50MPa **Threaded-body single acting hydraulic cylinder**

TCS
Single Acting With Spring Return (version Without Female Thread)

TCZ
Single Acting With Spring Return (version With Female Thread)

TCH
Single Acting With Spring Return And Double Wiper (version Without Female Thread)

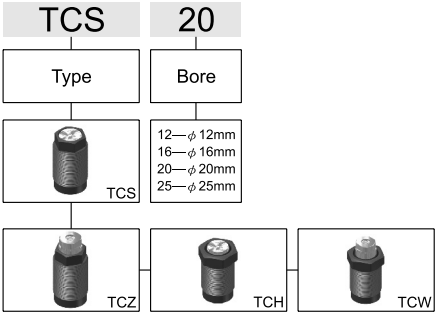
TCW
Single Acting With Spring Return And Double Wiper (version With Female Thread)

- Threaded-body single acting clamp cylinder is small in size and can be applied to a clamping device, especially in small-size machinery or confined space.
- Light, beautiful and firm in design.

Specification

Type	TCS TCZ	TCH TCW
Bore sizes of cylinder (mm)	ϕ12, ϕ16, ϕ20, ϕ25	
Power fluid	Filtered oil	
Material	Carbon steel	
The range of pressure (MPa)	10~50(100~500kgf/cm^2)	
The range of temperature (℃)	-10 ~ +60	

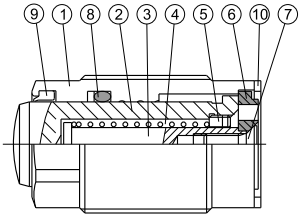
How to order



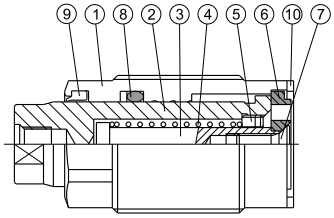
Theoretic force

Item \ Type		TCS(Z)12 TCH(W)12	TCS(Z)16 TCH(W)16	TCS(Z)20 TCH(W)20	TCS(Z)25 TCH(W)25
Piston-ϕD (mm)		12	16	20	25
Stroke (mm)		10	12	15	16
Clamping force at (KN)	10MPa	1.1	2	3.1	4.9
	50MPa	5.7	10.1	15.7	24.6
Min.pressure (MPa)		1	1	1	1
Spring return force Min. (N)		28	50	80	125
Oil volume per 10 mm stroke (cm^3)		1.13	2.01	3.14	4.91
Seating torque (N · m)		40	50	60	80
Weight (kg) TCS(Z)/TCH(W)		0.07 / 0.08	0.15 / 0.18	0.23 / 0.26	0.38 / 0.48

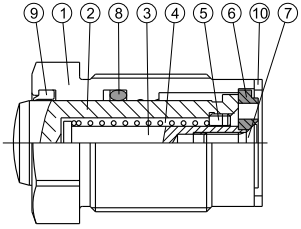
● **TCS** TYPE Bore ϕ12~ϕ25



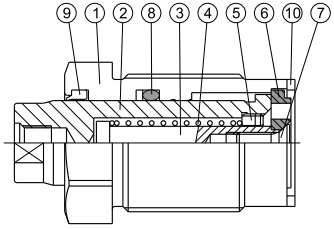
● **TCZ** TYPE Bore ϕ12~ϕ25



● **TCH** TYPE Bore ϕ12~ϕ25



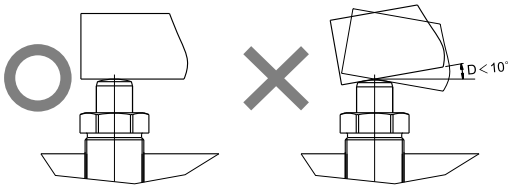
● **TCW** TYPE Bore ϕ12~ϕ25



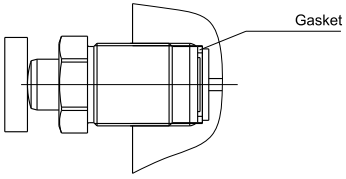
Parts List

No.	Part name	Quantity	No.	Part name	Quantity	No.	Part name	Quantity
1	Cylinder body	1	**5**	Fixed ring	1	**9**	Dust wiper	1
2	Piston rod	1	**6**	Support holder	1	**10**	Gasket	1
3	Fixed rod	1	**7**	Screws	1	**11**		
4	Spring	1	**8**	Rod packing	1	**12**		

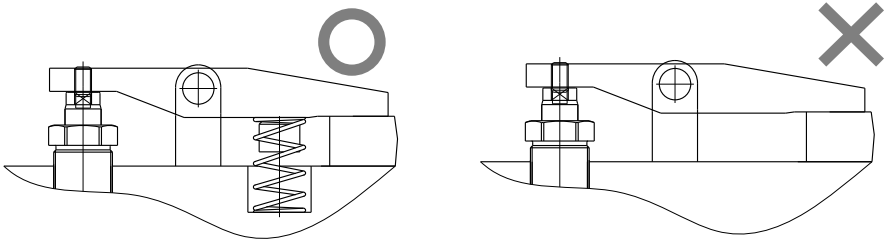
Points in usage:



When installing, keep the contact angle between the rod and workpiece no larger than 10°.



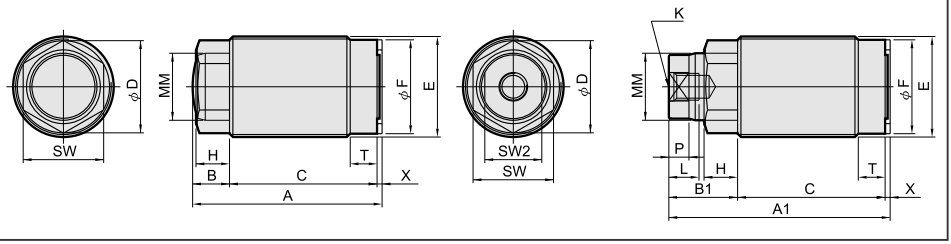
A leak-proof gasket is required to place under the bottom of cylinder barrel.



Don't just use for returning by spring of the hydraulic cylinder. Otherwise, the pulling application may not work.

Dimensional features

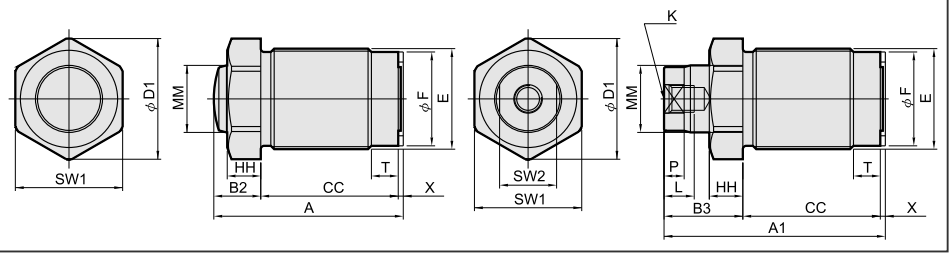
● **TCS** TYPE ϕ12~ϕ25 ● **TCZ** TYPE ϕ12~ϕ25 TCS□ TCZ□



Dimensional Table

Bore	A	A1	B	B1	C	D	E	F	H	K	L	ϕMM	P	SW	SW2	T	X
ϕ12	38.5	45.5	9	16	28	19	M22×1.5	20	6	M6×1.0	7	12	5.5	18	10	7	1.5
ϕ16	47	53	12.5	18.5	33	24	M26×1.5	24	9	M6×1.0	7	16	5.5	22	13	8	1.5
ϕ20	56.5	66	14	23.5	41	27.5	M30×1.5	28	10	M8×1.25	9	20	6	26	17	8	1.5
ϕ25	60	69	15	24	43	36	M38×1.5	36	10	M8×1.25	9	25	7	33	19	11	2

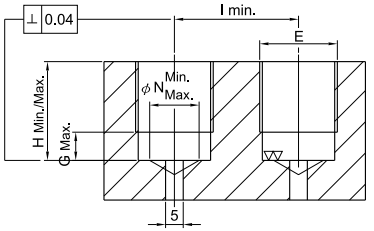
● **TCH** TYPE ϕ12~ϕ25 ● **TCW** TYPE ϕ12~ϕ25 TCH□ TCW□



Dimensional Table

Bore	A	A1	B2	B3	CC	D1	E	F	HH	K	L	ϕMM	P	SW1	SW2	T	X
ϕ12	38.5	45.5	12	19	25	27	M22×1.5	20	9	M6×1.0	7	12	5.5	24	10	7	1.5
ϕ16	47	53	12.5	18.5	33	30.5	M26×1.5	24	9	M6×1.0	7	16	5.5	27	13	8	1.5
ϕ20	56.5	66	14	23.5	41	36	M30×1.5	28	10	M8×1.25	9	20	6	32	17	8	1.5
ϕ25	60	69	15	24	43	46.5	M38×1.5	36	10	M8×1.25	9	25	7	41	19	11	2

Porting details



Bore	G Max.	TCS(Z) H Min./Max.	TCH(W) H Min./Max.	N Min./Max.	TCS(Z) l Min.	TCH(W) l Min.
ϕ12	8	16.5/26.5	16.5/25	9/12	25	31
ϕ16	9	20.5/31	20.5/33	12/16	30	34
ϕ20	9	24.5/39.5	24.5/42	14/20	35	40
ϕ25	11	28.5/42	28.5/44.5	18/25	43	52