

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	27.9 (2.8)	37.2 (3.8)	Short	VACSS	58	00~80	GK NGK
Yellow	42.6 (4.3)	56.8 (5.8)		VACYS			ISO
Pink	58.8 (6.0)	78.9 (8.0)		VACPS			ISOL
Black	78.9 (8.0)	98.0 (10.0)		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	58	—	10	—	ISOL		
	VACYS	58	—	10	—	NGK	—	SC45 — WC64
	VACPS	58	—	10	—	GK	—	NF — WC64 — 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 64 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
00	2915	297	3876	396
05	2915	297	3873	395
10	2915	297	3870	395
15	2915	297	3866	394
20	2915	297	3863	394
25	2915	297	3860	394
30	2915	297	3856	393
35	2915	297	3853	393
40	2915	297	3849	393
45	2915	297	3845	392
50	2915	297	3842	392
55	2744	280	3932	401
60	2991	305	4739	484
65	2905	296	5189	529
70	2733	279	5643	576
75	2925	298	7227	737
80	2841	290	8815	899

● Gas Spring Yellow, Pink, Black

θ	Spring Force		Return Force	
	Final Load			
	N	kgf	N	kgf
00	4961	506	6575	671
05	4961	506	6572	671
10	4961	506	6569	670
15	4961	506	6566	670
20	4961	506	6563	670
25	4961	506	6559	669
30	4961	506	6556	669
35	4961	506	6552	669
40	4961	506	6548	668
45	4961	506	6545	668
50	4961	506	6541	667
55	4630	472	6640	678
60	5034	514	7982	814
65	4874	497	8715	889
70	4896	500	10123	1033
75	4843	494	11977	1222
80	4462	455	13861	1414

● Coil Spring

ISO Sky, Yellow, Pink

θ	Spring Force				Return Force	
	Initial Load		Final Load			
	N	kgf	N	kgf	N	kgf
00	178	18.2	3118	318	4143	423
05	178	18.2	3118	318	4140	422
10	178	18.2	3118	318	4137	422
15	178	18.2	3118	318	4134	422
20	178	18.2	3118	318	4130	421
25	178	18.2	3118	318	4127	421
30	178	18.2	3118	318	4123	421
35	178	18.2	3118	318	4120	420
40	178	18.2	3118	318	4116	420
45	178	18.2	3118	318	4112	420
50	178	18.2	3118	318	4109	419
55	492	50.3	3152	322	4518	461
60	444	45.3	3109	317	4926	503
65	445	45.4	3116	318	5568	568
70	447	45.6	3128	319	6463	659
75	531	54.2	3009	307	7435	759
80	555	56.7	2998	306	9304	949

● Coil Spring

ISOL Sky, Yellow, Pink

θ	Spring Force				Return Force	
	Initial Load		Final Load			
	N	kgf	N	kgf	N	kgf
00	92	9.4	1617	165	2162	221
05	92	9.4	1617	165	2159	220
10	92	9.4	1617	165	2156	220
15	92	9.4	1617	165	2153	220
20	92	9.4	1617	165	2149	219
25	92	9.4	1617	165	2146	219
30	92	9.4	1617	165	2142	219
35	92	9.4	1617	165	2139	218
40	92	9.4	1617	165	2135	218
45	92	9.4	1617	165	2132	218
50	92	9.4	1617	165	2128	217
55	255	26.0	1632	167	2336	238
60	230	23.5	1610	164	2546	260
65	231	23.5	1615	165	2879	294
70	232	23.6	1621	165	3342	341
75	275	28.1	1559	159	3843	392
80	288	29.3	1553	158	4807	490

Cam Travel

θ	Travel mm
00	21.2
05	23.4
10	25.7
15	28.0
20	30.4
25	33.0
30	35.8
35	38.9
40	42.4
45	46.5
50	51.3
55	47.1
60	48.0
65	49.7
70	52.6
75	54.1
80	63.3

Aerial Cam Unit

Weight*1

θ	Total Weight kg	Cam Slider Weight kg	Tool Weight*2 kg
00	9.9	3.2	3.3
05	9.9	3.2	3.3
10	9.8	3.2	3.3
15	9.7	3.2	3.4
20	9.7	3.2	3.5
25	9.5	3.2	3.6
30	9.4	3.2	3.8
35	9.4	3.2	4.0
40	9.4	3.2	4.2
45	9.3	3.2	4.6
50	9.5	3.2	5.4
55	10.3	3.6	6.2
60	10.7	4.1	5.7
65	11.1	4.4	5.4
70	11.3	4.7	5.1
75	11.7	5.0	4.8
80	12.2	5.3	4.5

*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.

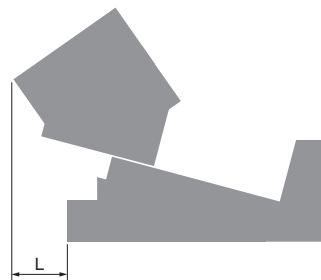
Rear Removal Space

Coil Spring

θ	L mm
00	3.0
05	8.9
10	14.5
15	20.7
20	27.7
25	36.4
30	44.6
35	51.2
40	57.1
45	65.3
50	70.7
55	68.1
60	74.1
65	79.8
70	84.4
75	90.1
80	96.8

Gas Spring

θ	L mm
00	0.0
05	3.6
10	8.7
15	14.6
20	21.2
25	29.6
30	37.6
35	44.0
40	49.7
45	57.8
50	63.2
55	68.1
60	74.1
65	79.8
70	84.4
75	90.1
80	96.8

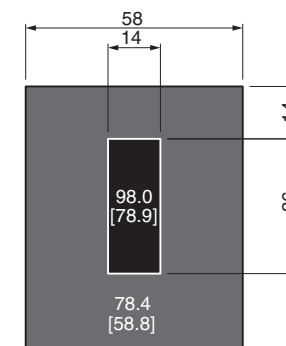
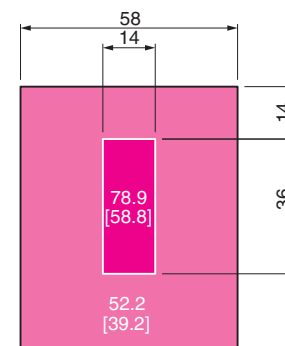
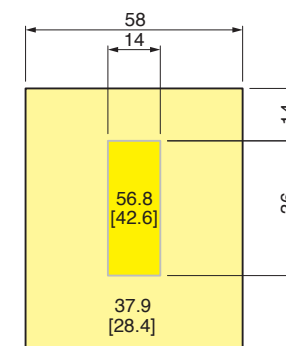
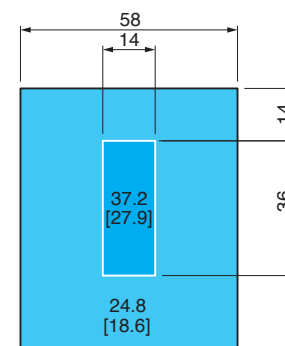


Working Force Distribution Diagram

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.

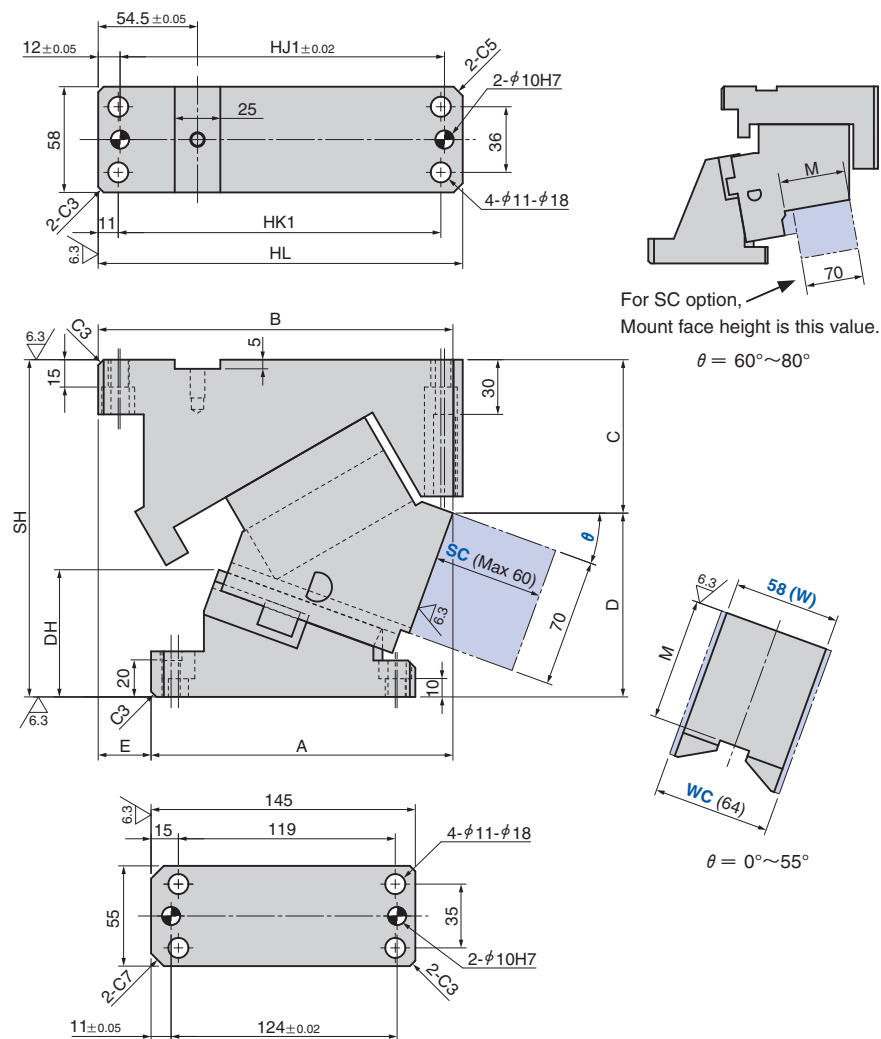
: Working force (kN) allowed for up to 300,000 strokes

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



Aerial Cam Unit

VACSS58
VACYS58
VACPS58
VACBS58



θ	A	B	C	D	E	SH	HL	HK1	HJ1	DH	M
00	138.00	187.00	66.00	119.00	49		185	162	163	45.9	
05	145.75	190.75	70.74	114.26	45		190	167	168	51.0	
10	152.26	193.26	75.36	109.64	41		195	172	173	56.8	
15	159.54	193.54	79.84	105.16	34	185	195	172	173	63.0	
20	165.62	194.62	84.16	100.84	29		200	177	178	69.8	
25	171.51	193.51	88.31	96.69	22		200	177	178	76.9	
30	176.21	191.21	92.26	92.74	15		200	177	178	84.4	
35	180.76	188.76	96.00	89.00	8		200	177	178	92.2	
40	185.16	185.16	100.53	84.47	0		200	177	178	99.2	67
45	189.44	177.44	103.82	81.18	-12		195	172	173	107.3	
50	193.61	170.61	115.87	74.13	-23	190	190	167	168	111.4	
55	203.29	172.29	123.22	81.78	-31	205	190	167	168	114.8	
60	213.74	169.74	125.87	84.13	-44	210	190	167	168	119.1	
65	220.09	164.09	129.64	85.36	-56	215	190	167	168	121.6	83
70	226.70	160.70	131.70	83.30	-66		190	167	168	124.6	78
75	236.42	159.42	134.92	80.08	-77		190	167	168	127.0	80
80	244.42	155.42	137.63	77.37	-89		190	167	168	133.0	

■ Cam Diagram

