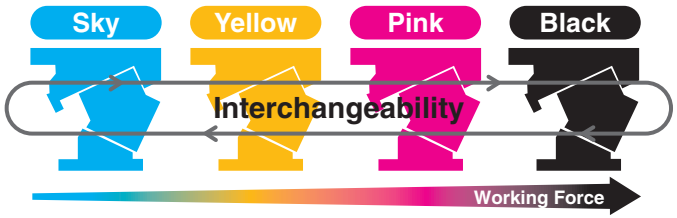
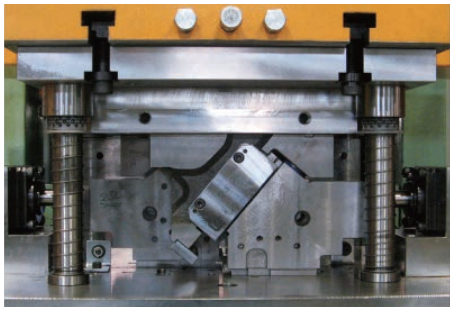
NEW VALCAM™ [Overview]

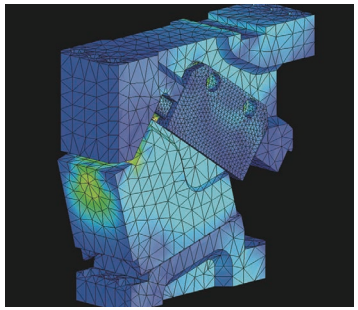
Product Information

- Mount face widths of 46, 58, 72, 100, 140, 200, 300, and 400 mm are available.
- Four interchangeable grades are available with the same installation configuration irrespective either high or low working force.
  Whereas, the compact model WHITE is not interchangeable.
- Weight reductions and enhancement of rigidity are achieved by the design decreasing stress concentrations based on CAE and durability test by our servo press machine. Consequently, rapid stamping can be expected.
- V-shaped guide structure.
- Mount face widths 46, 58, and 72 mm are available with both short and long travel.
- Coil (ISO: default, ISOL: Long life type) or Gas Spring can be selected for pressure source.
- YELLOW, PINK and BLACK can be used for trimming and flanging operations.





〈Durability test〉



〈CAE analysis〉

Grade	Mount Face Width mm	Working Force [kN (tonf)] 1,000,000 strokes	Working Force [kN (tonf)] 300,000 strokes	Travel	Working Angle 5°increments	Catalog No.	Spring Type	Application	Page
White	46	22.1 (2.2)	29.4 (3.0)	Short	0°～80°	VACWS46	Coil	Pierce	P.395
				Long	0°～50°	VACWL46			P.401
	58	27.9 (2.8)	37.2 (3.8)	Short	0°～80°	VACWS58			P.419
				Long	0°～50°	VACWL58			P.425
Sky	46	22.1 (2.2)	29.4 (3.0)	Short	0°～80°	VACSS46	Gas / Coil	Pierce	P.407
				Long	0°～50°	VACSL46			P.413
	58	27.9 (2.8)	37.2 (3.8)	Short	0°～80°	VACSS58			P.431
				Long	0°～50°	VACSL58			P.437
	72	36.8 (3.7)	49.0 (5.0)	Short	0°～80°	VACSS72			P.443
				Long	0°～50°	VACSL72			P.449
Yellow	46	30.9 (3.1)	41.2 (4.2)	Short	0°～80°	VACYS46	Gas / Coil	Pierce / Trim / Flange	P.407
				Long	0°～50°	VACYL46			P.413
	58	42.6 (4.3)	56.8 (5.8)	Short	0°～80°	VACYS58			P.431
				Long	0°～50°	VACYL58			P.437
	72	60.3 (6.1)	80.4 (8.2)	Short	0°～80°	VACYS72			P.443
				Long	0°～50°	VACYL72			P.449
Pink	46	42.1 (4.3)	56.4 (5.8)	Short	0°～80°	VACPS46	Gas / Coil	Pierce / Trim / Flange	P.407
				Long	0°～50°	VACPL46			P.413
	58	58.8 (6.0)	78.9 (8.0)	Short	0°～80°	VACPS58			P.431
				Long	0°～50°	VACPL58			P.437
	72	77.4 (7.9)	103.7 (10.6)	Short	0°～80°	VACPS72			P.443
				Long	0°～50°	VACPL72			P.449
Black	46	56.4 (5.8)	59.0 (6.0)	Short	0°～80°	VACBS46	Gas	Pierce / Trim / Flange	P.407
				Long	0°～50°	VACBL46			P.413
	58	78.9 (8.0)	98.0 (10.0)	Short	0°～80°	VACBS58			P.431
				Long	0°～50°	VACBL58			P.437
	72	103.7 (10.6)	127.4 (13.0)	Short	0°～80°	VACBS72			P.443
				Long	0°～50°	VACBL72			P.449
Yellow	100	86.7 (8.8)	103.9 (10.6)	Long	0°～70°	VACYL100	Gas / Coil	Pierce / Trim / Flange	P.455
	140	112.8 (11.5)	135.3 (13.8)			VACYL140			P.461
	200	141.1 (14.4)	164.6 (16.8)			VACYL200			P.467
	300	225.4 (23.0)	254.8 (26.0)			VACYL300			P.473
	400	269.5 (27.5)	294.0 (30.0)			VACYL400			P.479
Pink	100	116.1 (11.8)	139.2 (14.2)	Long	0°～70°	VACPL100	Gas / Coil	Pierce / Trim / Flange	P.455
	140	159.3 (16.3)	191.1 (19.5)			VACPL140			P.461
	200	197.6 (20.1)	230.5 (23.5)			VACPL200			P.467
	300	315.6 (30.2)	356.7 (36.4)			VACPL300			P.473
	400	377.3 (38.5)	411.6 (42.0)			VACPL400			P.479
Black	100	170.0 (17.3)	200.0 (20.4)	Long	0°～70°	VACBL100	Gas	Pierce / Trim / Flange	P.455
	140	235.0 (24.0)	270.0 (27.6)			VACBL140			P.461

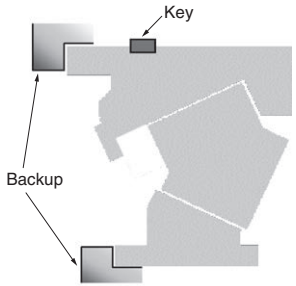
Gas Spring　Coil Spring　Make sure to check your conditions of use

■Backup Settings with Increased Working Force

When using within the following working force range, set a backup or a key for the cam holder or the cam driver.

Mount Face Width [mm]	Operating Working Force [kN (tonf)]
46	29.4 (3.0) or more
58	49.0 (5.0) or more
72	68.6 (7.0) or more
100	79.4 (8.1) or more
140	127.4 (13.0) or more
200	127.4 (13.0) or more
300	225.4 (23.0) or more
400	264.6 (27.0) or more

Working Angle	Location for Backup
0～20°	Cam Holder
25°	Cam Holder, Cam Driver
30～80°	Cam Driver



■Standard Durability of Coil Spring

Coil Springs used in VALCAM require maintenance on a regular basis and their durability expires at 300,000 cycles as a rule of thumb. Please note that the durability is based on the tests run by the manufacturer of the Coil Springs and that it's merely an assumption based on such tests. Depending on how the product has been actually used in a particular environment, Coil Springs can break earlier than 300,000 cycles. Regular monitoring and maintenance on Coil Spring are highly recommended.
Example: When it's used with over strokes, the Coil Spring will break earlier due to too much deflection.

■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.

■Thrust Pad Installation

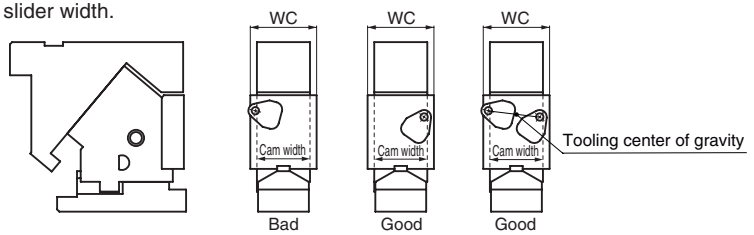
When the unit is used for trimming or flanging, it is recommended a thrust pad be included, so an extreme lateral load is eliminated from trimming or flanging line to the unit.
VALCAM-HT is recommended when space is limited for a thrust pad installation.

■Key groove on Cam Driver of 300/400 wide

Although there is no key option for Cam Driver, a key groove is prepared on the Cam Driver. Please contact your local sales representative when you prefer to install a key on Cam Driver.

■Installation range of piercing punch

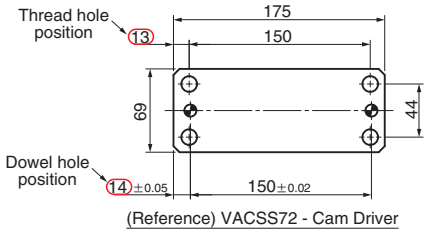
Make sure to mount a tool not to stick out of the cam unit and to keep tooling center of gravity within cam slider width.



■Dowel hole positions for cam holder and cam driver

To prevent incorrect assembly of the cam, the dowel positions are intentionally offset in the front/back direction. Make sure that the dowel hole positions are set up according to the catalog indication.

⚠ Width dimension of cam holder and cam driver is general tolerance.
Do not use side surface of cam unit as locating datum at assembling to die.

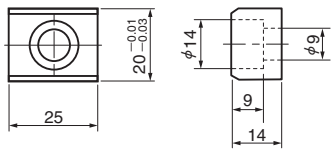


■Roughness of Sliding Surface

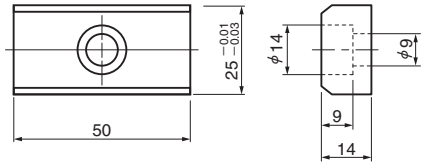
Machining marks on sliding surface may look rough, but surface roughness is within our standard. We guarantee the quality of our products through testing and experience.

■Key specifications (Option –K)

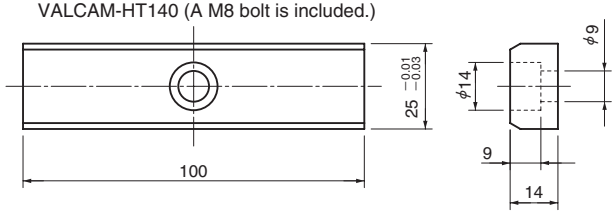
● Cam width 46
(A M8 bolt is included.)



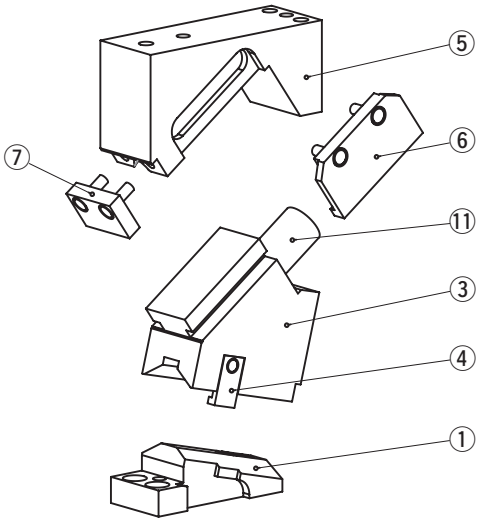
● Cam width 58, 72, 100, 200, 300, 400
VALCAM-HT100 (A M8 bolt is included.)



● Cam width 140
VALCAM-HT140 (A M8 bolt is included.)



■46・58 White Assembly Instructions



No.	Description	Qty
1	Cam Driver	1
3	Cam Slider	1
4	Positive Return Follower	1
5	Cam Holder	1
6	Slide Keeper	2
7	Stopper Plate	1
11	Coil Spring	1

● Disassembly

1) Loosen hexagonal socket head bolts and remove (⑦) Stopper Plate.

2) Pull out and remove (③) Cam Slider from (⑤) Cam Holder to the rear.

＊ Note that the Gas Spring is not fixed to Cam Slider.

● Assembly

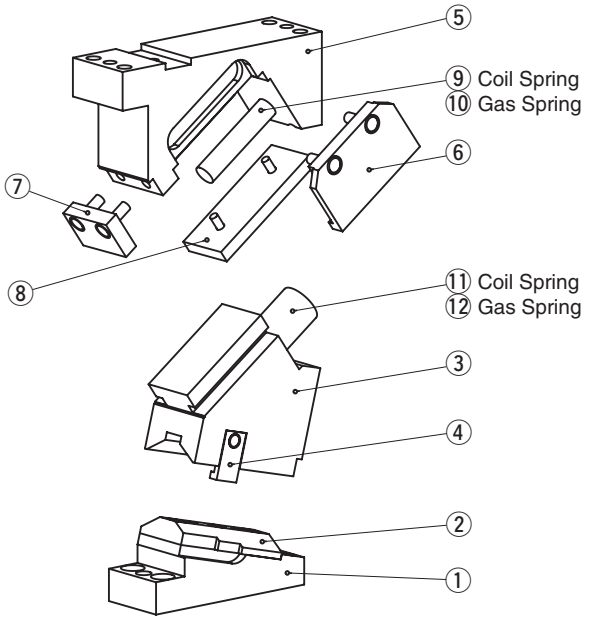
Assembly is the reverse procedure of disassembly.

・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.

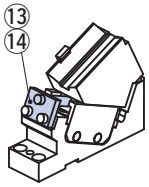
・Make sure that all bolts are tighten to the recommended torque after assembly and disassembly.

■46・58・72 Sky, Yellow, Pink, Black Assembly Instructions

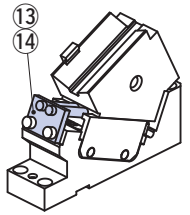


● Lock System

58 Sky, Yellow, Pink, Black



72 Sky, Yellow, Pink, Black



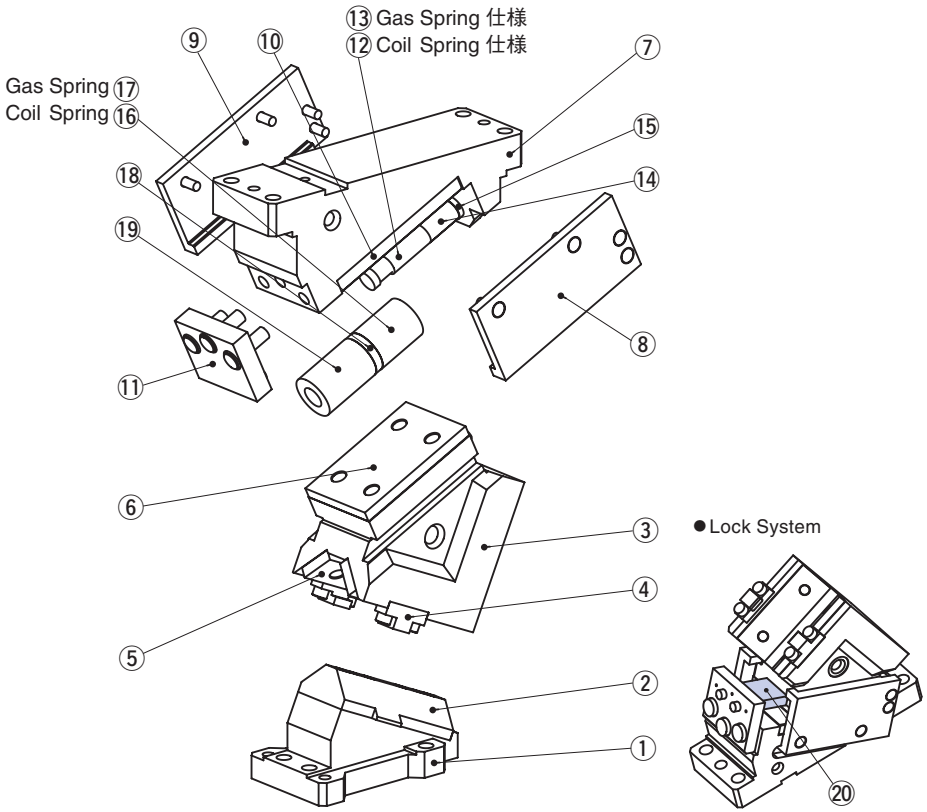
46・58・72 Sky

No.	Description	Qty	
		Coil Spring	Gas Spring
1	Cam Driver	1	
3	Cam Slider	1	
4	Positive Return Follower	1	
5	Cam Holder	1	
6	Slide Keeper	2	
7	Stopper Plate	1	
9	Spring Guide Pin	1	—
10	Spring Plate	—	1
11	Coil Spring	1	—
12	Gas Spring	—	1
13	Lock Plate 58, 72	1	
14	Lock Pipe 58, 72	2	

46・58・72 Yellow, Pink, Black

No.	Description	Qty	
		Coil Spring	Gas Spring
1	Cam Driver	1	
2	Cam Slide Guide	1	
3	Cam Slider	1	
4	Positive Return Follower	1	
5	Cam Holder	1	
6	Slide Keeper	2	
7	Stopper Plate	1	
8	Wear Plate	1	
9	Spring Guide Pin	1	—
10	Spring Plate	—	1
11	Coil Spring	1	—
12	Gas Spring	—	1
13	Lock Plate 58, 72	1	
14	Lock Pipe 58, 72	2	

■100・140 Yellow, Pink, Black Assembly Instructions



● Disassembly

1) Loosen hexagonal socket head bolts and remove (⑪) Stopper Plate.

2) Pull out and remove (③) Cam Slider from (⑦) Cam Holder to the rear.

＊ Note that the Gas Spring is not fixed to Cam Slider.

● 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.

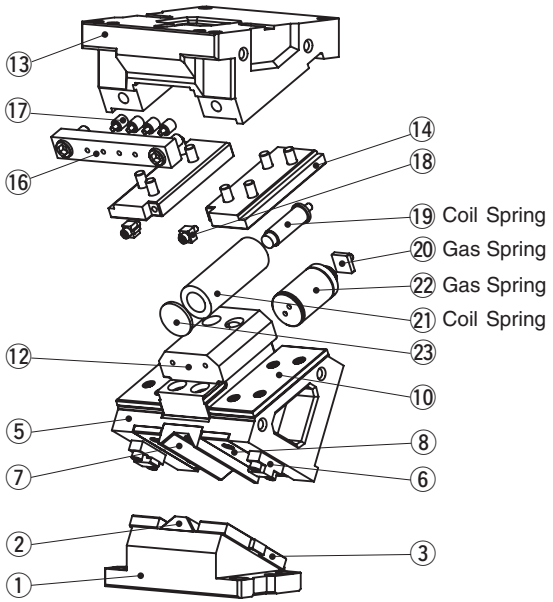
100, 140 Yellow

No.	Description	Qty	
		Coil Spring	Gas Spring
1	Cam Driver	1	
2	Cam Slide Guide	1	
3	Cam Slider	1	
4	Positive Return Follower	2	
7	Cam Holder	1	
8	Slide Keeper A	1	
9	Slide Keeper B	1	
10	Wear Plate	1	
11	Stopper Plate	1	
12	Spring Guide Pin	1	—
13	Pin	—	1
16	Coil Spring	1	—
17	Gas Spring	—	1
20	Lock Plate	1	

100, 140 Pink, Black

No.	Description	Qty	
		Coil Spring	Gas Spring
1	Cam Driver	1	
2	Cam Slide Guide	1	
3	Cam Slider	1	
4	Positive Return Follower	2	
5	Slide Plate A	2	
6	Slide Plate B	1	
7	Cam Holder	1	
8	Slide Keeper A	1	
9	Slide Keeper B	1	
10	Wear Plate	1	
11	Stopper Plate	1	
12	Spring Guide Pin	1	—
13	Pin	—	1
14	Collar	1	—
15	Washer	1	—
16	Coil Spring	1	—
17	Gas Spring	—	1
18	Bush	1	—
19	Coil Spring	1	—
20	Lock Plate	1	

■200・300 Yellow, Pink Assembly Instructions



● Disassembly

1) Loosen hexagonal socket head bolts and remove (⑱) Safety Block and (⑯) Stopper Plate.

2) Pull out and remove (⑤) Cam Slider from (⑬) Cam Holder to the rear.

● Assembly

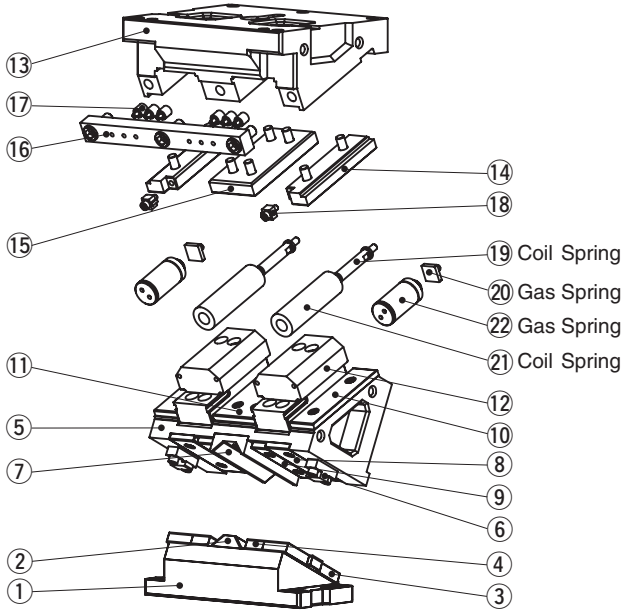
Assembly is the reverse procedure of disassembly.

・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.

■400 Yellow, Pink Assembly Instructions



No.	Description	200				300				400			
		Yellow		Pink		Yellow		Pink		Yellow		Pink	
		Coil Spring	Gas Spring	Coil Spring	Gas Spring	Coil Spring	Gas Spring	Coil Spring	Gas Spring	Coil Spring	Gas Spring	Coil Spring	Gas Spring
1	Cam Driver	1		1		1		1		1		1	
2	Cam Slide Guide A	1		1		1		1		1		1	
3	Driver Plate 01	2		2		2		2		2		2	
4	Driver Plate 02	—		—		—		—		2		2	
5	Cam Slider	1		1		1		1		1		1	
6	Positive Return Follower	2		2		2		2		2		2	
7	Cam Slide Guide B	1		1		1		1		1		1	
8	Slide Plate 01A	—		2		—		2		—		2	
9	Slide Plate 01B	—		—		—		—		—		2	
10	Slide Plate 02A	—		2		—		R1/L1		—		2	
11	Slide Plate 02B	—		—		—		—		—		1	
12	Spring Guide Plate	1		1		1		1		2		2	
13	Cam Holder	1		1		1		1		1		1	
14	Base Plate 01	R1/L1		R1/L1		R1/L1		R1/L1		R1/L1		R1/L1	
15	Base Plate 02	—		—		—		—		1		1	
16	Stopper Plate	1		1		1		1		1		1	
17	Rubber Stopper	3		3		4		4		6		6	
18	Safety Block	2		2		2		2		2		2	
19	Spring Guide Pin	1	—	1	—	1	—	1	—	2	—	2	—
20	Pin	—	1	—	1	—	1	—	1	—	2	—	2
21	Coil Spring	1	—	1	—	1	—	1	—	2	—	2	—
22	Gas Spring	—	1	—	1	—	1	—	1	—	2	—	2
23	Spacer	—		—		1*1	—	1*1	—	—		—	

*1 Only angle 70-degree.