

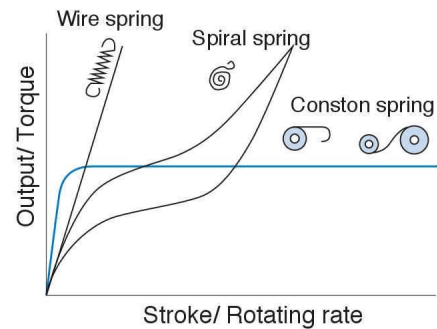
TK Conston Springs

About TK Conston Spring

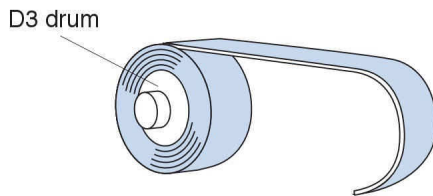
What is Conston Spring?

Conston Spring is a constant load spring originally designed and produced in Japan.

The operation force is always constant in push/pull movement and in all the various lengths.

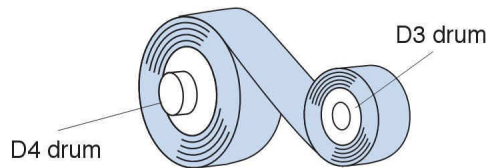


C type conston



C type conston consists of one drum.
The spring plate is directly pulled out.
Suitable for the application with guide rail.

N type conston



N type conston consists of two drums.
The spring plate is indirectly pulled out by connected wire.
Suitable for the application without guide rail and flexible for compact space.

Characteristics of Conston Spring

- The output (torque) of Conston Spring is constant after reaching the maximum output.
(As the drum wraps 1/2 rotation spring, the output will be constant from the beginning of the pull out.)
- Generally with the wire spring, the space for the spring is required after the spring is in neutral position.
With the Conston Spring, it provides more space as the plate spring will be stored around the drum even with the long stroke item.

Relation between Output/Size/Life cycle

Extend life cycle, but not changing output and width

⇒ Diameter will get enlarged.

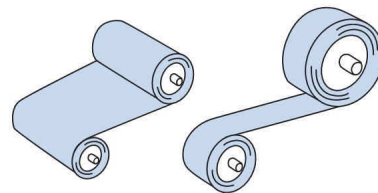
Increase output, but not changing diameter and size

⇒ Life cycle will get decreased.

Increase output, but not changing life cycle and width

⇒ Diameter will get enlarged.

*For more specific information, please contact us.



By increasing the spring thickness, we can make the above two conston spring; (LEFT) Wider width and smaller diameter / (RIGHT) narrower width and bigger diameter into same output and life cycle.

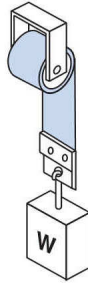
Usage examples for TK Conston Spring

●Balancing weighted object

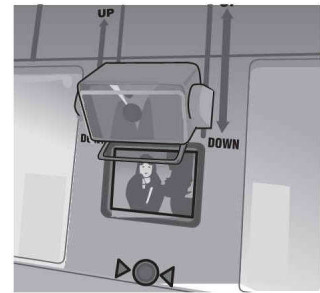
X-rays
Balancer
Door open/close
Window open/close

"Free-stop"

Fixing the object in any location with out using physical stopper, by setting the pull force equivalent to object weight.



Used in the train window to operate with little force.

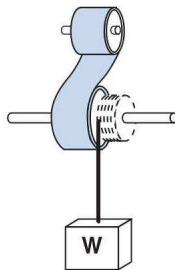


Used in the TV monitor lift up and adjustment of the angle.

●Balancing weighted object

Tool balancer
Light balancer

"Free-stop"



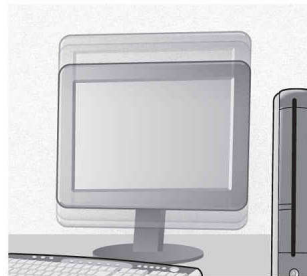
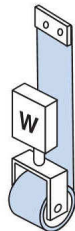
Used in the lift up of Shinkansen's (Japan's Bullet Train) roll screen.



Used in the balancing of the light and adjusting the brightness with easy operation.

●Lifting weighted object

Height adjuster for ,
Electric fan
Hair dryer
Medical equipment (stand)



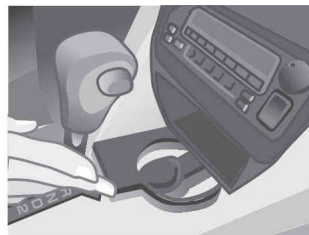
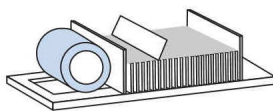
Used in the height adjustment of the common use object which needs adjustment before the use.



Used in the TV camera to lift the heavy object by little force without any vibration during the operation.

●Push/Pull with constant force

Data card extraction
Staple pusher for stapler



Used in the automotive cup holder's push/pull function. The object can be operated with constant force.



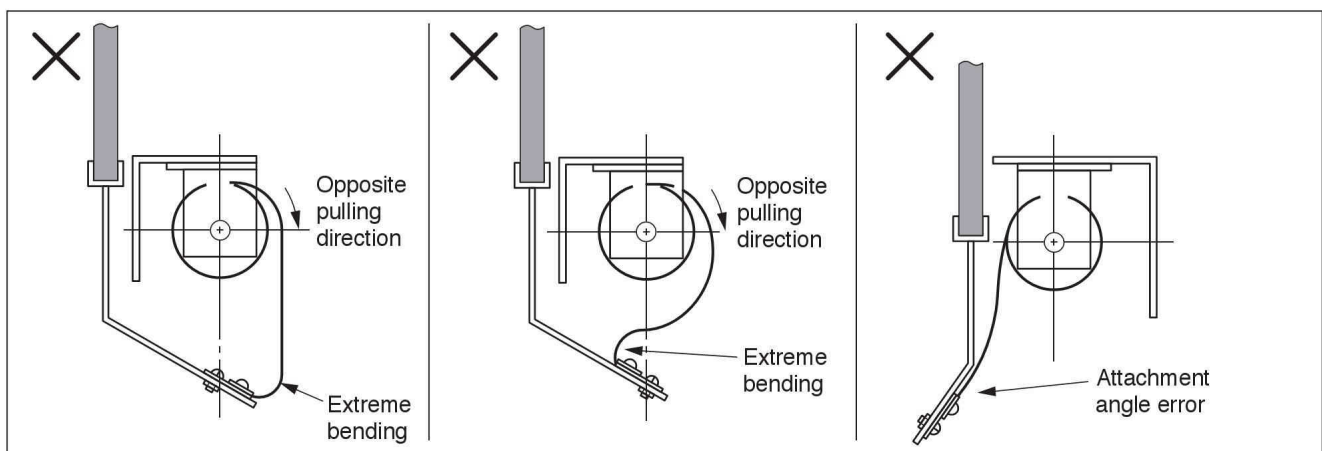
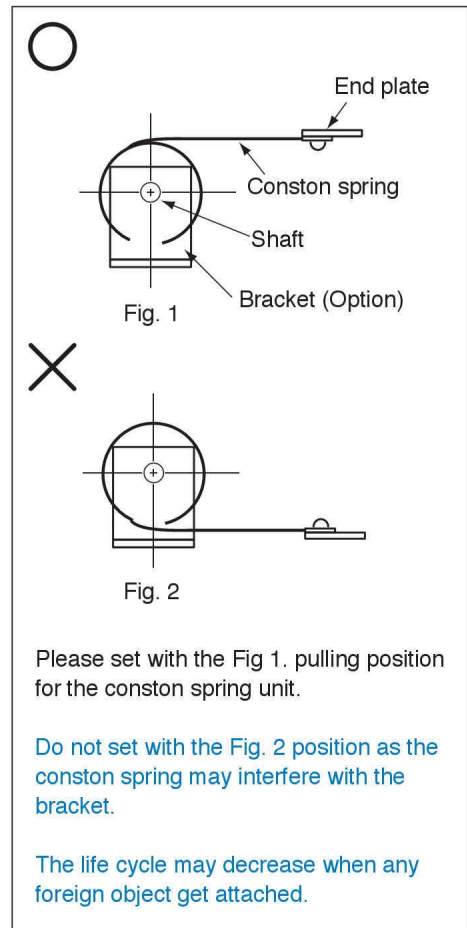
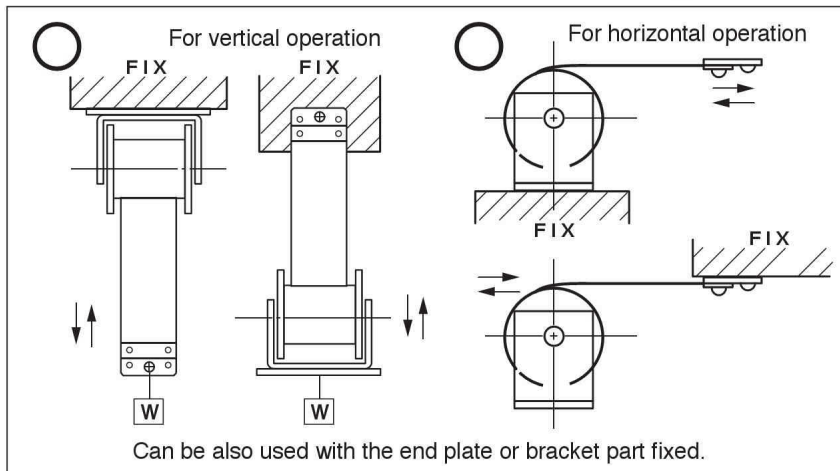
Used in the tobacco auto-extractor in convenience store. Also used in DVDs, medicines, and all other items that need stock management.

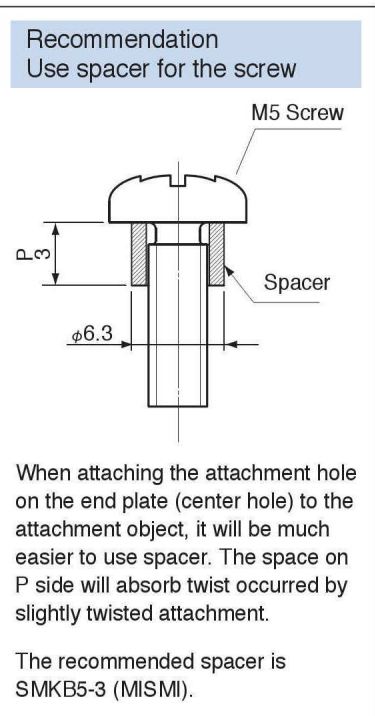
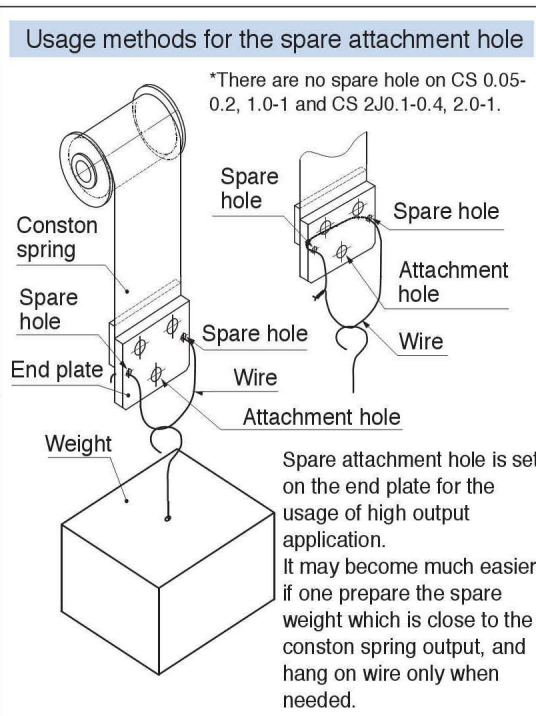
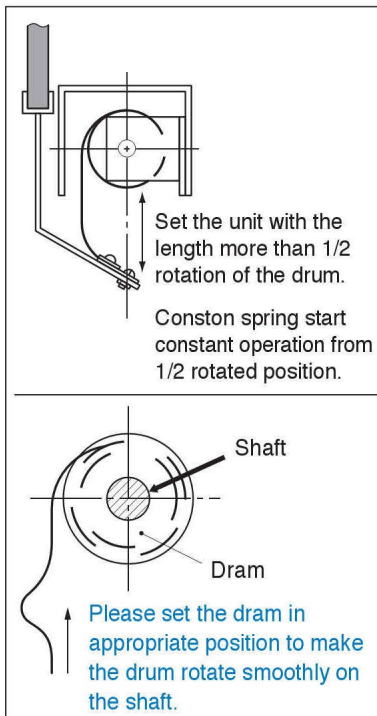
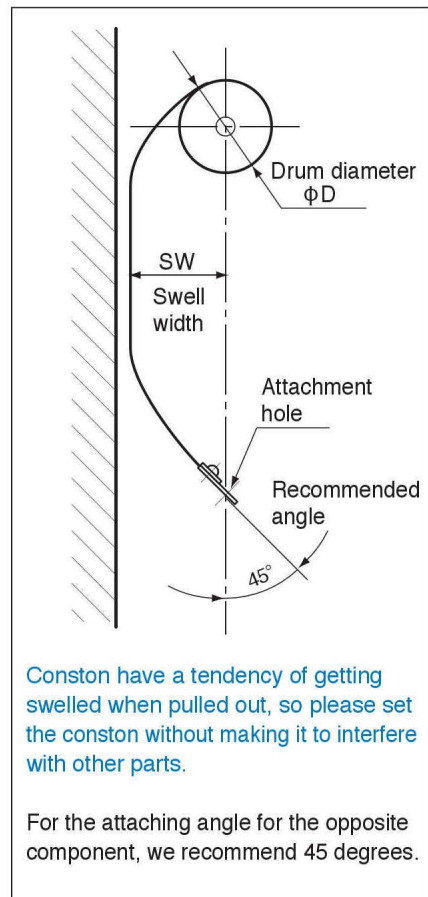
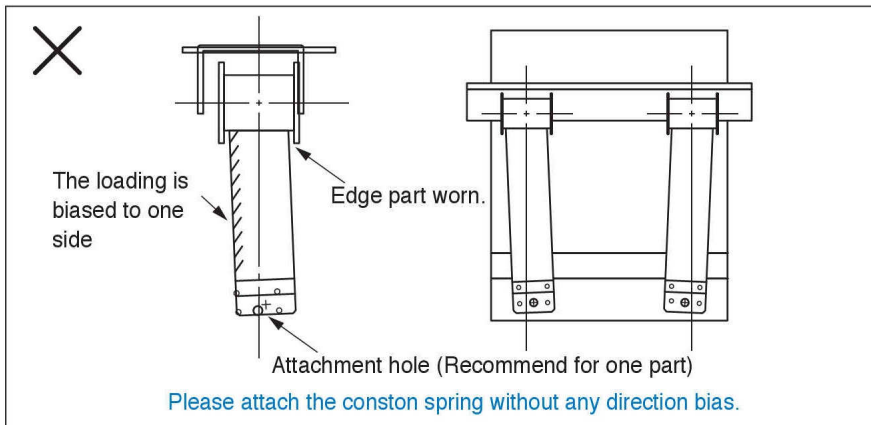
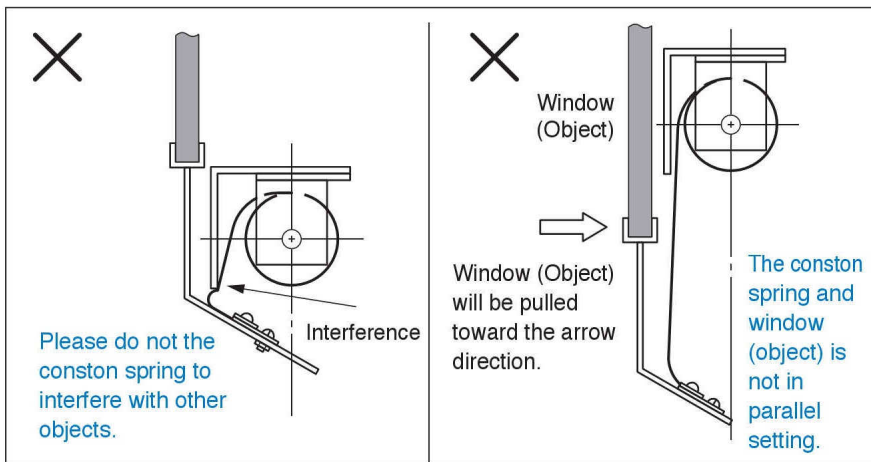
Cautioning points when assembly

Conston spring can be used in varieties of applications, and the assembly methods may vary through. Here, we describe basic cautious points when assembly by using SB type series for lifting up window as an explanation example.

In this drawing, bracket is attached to conston spring, but please note that in normal type of conston spring and CS type, there are no bracket attached. Please combine our optional items (SBR) or prepare attachment components by yourself for setting the conston spring.

《GOOD and NG way of attachment》

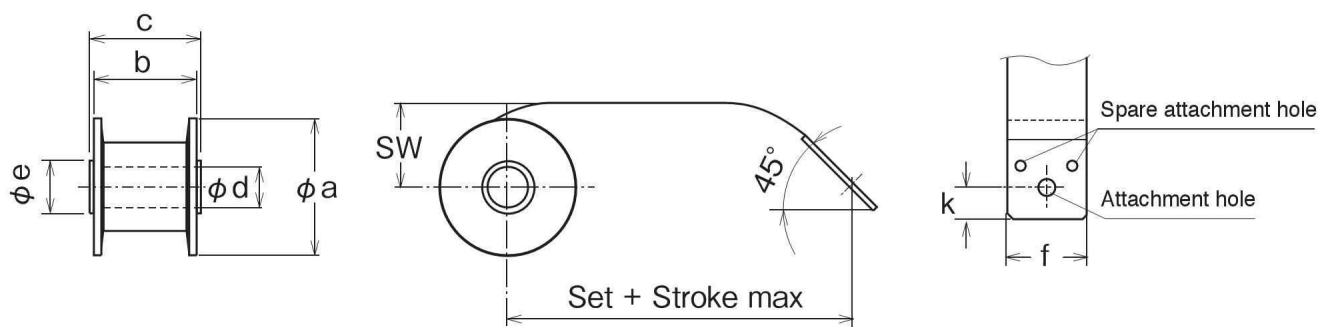




DANGER

Please do not pull the conston spring exceeding the specified stroke. The spring may come off from the drum and lead to injury. The standard stroke amount is describe on the end of conston spring.

Standard CS type specification sheet



Output tolerance $-0/+15\%$

Item No.	Output N (kgf)	Set + Stroke max (mm)	Life x 1000	Attachment hole (mm)		Drum (mm)					Width f (mm)	Swell Width SW (mm)
				diameter ϕ	position k	ϕ a	b	c	ϕ d	ϕ e		
CS0.05-1	0.49 (0.05)	500	160	3.2	5	26	17	18	5.2	8.2	10	(16)
CS 0.1-1	0.98 (0.1)	500	50	3.2	5	26	17	18	5.2	8.2	10	(16)
CS 0.2-1	1.96 (0.2)	500	35	3.2	5	26	17	18	5.2	8.2	10	(16)
CS 0.4-1	3.92 (0.4)	1,000	37	4.5	8	34	25.6	27.6	10.2	13	20	(18)
CS 0.6-1	5.88 (0.6)	1,000	25	4.5	8	34	25.6	27.6	10.2	13	20	(18)
CS 0.8-1	7.84 (0.8)	1,500	25	4.5	8	34	30.6	32.6	10.2	14	25	(18)
CS 1.0-1	9.8 (1.0)	500	6	4.5	5	26	17	18	5.2	8.2	13	(16)
2		1,000	19	4.5	8	38	26.2	27.6	10.2	14	20	(21)
CS 1.2-1	11.76 (1.2)	1,500	34	4.5	8	44	40.6	42.6	10.2	14	35	(26)
CS 1.4-1	13.72 (1.4)	1,000	9	4.5	8	34	25.6	27.6	10.2	13	20	(18)
2		1,000	33	6.5	8	44	45.6	47.6	10.2	16	40	(26)
CS 1.6-1	15.68 (1.6)	1,500	17	4.5	8	38	35.6	37.6	10.2	16	30	(21)
CS 1.8-1	17.64 (1.8)	1,500	9	4.5	8	34	30.6	32.6	10.2	14	25	(18)
2		1,000	18	4.5	8	38	40.6	42.6	10.2	14	35	(21)
CS 2.0-1	19.6 (2.0)	1,000	6	4.5	8	38	26.2	27.6	10.2	14	20	(21)
2		1,000	16	4.5	8	44	35.6	37.6	10.2	14	30	(26)
CS 2.2-1	21.56 (2.2)	1,000	8	4.5	8	44	25.6	27.6	10.2	14	20	(26)
2		1,000	19	4.5	8	44	40.6	42.6	10.2	14	35	(26)
CS 2.4-1	23.52 (2.4)	1,000	6	4.5	8	38	30.6	32.6	10.2	14	25	(21)
2		1,000	20	6.5	8	38	55.6	57.6	10.2	16	50	(21)
CS 2.6-1	25.48 (2.6)	1,000	9	4.5	8	44	30.6	32.6	10.2	14	25	(26)
2		1,000	17	6.5	8	44	45.6	47.6	10.2	16	40	(26)

There are no spare attachment hole on CS0.05-0.2 and CS1.0-1.

Output tolerance $-0/+15\%$

Item No.	Output N (kgf)	Set + Stroke max (mm)	Life x 1000	Attachment hole (mm)		Drum (mm)					Width f (mm)	Swell Width SW (mm)
				diameter ϕ	position k	ϕ a	b	c	ϕ d	ϕ e		
CS 2.9-1	28.42 (2.9)	1,000	6	4.5	8	38	35.6	37.6	10.2	16	30	(21)
2		1,000	20	6.5	8	54	46	49	10.2	16	40	(32)
CS 3.2-1	31.36 (3.2)	1,000	8	4.5	8	44	35.6	37.6	10.2	14	30	(26)
2		1,000	7	4.5	8	38	40.6	42.6	10.2	14	35	(21)
3		1,000	18	6.5	8	44	55.6	57.6	10.2	14	50	(26)
CS 3.5-1	34.3 (3.5)	1,500	9	6.5	8	34	55.6	57.6	10.2	16	50	(18)
2		1,000	7	4.5	8	38	43.6	45.6	10.2	16	38	(21)
3		1,000	21	6.5	8	54	56	58	10.2	16	50	(33)
CS 3.9-1	38.22 (3.9)	1,000	8	4.5	8	44	40.6	42.6	10.2	14	35	(26)
3		1,000	17	6.5	8	67	47	49	10.2	16	40	(41)
CS 4.3-1	42.14 (4.3)	1,000	8	4.5	8	44	43.6	45.6	10.2	16	38	(26)
2		1,000	6	6.5	8	38	50.6	52.6	10.2	16	45	(21)
3		1,000	16	6.5	8	67	57	59	10.2	16	50	(41)
CS 4.7-1	46.06 (4.7)	1,000	6	6.5	8	38	55.6	57.6	10.2	16	50	(21)
2		1,000	9	6.5	8	44	50.6	52.6	10.2	14	45	(26)
3		1,000	18	6.5	8	67	57	59	10.2	16	50	(41)
CS 5.2-1	50.96 (5.2)	1,500	6	4.5	8	60	37	40	10.2	16	30	(36)
2		1,000	18	6.5	8	70	56	59	10.2	16	50	(48)
CS 5.7-1	55.86 (5.7)	1,000	8	6.5	8	44	55.6	57.6	10.2	14	50	(26)
2		1,500	12	6.5	8	54	56	58	10.2	16	50	(33)
3		1,000	17	6.5	8	67	67	69	10.2	16	60	(41)
CS 6.5-2	63.7 (6.5)	1,000	14	6.5	8	95	47	49	10.2	16	40	(60)
CS 7.5-2	73.5 (7.5)	1,000	14	6.5	8	95	57	59	10.2	16	50	(60)
CS 8.5-2	83.3 (8.5)	1,000	13	6.5	8	95	57	59	10.2	16	50	(60)
CS 10.0-2	98 (10.0)	1,000	13	6.5	8	95	67	69	10.2	16	60	(60)
CS 11.5-2	112.7 (11.5)	1,000	13	6.5	8	95	77	79	10.2	16	70	(60)
CS 13.0-2	127.4 (13.0)	1,000	14	6.5	8	95	87	89	10.2	16	80	(60)
CS 15.0-2	147 (15.0)	1,000	13	6.5	8	95	97	99	10.2	16	90	(60)