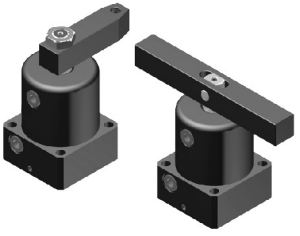
Hydraulic-swing clamp cylinders

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.

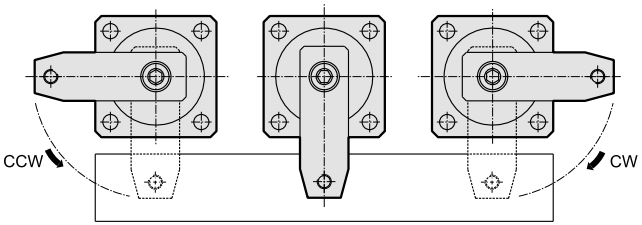
Specification

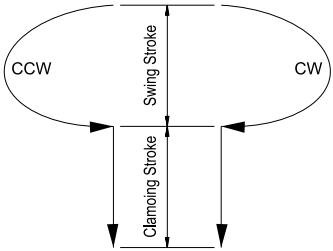
Type	THS, THD	THSL, THDL
Bore sizes of cylinder (mm)	φ25~φ63	φ32~φ63
Operation	Double acting	
Power fluid	Filtered oil	
Max. Pressure (MPa)	10(100kgf/cm²)	
The range of pressure (MPa)	0.5~7(5~70kgf/cm²)	
Material of cylinder barrel	Carbon steel	
Standard angle of rotation	90°± 2°(Angles of 0°,45°and 60°are optional)	
Rotating direction	Clockwise or counter clockwise	

How to order

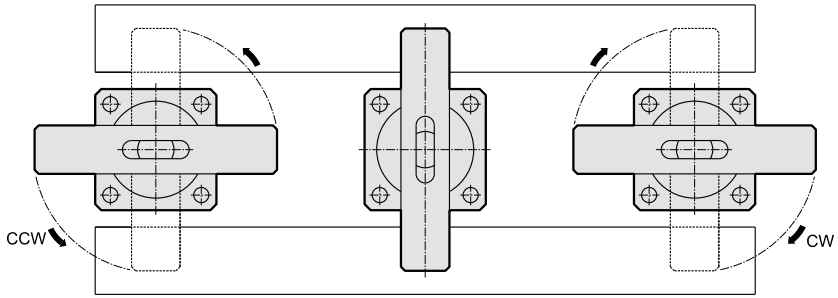
THS	25	CW	90	B
Type	Bore	Rotating direction	Rotating angle	Clamping arm type
THS THSL THD THDL	25—φ25mm 32—φ32mm 40—φ40mm 50—φ50mm 63—φ63mm	CCW: Counter clockwise CW: Clockwise	90: 90° Standard Rotation	None: Standard B: Extension

Single side swing clamp

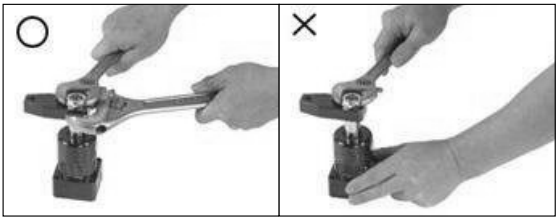




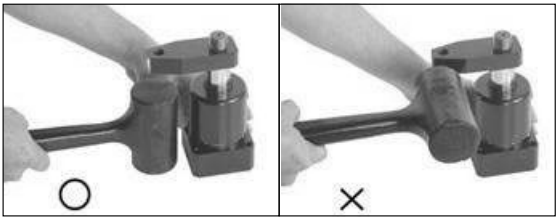
Double side swing clamp

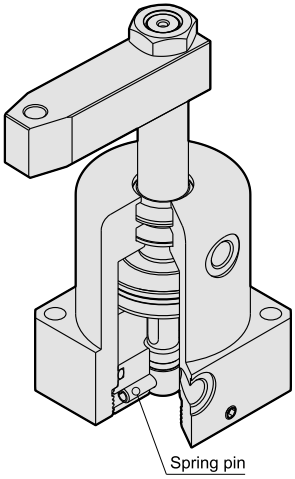


Clamping Arm Mounting Methods



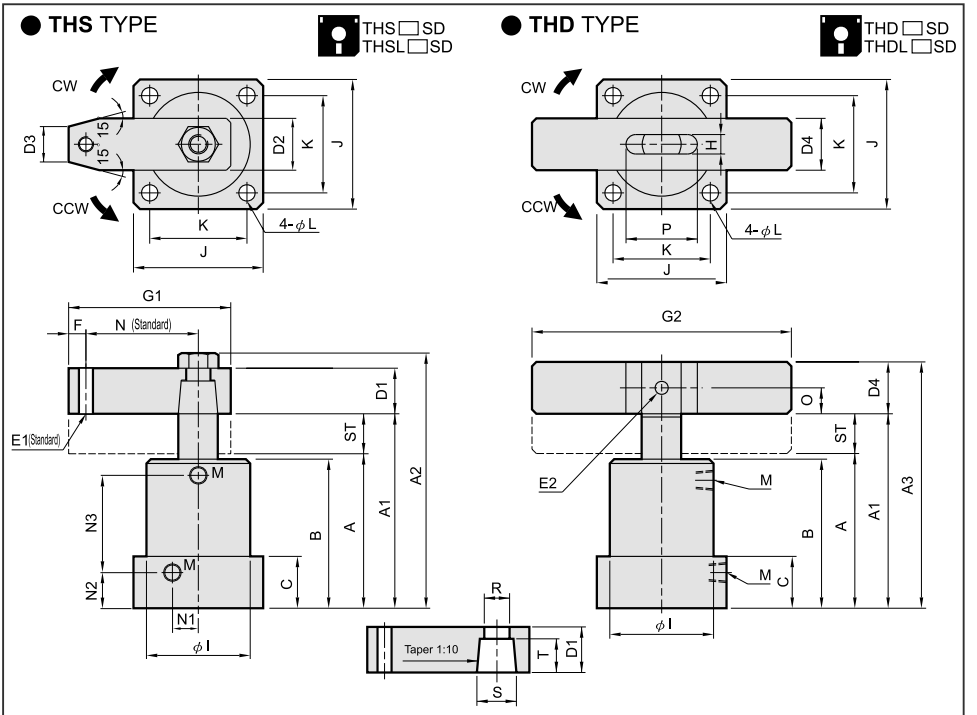
Clamping Arm Removing Methods





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.

Dimensional features



Single Side installation size

Dimensional Table

※THSL, THDL=Clamping stroke Incr type.

Type		Bore	Piston rod	Swing stroke	Clamping stroke (mm)	Pressure area push/pull	Clamping force (N)	Clamping arm front			
								G1		G2	
std/Incr	std/Incr	(mm)	(mm)	(mm)	std/Incr	(mm^2)	(3.5MPa)	Standard	Extension	Standard	Extension
THS-25	THD-25	ϕ25	ϕ18	9	13 / —	491 / 237	830	74	100	140	200
THS-32/THSL-32	THD-32/THDL-32	ϕ32	ϕ20	11	15 / 30	804 / 490	1720	81	110	160	230
THS-40/THSL-40	THD-40/THDL-40	ϕ40	ϕ22.4	11	15 / 30	1257 / 863	3020	86	120	160	230
THS-50/THSL-50	THD-50/THDL-50	ϕ50	ϕ28	13	17 / 34	1963 / 1347	4710	96	130	180	260
THS-63/THSL-63	THD-63/THDL-63	ϕ63	ϕ35	13	17 / 34	3117 / 2155	7540	114	150	200	-

Type		TH□ Standard type							TH□L 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	ϕ8	10	9	ϕ46	52	40	ϕ6.8	PT 1/8	50	8	17	9.5	25	ϕ15	ϕ18	13
THS-32/THSL-32	THD-32/THDL-32	□22.2	M10×1.5	ϕ8	10	10	ϕ50	56	44	ϕ6.8	PT 1/8	55	10	19	11.1	29	ϕ17	ϕ20	14
THS-40/THSL-40	THD-40/THDL-40	□22.2	M10×1.5	ϕ10	10	10	ϕ54	63	48	ϕ9	PT 1/8	60	12	19	11.1	31	ϕ19	ϕ22.4	15
THS-50/THSL-50	THD-50/THDL-50	□25.4	M12×1.75	ϕ12	12	12	ϕ66	72	57	ϕ9	PT 1/4	65	15	21.5	12.7	38	ϕ21	ϕ28	16
THS-63/THSL-63	THD-63/THDL-63	□31.8	M16×2.0	ϕ15	15	15	ϕ80	88	70	ϕ11	PT 1/4	75	17	22	15.9	48	ϕ27	ϕ35	18

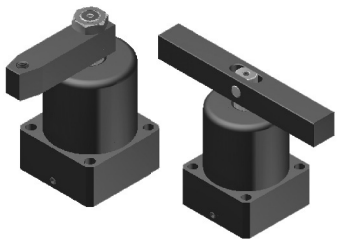
Hydraulic-swing clamp cylinders (manifold type)

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



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- 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° .

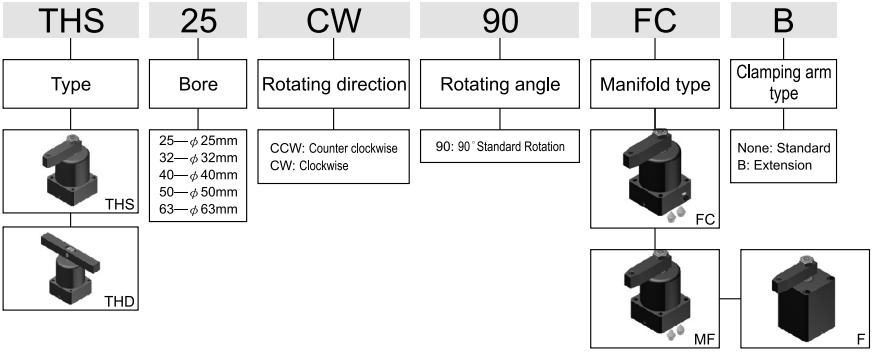
Note:

- 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

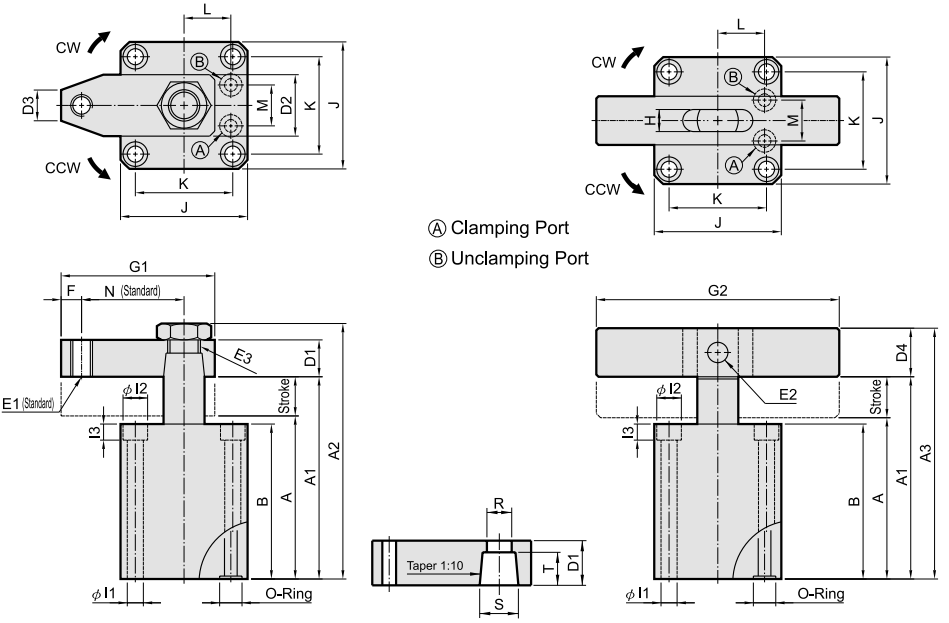
Type	THS_FC / THD_FC / THS_MF / THD_MF	THS_F / THD_F
Bore sizes of cylinder (mm)	ϕ25, ϕ32, ϕ40, ϕ50, ϕ63	ϕ25, ϕ32, ϕ40, ϕ50
Operation	Double acting	
Power fluid	Filtered oil	
Max. Pressure (MPa)	10(100kgf/cm^2)	
The range of pressure (MPa)	0.5~7(5~70kgf/cm^2)	
Material of cylinder barrel	Carbon steel	
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)

● **THS_F** TYPE THS□F ● **THD_F** TYPE THD□F



Single Side installation size

Dimensional Table

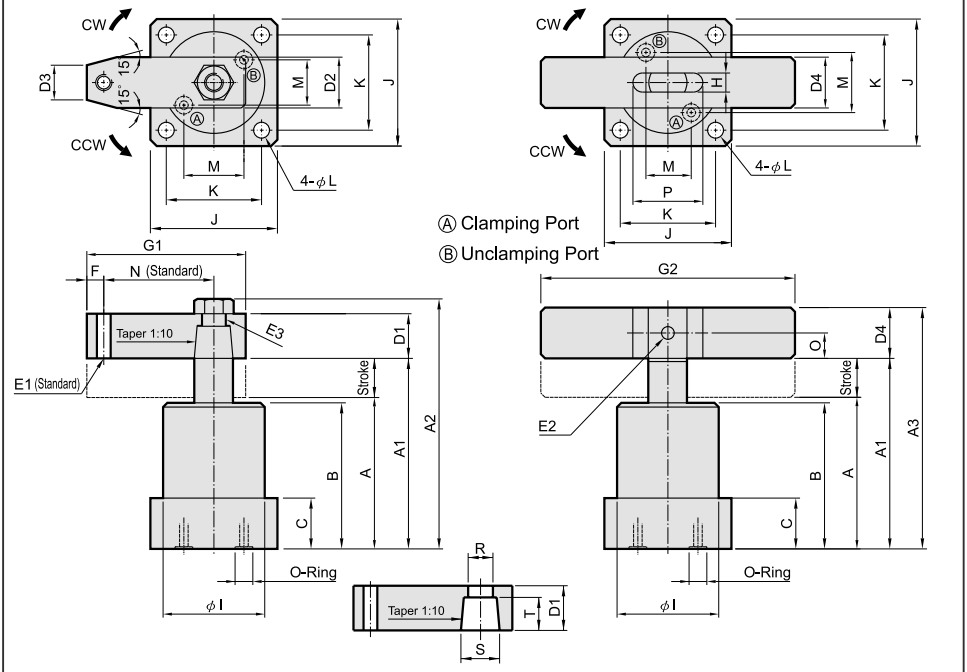
Type		Bore	Piston rod	Swing stroke	Clamping stroke	Pressure area push/pull	Clamping force (N)	Clamping arm front			
								G1		G2	
		(mm)	(mm)	(mm)	(mm)	(mm^2)	(3.5MPa)	Standard	Extension	Standard	Extension
THS-25F	**THD-25F**	ϕ25	ϕ18	9	13	491 / 237	830	74	100	140	200
THS-32F	**THD-32F**	ϕ32	ϕ20	11	15	804 / 490	1720	81	110	160	230
THS-40F	**THD-40F**	ϕ40	ϕ22.4	11	15	1257 / 863	3020	86	120	160	230
THS-50F	**THD-50F**	ϕ50	ϕ28	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	ϕ8	M14×1.5
THS-32F	**THD-32F**	26	89	115	140	137.2	85	17	31	17	□22.2	M10×1.5	ϕ8	M16×1.5
THS-40F	**THD-40F**	26	94	120	148	142.2	90	18	31	17	□22.2	M10×1.5	ϕ10	M18×1.5
THS-50F	**THD-50F**	30	104	134	166	159.2	100	20	37	19	□25.4	M12×1.75	ϕ12	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	ϕ6.8	ϕ10.5	7	55	42	20	18	50	P7	ϕ15	ϕ18	13
THS-32F	**THD-32F**	10	81	160	10	ϕ6.8	ϕ10.5	7	57	44	22	22	55	P7	ϕ17	ϕ20	14
THS-40F	**THD-40F**	10	86	160	10	ϕ9	ϕ14	9	69	52	26	26	60	P8	ϕ19	ϕ22.4	15
THS-50F	**THD-50F**	12	96	180	12	ϕ9	ϕ14	9	75	58	30	32	65	P8	ϕ21	ϕ28	16

Dimensional features (Manifold type)

● **THS_MF** TYPE THS□MF ● **THD_MF** TYPE THD□MF



Single Side installation size

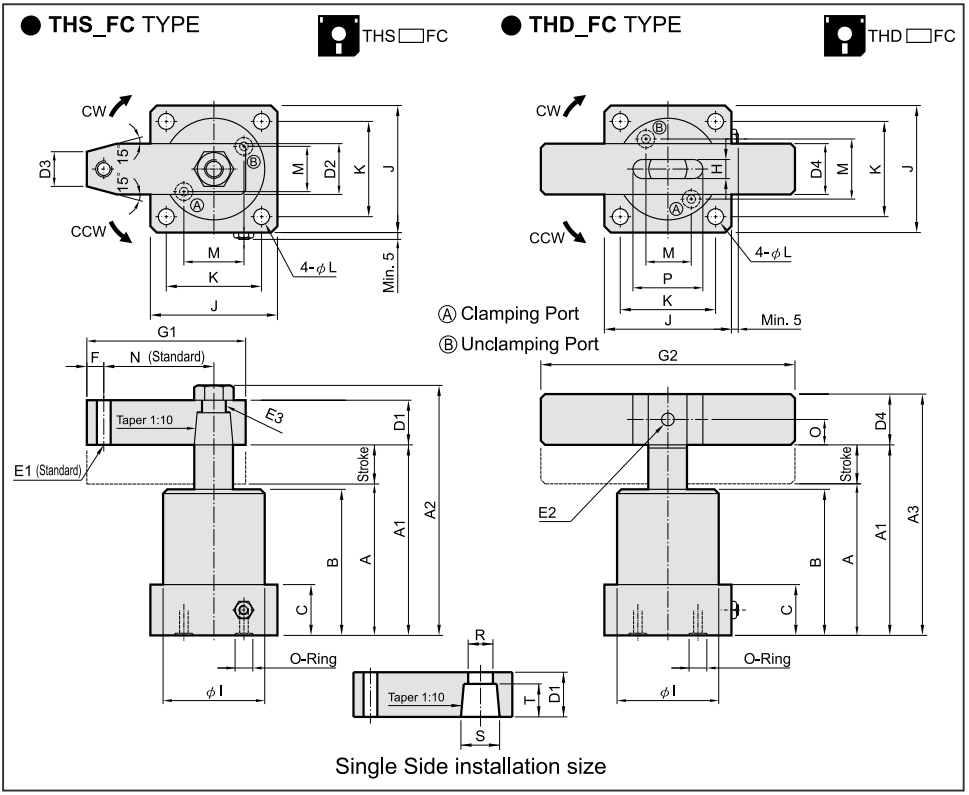
Dimensional Table

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			
								G1		G2	
								Standard	Extension	Standard	Extension
THS-25MF	THD-25MF	ϕ25	ϕ18	9	13	491 / 237	830	74	100	140	200
THS-32MF	THD-32MF	ϕ32	ϕ20	11	15	804 / 490	1720	81	110	160	230
THS-40MF	THD-40MF	ϕ40	ϕ22.4	11	15	1257 / 863	3020	86	120	160	230
THS-50MF	THD-50MF	ϕ50	ϕ28	13	17	1963 / 1347	4710	96	130	180	260
THS-63MF	THD-63MF	ϕ63	ϕ35	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	ϕ8	M14×1.5
THS-32MF	THD-32MF	26	89	115	140	137.2	85	25	17	31	17	□22.2	M10×1.5	ϕ8	M16×1.5
THS-40MF	THD-40MF	26	94	120	148	142.2	90	25	18	31	17	□22.2	M10×1.5	ϕ10	M18×1.5
THS-50MF	THD-50MF	30	104	134	166	159.2	100	30	20	37	19	□25.4	M12×1.75	ϕ12	M20×1.5
THS-63MF	THD-63MF	30	109	139	175	170.8	105	30	23	48	24	□31.8	M16×2.0	ϕ15	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	ϕ46	55	42	ϕ6.8	19	50	9.5	P7	25	ϕ15	ϕ18	13
THS-32MF	THD-32MF	10	81	160	10	ϕ50	57	44	ϕ6.8	21	55	11.1	P7	29	ϕ17	ϕ20	14
THS-40MF	THD-40MF	10	86	160	10	ϕ54	63	48	ϕ9	23	60	11.1	P9	31	ϕ19	ϕ22.4	15
THS-50MF	THD-50MF	12	96	180	12	ϕ66	72	57	ϕ9	28	65	12.7	P9	38	ϕ21	ϕ28	16
THS-63MF	THD-63MF	15	114	200	15	ϕ80	88	70	ϕ11	32	75	15.9	P9	48	ϕ27	ϕ35	18

Dimensional features (Manifold type with flow control)



Single Side installation size

Dimensional Table

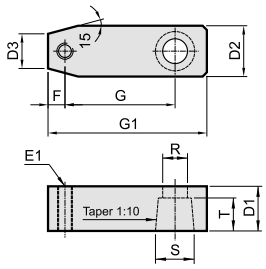
Type		Bore (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/pull (mm^2)	Clamping force (N) (3.5MPa)	Clamping arm front			
								G1		G2	
								Standard	Extension	Standard	Extension
THS-25FC	THD-25FC	ϕ25	ϕ18	9	13	491 / 237	830	74	100	140	200
THS-32FC	THD-32FC	ϕ32	ϕ20	11	15	804 / 490	1720	81	110	160	230
THS-40FC	THD-40FC	ϕ40	ϕ22.4	11	15	1257 / 863	3020	86	120	160	230
THS-50FC	THD-50FC	ϕ50	ϕ28	13	17	1963 / 1347	4710	96	130	180	260
THS-63FC	THD-63FC	ϕ63	ϕ35	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	ϕ8	M14×1.5
THS-32FC	THD-32FC	26	89	115	140	137.2	85	25	17	31	17	□22.2	M10×1.5	ϕ8	M16×1.5
THS-40FC	THD-40FC	26	94	120	148	142.2	90	25	18	31	17	□22.2	M10×1.5	ϕ10	M18×1.5
THS-50FC	THD-50FC	30	104	134	166	159.2	100	30	20	37	19	□25.4	M12×1.75	ϕ12	M20×1.5
THS-63FC	THD-63FC	30	109	139	175	170.8	105	30	23	48	24	□31.8	M16×2.0	ϕ15	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	ϕ46	55	42	ϕ6.8	19	50	9.5	P7	25	ϕ15	ϕ18	13
THS-32FC	THD-32FC	10	81	160	10	ϕ50	57	44	ϕ6.8	21	55	11.1	P7	29	ϕ17	ϕ20	14
THS-40FC	THD-40FC	10	86	160	10	ϕ54	63	48	ϕ9	23	60	11.1	P9	31	ϕ19	ϕ22.4	15
THS-50FC	THD-50FC	12	96	180	12	ϕ66	72	57	ϕ9	28	65	12.7	P9	38	ϕ21	ϕ28	16
THS-63FC	THD-63FC	15	114	200	15	ϕ80	88	70	ϕ11	32	75	15.9	P9	48	ϕ27	ϕ35	18

Single-side clamping arm

● **A** TYPE (Standard type with thread)

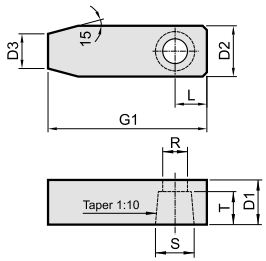


THS□A

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)



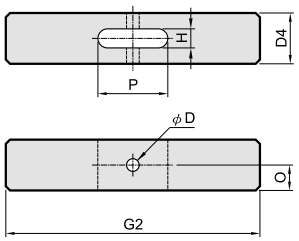
THS□B

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

THD□A

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

THD□B

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

Type	Weight
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