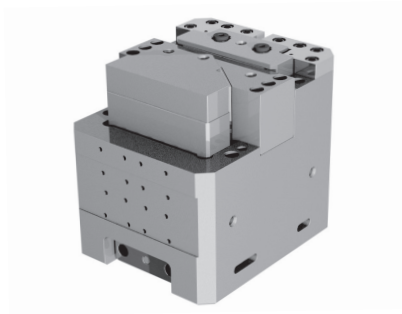


Counter Cam Unit CTCS·H/CTVS·H [Overview]

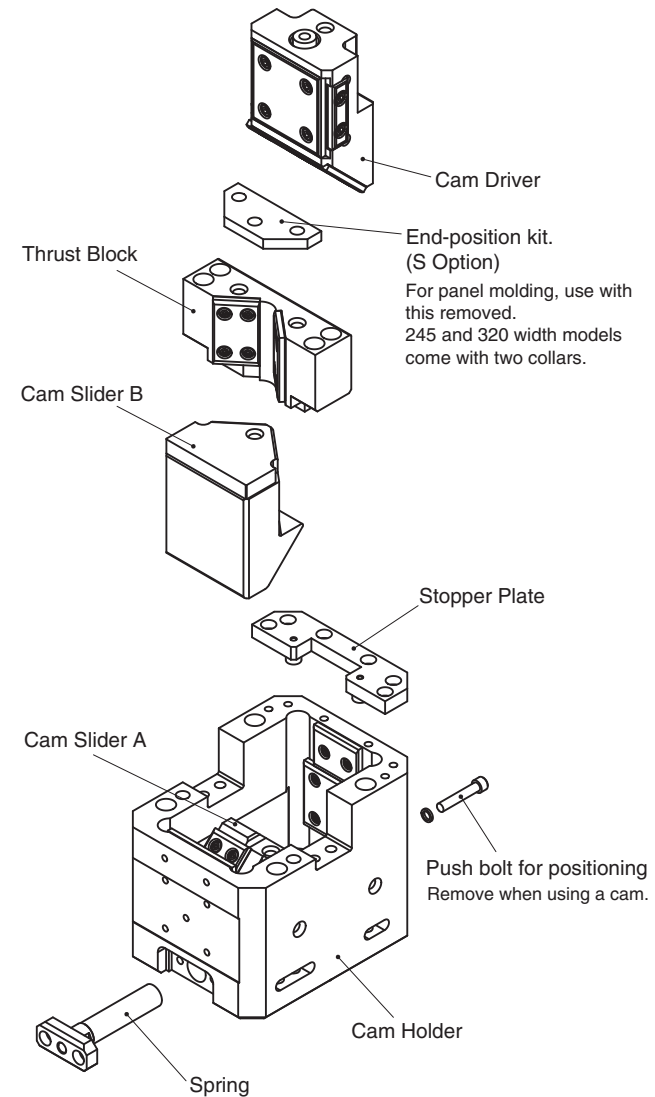
Product Information

- Mount face widths 120, 145, 245, and 320 mm.
- High rigidity structure.
- V-shaped guide.
- Built-in abnormal ascent stop mechanism.
- Built-in urethane for shock absorption in cam driver stopper.



■ Features

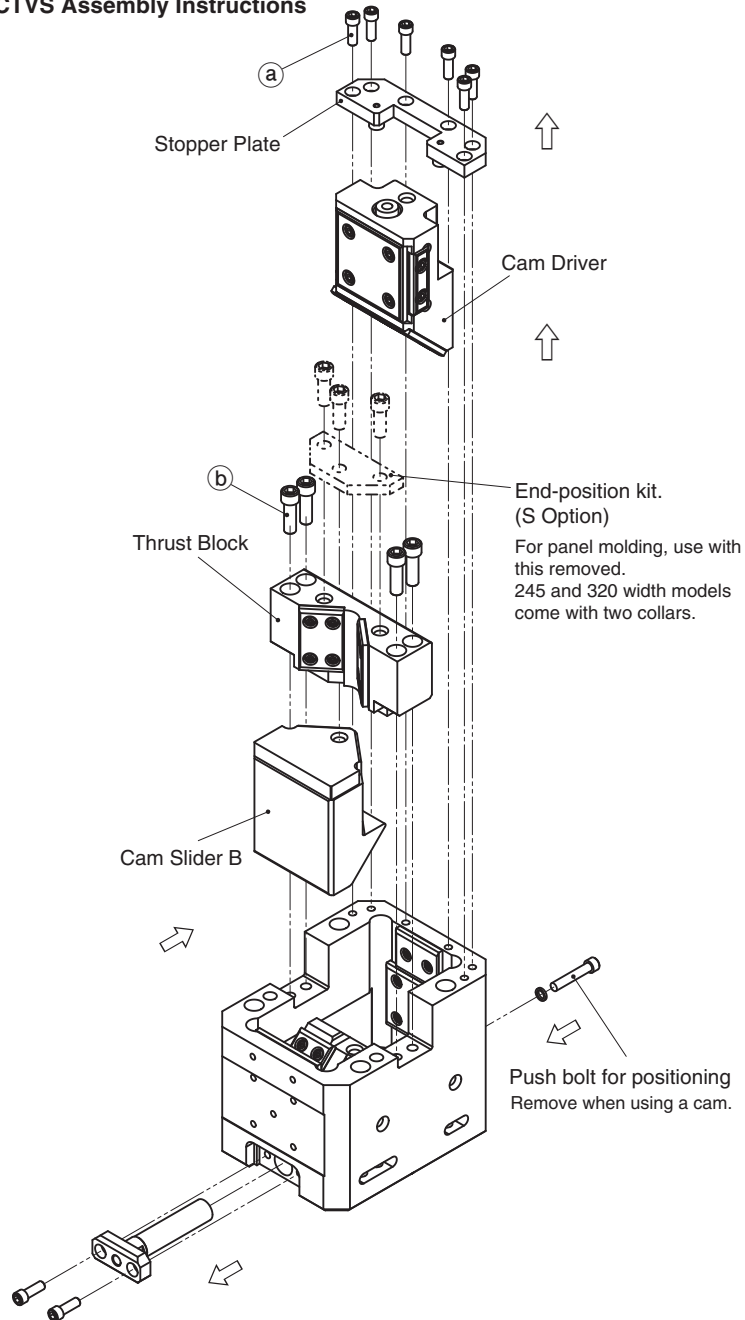
- Robust structure integrated into the casting is applied.
- The highly rigid type is reinforcing the backup wall of Cam Slider B. It is not necessary to machine the die for backup.
- V-shaped Cam Slider B is highly resistant to the reaction force on the side. (145 / 245 / 320 mm wide only)
- Urethane Stopper for shock absorption are provided on the Stopper Plate to prevent direct force on the screws.
- The Thrust Block is installed as the Stopper of Cam Slider B. This Stopper Block could prevent the Cam Slider B from lifting up over the specified stroke.
- A thread hole is drilled so that a Pushing Bolt for the end-position kit could be installed.



Counter Cam Unit CTCS·H/CTVS·H [Overview]

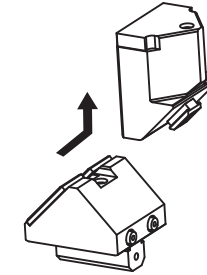
Product Information

CTCS CTVS Assembly Instructions



Disassembly

- 1) Remove Hexagon Socket Head Bolts (a), to pull out Stopper Plate.
- 2) Pull and remove Cam Driver upward.
- 3) Remove Hexagon Socket Head Bolts (b), and remove Thrust Block.
- 4) Slide Cam Slider B with Positive Return obliquely upward and remove it. (See the figure below.)
In the same way, slide Cam Slider B diagonally from above to assemble.



Assembly

Assembly is the reverse procedure of disassembly.

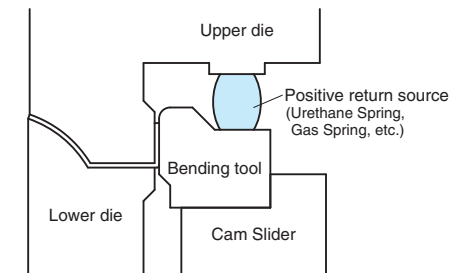
- Ensure that all parts are clean, particularly the sliding components to which a small amount of lubricant is applied and is then placed in position.
- Take care that the respective tolerances are observed when assembling Cam Slider and Cam Holder, which also should be identified by the same serial number.
- Make sure that all bolts are tighten to the recommended torque after assembly and disassembly.

Gas Spring

Please contact your local sales representative if you prefer to use a gas spring not specified in our catalog. For use and maintenance of gas spring, please contact the manufacturer directly.

For Operation

In order to make the Counter Cam Unit correctly track the up-down motion of the press, use a return assist pressure source (Urethane Spring, Gas Spring, etc.) (See the figure below.)



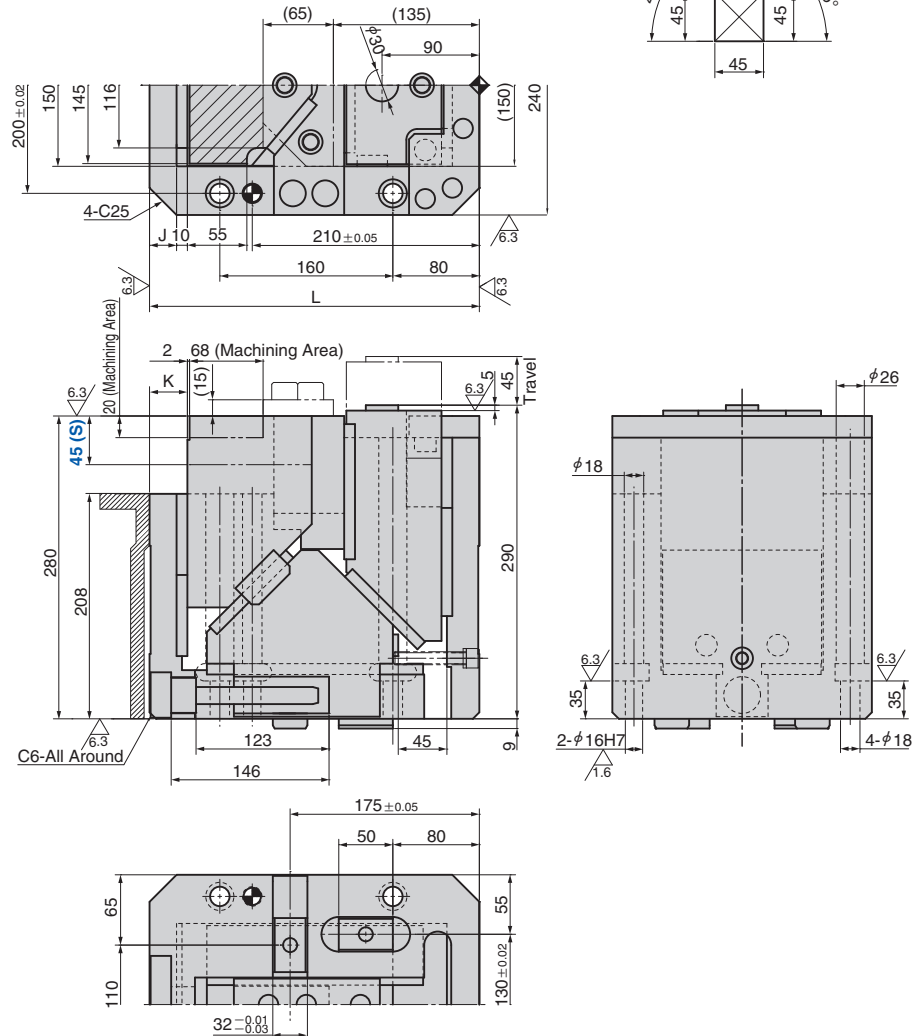
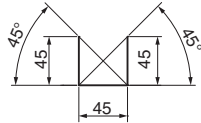
CTVS · CTVH

Counter Cam Unit

CTVS145-45 (Regular Type)
CTVH145-45 (Highly Rigid Type)



● Cam Diagram



Working Force kN (tonf) 1,000,000 strokes	Spring Force N (kgf)		Total Weight kg	Catalog No.	W	Travel S	Spring Type PS
	Initial Load	Final Load					
73.5 (7.5)	—	2072 (211.3)	124.0	CTVS CTVH	145	45	ISO NISO
	330 (33.7)	1815 (185.1)					GK NGK

ISO: Coil Spring GK: Gas Spring (KALLER)
NGK: Without Gas Spring NISO: Without Coil Spring Parts for spring assembly are included.

Order	Catalog No.	W	S	PS	Option			
	CTVS	145	—	45	—	ISO	—	NF
	CTVH	145	—	45	—	GK	—	NF

Option	Option Code	Specification
	NF	Nitrogen gas not charged.
	S	End-position kit is included.

Catalog No.	J	K	L
CTVS	25	35	305
CTVH	40	50	320

Spring Specification

No.	PS	Spring Model	Qty	Remark
34	GK	X350-80-7.0.MPa	1	Gas Spring (KALLER)
31	ISO	TJM32-178	1	Coil Spring 33 N/mm (3.37 kgf/mm) Life expectancy of Coil Spring is approximately 1,000,000 strokes.

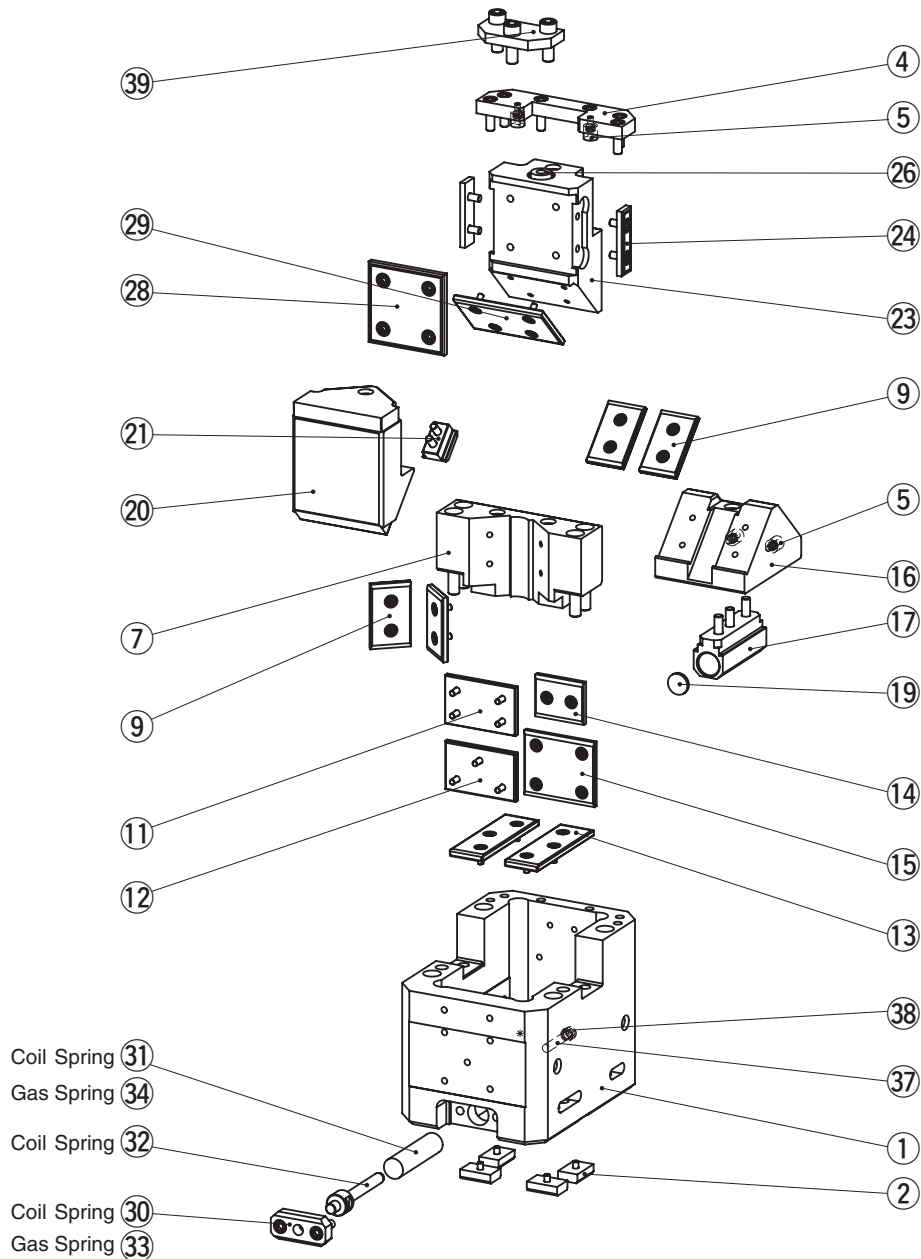
Gas filling pressure: 7.0 MPa

Refer to page 639 for Table of Components.

CTVS·CTVH [Table of Components]

Counter Cam Unit

CTVS145/CTVH145



No.	Description	Qty		Material and Remark
		Coil Spring	Gas Spring	
1	Cam Holder	1		Cast Iron
2	Key	4		Steel
4	Stopper Plate	1		Steel
5	Stopper A	4		—
7	Thrust Block	1		Bronze with Graphite
9	Wear Plate E	4		Bronze with Graphite
11	Wear Plate A-1	1		Bronze with Graphite
12	Wear Plate A-2	1		Bronze with Graphite
13	Wear Plate B	2		Bronze with Graphite
14	Wear Plate C	1		Bronze with Graphite
15	Wear Plate D	1		Bronze with Graphite
16	Cam Slider A	1		Cast Iron
17	Spring Guide Block	1		Steel
19	Spring Stopper	1		Steel
20	Cam Slider B	1		Cast Iron
21	Cam Positive Return	1		Steel
23	Cam Driver	1		Cast Iron
24	Wear Plate	2		Copper Powder Sintered
26	Stopper B	1		—
28	Wear Plate	1		Copper Powder Sintered
29	Wear Plate F	1		Bronze with Graphite
30	Spring Stopper A	1	—	Steel
31	Coil Spring	1	—	TJM32-178
32	Spring Guide Pin	1	—	Steel
33	Spring Stopper B	—	1	Steel
34	Gas Spring	—	1	X350-80-7.0MPa
37	Locate Cap Bolt	1		M12x68
38	Spacer	1		Steel
39	Locking Plate (S Option)	1		Steel

Bolts, nuts, dowels, and washers for assembly are not indicated.

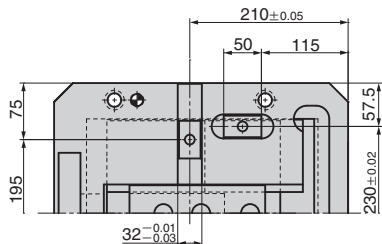
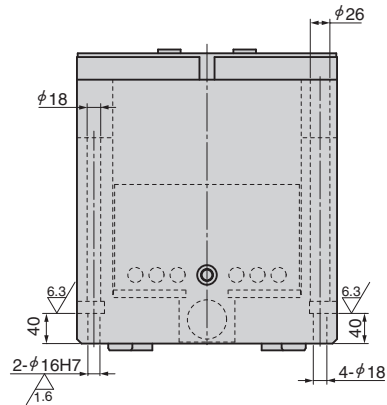
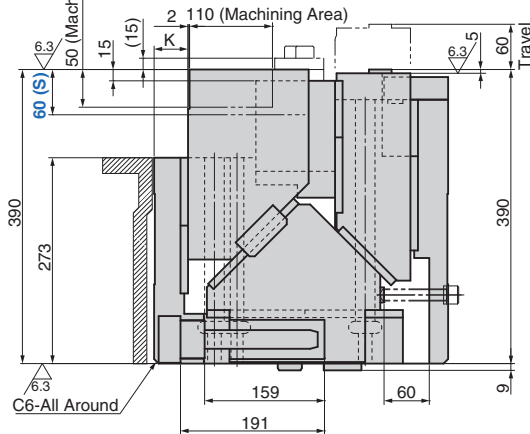
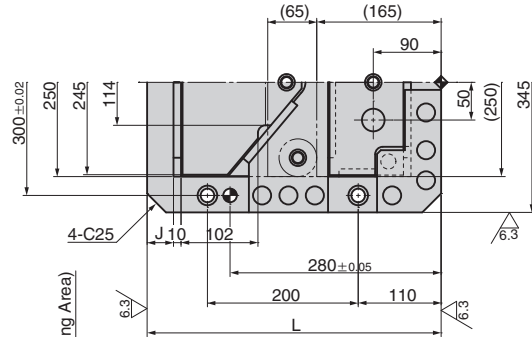
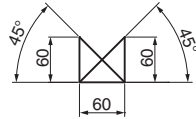
CTVS · CTVH

Counter Cam Unit

CTVS245-60 (Regular Type)
CTVH245-60 (Highly Rigid Type)



● Cam Diagram



Working Force kN (tonf) 1,000,000 strokes	Spring Force N (kgf)		Total Weight kg	Catalog No.	W	Travel S	Spring Type PS
	Initial Load	Final Load					
117.6 (12.0)	—	4691 (478.3)	295.0	CTVS CTVH	245	60	ISO NISO
	582 (59.3)	4074 (415.4)					GK NGK

ISO: Coil Spring GK: Gas Spring (KALLER)
NGK: Without Gas Spring NISO: Without Coil Spring Parts for spring assembly are included.



Catalog No.	W	S	PS	Option
CTVS	245	—	—	ISO
CTVH	245	—	—	GK — NF



Option Code	Specification
NF	Nitrogen gas not charged.
S	End-position kit is included.

Catalog No.	J	K	L
CTVS	35	45	390
CTVH	55	65	410

Spring Specification

No.	PS	Spring Model	Qty	Remark
34	GK	K750-100-7.0.MPa	1	Gas Spring (KALLER)
33	ISO	TJM50-229	1	Coil Spring 58.2 N/mm (5.93 kgf/mm) Life expectancy of Coil Spring is approximately 1,000,000 strokes.

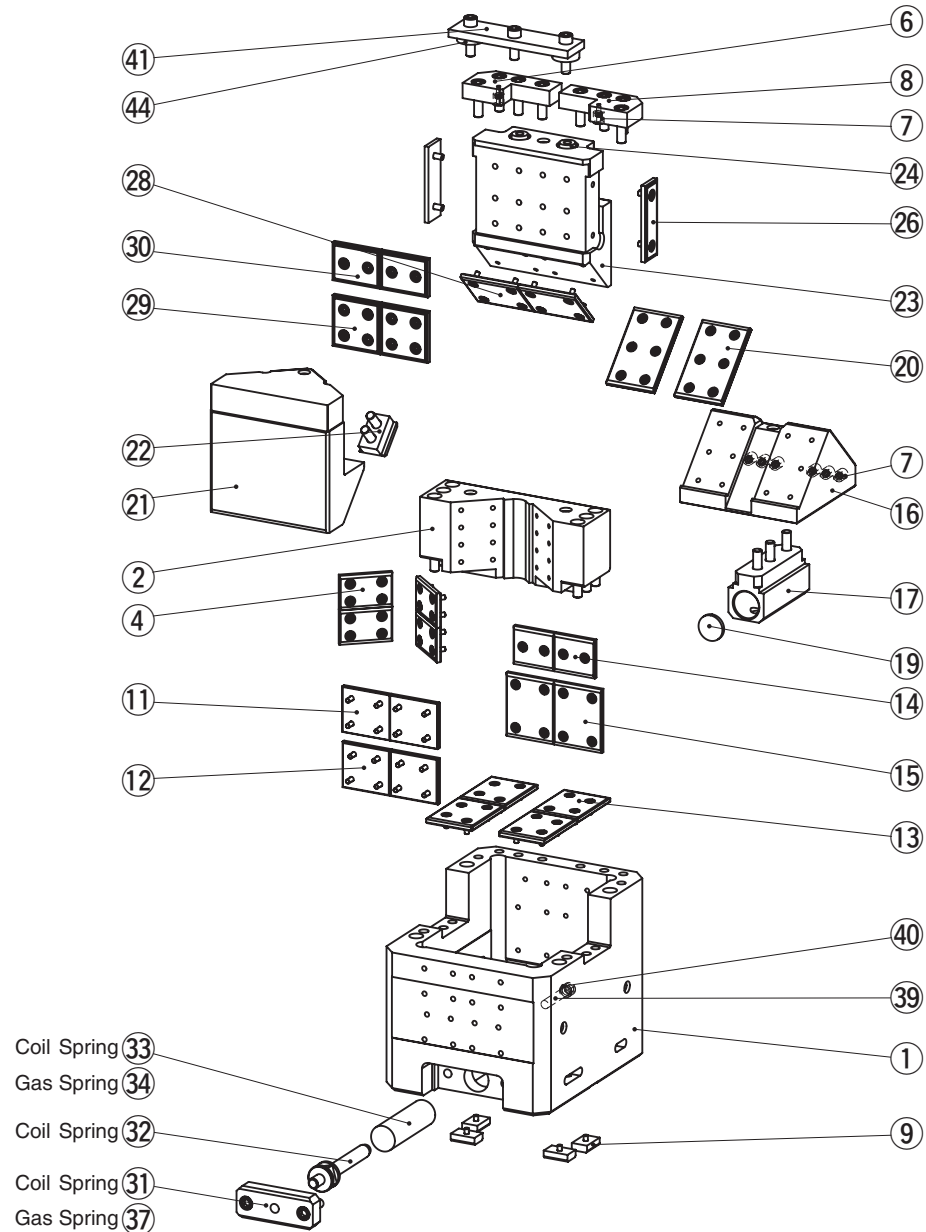
Gas filling pressure: 7.0 MPa

Refer to page 643 for Table of Components.

CTVS·CTVH [Table of Components]

Counter Cam Unit

CTVS245/CTVH245



No.	Description	Qty		Material and Remark
		Coil Spring	Gas Spring	
1	Cam Holder	1		Cast Iron
2	Thrust Block	1		Cast Iron
4	Wear Plate E	4		Bronze with Graphite
6	Stopper Plate R	1		Steel
7	Stopper A	8		—
8	Stopper Plate L	1		Steel
9	Key	4		Steel
11	Wear Plate A-1	2		Bronze with Graphite
12	Wear Plate A-2	2		Bronze with Graphite
13	Wear Plate B	4		Bronze with Graphite
14	Wear Plate C	2		Bronze with Graphite
15	Wear Plate D	2		Bronze with Graphite
16	Cam Slider A	1		Cast Iron
17	Spring Guide Block	1		Steel
19	Spring Stopper	1		Steel
20	Wear Plate G	2		Bronze with Graphite
21	Cam Slider B	1		Cast Iron
22	Cam Positive Return	1		Steel
23	Cam Driver	1		Cast Iron
24	Stopper B	2		—
26	Wear Plate	2		Copper Powder Sintered
28	Wear Plate F	2		Bronze with Graphite
29	Wear Plate	2		Copper Powder Sintered
30	Wear Plate	2		Copper Powder Sintered
31	Spring Stopper A	1	—	Steel
32	Spring Guide Pin	1	—	Steel
33	Coil Spring	1	—	TJM50-229
34	Gas Spring	—	1	X750-100-7.0MPa
37	Spring Stopper B	—	1	Steel
39	Locate Cap Bolt	1		M16x88
40	Spacer	1		Steel
41	Locking Plate (S Option)	1		Steel
44	Locking Collar (S Option)	2		Steel

Bolts, nuts, dowels, and washers for assembly are not indicated.

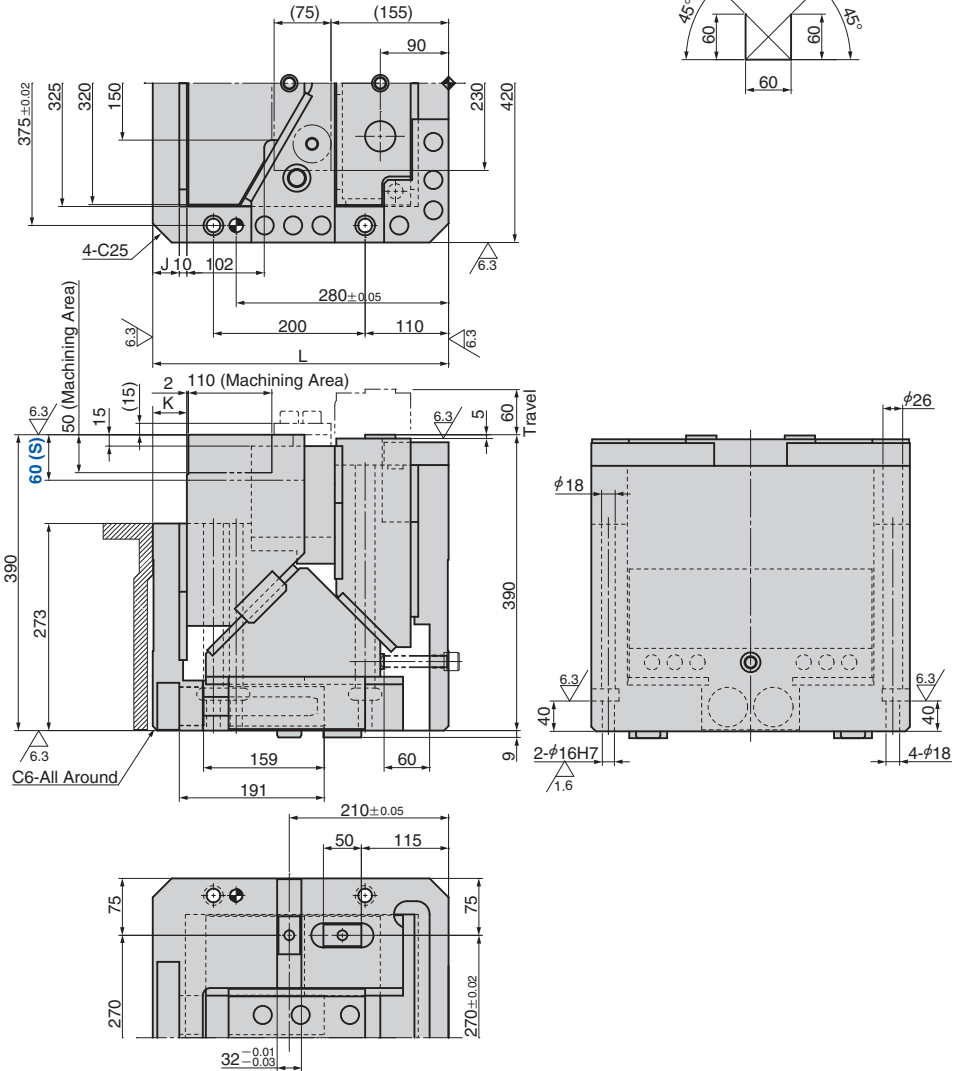
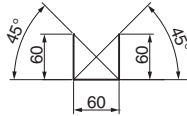
CTVS · CTVH

Counter Cam Unit

CTVS320-60 (Regular Type)
CTVH320-60 (Highly Rigid Type)



● Cam Diagram



Working Force kN (tonf) 1,000,000 strokes	Spring Force N (kgf)		Total Weight kg	Catalog No.	W	Travel S	Spring Type PS
	Initial Load	Final Load					
156.8 (16.0)	—	9382 (956.7)	362.0	CTVS CTVH	320	60	ISO NISO
	1164 (118.7)	8148 (830.9)					GK NGK

ISO: Coil Spring GK: Gas Spring (KALLER)
NGK: Without Gas Spring NISO: Without Coil Spring Parts for spring assembly are included.

Order	Catalog No.	W	S	PS	Option			
	CTVS	320	—	60	—	ISO	—	NF
	CTVH	320	—	60	—	GK	—	NF

Option Code	Specification
NF	Nitrogen gas not charged.
S	End-position kit is included.

Catalog No.	J	K	L
CTVS	35	45	390
CTVH	55	65	410

Spring Specification

No.	PS	Spring Model	Qty	Remark
37	GK	K750-100-7.0.MPa	2	Gas Spring (KALLER)
33	ISO	TJM50-229	2	Coil Spring 58.2 N/mm (5.93 kgf/mm) Life expectancy of Coil Spring is approximately 1,000,000 strokes.

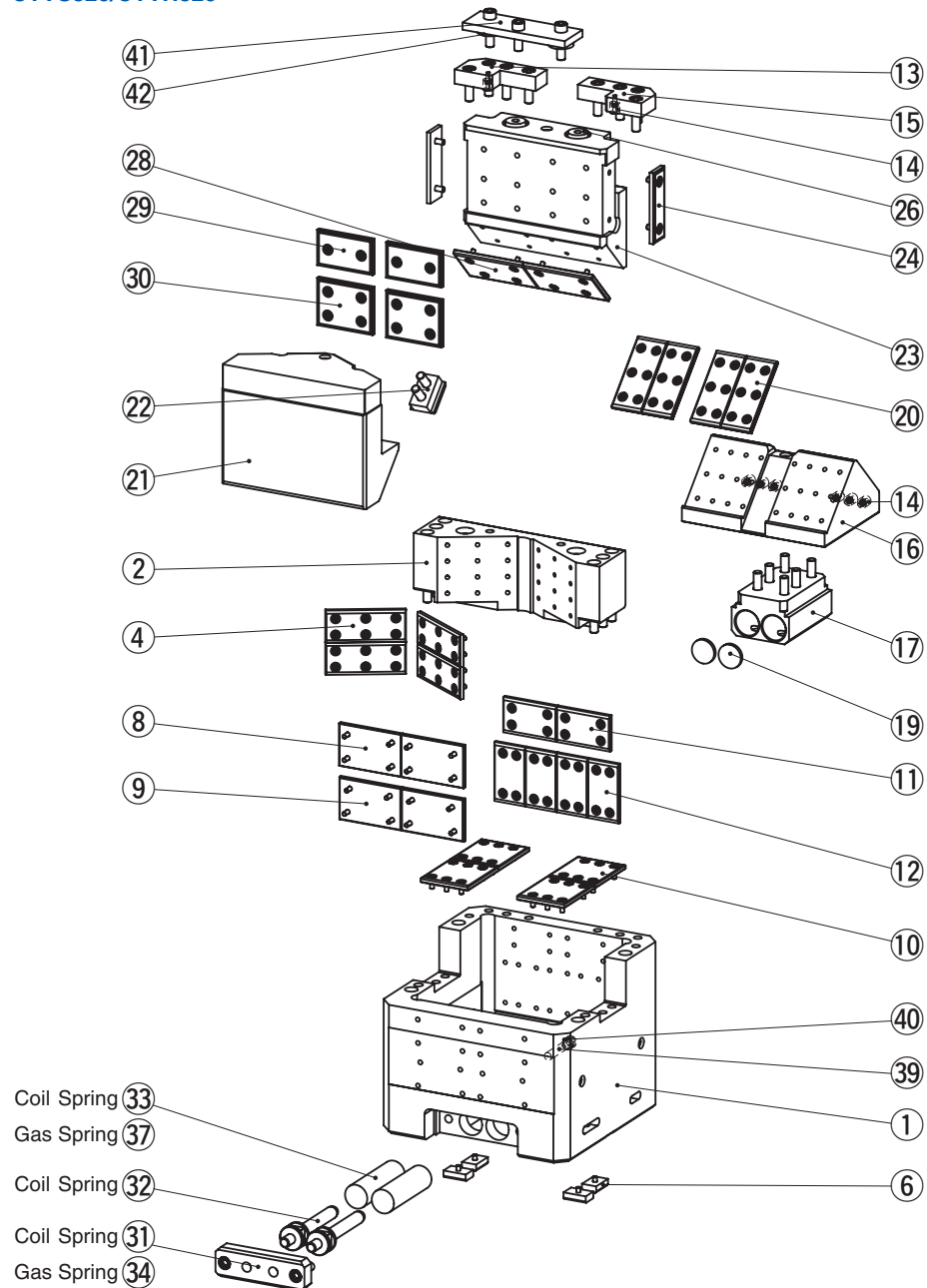
Gas filling pressure: 7.0 MPa

Refer to page 647 for Table of Components.

CTVS·CTVH [Table of Components]

Counter Cam Unit

CTVS320/CTVH320



No.	Description	Qty		Material and Remark
		Coil Spring	Gas Spring	
1	Cam Holder	1		Cast Iron
2	Thrust Block	1		Cast Iron
4	Wear Plate E	4		Bronze with Graphite
6	Key	4		Steel
8	Wear Plate A-1	2		Bronze with Graphite
9	Wear Plate A-2	2		Bronze with Graphite
10	Wear Plate B	4		Bronze with Graphite
11	Wear Plate C	2		Bronze with Graphite
12	Wear Plate D	4		Bronze with Graphite
13	Stopper Plate R	1		Steel
14	Stopper A	8		—
15	Stopper Plate L	1		Steel
16	Cam Slider A	1		Cast Iron
17	Spring Guide Block	1		Steel
19	Spring Stopper	2		Steel
20	Wear Plate G	4		Bronze with Graphite
21	Cam Slider B	1		Cast Iron
22	Cam Positive Return	1		Steel
23	Cam Driver	1		Cast Iron
24	Wear Plate	2		Copper Powder Sintered
26	Stopper B	2		—
28	Wear Plate F	2		Bronze with Graphite
29	Wear Plate	2		Copper Powder Sintered
30	Wear Plate	2		Copper Powder Sintered
31	Spring Stopper A	1	—	Steel
32	Spring Guide Pin	2	—	Steel
33	Coil Spring	2	—	TJM50-229
34	Spring Stopper B	—	1	Steel
37	Gas Spring	—	2	X750-100-7.0MPa
39	Locate Cap Bolt	1		M16x88
40	Spacer	1		Steel
41	Locking Plate (S Option)	1		Steel
42	Locking Collar (S Option)	2		Steel

Bolts, nuts, dowels, and washers for assembly are not indicated.