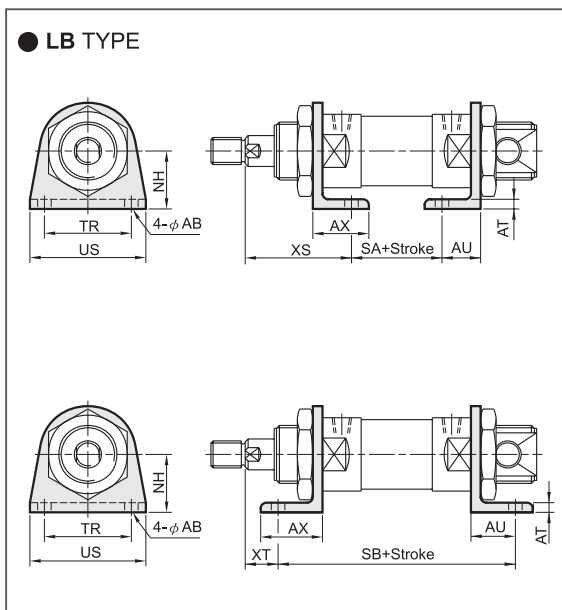


Dimensional Table



Type	Bore	E	FB	MF	R	TF	UF
FB-20	φ 20	38	7	6	21	51	68
FB-32	φ 32	50	7	9	33	55	72

Type	Bore	WF	ZF
FB-20	φ 20	28	121
FB-32	φ 32	40	151



Dimensional Table



Type	Bore	AB	AT	AU	AX	NH	SA
LB-20	φ 20	7	5	17	25	25	63
LB-32	φ 32	7	5	20	30	35	72

Type	Bore	TR	US	XS
LB-20	φ 20	40	54	40
LB-32	φ 32	40	55	55

Dimensional Table


Type	Bore	AB	AT	AU	AX	NH	SB
LB-20	φ 20	7	5	17	25	25	121
LB-32	φ 32	7	5	20	30	35	142

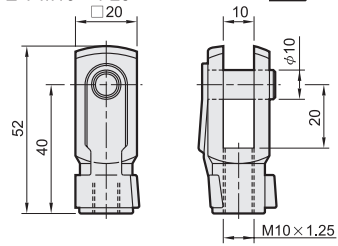
Type	Bore	TR	US	XT
LB-20	φ 20	40	54	11
LB-32	φ 32	40	55	20


- TC
- TS
- RP
- HC
- HC_M
- HCK
- TH
- DO
- DX
- DW
- DM
- DH
- DK

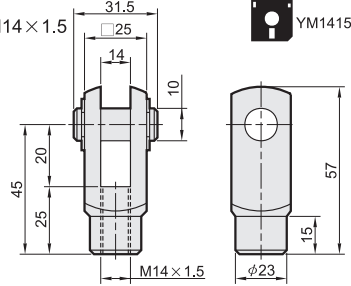


Accessories


● Y Rod Clevis
TYPE Y-M10 × 1.25  YM10125

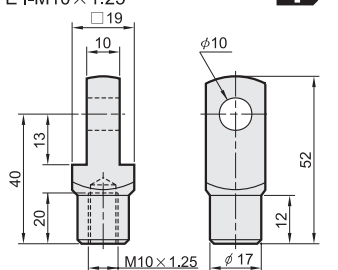



TYPE Y-M14 × 1.5  YM14150

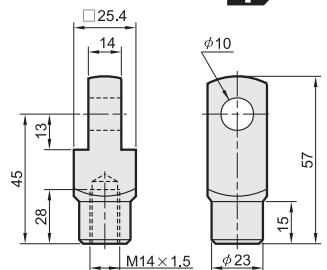



※Y-pin not included.

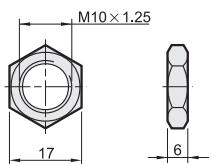
● I Rod end mounting
TYPE I-M10 × 1.25  IM10125




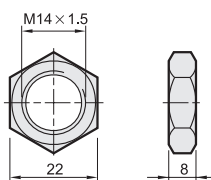
TYPE I-M14 × 1.5  IM14150




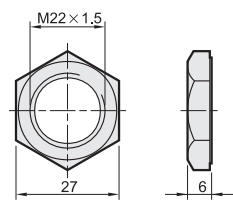
● Mounting Nut (Rod)
TYPE N-M10 × 1.25  NM10125




TYPE N-M14 × 1.5  NM14150



● Mounting Nut (Cover)
TYPE N-M22 × 1.5  NM22150



TYPE N-M30 × 1.5  NM30150B

