Aerial Cam Unit

Grade	Working Force [kN (tonf)] 1,000,000 strokes	Working Force [kN (tonf)] 300,000 strokes	Travel	Catalog No.	W	θ 5° increments	Spring Type PS
Sky	36.8 (3.7)	49.0 (5.0)	Short	VACSS	72	00～80	GK NGK
Yellow	60.3 (6.1)	80.4 (8.2)		VACYS			ISO
Pink	77.4 (7.9)	103.7 (10.6)		VACPS			ISOL
Black	103.7 (10.6)	127.4 (13.0)		VACBS			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
VACSS	72	–	10	–	ISOL		
VACYS	72	–	10	–	NGK	– SC55 – WC90	
VACPS	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 Final Load N	Spring Force Final Load kgf	Return Force N	Return Force kgf
00	3407	348	4556	465
05	3407	348	4550	464
10	3407	348	4543	464
15	3407	348	4537	463
20	3407	348	4529	462
25	3407	348	4522	461
30	3407	348	4514	461
35	3407	348	4507	460
40	3407	348	4499	459
45	3407	348	4491	458
50	3407	348	4483	457
55	3362	343	4812	491
60	3277	334	5185	529
65	3340	341	5958	608
70	3205	327	6610	674
75	3260	333	8040	820
80	3285	335	10176	1038

● Gas Spring Yellow, Pink, Black

θ	Spring Force Final Load N	Spring Force Final Load kgf	Return Force N	Return Force kgf
00	6930	707	9206	939
05	6930	707	9200	939
10	6930	707	9193	938
15	6930	707	9187	937
20	6930	707	9179	937
25	6930	707	9172	936
30	6930	707	9164	935
35	6930	707	9157	934
40	6930	707	9149	934
45	6930	707	9141	933
50	6930	707	9133	932
55	6793	693	9739	994
60	6543	668	10370	1058
65	6733	687	12033	1228
70	6647	678	13735	1402
75	6564	670	16225	1656
80	6568	670	20391	2081

● Coil Spring
ISO Sky, Yellow, Pink

θ	Spring Force Initial Load N	Spring Force Initial Load kgf	Spring Force Final Load N	Spring Force Final Load kgf	Return Force N	Return Force kgf
00	359	36.7	4551	464	6066	619
05	359	36.7	4551	464	6060	618
10	359	36.7	4551	464	6053	618
15	359	36.7	4551	464	6046	617
20	359	36.7	4551	464	6039	616
25	359	36.7	4551	464	6032	616
30	359	36.7	4551	464	6024	615
35	359	36.7	4551	464	6016	614
40	359	36.7	4551	464	6008	613
45	359	36.7	4551	464	6000	612
50	359	36.7	4551	464	5993	612
55	288	29.4	2761	282	3949	403
60	383	39.1	4543	464	7194	734
65	359	36.7	4191	428	7483	764
70	362	36.9	4125	421	8514	869
75	374	38.2	3931	401	9702	990
80	390	39.8	3774	385	11696	1193

● Coil Spring
ISOL Sky, Yellow, Pink

θ	Spring Force Initial Load N	Spring Force Initial Load kgf	Spring Force Final Load N	Spring Force Final Load kgf	Return Force N	Return Force kgf
00	173	17.6	2189	223	2949	301
05	173	17.6	2189	223	2942	300
10	173	17.6	2189	223	2936	300
15	173	17.6	2189	223	2929	299
20	173	17.6	2189	223	2922	298
25	173	17.6	2189	223	2914	297
30	173	17.6	2189	223	2907	297
35	173	17.6	2189	223	2899	296
40	173	17.6	2189	223	2891	295
45	173	17.6	2189	223	2883	294
50	173	17.6	2189	223	2875	293
55	180	18.4	1728	176	2466	252
60	184	18.8	2183	223	3448	352
65	173	17.6	2016	206	3588	366
70	174	17.8	1984	202	4080	416
75	180	18.3	1888	193	4642	474
80	188	19.1	1813	185	5592	571

■Cam Travel

θ	Travel mm
00	22.5
05	24.8
10	27.2
15	29.7
20	32.3
25	35.0
30	38.0
35	41.3
40	45.0
45	49.3
50	54.5
55	75.0
60	76.0
65	75.7
70	76.0
75	73.4
80	74.9

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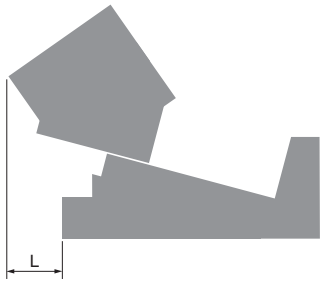
■Weight*1

θ	Total Weight kg	Cam Slider Weight kg	Tool Weight*2 kg
00	19.0	6.9	4.4
05	18.9	6.9	4.4
10	18.9	6.9	4.5
15	19.0	6.9	4.6
20	18.9	6.9	4.8
25	18.9	6.9	5.0
30	18.7	6.9	5.3
35	18.6	6.9	5.6
40	18.6	6.9	6.1
45	18.4	6.9	6.9
50	18.9	6.9	8.0
55	20.3	7.4	9.6
60	20.6	7.6	9.4
65	21.0	8.0	9.0
70	22.0	8.9	8.1
75	22.8	9.5	7.5
80	23.8	10.4	6.6

*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

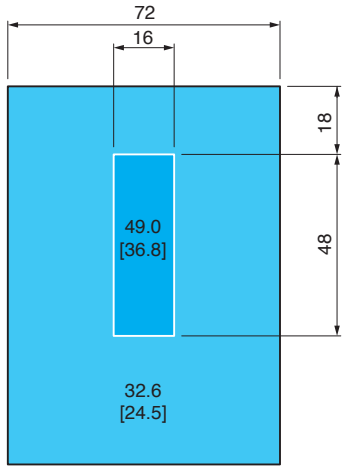
θ	L mm
00	7.3
05	15.4
10	21.8
15	27.6
20	38.3
25	50.3
30	62.3
35	71.2
40	79.9
45	88.4
50	93.7
55	82.9
60	87.8
65	96.0
70	111.1
75	121.1
80	131.5

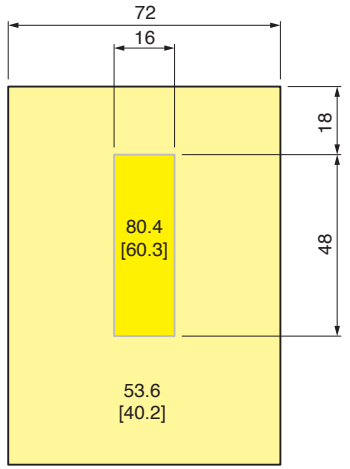


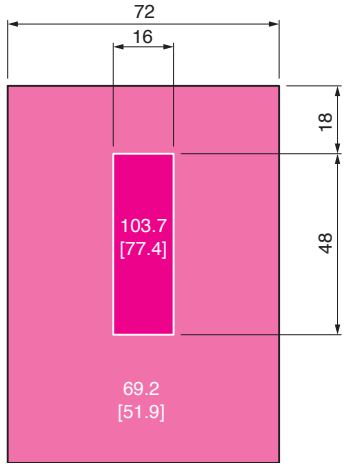
■Working Force Distribution Diagram

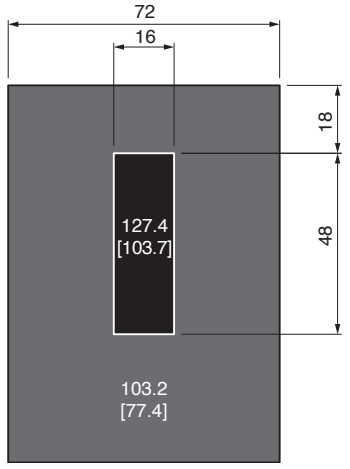
The working forces indicated in the mount face distribution diagram are reached by putting the tooling center of gravity within each area for the following pictures.

: Working force (kN) allowed for up to 300,000 strokes
[ ]: Working force (kN) allowed for up to 1,000,000 strokes









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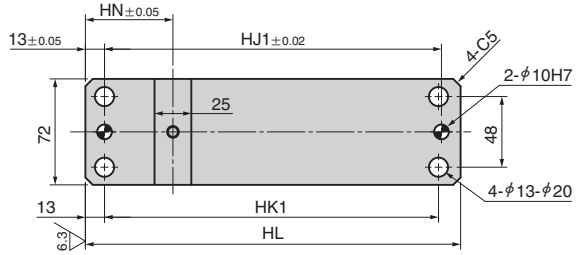
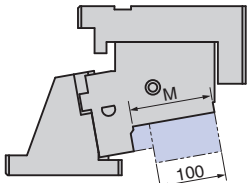
VACSS72
VACYS72
VACPS72
VACBS72

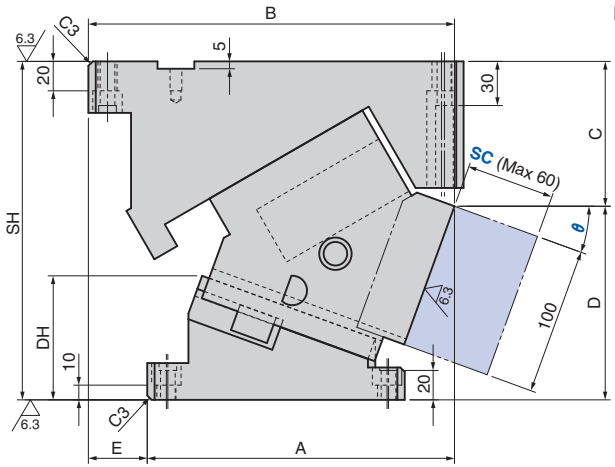
CAD FILE

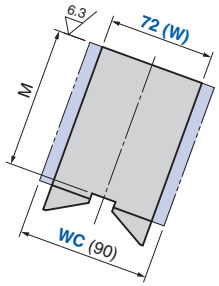




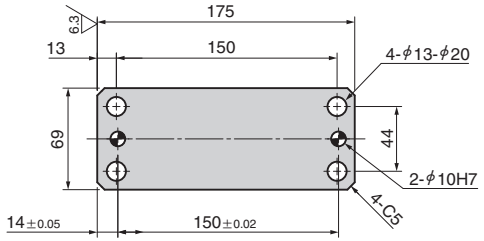
For SC option,
Mount face height is this value.

θ = 60°~80°



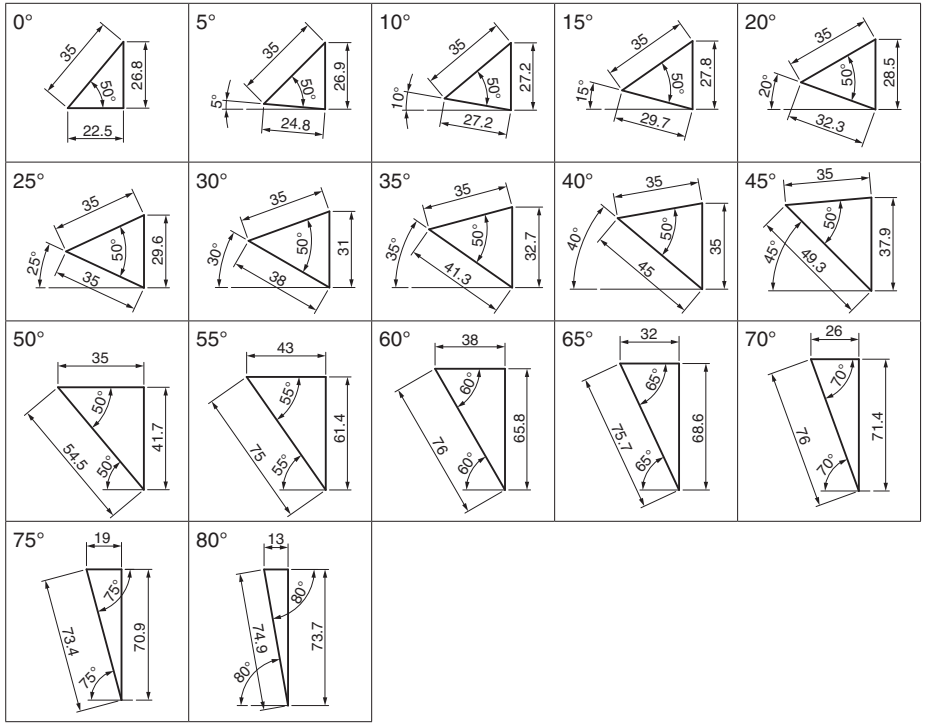


θ = 0°~55°



θ	A	B	C	D	E	SH	HL	HK1	HJ1	HN	DH	M
00	172.00	236.00	72.00	158.00	64		235	207	209		54.9	
05	182.43	240.43	78.86	151.14	58		240	212	214		61.2	
10	191.54	244.54	85.57	144.43	53		245	217	219		68.1	
15	201.33	247.33	92.10	137.90	46		250	222	224		75.8	
20	208.81	248.81	98.43	131.57	40	230	255	227	229		84.3	
25	217.02	247.02	104.52	125.48	30		255	227	229	59.5	93.3	96
30	224.97	242.97	110.36	119.64	18		255	227	229		102.9	
35	231.68	239.68	115.92	114.08	8		255	227	229		112.8	
40	238.19	234.19	122.18	107.82	-4		255	227	229		122.0	
45	243.51	226.51	126.13	103.87	-17		250	222	224		133.5	
50	248.67	219.67	141.76	93.24	-29	235	245	217	219		138.0	
55	251.57	226.57	147.13	102.87	-25	250	253	225	227		144.5	106
60	260.14	222.14	148.30	106.70	-38		253	225	227		149.1	105
65	269.24	216.24	150.83	104.17	-53		253	225	227	67.5	151.2	
70	288.09	214.09	152.28	102.72	-74	255	253	225	227		153.6	115
75	300.78	209.78	154.27	100.73	-91		253	225	227		156.4	120
80	314.84	205.84	159.85	95.15	-109		253	225	227		157.5	125

Cam Diagram



Refer to page 390 for Table of Components.

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