

Aerial Cam Unit

Grade	Working Force [kN (tonf)]		Travel	Catalog No.	W	θ 5° increments	Spring Type PS
	1,000,000 strokes	300,000 strokes					
Sky	36.8 (3.7)	49.0 (5.0)	Long	VACSL	72	00~50	GK NGK
Yellow	60.3 (6.1)	80.4 (8.2)		VACYL			ISO
Pink	77.4 (7.9)	103.7 (10.6)		VACPL			ISOL
Black	103.7 (10.6)	127.4 (13.0)		VACBL			GK NGK

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

Order	Catalog No.	W	—	θ	—	PS	—	Option
	VACSL	72	—	10	—	ISOL		
	VACYL	72	—	10	—	NGK	—	SC55—WC90
	VACPL	72	—	10	—	GK	—	NF—SC60—K

Option	Option Code	Specification
	NF	Nitrogen gas not charged.
	SC	Mount face length is extended from 1 to 60 mm in increments of 1 mm.
	WC	The width of the mount face is extended to 90 mm. When combined with SC option, the maximum extension of the SC dimension is 55 mm.
	S	Lock plate attached.
	K	Key attached.

Refer to page 388 for key specification.

Spring Force & Return Force

● Gas Spring Sky

θ	Spring Force		Return Force	
	Final Load		N	kgf
	N	kgf	N	kgf
00	3371	344	4509	460
05	3371	344	4503	459
10	3371	344	4496	459
15	3371	344	4489	458
20	3371	344	4482	457
25	3371	344	4475	457
30	3371	344	4467	456
35	3371	344	4459	455
40	3371	344	4451	454
45	3344	341	4408	450
50	3304	337	4347	444

● Gas Spring Yellow, Pink, Black

θ	Spring Force		Return Force	
	Final Load		N	kgf
	N	kgf	N	kgf
00	6836	698	9082	927
05	6836	698	9076	926
10	6836	698	9069	925
15	6836	698	9063	925
20	6836	698	9055	924
25	6836	698	9048	923
30	6836	698	9040	922
35	6836	698	9033	922
40	6836	698	9025	921
45	6757	698	8912	909
50	6638	677	8747	895

● Coil Spring

ISO Sky, Yellow, Pink

θ	Spring Force				Return Force	
	Initial Load		Final Load			
	N	kgf	N	kgf	N	kgf
00	358	36.6	2822	288	3784	386
05	358	36.6	2822	288	3777	385
10	358	36.6	2822	288	3771	385
15	358	36.6	2822	288	3764	384
20	358	36.6	2822	288	3757	383
25	358	36.6	2822	288	3749	383
30	358	36.6	2822	288	3742	382
35	358	36.6	2822	288	3734	381
40	358	36.6	2822	288	3726	380
45	358	36.6	2732	279	3600	367
50	358	36.6	2598	265	3415	348

● Coil Spring

ISOL Sky, Yellow, Pink

θ	Spring Force				Return Force	
	Initial Load		Final Load			
	N	kgf	N	kgf	N	kgf
00	225	22.9	1770	181	2396	245
05	225	22.9	1770	181	2390	244
10	225	22.9	1770	181	2384	243
15	225	22.9	1770	181	2377	243
20	225	22.9	1770	181	2369	242
25	225	22.9	1770	181	2362	241
30	225	22.9	1770	181	2354	240
35	225	22.9	1770	181	2347	239
40	225	22.9	1770	181	2339	239
45	225	22.9	1714	175	2257	230
50	225	22.9	1630	166	2138	218

Cam Travel

θ	Travel mm
00	35.4
05	39.0
10	42.8
15	46.6
20	50.7
25	55.0
30	59.7
35	64.9
40	70.7
45	74.7
50	77.8

Aerial Cam Unit

Weight*1

θ	Total Weight kg	Cam Slider Weight kg	Tool Weight*2 kg
00	19.4	6.9	4.4
05	19.3	6.9	4.4
10	19.3	6.9	4.5
15	19.4	6.9	4.6
20	19.4	6.9	4.8
25	19.3	6.9	5.0
30	19.1	6.9	5.3
35	19.0	6.9	5.6
40	19.1	6.9	6.1
45	18.8	6.9	6.9
50	19.3	6.9	8.0

*1 This is the weight without SC and WC option. Reduce tool weight when with SC and WC option since the slider gets heavier.

*2 Tool weight is estimated value. Allowable tool weight varies depending on press speed.

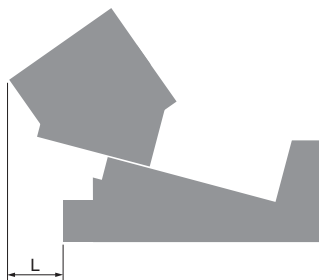
Rear Removal Space

Coil Spring

θ	L mm
00	1.6
05	10.6
10	18.0
15	24.5
20	35.9
25	48.5
30	55.9
35	65.2
40	74.2
45	80.9
50	88.2

Gas Spring

θ	L mm
00	0.0
05	7.4
10	14.5
15	20.8
20	32.0
25	44.4
30	51.7
35	60.8
40	69.7
45	76.4
50	83.7

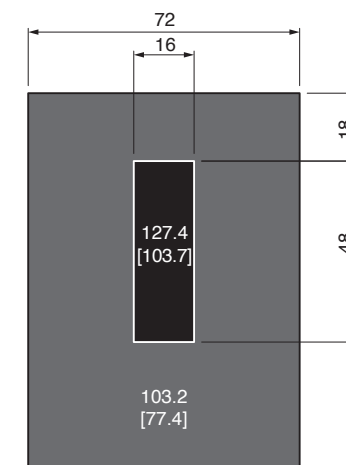
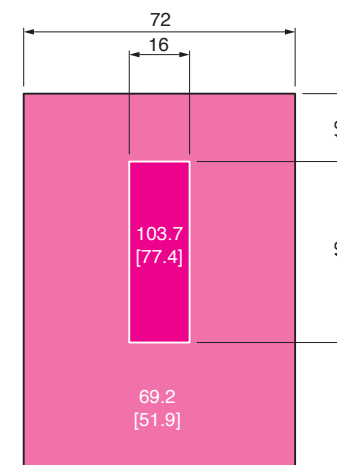
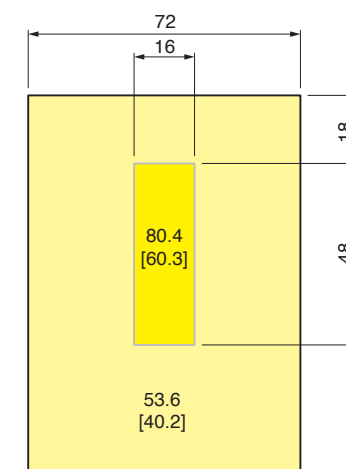
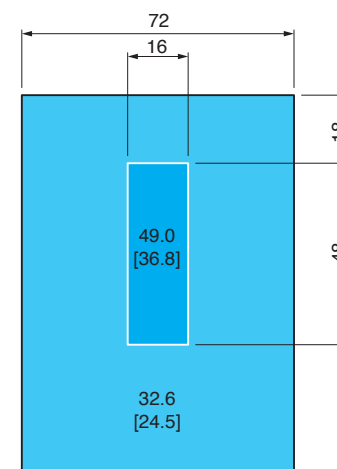


Working Force Distribution Diagram

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

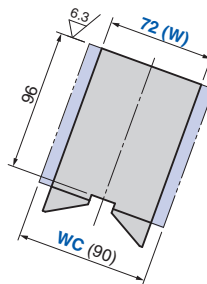
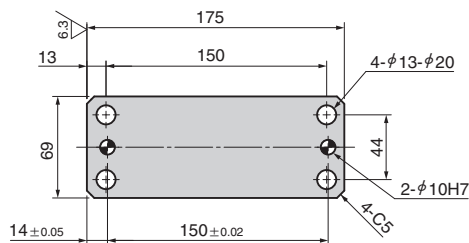
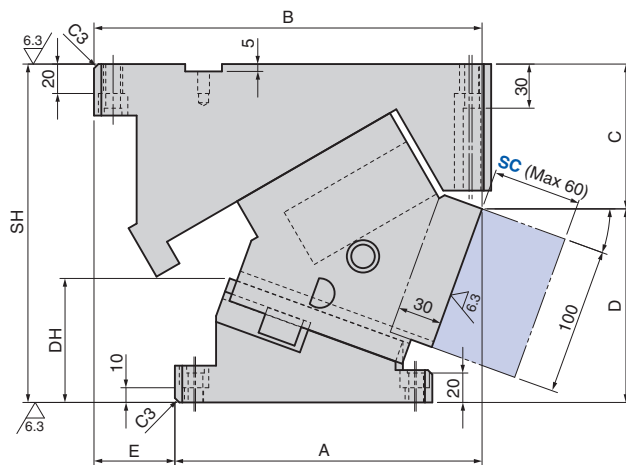
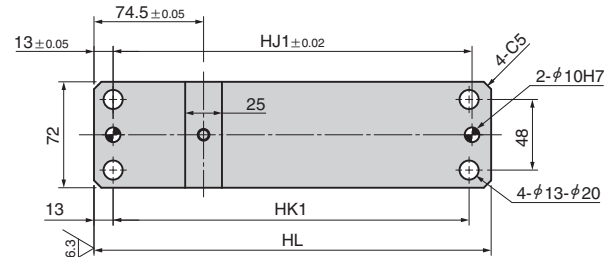
: Working force (kN) allowed for up to 300,000 strokes

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



Aerial Cam Unit

VACSL72
VACYL72
VACPL72
VACBL72



θ	A	B	C	D	E	SH	HL	HK1	HJ1	DH
00	172.00	251.00	72.00	158.00	79		250	222	224	54.9
05	182.43	255.43	78.86	151.14	73		255	227	229	61.2
10	191.54	259.54	85.57	144.43	68		260	232	234	68.1
15	201.33	262.33	92.10	137.90	61		265	237	239	75.8
20	208.81	263.81	98.43	131.57	55	230	270	242	244	84.3
25	217.02	262.02	104.52	125.48	45		270	242	244	93.3
30	224.97	262.97	110.36	119.64	38		275	247	249	102.9
35	231.68	259.68	115.92	114.08	28		275	247	249	112.8
40	238.19	254.19	122.18	107.82	16		275	247	249	122.0
45	243.51	246.51	126.13	103.87	3		270	242	244	133.5
50	248.67	234.67	141.76	93.24	-14	235	265	237	239	138.0

Cam Diagram

