

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					
White	22.1 (2.2)	29.4 (3.0)	Short	VACWS	46	00~80	ISO ISOL

ISO, ISOL: Coil Spring



Order

Catalog No.	W	—	θ	—	PS	—	Option
VACWS	46	—	10	—	ISO		
VACWS	46	—	10	—	ISOL	—	SC60



Option

Option Code	Specification
SC	Mount face length is extended from 1 to 60 mm in increments of 1 mm.

Spring Force & Return Force

● Coil Spring

ISO

θ	Spring Force				Return Force	
	Initial Load		Final Load			
	N	kgf	N	kgf	N	kgf
00	125	12.8	1129	115	1507	154
05	220	22.4	1129	115	1506	154
10	282	28.8	1129	115	1504	153
15	108	11.0	1007	103	1341	137
20	144	14.7	1007	103	1339	137
25	180	18.4	1007	103	1337	136
30	180	18.4	1007	103	1334	136
35	180	18.4	1007	103	1332	136
40	180	18.4	1007	103	1330	136
45	180	18.4	1007	103	1327	135
50	180	18.4	1007	103	1325	135
55	220	22.4	1035	106	1480	151
60	180	18.4	1007	103	1592	162
65	169	17.2	1011	103	1802	184
70	150	15.3	1000	102	2061	210
75	188	19.2	1002	102	2469	252
80	254	25.9	980	100	3033	310

● Coil Spring

ISOL

θ	Spring Force				Return Force	
	Initial Load		Final Load			
	N	kgf	N	kgf	N	kgf
00	88	9.0	796	81.2	1067	109
05	155	15.8	796	81.2	1066	109
10	199	20.3	796	81.2	1064	109
15	76	7.7	708	72.3	947	97
20	101	10.3	708	72.3	945	96
25	127	12.9	708	72.3	942	96
30	127	12.9	708	72.3	940	96
35	127	12.9	708	72.3	938	96
40	127	12.9	708	72.3	936	95
45	127	12.9	708	72.3	933	95
50	127	12.9	708	72.3	931	95
55	155	15.8	729	74.4	1042	106
60	127	12.9	708	72.3	1118	114
65	118	12.1	710	72.5	1264	129
70	106	10.8	704	71.8	1448	148
75	132	13.5	706	72.0	1736	177
80	179	18.3	690	70.4	2131	217

Cam Travel

θ	Travel mm
00	20.6
05	20.6
10	21.0
15	21.2
20	22.1
25	23.0
30	25.0
35	27.1
40	29.6
45	32.4
50	35.8
55	45.3
60	46.0
65	47.3
70	49.7
75	50.2
80	57.6

Aerial Cam Unit

Weight*1

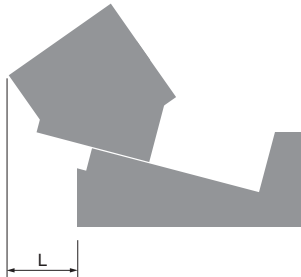
θ	Total Weight kg	Cam Slider Weight kg	Tool Weight*2 kg
00	5.5	2.0	2.0
05	5.5	2.0	2.0
10	5.5	2.0	2.0
15	5.4	2.0	2.1
20	5.3	2.0	2.1
25	5.3	2.0	2.2
30	5.3	2.0	2.3
35	5.2	2.0	2.4
40	5.2	2.0	2.6
45	5.2	2.0	2.8
50	5.4	2.0	3.3
55	6.8	2.5	3.5
60	7.0	2.7	3.3
65	7.4	3.0	3.0
70	7.5	3.1	2.9
75	7.8	3.3	2.7
80	8.1	3.5	2.5

*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

θ	L mm
00	23.4
05	29.7
10	35.9
15	44.9
20	53.5
25	61.6
30	69.1
35	77.2
40	81.7
45	90.6
50	93.9
55	90.0
60	88.9
65	95.0
70	99.7
75	105.1
80	112.1

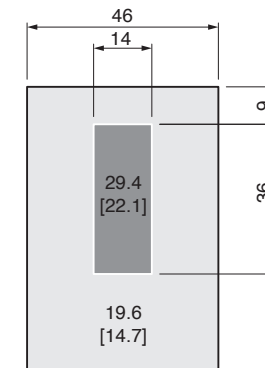


Working Force Distribution Diagram

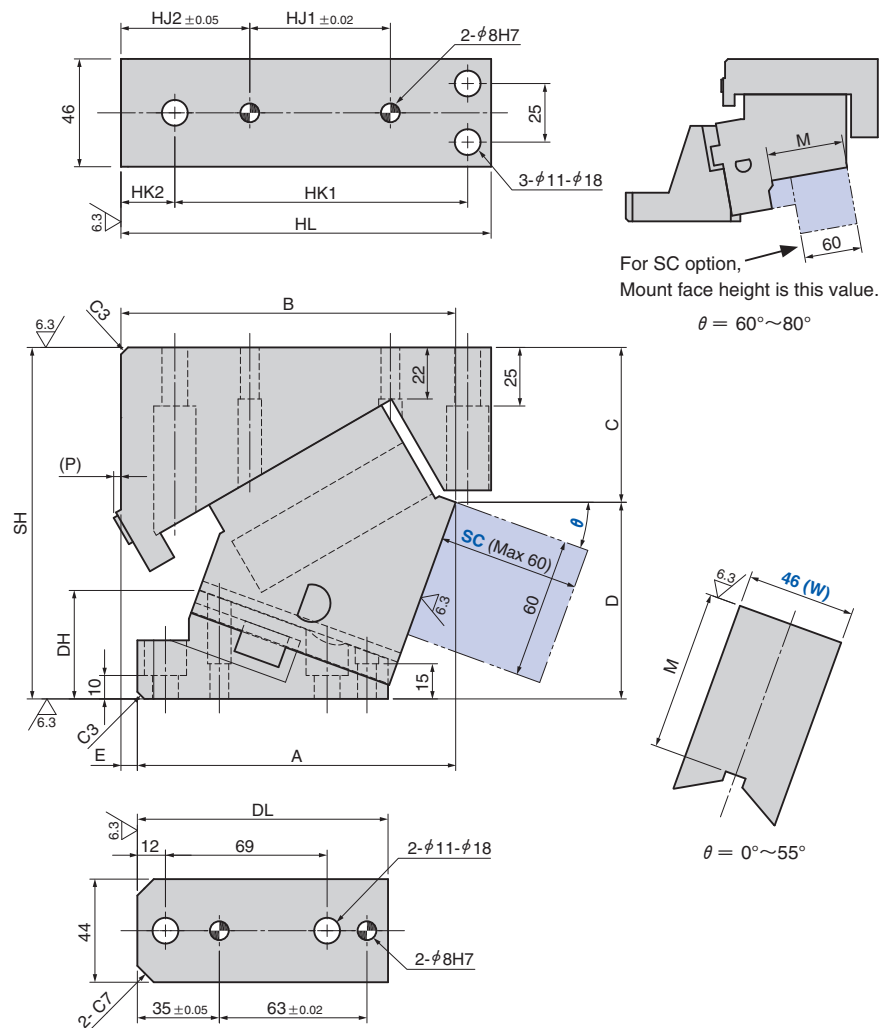
The working forces indicated in the mount face distribution diagram are reached by putting the tooling center of gravity within each area for the following pictures.

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

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



VACWS46



θ	A	B	C	D	E	SH	HL	HK1	HK2	HJ1	HJ2	DH	DL	M	P
00	112.00	138.00	53.00	97.00	26		153	130	13	60	45	24.2			2.0
05	118.89	140.89	56.44	93.56	22		157	130	17	60	49	29.0			1.9
10	124.66	142.66	59.77	90.23	18		160	130	20	60	52	34.4			2.2
15	130.31	143.31	62.99	87.01	13		157	125	22	60	54	40.7			2.3
20	135.87	142.87	66.09	83.91	7		158	125	23	60	55	46.3			3.1
25	142.34	142.34	69.06	80.94	0	150	158	125	23	60	58	53.0		68.5	2.8
30	147.72	140.72	71.89	78.11	-7		158	125	23	60	58	60.6	107		3.2
35	151.04	137.04	74.58	75.42	-14		155	125	20	60	58	67.9			4.7
40	156.31	135.31	78.12	71.88	-21		155	125	20	60	61	74.6			3.1
45	160.54	127.54	81.51	68.49	-33		150	120	20	55	61	82.1			6.6
50	163.73	123.73	88.74	61.26	-40		150	120	20	55	61	84.9			5.0
55	181.23	138.23	97.82	62.18	-43	160	160	120	30	55	71	82.0		83.5	
60	182.78	134.78	106.81	58.19	-48	165	160	120	30	55	71	85.0			
65	209.23	132.23	108.72	61.28	-77		160	120	30	55	71	87.0	123		
70	212.36	129.36	110.46	59.54	-83		160	120	30	55	71	90.0		75	4.0
75	221.38	128.38	112.45	57.55	-93	170	160	120	30	55	71	93.0	120		
80	231.82	127.82	113.42	56.58	-104		160	120	30	55	71	100.0		80	

Cam Diagram

