

Hydraulic-swing clamp cylinders

THS, THSL

Double Acting - Single Side Clamping Arm

THD, THDL

Double Acting - Double Sides Clamping Arm



- These swing clamps are used when it is required to keep the fixture workpiece area free of straps and clamping components for unrestricted workpiece loading and unloading.
- This hydraulic clamping element is a pull type cylinder. There are five standard sizes, and for each size two versions of standard clamping arms, mounting of these clamping arms at any angle within 360°.

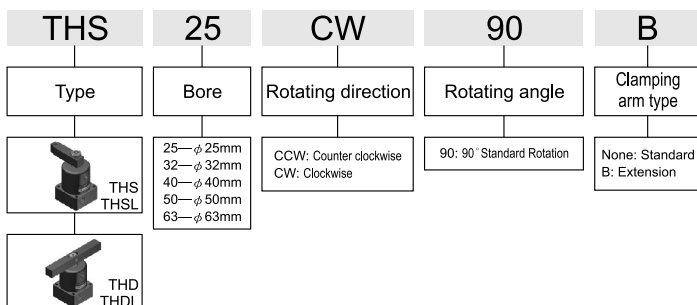
Note:

- Please don't exceed 1.5 times of the original length, if it is necessary to increase the length of the clamping arm.
- Suggested to install a flow control valve protect cylinder barrel and internal components against fretting wear.

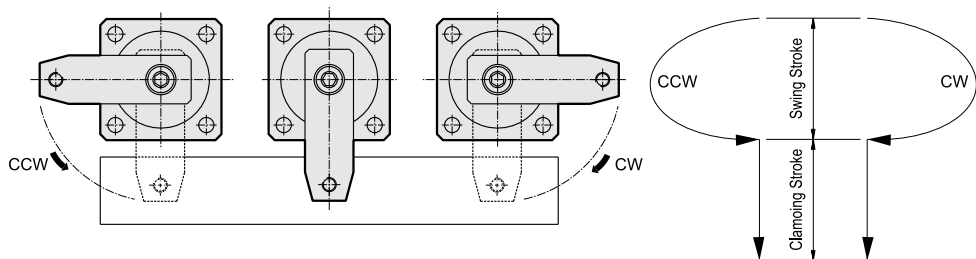
Specification

Type	THS, THD	THSL, THDL
Bore sizes of cylinder (mm)	φ 25~ φ 63	φ 32~ φ 63
Operation	Double acting	
Power fluid	Filtered oil	
Max. Pressure (MPa)	10(100kgf/cm ²)	
The range of pressure (MPa)	0.5~7(5~70kgf/cm ²)	
Material of cylinder barrel	Carbon steel	
Standard angle of rotation	90±2° (Angles of 0°, 45° and 60° are optional)	
Rotating direction	Clockwise or counter clockwise	

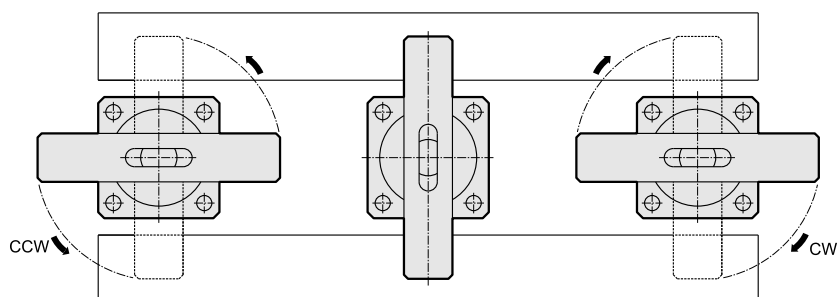
How to order



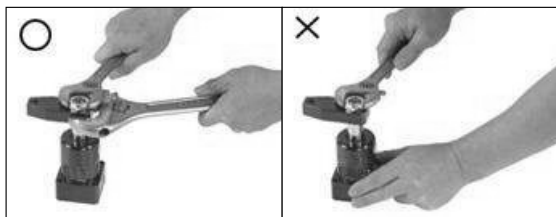
Single side swing clamp



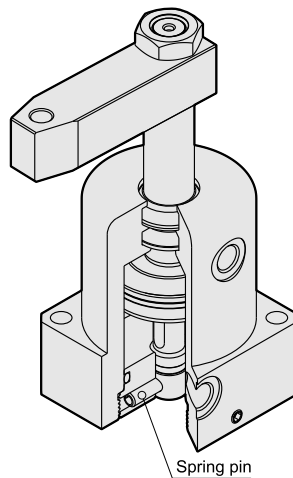
Double side swing clamp



Clamping Arm Mounting Methods



Clamping Arm Removing Methods



Note: spring pin is liable to be broken in pressure plate dismantling or when locked in a wrong direction; rotating angle deviation or unsmooth operating may occur when swing cylinders are started.

TC

TS

RP

HC

HC_M

HCK

TH

DO

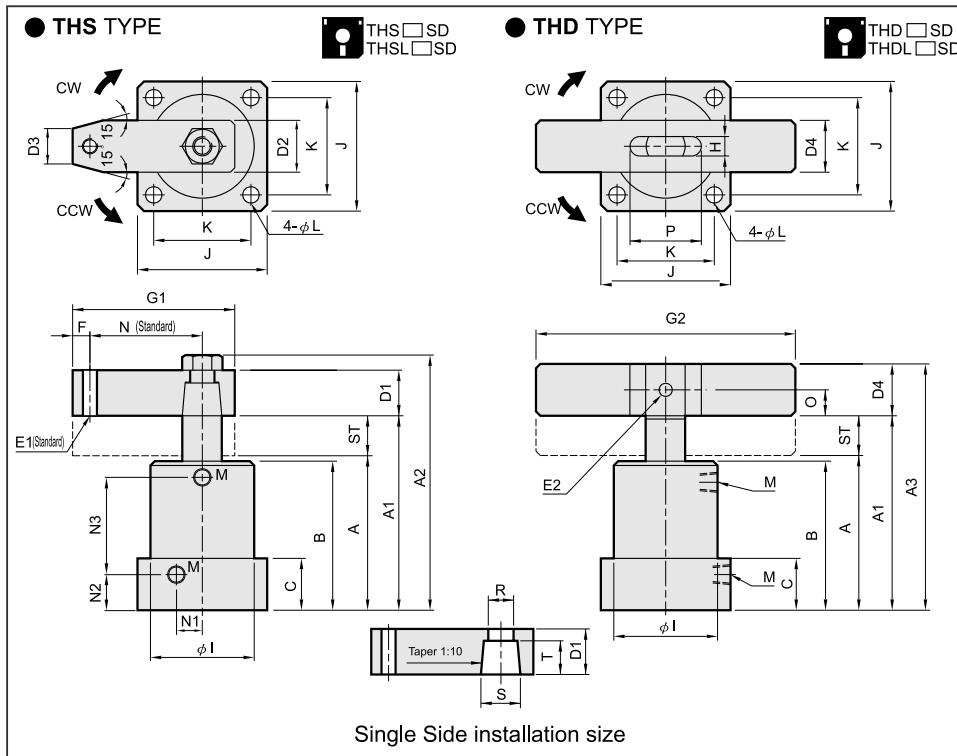
DX
DW

DM

DH

DK

Dimensional features



Dimensional Table

※THSL, THDL=Clamping stroke Incr type.

Type		Bore (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)		Pressure area push/pull (mm ²)	Clamping force (N) (3.5MPa)	Clamping arm front			
std/Incr	std/Incr				std/Incr				G1		G2	
									Standard	Extension	Standard	Extension
THS-25	THD-25	φ 25	φ 18	9	13 / —	—	491 / 237	830	74	100	140	200
THS-32/THSL-32	THD-32/THDL-32	φ 32	φ 20	11	15 / 30	—	804 / 490	1720	81	110	160	230
THS-40/THSL-40	THD-40/THDL-40	φ 40	φ 22.4	11	15 / 30	—	1257 / 863	3020	86	120	160	230
THS-50/THSL-50	THD-50/THDL-50	φ 50	φ 28	13	17 / 34	—	1963 / 1347	4710	96	130	180	260
THS-63/THSL-63	THD-63/THDL-63	φ 63	φ 35	13	17 / 34	—	3117 / 2155	7540	114	150	200	-

Type		TH □ Standard type								TH □ Clamping stroke Incr type								C	D1	D2	D3
ST	A	A1	A2	A3	B	N3	ST	A	A1	A2	A3	B	N3								
THS-25	THD-25	22	79	101	124	120	76	46	-	-	-	-	-	-	27	15	27	15			
THS-32/THSL-32	THD-32/THDL-32	26	89	115	140	137.2	85	52	41	104	145	170	167.2	100	67	30	17	31	17		
THS-40/THSL-40	THD-40/THDL-40	26	94	120	148	142.2	90	57	41	109	150	178	172.2	105	72	30	18	31	17		
THS-50/THSL-50	THD-50/THDL-50	30	104	134	166	159.4	100	63.5	47	121	168	200	193.4	117	80.5	34	20	37	19		
THS-63/THSL-63	THD-63/THDL-63	30	109	139	175	170.8	105	68	47	126	173	209	204.8	122	85	34	23	48	24		

Type		D4	E1	E2	F	H	I	J	K	L	M	N	N1	N2	O	P	R	S	T
THS-25	THD-25	□19	M10 × 1.5	φ 8	10	9	φ 46	52	40	φ 6.8	PT 1/8	50	8	17	9.5	25	φ 15	φ 18	13
THS-32/THSL-32	THD-32/THDL-32	□22.2	M10 × 1.5	φ 8	10	10	φ 50	56	44	φ 6.8	PT 1/8	55	10	19	11.1	29	φ 17	φ 20	14
THS-40/THSL-40	THD-40/THDL-40	□22.2	M10 × 1.5	φ 10	10	10	φ 54	63	48	φ 9	PT 1/8	60	12	19	11.1	31	φ 19	φ 22.4	15
THS-50/THSL-50	THD-50/THDL-50	□25.4	M12 × 1.75	φ 12	12	12	φ 66	72	57	φ 9	PT 1/4	65	15	21.5	12.7	38	φ 21	φ 28	16
THS-63/THSL-63	THD-63/THDL-63	□31.8	M16 × 2.0	φ 15	15	15	φ 80	88	70	φ 11	PT 1/4	75	17	22	15.9	48	φ 27	φ 35	18

Hydraulic-swing clamp cylinders (manifold type)

THS_FC

Double Acting - Single Side Clamping Arm (With flow control)

THD_FC

Double Acting - Double Side Clamping Arm (With flow control)

THS_F, THS_MF

Double Acting - Single Side Clamping Arm

THD_F, THD_MF

Double Acting - Double Side Clamping Arm



- These swing clamps are used when it is required to keep the fixture workpiece area free of straps and clamping components for unrestricted workpiece loading and unloading.
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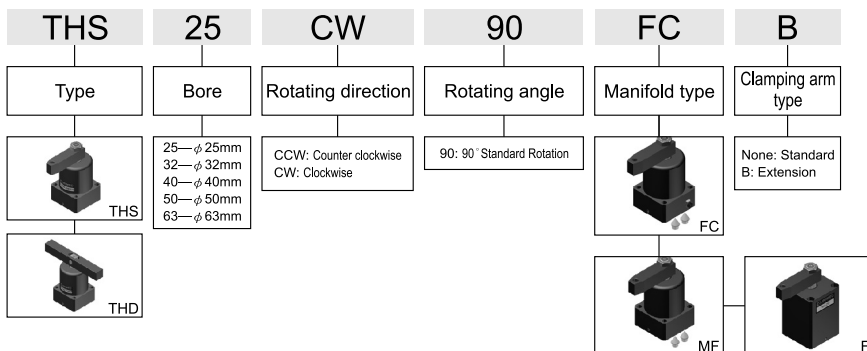
Note:

- Please don't exceed 1.5 times of the original length, if it is necessary to increase the length of the clamping arm.
- Suggested to install a flow control valve protect cylinder barrel and internal components against fretting wear.

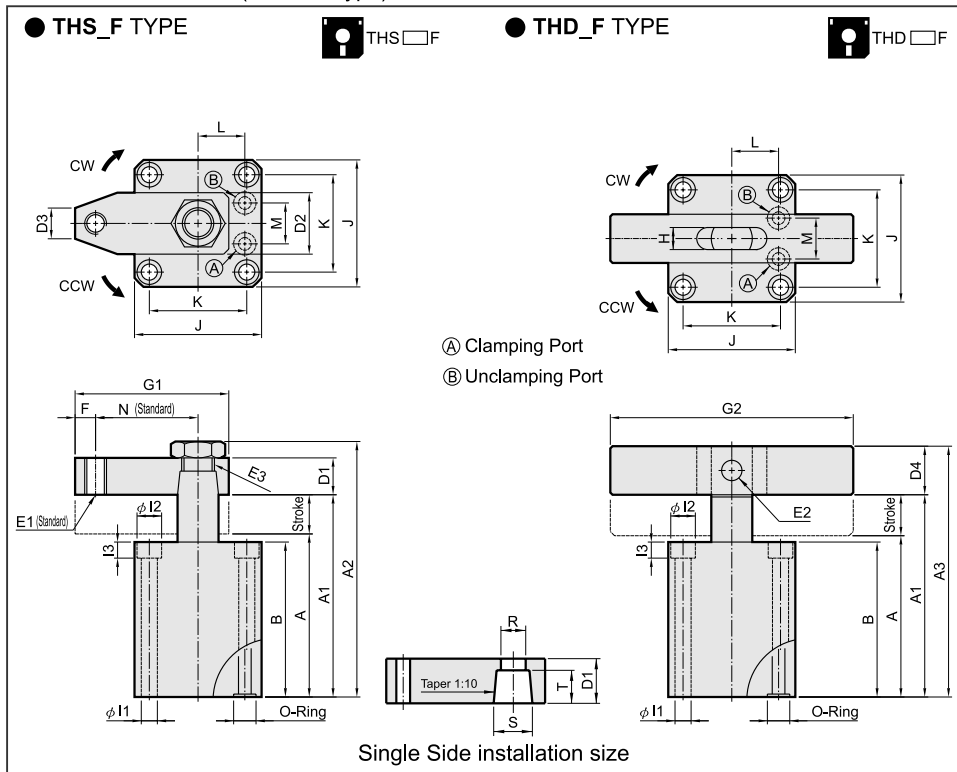
Specification

Type	THS_FC / THD_FC / THS_MF / THD_MF	THS_F / THD_F
Bore sizes of cylinder (mm)	φ 25, φ 32, φ 40, φ 50, φ 63	φ 25, φ 32, φ 40, φ 50
Operation	Double acting	
Power fluid	Filtered oil	
Max. Pressure (MPa)	10(100kgf/cm ²)	
The range of pressure (MPa)	0.5~7(5~70kgf/cm ²)	
Material of cylinder barrel	Carbon steel	
Standard angle of rotation	90±2° (Angles of 0°, 45° and 60° are optional)	
Rotating direction	Clockwise or counter clockwise	

How to order



Dimensional features (Manifold type)



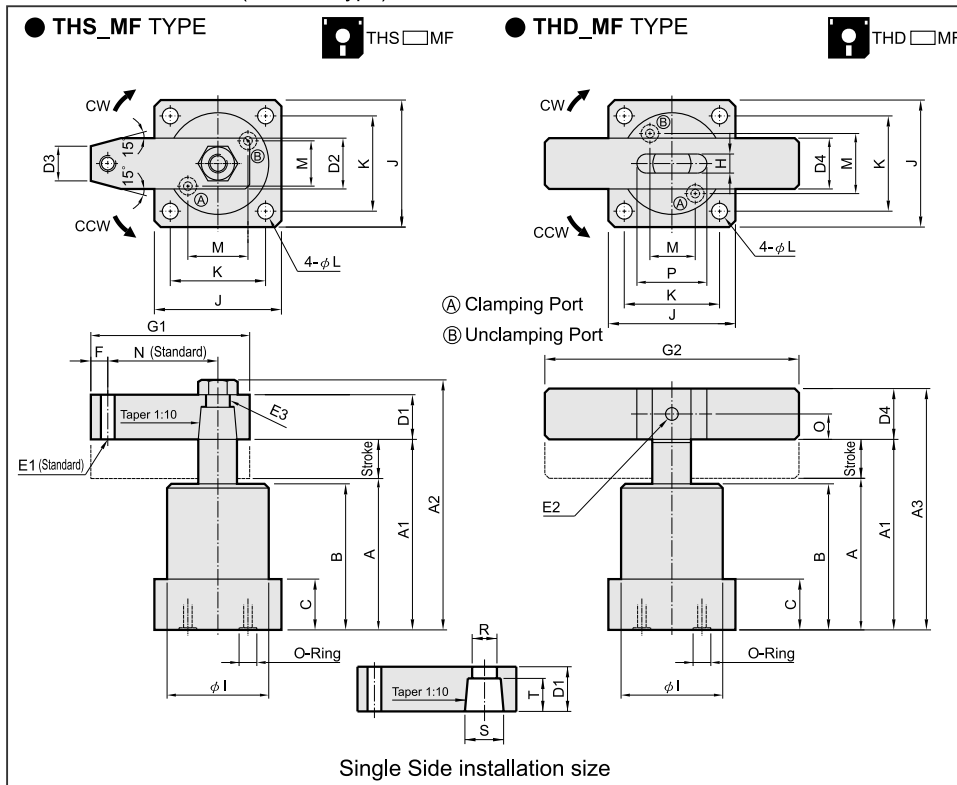
Dimensional Table

Type		Bore (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/pull (mm ²)	Clamping force (N) (3.5MPa)	Clamping arm front			
								G1		G2	
								Standard	Extension	Standard	Extension
THS-25F	THD-25F	φ 25	φ 18	9	13	491 / 237	830	74	100	140	200
THS-32F	THD-32F	φ 32	φ 20	11	15	804 / 490	1720	81	110	160	230
THS-40F	THD-40F	φ 40	φ 22.4	11	15	1257 / 863	3020	86	120	160	230
THS-50F	THD-50F	φ 50	φ 28	13	17	1963 / 1347	4710	96	130	180	260

Type		ST	A	A1	A2	A3	B	D1	D2	D3	D4	E1	E2	E3
THS-25F	THD-25F	22	79	101	124	120	76	15	27	15	□ 19	M10×1.5	φ 8	M14×1.5
THS-32F	THD-32F	26	89	115	140	137.2	85	17	31	17	□ 22.2	M10×1.5	φ 8	M16×1.5
THS-40F	THD-40F	26	94	120	148	142.2	90	18	31	17	□ 22.2	M10×1.5	φ 10	M18×1.5
THS-50F	THD-50F	30	104	134	166	159.2	100	20	37	19	□ 25.4	M12×1.75	φ 12	M20×1.5

Type		F	G1	G2	H	I1	I2	I3	J	K	L	M	N1	O-Ring	R	S	T
THS-25F	THD-25F	10	74	140	9	φ 6.8	φ 10.5	7	55	42	20	18	50	P7	φ 15	φ 18	13
THS-32F	THD-32F	10	81	160	10	φ 6.8	φ 10.5	7	57	44	22	22	55	P7	φ 17	φ 20	14
THS-40F	THD-40F	10	86	160	10	φ 9	φ 14	9	69	52	26	26	60	P8	φ 19	φ 22.4	15
THS-50F	THD-50F	12	96	180	12	φ 9	φ 14	9	75	58	30	32	65	P8	φ 21	φ 28	16

Dimensional features (Manifold type)



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

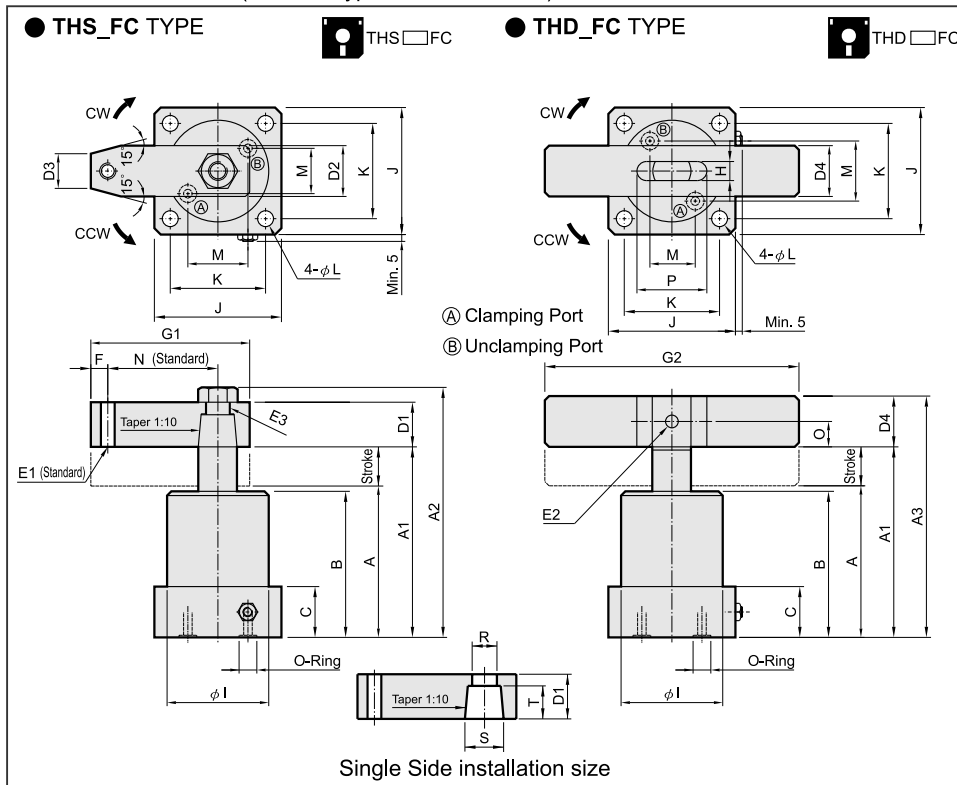
Dimensional Table

Type	Bore (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/pull (mm ²)	Clamping force (N) (3.5MPa)	Clamping arm front			
							G1		G2	
							Standard	Extension	Standard	Extension
THS-25MF THD-25MF	φ 25	φ 18	9	13	491 / 237	830	74	100	140	200
THS-32MF THD-32MF	φ 32	φ 20	11	15	804 / 490	1720	81	110	160	230
THS-40MF THD-40MF	φ 40	φ 22.4	11	15	1257 / 863	3020	86	120	160	230
THS-50MF THD-50MF	φ 50	φ 28	13	17	1963 / 1347	4710	96	130	180	260
THS-63MF THD-63MF	φ 63	φ 35	13	17	3117 / 2155	7540	114	150	200	—

Type	ST	A	A1	A2	A3	B	C	D1	D2	D3	D4	E1	E2	E3
THS-25MF THD-25MF	22	79	101	124	120	76	22	15	27	15	□19	M10×1.5	φ 8	M14×1.5
THS-32MF THD-32MF	26	89	115	140	137.2	85	25	17	31	17	□22.2	M10×1.5	φ 8	M16×1.5
THS-40MF THD-40MF	26	94	120	148	142.2	90	25	18	31	17	□22.2	M10×1.5	φ 10	M18×1.5
THS-50MF THD-50MF	30	104	134	166	159.2	100	30	20	37	19	□25.4	M12×1.75	φ 12	M20×1.5
THS-63MF THD-63MF	30	109	139	175	170.8	105	30	23	48	24	□31.8	M16×2.0	φ 15	M26×1.5

Type	F	G1	G2	H	I	J	K	L	M	N1	O	O-Ring	P	R	S	T
THS-25MF THD-25MF	10	74	140	9	φ 46	55	42	φ 6.8	19	50	9.5	P7	25	φ 15	φ 18	13
THS-32MF THD-32MF	10	81	160	10	φ 50	57	44	φ 6.8	21	55	11.1	P7	29	φ 17	φ 20	14
THS-40MF THD-40MF	10	86	160	10	φ 54	63	48	φ 9	23	60	11.1	P9	31	φ 19	φ 22.4	15
THS-50MF THD-50MF	12	96	180	12	φ 66	72	57	φ 9	28	65	12.7	P9	38	φ 21	φ 28	16
THS-63MF THD-63MF	15	114	200	15	φ 80	88	70	φ 11	32	75	15.9	P9	48	φ 27	φ 35	18

Dimensional features (Manifold type with flow control)



Dimensional Table

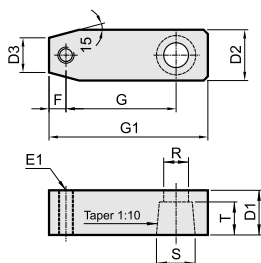
Type	Bore (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/pull (mm²)	Clamping force (N) (3.5MPa)	Clamping arm front				E1	E2	E3
							G1	G2	Standard	Extension	Standard	Extension	
THS-25FC THD-25FC	φ 25	φ 18	9	13	491 / 237	830	74	100	140	200			
THS-32FC THD-32FC	φ 32	φ 20	11	15	804 / 490	1720	81	110	160	230			
THS-40FC THD-40FC	φ 40	φ 22.4	11	15	1257 / 863	3020	86	120	160	230			
THS-50FC THD-50FC	φ 50	φ 28	13	17	1963 / 1347	4710	96	130	180	260			
THS-63FC THD-63FC	φ 63	φ 35	13	17	3117 / 2155	7540	114	150	200	—			

Type	ST	A	A1	A2	A3	B	C	D1	D2	D3	D4	E1	E2	E3
THS-25FC THD-25FC	22	79	101	124	120	76	22	15	27	15	□19	M10×1.5	φ 8	M14×1.5
THS-32FC THD-32FC	26	89	115	140	137.2	85	25	17	31	17	□22.2	M10×1.5	φ 8	M16×1.5
THS-40FC THD-40FC	26	94	120	148	142.2	90	25	18	31	17	□22.2	M10×1.5	φ 10	M18×1.5
THS-50FC THD-50FC	30	104	134	166	159.2	100	30	20	37	19	□25.4	M12×1.75	φ 12	M20×1.5
THS-63FC THD-63FC	30	109	139	175	170.8	105	30	23	48	24	□31.8	M16×2.0	φ 15	M26×1.5

Type	F	G1	G2	H	I	J	K	L	M	N1	O	O-Ring	P	R	S	T
THS-25FC THD-25FC	10	74	140	9	φ 46	55	42	φ 6.8	19	50	9.5	P7	25	φ 15	φ 18	13
THS-32FC THD-32FC	10	81	160	10	φ 50	57	44	φ 6.8	21	55	11.1	P7	29	φ 17	φ 20	14
THS-40FC THD-40FC	10	86	160	10	φ 54	63	48	φ 9	23	60	11.1	P9	31	φ 19	φ 22.4	15
THS-50FC THD-50FC	12	96	180	12	φ 66	72	57	φ 9	28	65	12.7	P9	38	φ 21	φ 28	16
THS-63FC THD-63FC	15	114	200	15	φ 80	88	70	φ 11	32	75	15.9	P9	48	φ 27	φ 35	18

Single-side clamping arm

● A TYPE (Standard type with thread)

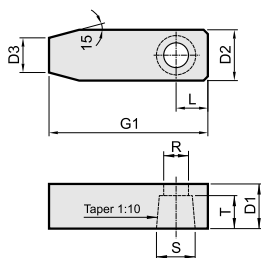


Dimensional Table



Type	D1	D2	D3	F	G	G1	E1	R	S	T
THS25A	15	27	15	10	50	74	M10×1.5	15	18	13
THS32A	17	31	17	10	55	81	M10×1.5	17	20	14
THS40A	18	31	17	10	60	86	M10×1.5	19	22.4	15
THS50A	20	37	19	12	65	96	M12×1.25	21	28	16
THS63A	23	48	24	15	75	114	M16×2.0	27	35	18

● B TYPE (Extension type without thread)



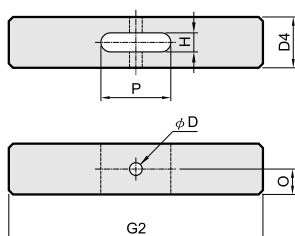
Dimensional Table



Type	D1	D2	D3	L	G1	R	S	T
THS25B	15	27	15	14	100	15	18	13
THS32B	17	31	17	16	110	17	20	14
THS40B	18	31	17	16	120	19	22.4	15
THS50B	20	37	19	19	130	21	28	16
THS63B	23	48	24	24	150	27	35	18

Double-side clamping arm

● A&B TYPE (Standard / Extension)



Dimensional Table



Type	D4	D	O	P	H	G2
THD25A	□19	8	9.5	25	9	140
THD32A	□22.2	8	11.1	29	10	160
THD40A	□22.2	10	11.1	31	10	160
THD50A	□25.4	12	12.7	38	12	180
THD63A	□31.8	15	15.9	48	15	200

Type	D4	D	O	P	H	G2
THD25B	□19	8	9.5	25	9	200
THD32B	□22.2	8	11.1	29	10	230
THD40B	□22.2	10	11.1	31	10	230
THD50B	□25.4	12	12.7	38	12	260



Cylinder weight

Unit: kg

Type	Weight
THS-25 THS-25MF THS-25FC	1.3
THD-25 THD-25MF THD-25FC	1.5
THS-32 THS-32MF THS-32FC	1.7
THD-32 THD-32MF THD-32FC	2.0
THS-40 THS-40MF THS-40FC	2.0
THD-40 THD-40MF THD-40FC	2.3
THS-50 THS-50MF THS-50FC	3.2
THD-50 THD-50MF THD-50FC	3.5
THS-63 THS-63MF THS-63FC	5.1
THD-63 THD-63MF THD-63FC	5.7

Type	Weight
THS-25F	1.8
THD-25F	2.0
THS-32F	2.2
THD-32F	2.5
THS-40F	3.3
THD-40F	3.5
THS-50F	4.3
THD-50F	4.65
THSL-32	2.4
THDL-32	2.7
THSL-40	2.8
THDL-40	3.1
THSL-50	4.5
THDL-50	4.8
THSL-63	7.1
THDL-63	7.7