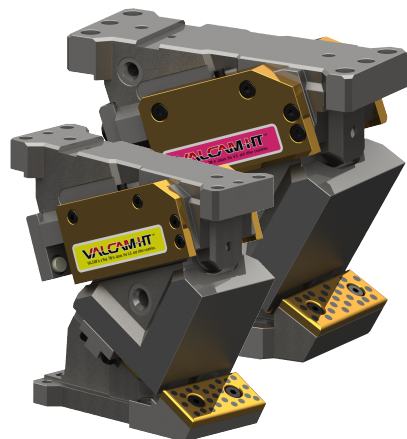
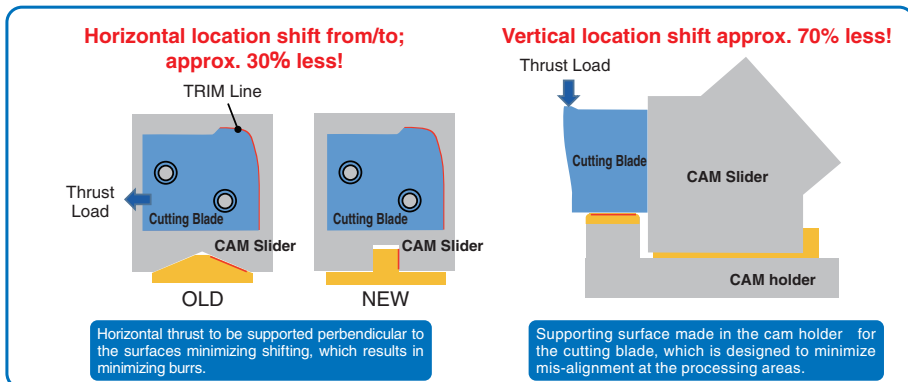


Thrust load transferred from trimming gets offset within the cam unit.



- Design enables cam to withstand thrust loads from any direction.
- Thrust pad no longer required in the die.
- Space saving

Performance Evaluation



VALCAM-HT Specifications

*CENTER LOAD working forces

Grade	Cam width [mm]	Working force [kN (tonf)]		Angle (10-degree increments)	Catalog No.	Spring Type	Application
		1,000,000 strokes	300,000 strokes				
Yellow	100	86.7 (8.8)	103.9 (10.6)	0°~70°	VACYHT100		Trim
	140	112.8 (11.5)	135.3 (13.8)	0°~70°	VACYHT140		Flange
Pink	100	116.1 (11.8)	139.2 (14.2)	0°~70°	VACPHT100		Trim
	140	159.3 (16.3)	191.1 (19.5)	0°~70°	VACPHT140		Flange



Gas Spring



Coil Spring



:Make sure to check your conditions of use

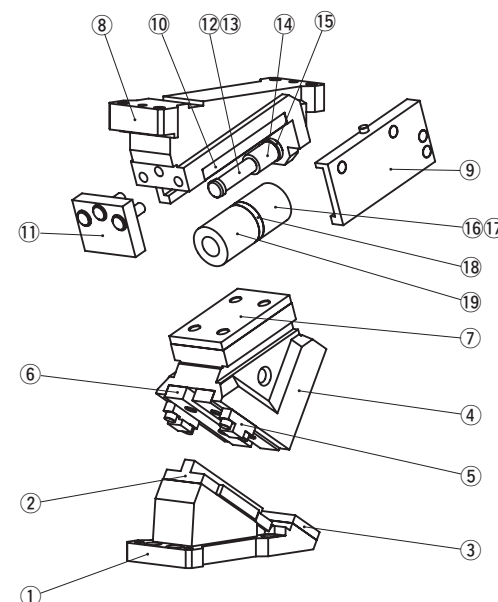
Technical Information

NEW

Structure and Assembly・Disassembly

●VALCAM-HT Disassembly method

- 1) Loosen hexagonal socket head bolts and remove ⑪ Stopper Plate.
- 2) Pull out and remove ④ Cam Slider from ⑧ Cam Holder to the rear.
 - Caution: ⑰ Gas Spring is pocketed with no attachment in ④ Cam Slider. During disassembly the spring may fall out.



●VALCAM-HT Assembly method

- 1) Assemble parts in the reverse order of disassembly.
 - Make sure that there is no foreign matter on the sliding area and apply grease on sliding surface.
 - Since clearances of Cam Slider and Cam Holder are controlled, make sure that serial numbers engraved on Cam Slider and Cam Holder are identical.
 - After assembly, make sure that all bolts are correctly tightened.

Table of Components

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

⚠ Coil Spring life expectancy :

Coil Spring life expectancy for our VALCAM is approximately 300,000 cycles.

(Note that 300,000 cycles is a manufacturer guideline, not a guarantee.)

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.

Grade	Working force [kN (tonf)]		Catalog No.	Cam width W	Angle θ	Spring Type
	1,000,000 strokes	300,000 strokes				
Yellow	86.7(8.8)	103.9(10.6)	VACYHT	100	00 ~ 70 (10-degree increments)	ISO GK NGK GD NGD GS NGS
Pink	116.1(11.8)	139.2(14.2)	VACPHT			

※ CENTER LOAD working forces
OFFSET LOADS : See working forces Distribution Diagram page 684



Option

Option Code	Specification
NF	Nitrogen gas not charged.
K	Key attached.

ISO : Coil spring
GK : Gas spring(KALLER)
GD : Gas spring(DADCO)
GS : Gas spring(SDT)
NGK,NGD,NGS: without gas spring



For key specification, refer to page 412.



Order

Catalog No.	W	—	θ	—	Spring	Option
VACYHT	100	—	10	—	ISO	
VACPHT	100	—	10	—	GK	NF - K

Spring force

● Coil spring specification

Yellow

Angle	Initial load		Final load		Return force	
	N	kgf	N	kgf	N	kgf
00	358	36.6	2822	287.9	38166	389
10	358	36.6	2822	287.9	3797	387
20	358	36.6	2822	287.9	3775	385
30	358	36.6	2822	287.9	3752	383
40	358	36.6	2822	287.9	3727	380
50	358	36.6	2822	287.9	3703	378
60	345	35.2	2704	275.9	4263	435
70	470	47.9	2662	271.7	5471	558

Pink

Angle	Initial load		Final load		Return force	
	N	kgf	N	kgf	N	kgf
00	275	28.0	5701	581.7	7617	777
10	275	28.0	5701	581.7	7597	775
20	275	28.0	5701	581.7	7575	773
30	275	28.0	5701	581.7	7552	771
40	275	28.0	5701	581.7	7528	768
50	275	28.0	5701	581.7	7503	766
60	402	41.1	5560	567.3	8797	898
70	283	28.9	5162	526.7	10647	1086

Spring force

● Gas spring specification

Yellow, Pink

Angle	Final load		Return force	
	N	kgf	N	kgf
00	6836	697.6	9115	930
10	6836	697.6	9095	928
20	6836	697.6	9074	926
30	6836	697.6	9050	923
40	6836	697.6	9026	921
50	6836	697.6	9002	919
60	6693	683.0	10597	1081
70	6803	694.2	14044	1433

Weight

Angle	Total weight kg	Cam slider weight kg	Tool Installation Weight kg
00	33.2	10.8	8.2
10	32.2	10.8	8.4
20	31.5	10.8	8.8
30	31.5	10.8	9.7
40	32.0	10.8	11.1
50	32.9	10.8	12.0
60	34.5	12.6	10.2
70	36.2	13.6	9.2

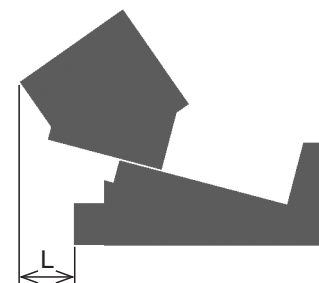
※ The tool installation weights are rough estimates. The appropriate tool installation weight varies with the press speed, but it is recommended to stay within the numeric ranges above.

Cam Stroke

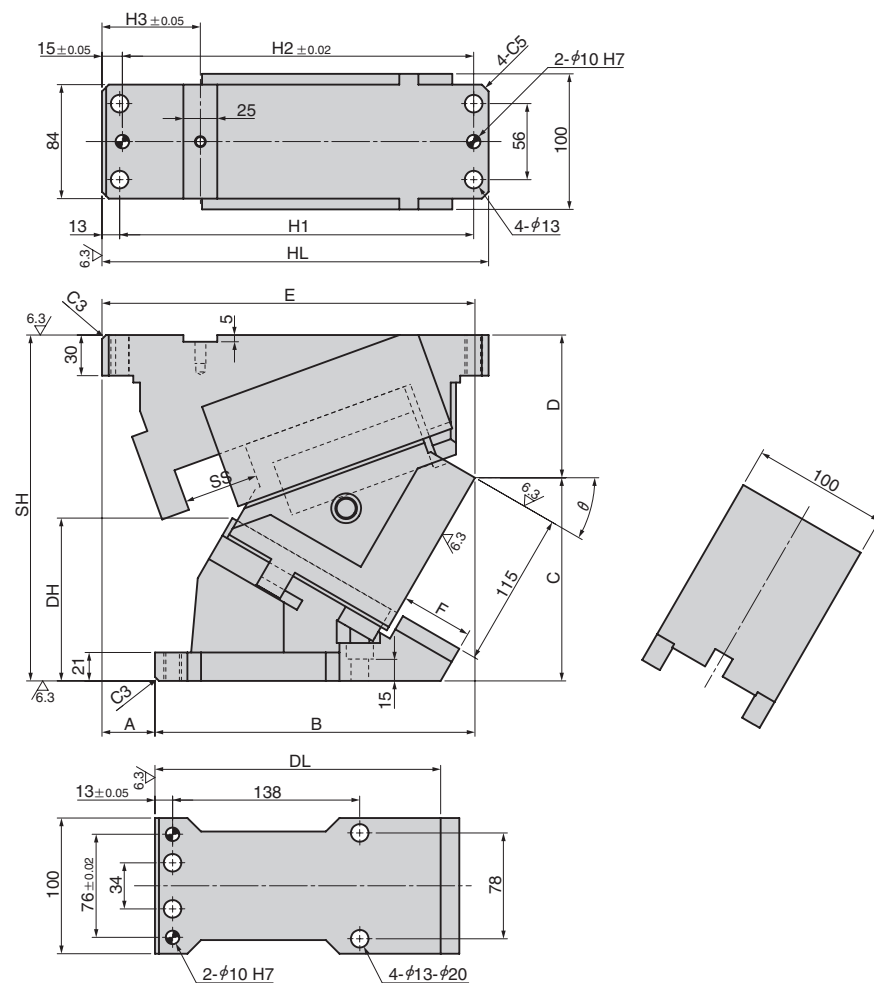
Angle	Stroke mm
00	35.4
10	42.8
20	50.7
30	59.7
40	70.7
50	85.6
60	82.0
70	81.9

Rear removal space

Angle	L mm
00	0
10	11.4
20	25.7
30	48
40	67.6
50	73.3
60	91.7
70	107



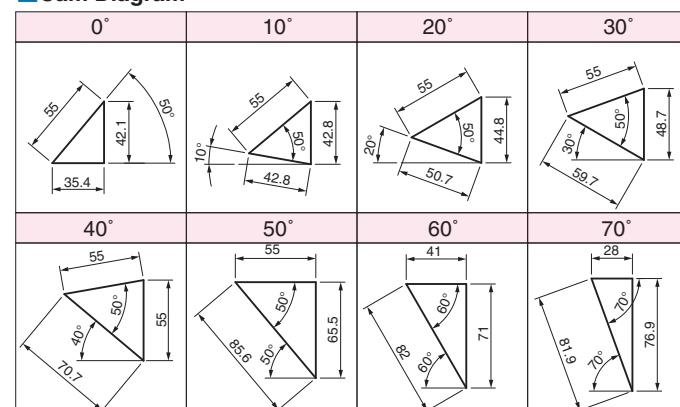
VACYHT100
VACPHT100



Refer to page 680 for the parts list.

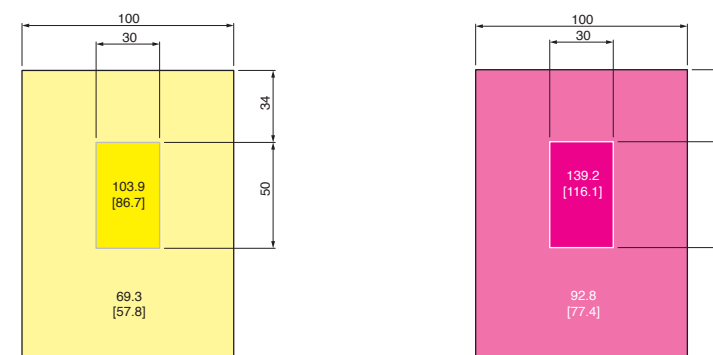
Angle θ	SH	A	B	C	D	E	F	DL	DH	HL	H1	H2	H3	SS
00		93	167	182	63	260		220	66.8	260	236	234		
10	245	80	190.58	169.34	75.66	270.58		214.5	80.2	270	246	244	112.5	
20		59	216.87	155.21	89.79	275.87		216.8	94.8	280	256	254		
30	250	39	235.97	144.84	105.16	274.97	53	213.5	115.0		285	261	259	72.5
40	260	15	252.04	136.41	123.59	267.04		206.8	138.2					
50	270	2	264.26	123.10	146.90	266.26		200.0	156.3					
60		-25	280.64	123.56	156.44	255.64	60	186.6	161.4	295	271	269	102.5	41
70	280	-55	305.82	122.91	157.09	250.82	77	193.3	169.0					28

Cam Diagram



WORKING FORCE DISTRIBUTION DIAGRAM

The working forces indicated in the cam face distribution diagram are reached by putting the tooling center of gravity within each area for the following pictures.



: Working force (kN) allowed for up to 300,000 strokes

[] : Working force (kN) allowed for up to 1,000,000 strokes

AERIAL CAM UNIT

Yellow

Pink

Cam width 140

NEW

CAD
FILE

Cam Units

Grade	Working force [kN (tonf)]		Catalog No.	Cam width W	Angle θ	Spring Type
	1,000,000 strokes	300,000 strokes				
Yellow	112.8(11.5)	135.3(13.8)	VACYHT	140	00 ~ 70 (10-degree increments)	ISO GK NGK GD NGD GS NGS
Pink	159.3(16.3)	191.1(19.5)	VACPHT			

※ CENTER LOAD working forces

OFFSET LOADS : See working forces Distribution Diagram page 688



Option

Option Code	Specification
NF	Nitrogen gas not charged.
K	Key attached.

ISO : Coil spring
GK : Gas spring(KALLER)
GD : Gas spring(DADCO)
GS : Gas spring(SDT)
NGK,NGD,NGS: without gas spring



For key specification, refer to page 412.



Order

Catalog No.

VACYHT
VACPHT

W

140
140

θ

10
10

Spring

ISO
GK

Option

NF - K

Spring force

● Coil spring specification

Yellow

Angle	Initial load		Final load		Return force	
	N	kgf	N	kgf	N	kgf
00	523	53.4	4636	473.1	6268	640
10	523	53.4	4636	473.1	6236	636
20	523	53.4	4636	473.1	6201	633
30	523	53.4	4636	473.1	6163	629
40	523	53.4	4636	473.1	6124	625
50	523	53.4	4636	473.1	6085	621
60	575	58.7	4505	459.7	7107	725
70	784	80.0	4442	453.2	9134	932

Pink

Angle	Initial load		Final load		Return force	
	N	kgf	N	kgf	N	kgf
00	429	43.8	8902	908.4	11898	1214
10	429	43.8	8902	908.4	11867	1211
20	429	43.8	8902	908.4	11831	1207
30	429	43.8	8902	908.4	11794	1203
40	429	43.8	8902	908.4	11755	1199
50	429	43.8	8902	908.4	11716	1195
60	629	64.2	8683	886	13740	1402
70	443	45.2	8061	822.6	16629	1697

Spring force

● Gas spring specification

Yellow, Pink

Angle	Final load		Return force	
	N	kgf	N	kgf
00	11162	1139	14881	1518
10	11162	1139	14849	1515
20	11162	1139	14814	1512
30	11162	1139	14777	1508
40	11162	1139	14738	1504
50	11162	1139	14698	1500
60	10911	1113	17278	1763
70	11103	1133	22928	2340

Weight

Angle	Total weight kg	Cam slider weight kg	Tool Installation Weight kg
00	53.0	16.9	13.1
10	51.5	16.9	13.3
20	50.5	16.9	14.1
30	49.8	16.9	15.4
40	51.1	16.9	17.6
50	54.0	16.9	19.1
60	56.0	18.8	17.2
70	57.5	20.1	15.9

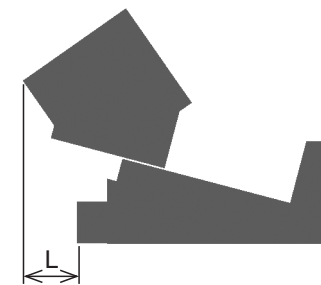
※ The tool installation weights are rough estimates. The appropriate tool installation weight varies with the press speed, but it is recommended to stay within the numeric ranges above.

Cam Stroke

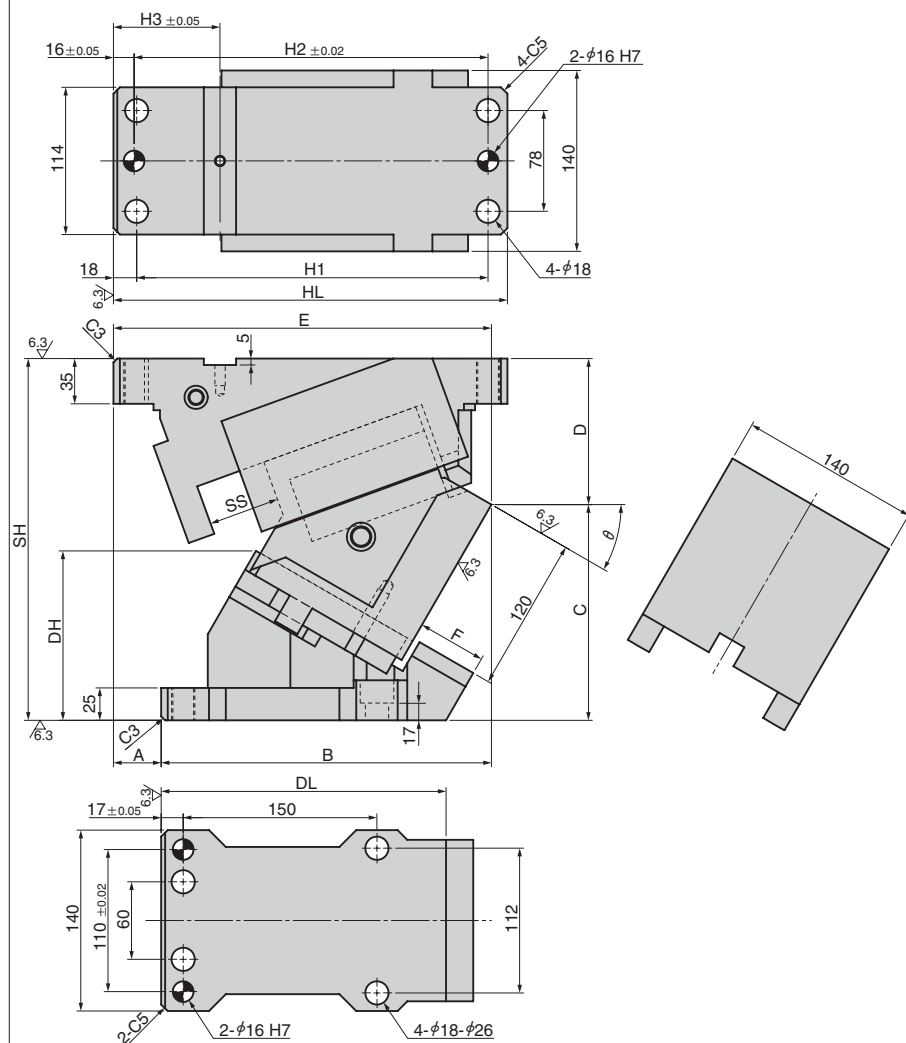
Angle	Stroke mm
00	35.4
10	42.8
20	50.7
30	59.7
40	70.7
50	85.6
60	82.0
70	81.9

Rear removal space

Angle	L mm
00	0
10	0
20	13.9
30	35.6
40	56.9
50	66.5
60	85.5
70	96.8



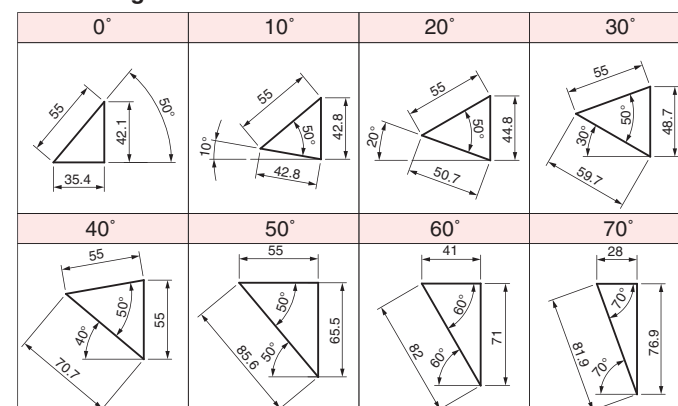
VACYHT140
VACPHT140



Refer to page 680 for the parts list.

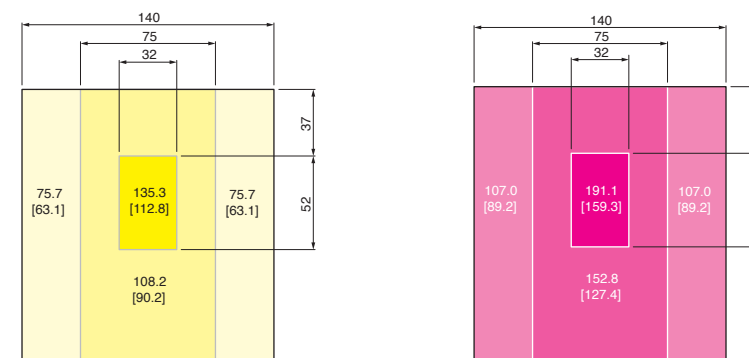
Angle θ	SH	A	B	C	D	E	F	DL	DH	HL	H1	H2	H3	S
00	275	105	175	202	73	280	53	228	79.8	280	247	249	122.5	55
10		87	203.32	193.31	81.69	290.32		223.0	97.3	290	257	259		
20		63	231.16	179.22	95.78	294.16		222.3	112.3	300	267	269	82.5	
30		37	255.67	161.97	113.03	292.67		223.4	126.1	305	272	274		
40	285	9	277.00	145.79	139.21	286.00	60	223.9	142.2	310	277	279	122.5	47
50	300	-4	288.36	128.86	171.14	284.36		217.2	157.6	325	292	294		
60	310	-31	304.88	132.97	177.03	273.88		194.6	168.4					
70		-54	320.00	127.59	182.41	266.00		77	194.6					

Cam Diagram



WORKING FORCE DISTRIBUTION DIAGRAM

The working forces indicated in the cam face distribution diagram are reached by putting the tooling center of gravity within each area for the following pictures.



: Working force (kN) allowed for up to 300,000 strokes

[] : Working force (kN) allowed for up to 1,000,000 strokes