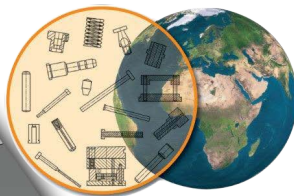
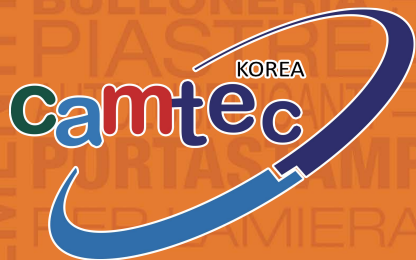
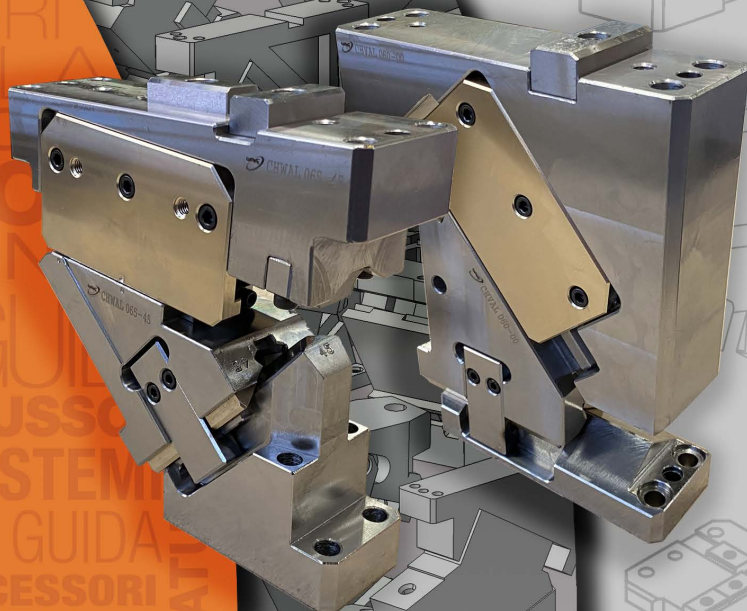


CAM UNITS CATALOGUE



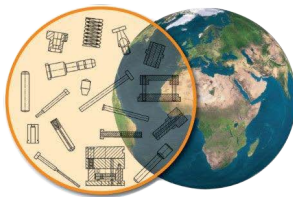
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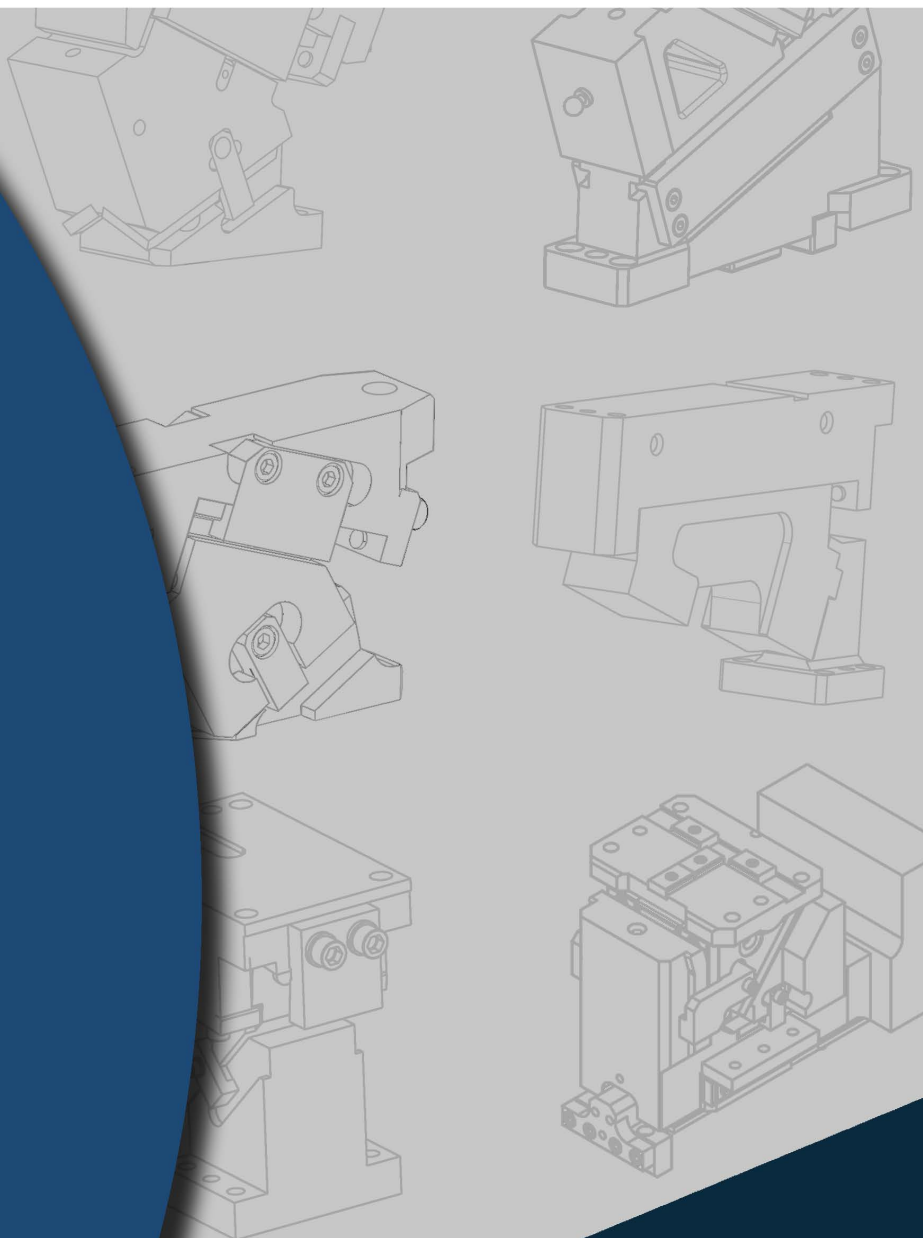
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Standard parts for die and molds

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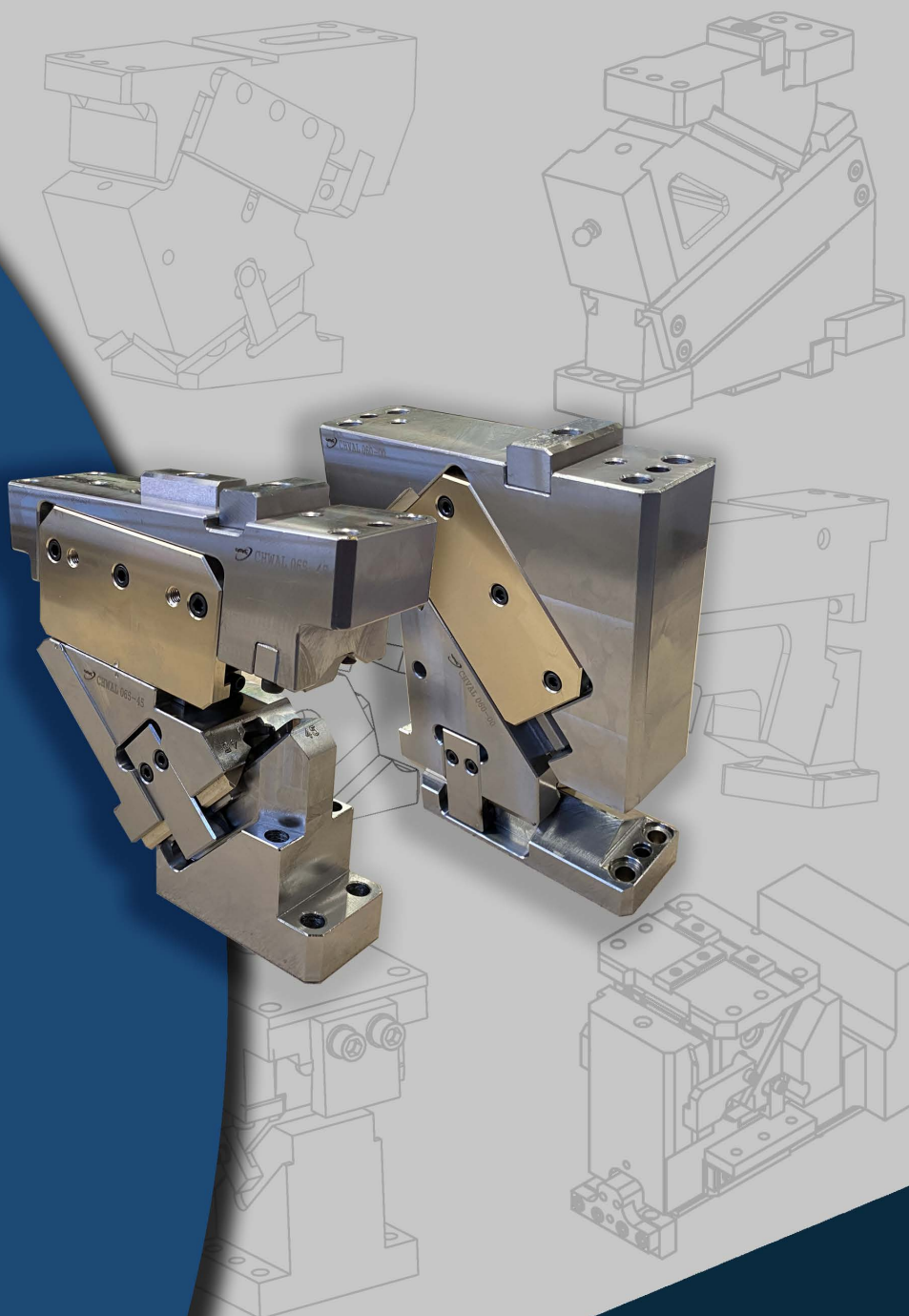
CAM UNITS CATALOGUE



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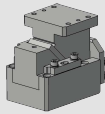
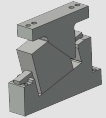
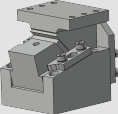
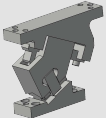
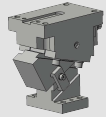
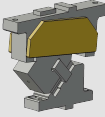
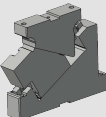
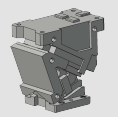
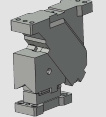
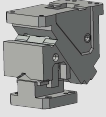
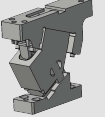
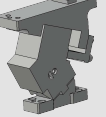
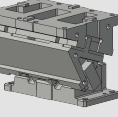
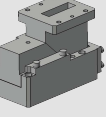
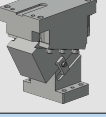
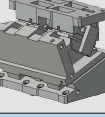
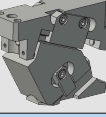
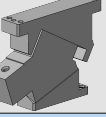
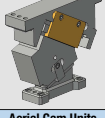
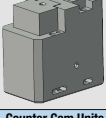
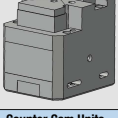
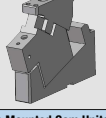
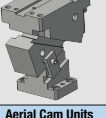
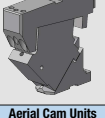
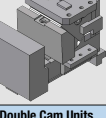


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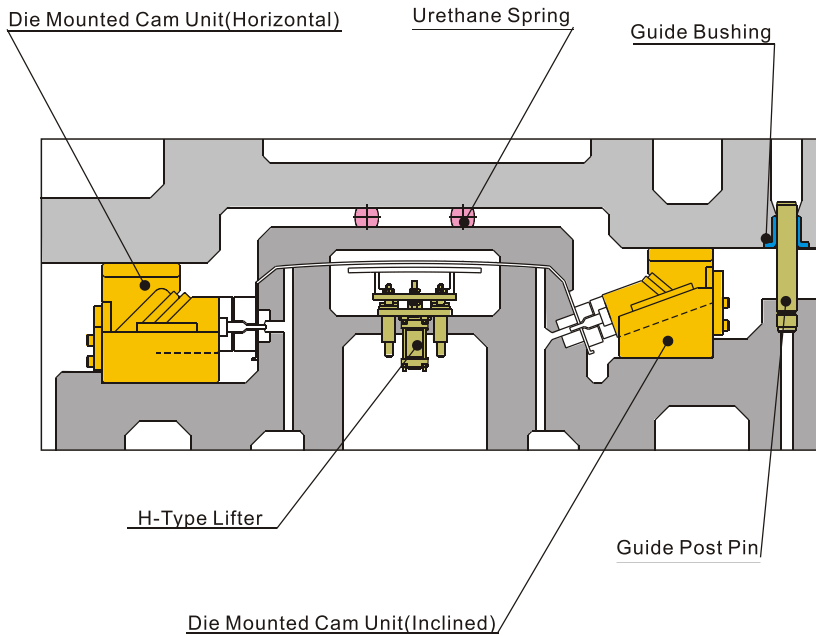
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CFCSC(C,CG)  Aerial Cam Units pag. 38	CFCV(G)  Aerial Cam Units pag. 43	CKGSP  Die Mounted Cam Units pag. 53	CSUWB  Aerial Cam Units pag. 58	CUCMSC  Aerial Cam Units pag. 63
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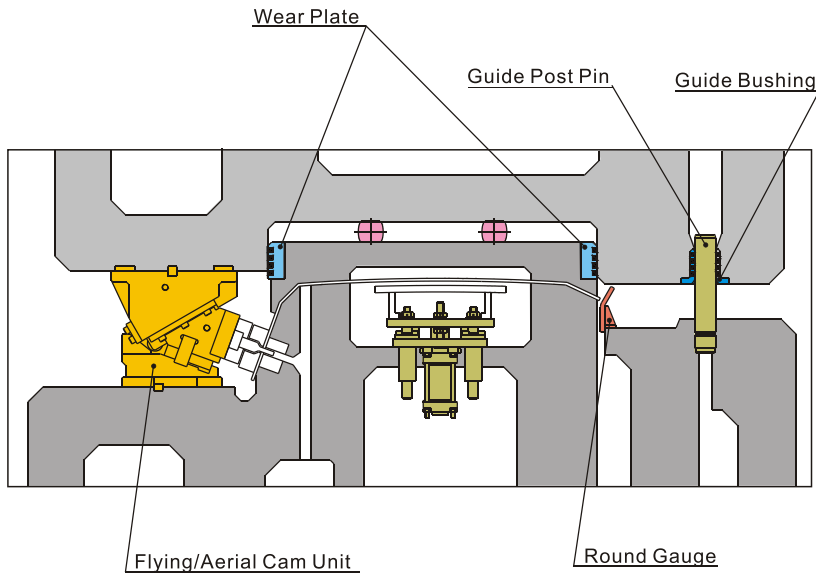
- Product not listed in this catalog can be requested by the customer by drawing or code of the specified product.

Cam Pierced Die

DIE MOUNTED TYPE



AERIAL TYPE



Die Mounted Cam Units

Camtec Korea produces a wide variety of standardized Cam unit of Aerial and Die Mounted type in metric size.

■ Features

1. Camtec Korea units are designed for easy installation into press die sets.
2. Solid lubricants embedded in the sliding surfaces prevent galling and allow operation without any additional lubrication. (Initial lubrication will increase the productivity and life of cam unit).
3. Positive return plates and spring units bring the cam slider to its original position safely the end of each cycle.
4. A new slender model requires less mounting space.
5. The structure of cam unit provides high rigidity and durability.

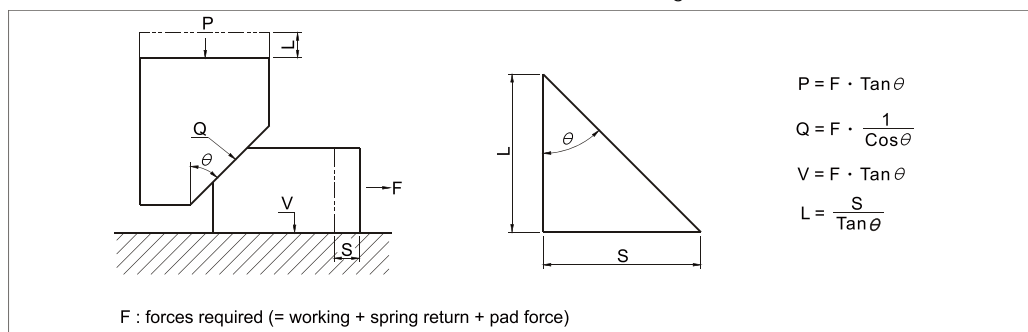
■ Die Mounted Cam Units



■ Specifications

Stroke	25,0 ~ 80,0 (mm)
Working Force	15 ~ 450 (kN)
Return Force	370 ~ 9520 (N)
Overall Size (W X H X L)	50 x 195 x 225 ~ 725 x 250 x 361 (mm)

P: Press Force
L: Press Stroke
S: Working Stroke
V: Load on sliding surface of cam slider
Q: Load on sliding surface on cam driver
 θ : Angle of cam driver inclination



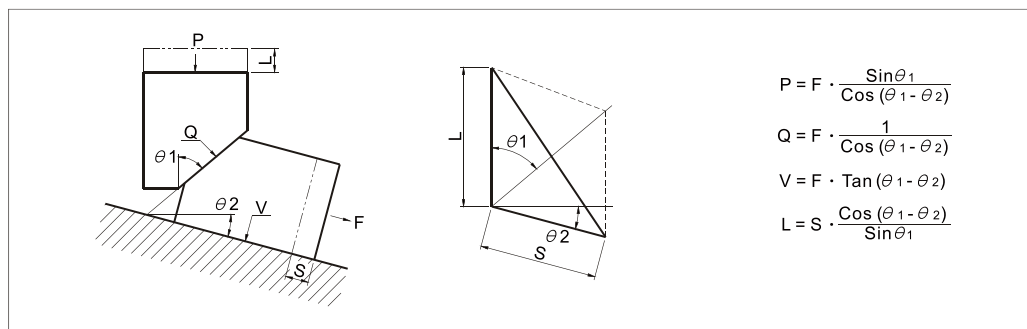
Die Mounted Cam Units

Die Mounted Cam Units



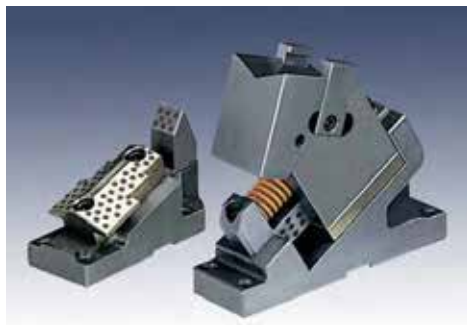
Specifications

Stroke	30,0 ~ 70,0 (mm)	
Working Force	15 ~ 100 (kN)	
Return Force	370 ~ 1880 (N)	
Overall Size (W X H X L)	50 x 210 x 265 ~ 260 x 240 x 267,8 (mm)	
Working Angle (5° Increments)	$\theta 1$	35° ~ 60° (5° Increments)
	$\theta 2$	5° ~ 30° (5° Increments)



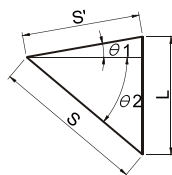
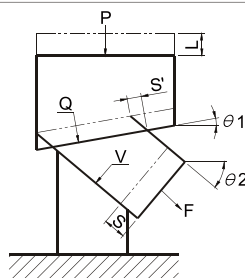
Aerial Cam Units

■ Aerial Cam Units



■ Specifications

Stroke	15,0 ~ 100,0 (mm)	
Working Force	15 ~ 400 (kN)	
Return Force	586~6300(N)	
Overall Size (W X H X L)	50 x 180 x 190 ~ 210x370x390 (mm)	
Working Angle (5° Increments)	$\theta 1$	-10° ~ 55° (5° Increments)
	$\theta 2$	0° ~ 70° (5° Increments)



$$P = F \cdot \frac{\cos \theta 1}{\sin (\theta 1+\theta 2)}$$

$$Q = F \cdot \frac{1}{\sin (\theta 1+\theta 2)}$$

$$V = F \cdot \frac{1}{\tan (\theta 1+\theta 2)}$$

$$L = S \cdot \frac{\sin (\theta 1+\theta 2)}{\cos \theta 1}$$

$$S' = S \cdot \frac{\cos \theta 2}{\cos \theta 1}$$

$\theta 1, \theta 2$: Angle of inclination

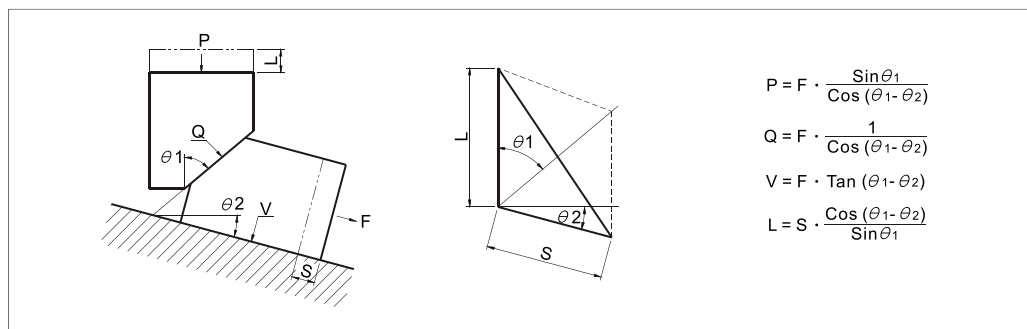
NAAMS Die Mounted Cam Units

■ NAAMS Die Mounted Cam Units

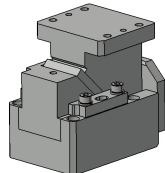
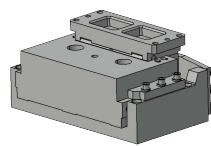


■ Specifications

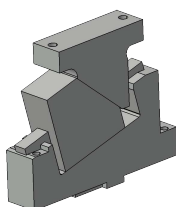
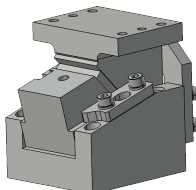
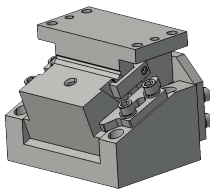
Stroke	45 ~ 60 (mm)	
Working Force	70~ 360 (KN)	
Return Force	1156~4388(N)	
Overall Size (W X H X L)	70 x 225 x 262 ~ 3510x375x412(mm)	
Working Angle (5° Increments)	$\theta 1$	30° ~ 50° (5° Increments)
	$\theta 2$	0° ~ 20° (5° Increments)



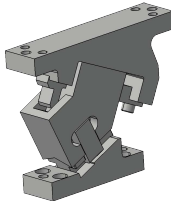
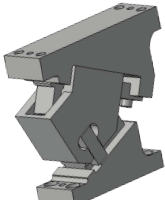
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	Over All Width	Shut Height	Working Force (KN)		Return Force(N)		Weight (kg)
		Width	Height					Standard	Changeable wear plate	Coil Spring		
										Initial	Final	
	CHCG 50X30(B)-(K,N)	50	55	0	30	50	195	15	-	128	369	15
	CHCG 50X60(B)-(K,N)		70		60		210					18
	CHCS / CHCC 52X25	52	65	0	25	98	140	10	23	150	600	8
	CHCS / CHCC 52X40				40					100	610	
	CHCS / CHCC 52X60				60					110	620	14
	CHCS / CHCC 65X40	65	70		40	130	160	18	40	130	770	20
	CHCS / CHCC 65X60				60							21
	CHCS / CHCC 100X40	100	100		40	175	200	30	70	190	1150	37
	CHCS / CHCC 100X60				60					210	1170	38
	CHCS / CHCC 100X100				80					173	1325	44
	CHCS / CHCC 150X40	150			40	260	220	60	125	320	1880	63
	CHCS / CHCC 150X60				60					340	1900	69
	CHCS / CHCC 200X40	200	110		40	310	240	80	170	470	2820	82
	CHCS / CHCC 200X60				60					510	2850	84
	CHCS / CHCC 250X40	250	130		40	360	270	100	200	620	3690	107
	CHCS / CHCC 250X60				60					660	3720	126
	CHCS / CHCC 300X40	300				40		410		130	210	620
	CHCS / CHCC 300X60		60			660	3720					135
	CHCS / CHCC 400X60	400	150	0		525	250	140	450	155	4760	203
	CHCS / CHCC 500X60	500			60	625				310	9520	238
	CHCS / CHCC 600X60	600				725						280

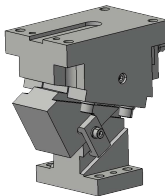
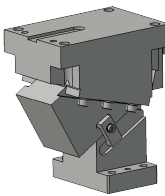
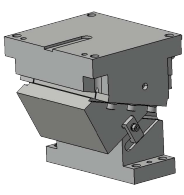
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	Over All Width	Shut Height	Working Force (KN)		Return Force(N)		Weight (kg)		
		Width	Height					Standard	Changeable wear plate	Coil Spring				
										Initial	Final			
	CICG 50X30-15	50	55	15	30	50	210	15	-	128	369	18		
	CICG 50X60-05		70	5	60		220				368	20		
	CICG 50X60-15			15			225					22		
 	CICS / CICC 65X45-5	65	70	5	45	130	155	20	35	180	760	19		
	CICS / CICC 65X45-10			10			160					20		
	CICS / CICC 65X45-15			15			165					21		
	CICS / CICC 65X45-20			20			170					22		
	CICS / CICC 65X45-30			30			180					22		
	CICS / CICC 65X70-5			5	70		155			140	930	20		
	CICS / CICC 65X70-10			10			170					22		
	CICS / CICC 65X70-15			15								23		
	CICS / CICC 65X70-20			20										
	CICS / CICC 65X70-30			30										
	CICS / CICC 100X45-5	100	90	5	45	175	200	40	60	270	1130	34		
	CICS / CICC 100X45-10			10								35		
	CICS / CICC 100X45-15			15										
	CICS / CICC 100X45-20			20										
	CICS / CICC 100X45-30			30										
	CICS / CICC 100X70-5			5	70					200	1170	200	1170	39
	CICS / CICC 100X70-10			10										40
	CICS / CICC 100X70-15			15										
	CICS / CICC 100X70-20			20										
	CICS / CICC 100X70-30			30										
	CICS / CICC 150X45-5	150	100	5	45	260	220	65	100	440	1850	65		
	CICS / CICC 150X45-10			10								220	66	
	CICS / CICC 150X45-15			15									68	
	CICS / CICC 150X45-20			20										
	CICS / CICC 150X45-30			30										
	CICS / CICC 150X70-5			5	70					215	310	1880	74	
	CICS / CICC 150X70-10			10						220			76	
	CICS / CICC 150X70-15			15						225				
	CICS / CICC 150X70-20			20						230				
	CICS / CICC 150X70-30			30						240			78	

Cam Units Additional Specification Table

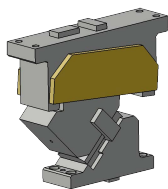
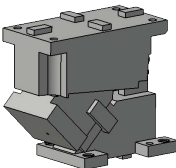
Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (KN)		Return Force(N)		Weight (kg)						
		Width	Height					Standard	Changeable wear plate	Coil Spring								
										Initial	Final							
	CFCG 50X19-0	50	65	0	19	50	180	15	-	98	593	10						
	CFCG 50X15-5			5	15					101	840							
	CFCG 50X21-5				21					98	593							
	CFCG 50X15-10			10	15					100	773	9.7						
	CFCG 50X23-10				23					98	593							
	CFCG 50X17-15			15	17					100	773							
	CFCG 50X25-15				25					98	593	9.5						
	CFCG 50X18-20			20	18					100	773							
	CFCG 50X27-20				27					98	593							
	CFCG 50X30-25			25	30					98	593	10						
	CFCG 50X17-30			30	17					82	775	9						
	CFCG 50X28-30				28					110	583							
	CFCG 50X30-35			35	30					82	775							
	CFCG 50X20-40			40	20					110	583							
	CFCG 50X33-40				33					74	774							
	CFCG 50X36-45			45	36					110	583							
	CFCG 50X23-50			50	23					74	774							
	CFCG 50X40-50				40					110	583							
CFCG 50X45-55	55	45	82	775														
CFCG 50X31-60	60	31	110	583														
CFCG 50X51-60		51	110	583														
	CFCG 65X15-0	65	65	0	15	65	175	15	-	213	784	11						
	CFCG 65X19-0		76	19	200		123			740								
	CFCG 65X15-5		65	5	15		175			245	784							
	CFCG 65X21-5		76	21	200		125			740								
	CFCG 65X15-10		65	10	15		175			224	785							
	CFCG 65X23-10		76	23	200		125			740								
	CFCG 65X17-15		65	15	17		175			224	785	10						
	CFCG 65X25-15		76	25	200		125			740								
	CFCG 65X18-20		65	20	18		175			224	785							
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	CFCG 65X30-25		65	25	30		224			740								
	CFCG 65X19-30		76	19	175		183			770								
	CFCG 65X32-30		30	32	200		125			740	11							
	CFCG 65X35-35		35	35	200		125			740								
	CFCG 65X23-40		65	23	175		196			784								
	CFCG 65X38-40		76	38	200		125			740								
	CFCG 65X36-45		45	36	200		137			731								
	CFCG 65X24-50		65	24	175		261			784								
	CFCG 65X40-50		76	40	200		137			731	38							
	CFCG 65X38-55		55	38	200		155			721								
	CFCG 65X32-60		65	32	175		261			784		36						
	CFCG 65X43-60		76	43	200		155			721								
	CFCG 80X30-0		80	90	0		30			80			270	40	-	169	780	40
	CFCG 80X30-5				5		31									221	780	
CFCG 80X31-10	10	29			260	780												
CFCG 80X29-15	15	32			236	785	38											
CFCG 80X32-20	20	34			283	785												
CFCG 80X32-25	25	36			283	785												
CFCG 80X34-30	30	39			298	785	36											
CFCG 80X36-35	35	42			314	785												
CFCG 80X39-40	40	46			298	785												
CFCG 80X42-45	45	53			298	785												
CFCG 80X46-50	50	61			298	785												
CFCG 80X53-55	55				298	785												
CFCG 80X61-60	60				298	785												

Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (KN)		Return Force(N)		Return Force(N)		Weight (kg)										
		Width	Height					Standard	Changeable wear plate	Coil Spring		Gas Spring												
										Initial	Final	Initial	Final											
	CFCS/CFCC/CFCCG 65X26-0	65	80	0	26	115	210	20	55	170	1090	0 (980)	1382	20										
	CFCS/CFCC/CFCCG 65X29-5			5	29					240				21										
	CFCS/CFCC/CFCCG 65X31-10			10	31																			
	CFCS/CFCC/CFCCG 65X31-15			15	31					310														
	CFCS/CFCC/CFCCG 65X33-20			20	33																			
	CFCS/CFCC/CFCCG 65X31-25			25	31					430	1150			20										
	CFCS/CFCC/CFCCG 65X33-30			30	33			24		360														
	CFCS/CFCC/CFCCG 65X39-35			35	39																			
	CFCS/CFCC/CFCCG 65X42-40			40	42					310				18										
	CFCS/CFCC/CFCCG 65X49-45			45	49																			
	CFCS/CFCC/CFCCG 65X54-50			50	54									20										
	CFCS/CFCC/CFCCG 65X43-55	100		55	43	30	70																	
	CFCS/CFCC/CFCCG 65X50-60			60	50			390	1148	19														
	CFCS/CFCC/CFCCG 65X59-65			65	59				1150															
CFCS/CFCC/CFCCG 65X58-70	110		70	58	998				20															
					1258																			
	CFCS/CFCC/CFCCG 100X28-0	100	100	0	28	160	280	45	100	320	2880	0 (2940)	4223	50										
	CFCS/CFCC/CFCCG 100X30-5			5	30																			
	CFCS/CFCC/CFCCG 100X33-10			10	33																			
	CFCS/CFCC/CFCCG 100X28-15			15	28																			
	CFCS/CFCC/CFCCG 100X30-20			20	30																			
	CFCS/CFCC/CFCCG 100X31-25			25	31																			
	CFCS/CFCC/CFCCG 100X33-30			30	33																			
	CFCS/CFCC/CFCCG 100X36-35			35	36			50		125	3060				45									
	CFCS/CFCC/CFCCG 100X39-40			40	39																			
	CFCS/CFCC/CFCCG 100X42-45			45	42																			
	CFCS/CFCC/CFCCG 100X46-50	50	46																					
	CFCS/CFCC/CFCCG 100X52-55	140	55	52	180	2880	560	3370	4204	41														
	CFCS/CFCC/CFCCG 100X60-60		60	60																				
	CFCS/CFCC/CFCCG 100X59-65		65	59																				
	CFCS/CFCC/CFCCG 100X58-70		70	58																				
		CFCS/CFCC/CFCCG 200X28-0	200	100	0	28	260	280	100	230	640	5770	0 (3920)	5629	89									
		CFCS/CFCC/CFCCG 200X30-5			5	30					300	6300			83									
		CFCS/CFCC/CFCCG 200X33-10			10	33																		
CFCS/CFCC/CFCCG 200X28-15		15			28																			
CFCS/CFCC/CFCCG 200X30-20		20			30																			
CFCS/CFCC/CFCCG 200X31-25		25			31																			
CFCS/CFCC/CFCCG 200X33-30		30			33																			
CFCS/CFCC/CFCCG 200X36-35		35			36	360			5760		76													
CFCS/CFCC/CFCCG 200X39-40		40			39																			
CFCS/CFCC/CFCCG 200X42-45		45			42																			
CFCS/CFCC/CFCCG 200X46-50		50	46																					
CFCS/CFCC/CFCCG 200X52-55		140	55	52	120	250	670	6290	5596	72														
CFCS/CFCC/CFCCG 200X60-60			60	60																				
CFCS/CFCC/CFCCG 200X59-65			65	59																				
CFCS/CFCC/CFCCG 200X58-70			70	58																				
		CFCC/CFCCG 120X28-0	120	120	0	28	210	-	200	380	2490	0 (3920)	2747	105	88									
		CFCC/CFCCG 120X35-10			10	35									127									
		CFCC/CFCCG 120X39-15			15	39									92									
	CFCC/CFCCG 120X52-30	30			52	87																		
	CFCC/CFCCG 120X63-40	40			63																			
	CFCC/CFCCG 120X69-45	45			69																			
	CFCC/CFCCG 120X77-50	50			77																			
	CFCC/CFCCG 120X99-60	60			99																			
	CFCC/CFCCG 180X28-0	180	120	0	28	210	-	200	380	2490	0 (3920)	2747												
	CFCC/CFCCG 180X35-10			10	35																			
	CFCC/CFCCG 180X39-15			15	39																			
	CFCC/CFCCG 180X52-30			30	52																			
	CFCC/CFCCG 180X63-40			40	63																			
	CFCC/CFCCG 180X69-45			45	69																			
	CFCC/CFCCG 180X77-50			50	77																			
	CFCC/CFCCG 180X99-60			60	99																			



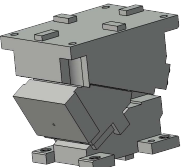
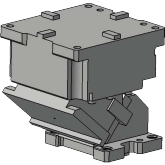
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Return Force(N)		Weight (kg)
		Width	Height						Coil Spring		Gas Spring		
									Initial	Final	Initial	Final	
	CFCV/CFCVG 50X26-0	50	80	0	26	50	225	88	185	1112	0 (980)	715	20
	CFCV/CFCVG 50X28-5			5	28								19
	CFCV/CFCVG 50X31-10			10	31								18
	CFCV/CFCVG 50X34-15			15	34								
	CFCV/CFCVG 50X37-20			20	37								
	CFCV/CFCVG 50X40-25			25	40								
	CFCV/CFCVG 50X43-30			30	43								
	CFCV/CFCVG 50X47-35			35	47								
	CFCV/CFCVG 50X51-40			40	51								
	CFCV/CFCVG 50X56-45			45	56								
	CFCV/CFCVG 50X62-50			50	62								
	CFCV/CFCVG 50X70-55			55	70								
	CFCV/CFCVG 50X60-60	60	60	207	983	656							
	CFCV/CFCVG 75X32-0	75	100	0	32	75	275	150	266	1156	0 (980)	1382	38
	CFCV/CFCVG 75X35-5			5	35								37
	CFCV/CFCVG 75X39-10			10	39								36
	CFCV/CFCVG 75X42-15			15	42								
	CFCV/CFCVG 75X46-20			20	46								
	CFCV/CFCVG 75X50-25			25	50								
	CFCV/CFCVG 75X54-30			30	54								35
CFCV/CFCVG 75X59-35	35			59									
CFCV/CFCVG 75X64-40	40			64									
CFCV/CFCVG 75X70-45	45			70									
CFCV/CFCVG 75X78-50	50			78									
CFCV/CFCVG 75X70-55	55			70									
CFCV/CFCVG 75X80-60	60	80	370	1143	1401								
	CFCV/CFCVG 125X32-0	125	120	0	32	165	300	180	393	2180	0 (1960)	2744	77
	CFCV/CFCVG 125X35-5			5	35								75
	CFCV/CFCVG 125X39-10			10	39								74
	CFCV/CFCVG 125X42-15			15	42								71
	CFCV/CFCVG 125X46-20			20	46								
	CFCV/CFCVG 125X50-25			25	50								
	CFCV/CFCVG 125X54-30			30	54								70
	CFCV/CFCVG 125X59-35			35	59								
	CFCV/CFCVG 125X64-40			40	64								
	CFCV/CFCVG 125X70-45			45	70								
	CFCV/CFCVG 125X78-50			50	78								
	CFCV/CFCVG 125X87-55			55	87								
	CFCV/CFCVG 125X100-60	60	100										
	CFCV/CFCVG 150X32-0	150	120	0	32	165	300	180	393	2181	0 (1960)	2744	79
	CFCV/CFCVG 150X35-5			5	35								77
	CFCV/CFCVG 150X39-10			10	39								75
	CFCV/CFCVG 150X42-15			15	42								
	CFCV/CFCVG 150X46-20			20	46								
	CFCV/CFCVG 150X50-25			25	50								73
	CFCV/CFCVG 150X54-30			30	54								
	CFCV/CFCVG 150X59-35			35	59								
	CFCV/CFCVG 150X64-40			40	64								
	CFCV/CFCVG 150X70-45			45	70								
	CFCV/CFCVG 150X78-50			50	78								72
	CFCV/CFCVG 150X87-55			55	87								
	CFCV/CFCVG 150X100-60	60	100										

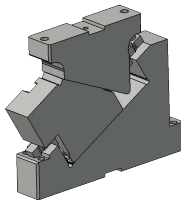
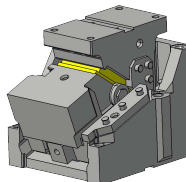


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Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Return Force(N)		Weight (kg)
		Width	Height						Coil Spring		Gas Spring		
									Initial	Final	Initial	Final	
	CFCV/CFCVG 175X32-0	175	120	0	32	235	300	270	572	4145	0 (2940)	4126	105
	CFCV/CFCVG 175X35-5			5	35								104
	CFCV/CFCVG 175X39-10			10	39								101
	CFCV/CFCVG 175X42-15			15	42								99
	CFCV/CFCVG 175X46-20			20	46								97
	CFCV/CFCVG 175X50-25			25	50								94
	CFCV/CFCVG 175X54-30			30	54								
	CFCV/CFCVG 175X59-35			35	59								
	CFCV/CFCVG 175X64-40			40	64								
	CFCV/CFCVG 175X70-45			45	70								
	CFCV/CFCVG 175X78-50			50	78								
	CFCV/CFCVG 175X87-55			55	87								
	CFCV/CFCVG 175X100-60			60	100								
	CFCV/CFCVG 200X32-0	200	120	0	32	235	300	270	572	4145	0 (2940)	4126	106
	CFCV/CFCVG 200X35-5			5	35								105
	CFCV/CFCVG 200X39-10			10	39								109
	CFCV/CFCVG 200X42-15			15	42								103
	CFCV/CFCVG 200X46-20			20	46								100
	CFCV/CFCVG 200X50-25			25	50								98
	CFCV/CFCVG 200X54-30			30	54								
	CFCV/CFCVG 200X59-35			35	59								
	CFCV/CFCVG 200X64-40			40	64								
	CFCV/CFCVG 200X70-45			45	70								
	CFCV/CFCVG 200X78-50			50	78								
	CFCV/CFCVG 200X87-55			55	87								
	CFCV/CFCVG 200X100-60			60	100								96
	CFCV/CFCVG 250X38-00	250	155	0	38	330	375	400	865	6056	0 (4410)	6546	195
	CFCV/CFCVG 250X42-05			5	42								192
	CFCV/CFCVG 250X46-10			10	46								182
	CFCV/CFCVG 250X51-15			15	51								175
	CFCV/CFCVG 250X55-20			20	55								172
	CFCV/CFCVG 250X50-25			25	50								
	CFCV/CFCVG 250X54-30			30	54				779	5650	0 (4410)	6311	
	CFCV/CFCVG 250X59-35			35	59								
	CFCV/CFCVG 250X64-40			40	64								
	CFCV/CFCVG 250X70-45			45	70								
	CFCV/CFCVG 250X78-50			50	78								170
	CFCV/CFCVG 250X87-55			55	87								168
	CFCV/CFCVG 250X100-60			60	100								196
	CFCV/CFCVG 300X38-00	300	155	0	38	330	375	400	865	6056	0 (4410)	6546	193
	CFCV/CFCVG 300X42-05			5	42								
	CFCV/CFCVG 300X46-10			10	46								
	CFCV/CFCVG 300X51-15			15	51								194
	CFCV/CFCVG 300X55-20			20	55								
	CFCV/CFCVG 300X50-25			25	50								
	CFCV/CFCVG 300X54-30			30	54				779	5650	0 (4410)	6311	177
	CFCV/CFCVG 300X59-35			35	59								
	CFCV/CFCVG 300X64-40			40	64								173
	CFCV/CFCVG 300X70-45			45	70								
	CFCV/CFCVG 300X78-50			50	78								
	CFCV/CFCVG 300X87-55			55	87								
	CFCV/CFCVG 300X100-60			60	100								170

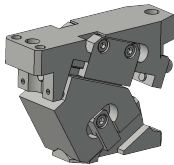
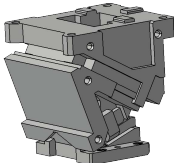
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Weight (kg)
		Width	Height						Coil Spring		
									Initial	Final	
	CKGSP 50-00	50	68	0	60	50	240	14.7	69.6	419.7	20
	CKGSP 50-05			5							22
	CKGSP 50-10			10							20
	CKGSP 50-15			15							22
	CKGSP 50-20			20							
	CKGSP 50-25			25							
	CKGSP 50-30			30							
	CKGSP 80-00	80	88	0	60	80	265	35.3	109.8	768.3	35
	CKGSP 80-05			5							36
	CKGSP 80-10			10							
	CKGSP 80-15			15							
	CKGSP 80-20			20				37			
	CKGSP 80-25			25							
	CKGSP 80-30			30				38			
	CKGSP 150-00	150	120	0	60	290	300	117.6	446	2504	139
	CKGSP 150-05			5			145				
	CKGSP 150-10			10			150				
	CKGSP 150-15			15			310				151
	CKGSP 150-20			20			335				163
	CKGSP 150-25			25			345				169
	CKGSP 150-30			30			360				174
	CKGSP 200-00	200	120	0	60	320	300	147	446	2504	153
	CKGSP 200-05			5			161				
	CKGSP 200-10			10			169				
	CKGSP 200-15			15			310				187
	CKGSP 200-20			20			335				192
	CKGSP 200-25			25			345				
	CKGSP 200-30			30			360				200
	CKGSP 250-00	250	160	0	60	410	335	294	892	5008	256
	CKGSP 250-05			5							273
	CKGSP 250-10			10							276
	CKGSP 250-15			15			375				287
	CKGSP 250-20			20							302
	CKGSP 250-25			25							312
	CKGSP 250-30			30			405				330
	CKGSP 300-00	300	160	0	60	410	335	294	892	5008	256
	CKGSP 300-05			5							271
	CKGSP 300-10			10							279
	CKGSP 300-15			15			375				290
	CKGSP 300-20			20							306
	CKGSP 300-25			25							315
	CKGSP 300-30			30			405				333



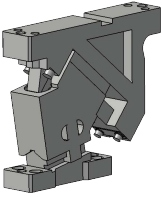
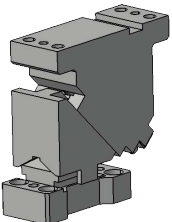
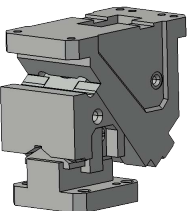
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Cam Units Additional Specification Table

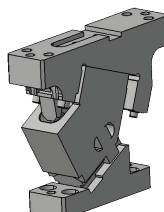
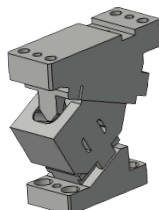
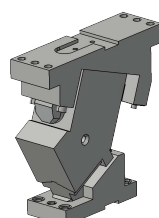
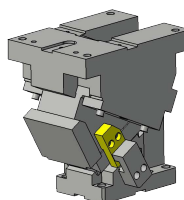
Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (KN)	Return Force(N)		Weight (kg)	
		Width	Height						Coil Spring			
									Initial	Final		
	CSUCD 52-00	52	60	0	19.3	52	125	14.7	245	980	5.5	
	CSUCD 52-05			5	21.3							
	CSUCD 52-10			10	23.3							
	CSUCD 52-15			15	25.4							
	CSUCD 52-20			20	27.6							
	CSUCD 52-25			25	30.0							
	CSUCD 52-30			30	32.6						5	
	CSUCD 52-35			35	35.4							
	CSUCD 52-40			40	39.6							
	CSUCD 52-45			45	42.3							
	CSUCD 52-50			50	46.7							
	CSUCD 52-55			55	52.3							
	CSUCD 52-60			60	60.0							
	CSUCD 52-65			65	47.3							5.5
	CSUCD 52-70			70	58.5							6
	CSUWB 200-00	200	180	0	38.6	200	350	117.7	235.4	3059.7	90	
	CSUWB 200-05			5	42.6			118.7			89	
	CSUWB 200-10			10	46.7			119.7			88	
	CSUWB 200-15			15	50.9			120.7			87	
	CSUWB 200-20			20	55.3			121.7			89	
	CSUWB 200-30			30	65.1			122.7			88	
	CSUWB 200-40			40	77.1			123.7			92	
	CSUWB 200-50			50	93.3			124.7			124	
	CSUWB 200-60			60	120.0			125.7			123	
	CSUWB 300-00	300	180	0	38.6	300	350	196.1	470.7	6119.3	124	
	CSUWB 300-05			5	42.6						123	
	CSUWB 300-10			10	46.7						122	
	CSUWB 300-15			15	50.9						121	
	CSUWB 300-20			20	55.3						120	
	CSUWB 300-30			30	65.1						119	
	CSUWB 300-40			40	77.1						121	
	CSUWB 300-50			50	93.3						122	
	CSUWB 300-60			60	120.0						127	
	CSUWB 400-00	400	180	0	38.6	400	350	245.5	470.7	6119.3	181	
	CSUWB 400-05			5	42.6						180	
	CSUWB 400-10			10	46.7						177	
	CSUWB 400-15			15	50.9						175	
	CSUWB 400-20			20	55.3						155	
	CSUWB 400-30			30	65.1						185	
	CSUWB 400-40			40	77.1						183	
	CSUWB 400-50			50	93.3						182	
	CSUWB 400-60			60	120.0						190	
	CSUWB 500-00	500	180	0	38.6	500	350	313.8	706.1	9179	209	
	CSUWB 500-05			5	42.6						207	
	CSUWB 500-10			10	46.7						205	
	CSUWB 500-15			15	50.9						204	
	CSUWB 500-20			20	55.3						203	
	CSUWB 500-30			30	65.1						208	
	CSUWB 500-40			40	77.1						212	
	CSUWB 500-50			50	93.3						210	
	CSUWB 500-60			60	120.0						224	
	CSUWB 600-00	600	180	0	38.6	600	350	392.2	941.4	12238.7	261	
	CSUWB 600-05			5	42.6						259	
	CSUWB 600-10			10	46.7						257	
	CSUWB 600-15			15	50.9						255	
	CSUWB 600-20			20	55.3						254	
	CSUWB 600-30			30	65.1						259	
	CSUWB 600-40			40	77.1						268	
	CSUWB 600-50			50	93.3						267	
	CSUWB 600-60			60	120.0						280	



Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Weight (kg)				
		Width	Height						Coil Spring						
									Initial	Final					
	CUCMSC 50-00	50	75	0	30.2	50	200	19.6	58.8	98.0	10				
	CUCMSC 50-05			5	30.5				137.0						
	CUCMSC 50-10			10	30.3				215.0						
	CUCMSC 50-15			15	30.5				98.0						
	CUCMSC 50-20			20	30.4				171.5						
	CUCMSC 50-25			25	30.0				163.8	982.8	12				
	CUCMSC 50-30			30	32.6										
	CUCMSC 50-35			35	35.4										
	CUCMSC 50-40			40	38.6										
	CUCMSC 50-45			45	42.3										
	CUCMSC 50-50			50	46.7										
	CUCMSC 50-55			55	52.1										
	CUCMSC 50-60			60	59.1										
	CUCMSC 50-65			65	58.3										
	CUCMSC 50-70			70	57.6				226.8		12				
	CUCMSC 65-00	65	65	0	15.0	65	180	19.6	289.3	1191.5		11			
	CUCMSC 65-05			5	15.1				1224.8	10					
	CUCMSC 65-10			10	15.2							349.1			
	CUCMSC 65-15			15	15.5							397.2			
	CUCMSC 65-20			20	16.5				407.0						
	CUCMSC 65-25			25	17.1				405.5	1221.1	9				
	CUCMSC 65-30			30	18.5				430.5		10				
	CUCMSC 65-35			35	19.6				429.3		9				
	CUCMSC 65-40			40	21.5				435.4		10				
	CUCMSC 65-45			45	23.3		434.1		9						
	CUCMSC 65-50			50	26.5		190		407.0		10				
	CUCMSC 65-55			55	29.7				405.5		9				
	CUCMSC 65-60			60	35.0		210		357.8		10				
	CUCMSC 65-65			65	41.4										
	CUCMSC 65-70			70	51.1										
	CUCMSC 80-00			80	85				0			32.1	80	270	29.4
	CUCMSC 80-05						5		38.4	26.3					
	CUCMSC 80-10						10		38.9	26.6					
	CUCMSC 80-15						15		39.7	25.1					
	CUCMSC 80-20						20		46.1	25.3					
	CUCMSC 80-25						25		47.8	23.2					
CUCMSC 80-30	30	54.3	23.4												
CUCMSC 80-35	35	57.4	22.4												
CUCMSC 80-40	40	64.3													
CUCMSC 80-45	45	69.6													
CUCMSC 80-50	50	77.8													
CUCMSC 80-55	55	87.2	21.6												
CUCMSC 80-60	60	98.5													
CUCMSC 80-65	65	81.6													
CUCMSC 80-70	70	86.4													
	CUCMSC 150-00	150	85	0	32.1	150	270	88	635.2	4605.2	46				
	CUCMSC 150-05			5	32.3						45				
	CUCMSC 150-10			10	38.9							44			
	CUCMSC 150-15			15	39.7								43		
	CUCMSC 150-20			20	46.1						42				
	CUCMSC 150-25			25	47.8							41			
	CUCMSC 150-30			30	54.3								42		
	CUCMSC 150-35			35	57.4						43				
	CUCMSC 150-40			40	64.3							44			
	CUCMSC 150-45			45	69.6								43		
	CUCMSC 150-50			50	77.8						44				
	CUCMSC 150-55			55	87.2							43			
	CUCMSC 150-60			60	98.5								44		
	CUCMSC 150-65			65	93.2						2223.2				
	CUCMSC 150-70			70	86.4										

Cam Units Additional Specification Table

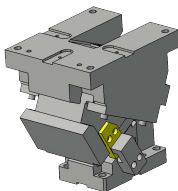
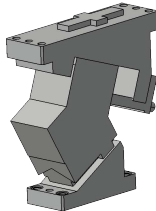
Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Weight (kg)
		Width	Height						Coil Spring		
									Initial	Final	
	CUCMSG 50-00	50	65	0	15.0	50	180	29	184.2	1097.6	11
	CUCMSG 50-05			5	15.6				179.6	1167.4	10
	CUCMSG 50-10			10							
	CUCMSG 50-15			15	17.0				269.4		
	CUCMSG 50-20			20	18.4				359.2		
	CUCMSG 50-25			25	18.0				1104.6	263	9
	CUCMSG 50-30			30	17.4						
	CUCMSG 50-35			35	18.9						
	CUCMSG 50-40			40	20.6						
	CUCMSG 50-45			45	22.5						
	CUCMSG 50-50			50	23.3						
	CUCMSG 50-55			55	26.1						
	CUCMSG 50-60			60	31.5					263	10
	CUCMSG 50-65			65	36.6						
	CUCMSG 65-00	65	56	0	15.0	65	175	29	245.4	834.9	11
	CUCMSG 65-05			5	15.6				278.3		828.8
	CUCMSG 65-10			10							
	CUCMSG 65-15			15	17.0				236.8		
	CUCMSG 65-20			20	18.4				176	809.6	
	CUCMSG 65-30			30	19.5						
	CUCMSG 65-40			40	23.1						
	CUCMSG 65-50			50	24.9						
	CUCMSG 65-60			60	32.0				246.4	11	
				CUCMSG 80-00	80				90	0	30.2
CUCMSG 80-05		5	30.5	32							
CUCMSG 80-10		10	31.1								
CUCMSG 80-15		15	33.9								
CUCMSG 80-20		20	32.3			30					
CUCMSG 80-25		25	35.0								
CUCMSG 80-30		30	34.7								
CUCMSG 80-35		35	37.7	29							
CUCMSG 80-40		40	39.9								
CUCMSG 80-45		45	43.7								
CUCMSG 80-50		50	46.7	30							
CUCMSG 80-55		55	53.8								
CUCMSG 80-60		60	61.1								
CUCMSG 80-65		65	70.9	31							
	CUCMSG 150-00	150	120	0	28.7	240	355	147	862.4	7022.4	118
	CUCMSG 150-05			5	32.3						114
	CUCMSG 150-10			10	35.9						113
	CUCMSG 150-15			15	39.7						112
	CUCMSG 150-20			20	43.6						111
	CUCMSG 150-25			25	47.8						
	CUCMSG 150-30			30	52.3						
	CUCMSG 150-35			35	57.4						110
	CUCMSG 150-40			40	63.0						113
	CUCMSG 150-45			45	69.9						115
	CUCMSG 150-50			50	77.5						116
	CUCMSG 150-55			55	87.2						118
	CUCMSG 150-60			60	99.6						122
	CUCMSG 150-65			65	116.5						126



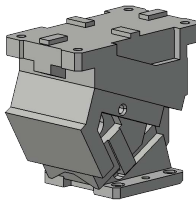
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CF Torino - E' vietata la riproduzione, anche parziale, del presente catalogo.

Cam Units Additional Specification Table

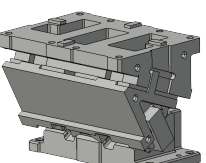
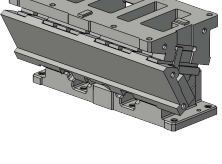
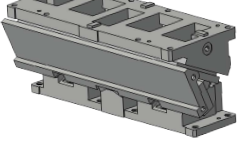
Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)				Weight (kg)
		Width	Height						Gas Spring		Coil Spring		
									Initial	Final	Initial	Final	
	CUCMSG 200-00	200	120	0	28.7	270	355	147	-	-	862.4	7022.4	130
	CUCMSG 200-05			5	32.3								127
	CUCMSG 200-10			10	35.9								125
	CUCMSG 200-15			15	39.7								127
	CUCMSG 200-20			20	43.6								123
	CUCMSG 200-25			25	47.8								122
	CUCMSG 200-30			30	52.3								125
	CUCMSG 200-35			35	57.4								127
	CUCMSG 200-40			40	63.0								127
	CUCMSG 200-45			45	69.9								128
	CUCMSG 200-50			50	77.5								130
	CUCMSG 200-55			55	87.2								133
	CUCMSG 200-60			60	99.6								135
	CUCMSG 200-65			65	116.5								139
	CUCMSG 300-00	300	160	0	28.7	340	355	294	-	-	1724.8	14044.8	186
	CUCMSG 300-05			5	32.3								
	CUCMSG 300-10			10	35.9								
	CUCMSG 300-15			15	39.7								
	CUCMSG 300-20			20	43.6								
	CUCMSG 300-25			25	47.8								
	CUCMSG 300-30			30	52.3								
	CUCMSG 300-35			35	57.4								
	CUCMSG 300-40			40	63.0								
	CUCMSG 300-45			45	69.9								
	CUCMSG 300-50			50	77.5								
	CUCMSG 300-55			55	87.2								
	CUCMSG 300-60			60	99.6								
	CUCMSG 300-65			65	116.5								
	CUCMSNR 70-00	70	75	0	19.3	70	225	98	0	1334	68.6	657	16
	CUCMSNR 70-05			5	21.3								15
	CUCMSNR 70-10			10	23.3								14
	CUCMSNR 70-15			15	25.4								
	CUCMSNR 70-20			20	27.6								
	CUCMSNR 70-25			25	30.0								
	CUCMSNR 70-30			30	32.6								
	CUCMSNR 70-35			35	35.4								
	CUCMSNR 70-40			40	38.6								
	CUCMSNR 70-45			45	42.3								
	CUCMSNR 70-50			50	46.7								
	CUCMSNR 70-55			55	52.3								15
	CUCMSNR 70-60			60	60.0								
	CUCMSNR 80-00	80	75	0	32.1	80	275	265	0	1421	73.5	1223.6	28
	CUCMSNR 80-05			5	35.5								27
	CUCMSNR 80-10			10	38.9								
	CUCMSNR 80-15			15	42.4								
	CUCMSNR 80-20			20	46.1								
	CUCMSNR 80-25			25	50.0								26
	CUCMSNR 80-30			30	54.3								
	CUCMSNR 80-35			35	59.0								
	CUCMSNR 80-40			40	64.3								
	CUCMSNR 80-45			45	70.4								
	CUCMSNR 80-50			50	77.8								
	CUCMSNR 80-55			55	87.2								25
	CUCMSNR 80-60			60	100.0								

Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)				Weight (kg)
		Width	Height						Gas Spring		Coil Spring		
									Initial	Final	Initial	Final	
	CUCMSNR 165-00	165	120	0	32.1	165	300	294	0	3518	449.1	269.4	67
	CUCMSNR 165-05			5	35.5								65
	CUCMSNR 165-10			10	38.9								64
	CUCMSNR 165-15			15	42.4								63
	CUCMSNR 165-20			20	46.1								64
	CUCMSNR 165-25			25	50.0								65
	CUCMSNR 165-30			30	54.3								64
	CUCMSNR 165-35			35	59.0								64
	CUCMSNR 165-40			40	64.3								65
	CUCMSNR 165-45			45	70.4								64
	CUCMSNR 165-50			50	77.8								65
	CUCMSNR 165-55		125	55	87.2								67
	CUCMSNR 165-60	60		100.0	81								
	CUCMSNR 200-00	200	120	0	32.1	200	300	353	0	5334	749.2	4494	79
	CUCMSNR 200-05			5	35.5								78
	CUCMSNR 200-10			10	38.9								77
	CUCMSNR 200-15			15	42.4								78
	CUCMSNR 200-20			20	46.1								79
	CUCMSNR 200-25			25	50.0								78
	CUCMSNR 200-30			30	54.3								79
	CUCMSNR 200-35			35	59.0								78
	CUCMSNR 200-40			40	64.3								81
	CUCMSNR 200-45			45	70.4								82
	CUCMSNR 200-50			50	77.8								131
	CUCMSNR 200-55		55	87.2	130								
	CUCMSNR 200-60	60	100.0	129									
	CUCMSNR 300-00	300	160	0	38.6	300	160	451	0	10668	1314.1	9198	132
	CUCMSNR 300-05			5	42.6								126
	CUCMSNR 300-10			10	46.0								128
	CUCMSNR 300-15			15	50.9								125
	CUCMSNR 300-20			20	55.3								126
	CUCMSNR 300-25			25	60.0								125
	CUCMSNR 300-30			30	65.1								127
	CUCMSNR 300-35			35	70.8								123
	CUCMSNR 300-40			40	77.1								131
	CUCMSNR 300-45			45	84.5								135
	CUCMSNR 300-50			50	79.3								137
	CUCMSNR 300-55		55	88.9	134								
	CUCMSNR 300-60	60	102.0	133									
	CUCMSNR 400-00	400	160	0	38.6	400	160	451	0	10668	1314.1	9198	137
	CUCMSNR 400-05			5	42.6								135
	CUCMSNR 400-10			10	46.0								134
	CUCMSNR 400-15			15	50.9								137
	CUCMSNR 400-20			20	55.3								131
	CUCMSNR 400-25			25	60.0								133
	CUCMSNR 400-30			30	65.1								130
	CUCMSNR 400-35			35	70.8								131
	CUCMSNR 400-40			40	77.1								130
CUCMSNR 400-45	45			84.5	128								
CUCMSNR 400-50	50			79.3	136								
CUCMSNR 400-55	55		88.9	140									
CUCMSNR 400-60	60	102.0											



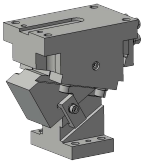
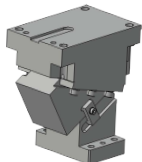
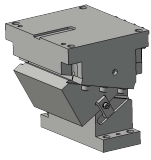
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Weight (kg)
		Width	Height						Gas Spring		
									Initial	Final	
	CUCMSL 500-00	500	180	0	38.6	500	385	314	0	19.6 (kN)	257
	CUCMSL 500-10			10	46.7						252
	CUCMSL 500-20			20	55.3						249
	CUCMSL 500-30			30	65.1						252
	CUCMSL 500-40			40	77.1						258
	CUCMSL 500-50			50	93.3						263
	CUCMSL 500-60			60	120.0						279
	CUCMSL 600-00	600	180	0	38.6	600	385	314	0	19.6 (kN)	264
	CUCMSL 600-10			10	46.7						259
	CUCMSL 600-20			20	55.3						260
	CUCMSL 600-30			30	65.1						269
	CUCMSL 600-40			40	77.1						265
	CUCMSL 600-50			50	93.3						270
	CUCMSL 600-60			60	120.0						287
	CUCMSL 700-00	700	180	0	38.6	700	385	470	0	29.4 (kN)	350
	CUCMSL 700-10			10	46.7						343
	CUCMSL 700-20			20	55.3						338
	CUCMSL 700-30			30	65.1						346
	CUCMSL 700-40			40	77.1						356
	CUCMSL 700-50			50	93.3						365
	CUCMSL 700-60			60	120.0						389
	CUCMSL 800-00	800	180	0	38.6	800	385	470	0	29.5 (kN)	389
	CUCMSL 800-10			10	46.7						357
	CUCMSL 800-20			20	55.3						350
	CUCMSL 800-30			30	65.1						345
	CUCMSL 800-40			40	77.1						354
	CUCMSL 800-50			50	93.3						363
	CUCMSL 800-60			60	120.0						372
	CUCMSL 900-00	900	180	0	38.6	900	385	627	0	39.2 (kN)	451
	CUCMSL 900-10			10	46.7						447
	CUCMSL 900-20			20	55.3						444
	CUCMSL 900-30			30	65.1						453
	CUCMSL 900-40			40	77.1						467
	CUCMSL 900-50			50	93.3						471
	CUCMSL 900-60			60	120.0						503
	CUCMSL 1000-00	1000	180	0	38.6	1000	385	627	0	39.2 (kN)	458
	CUCMSL 1000-10			10	46.7						454
	CUCMSL 1000-20			20	55.3						452
	CUCMSL 1000-30			30	65.1						460
	CUCMSL 1000-40			40	77.1						474
	CUCMSL 1000-50			50	93.3						478
	CUCMSL 1000-60			60	120.0						510

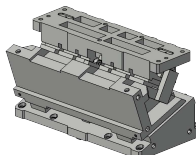


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Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (KN)	Return Force(N)		Weight (kg)
		Width	Height						Coil Spring		
									Initial	Final	
	CSOUK 65-05	65	90	5	27.0	115	210	19.6	237.0	1137.6	20
	CSOUK 65-15			15	32.2						
	CSOUK 65-25			25	35.0				308.1		18
	CSOUK 65-35			35	35.4			23.5	426.6		
	CSOUK 65-45			45	46.5				355.5	1039.5	17
	CSOUK 65-55		100	55	43.6			29.4			18
	CSOUK 65-65		110	65	47.3				297.0	891.0	19
	CSOUK 100-05	100	140	5	28.4	160	280	44.1	146.4	3074.4	48
	CSOUK 100-15			15	33.9						47
	CSOUK 100-25			25	32.0					2978.4	
	CSOUK 100-35			35	35.4				175.2		45
	CSOUK 100-45			45	42.3					2803.2	42
	CSOUK 100-55			55	52.3						44
	CSOUK 100-65			65	47.3			49	548.0	2740.0	43
	CSOUK 200-05	200	130	5	28.4	260	280	98.1	292.8	6148.8	82
	CSOUK 200-15			15	33.9						81
	CSOUK 200-25			25	32.0					5956.8	80
	CSOUK 200-35		140	35	35.4				350.4		81
	CSOUK 200-45			45	42.3						75
	CSOUK 200-55			55	52.3						
	CSOUK 200-65			65	47.3			118		5606.4	79

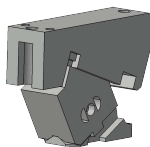
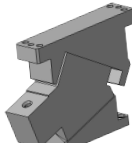
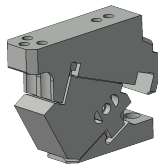
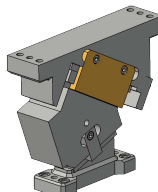
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (kN)	Return Force(N)		Weight (kg)
		Width	Height						Gas Spring		
									Initial	Final	
	CKCMSL 500-00	500	180	0	60	500	385	314	0	19.6 (kN)	316
	CKCMSL 500-05			5							310
	CKCMSL 500-10			10							306
	CKCMSL 500-15			15							303
	CKCMSL 500-20			20							299
	CKCMSL 600-00	600	180	0	60	600	385	314	0	19.6 (kN)	325
	CKCMSL 600-05			5							318
	CKCMSL 600-10			10							315
	CKCMSL 600-15			15							310
	CKCMSL 600-20			20							306
	CKCMSL 700-00	700	180	0	60	700	470	470	0	29.6 (kN)	436
	CKCMSL 700-05			5							429
	CKCMSL 700-10			10							421
	CKCMSL 700-15			15							415
	CKCMSL 700-20			20							410
	CKCMSL 800-00	800	180	0	60	800	470	470	0	29.7 (kN)	446
	CKCMSL 800-05			5							429
	CKCMSL 800-10			10							421
	CKCMSL 800-15			15							415
	CKCMSL 800-20			20							410
	CKCMSL 900-00	900	180	0	60	900	627	627	0	29.7 (kN)	571
	CKCMSL 900-05			5							560
	CKCMSL 900-10			10							552
	CKCMSL 900-15			15							543
	CKCMSL 900-20			20							536
	CKCMSL 1000-00	1000	180	0	60	1000	627	627	0	29.8 (kN)	580
	CKCMSL 1000-05			5							570
	CKCMSL 1000-10			10							560
	CKCMSL 1000-15			15							552
	CKCMSL 1000-20			20							545



INDEX

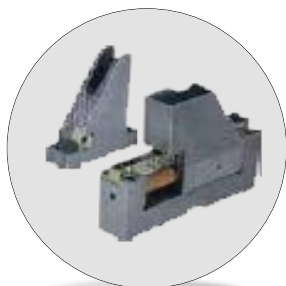
Cam Units Additional Specification Table

Type	Catalog No.	Mounting Face		Working Angle	Stroke	OverAll Width	Shut Height	Working Force (KN)	Return Force(N)		Weight (kg)	
		Width	Height						Coil Spring			
									Initial	Final		
	CSLSD 52-00	52	60	0	30.20	52	135	14.7	0	19.6	901.6	6
	CSLSD 52-05			5	31.90							
	CSLSD 52-10			10	35.00							
	CSLSD 52-15			15	38.20							
	CSLSD 52-20			20	41.50							
	CSLSD 52-25			25	45.00							
	CSLSD 52-30			30	48.80							
	CSLSD 52-35			35	53.10				137.2			5
	CSLSD 52-40			40	57.90							
	CSLSD 52-45			45	54.09							
	CSLSD 52-50			50	60.70							
	CSULNC 65-00	65	80	0	30.2	65	240	14.7	126.9	211.5	2115	34
	CSULNC 65-05			5	31.9				211.5			33
	CSULNC 65-10			10	35.0				550.0			32
	CSULNC 65-15			15	31.4							
	CSULNC 65-20			20	32.3							
	CSULNC 65-25			25	35.0							
	CSACD 52-00	52	75	0	30.2	52	160	29.4	31.6	3110.8	8	
	CSACD 52-05			5	33.4							
	CSACD 52-10			10	36.6							
	CSACD 52-15			15	39.9							
	CSACD 52-20			20	43.3							
	CSACD 52-25			25	47.0							
	CSACD 52-30			30	51.0							
	CSACD 52-35			35	55.4							
	CSACD 52-40			40	60.4							
	CSACD 52-45			45	66.2							
	CSACD 52-50			50	73.1							
	CSACD 52-55			55	64.5							
	CSACD 52-60			60	54.0							
	CUCTF 65-00	65	90	0	22.5	65	230	69	0	5988.5	18	
	CUCTF 65-05			5	22.6							
	CUCTF 65-10			10	27.2							
	CUCTF 65-15			15	27.8							
	CUCTF 65-20			20	32.3							
	CUCTF 65-25			25	33.4							
	CUCTF 65-30			30	39							
	CUCTF 65-35			35	40.2							
	CUCTF 65-40			40	45							
	CUCTF 65-45			45	48.7							
	CUCTF 65-50			50	54.5							
	CUCTF 65-55			55	61							
	CUCTF 65-60			60	70							
	CUCTF 65-65			65	68.5							
	CUCTF 65-70			70	67.2							

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Die Mounted Cam Units (50mm)

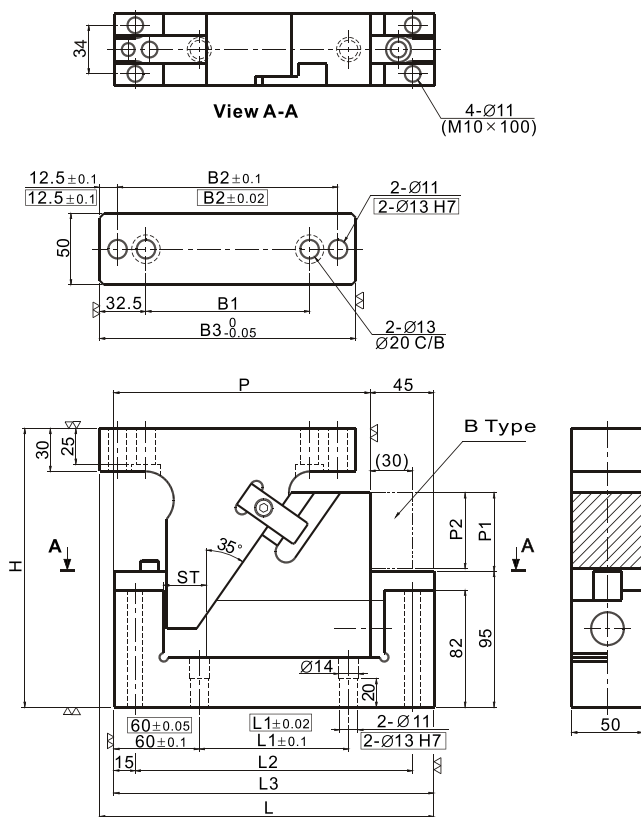


Code

CHCG 50 (N)



CHCG 50 (N)

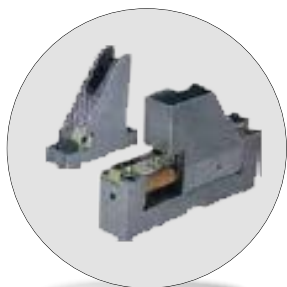


Mounting Method	Working Face (Option)	Pin Hole
N: Pin mounting	Blank: Drawing Shape B: 30 mm extension	Blank: Drawing Shape A: Dimension & Tolerance

Catalog No.	Working Face Width	Stroke	P	P1	P2	L	L1	L2	L3	B1	B2	B3	H
CHCG	50	30	180	55	53	235	105	195	225	115	155	180	195
		60	210	70	68	265	135	225	255	145	185	210	210

Order example: CHCG 50-60-N-A (cod. + WFW + Stroke + N or B or A)

Die Mounted Cam Units (50mm)

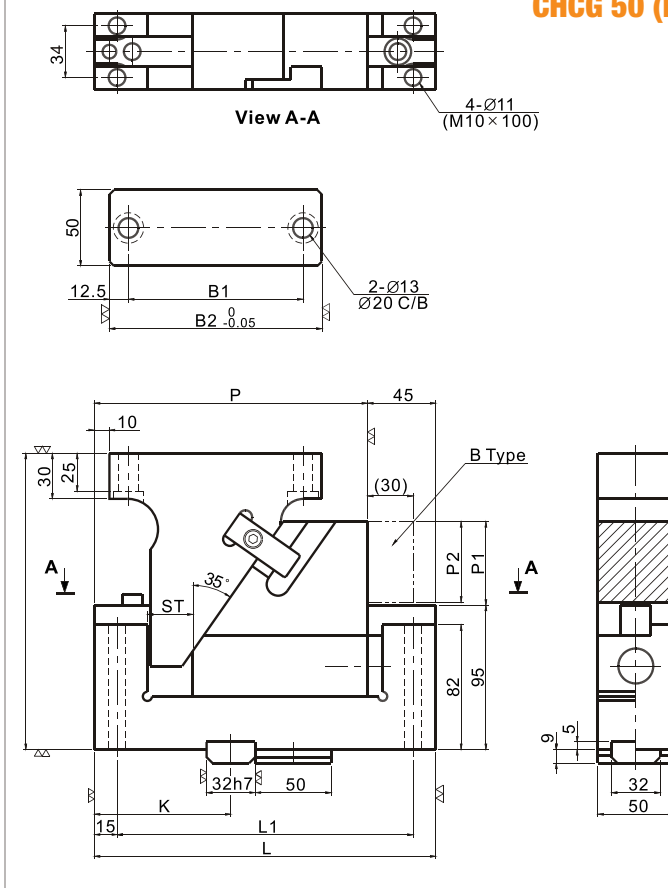


Code

CHCG 50 (K)



CHCG 50 (K)



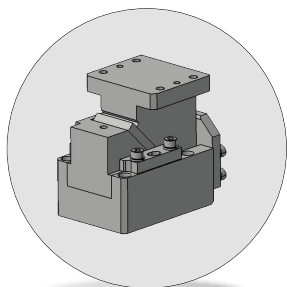
Mounting Method	Working Face (Option)
K: Key mounting	Blank: Drawing Shape B: 30 mm extension

Catalog No.	Working Face Width	Stroke	P	P1	P2	L	L1	K	B1	B2	H
CHCG	50	30	180	55	53	235	195	90	115	140	195
		60	210	70	68	265	225	120	145	170	210

Order example: **CHCG 50-60-N-A** (cod. + WFW + Stroke + B or K)

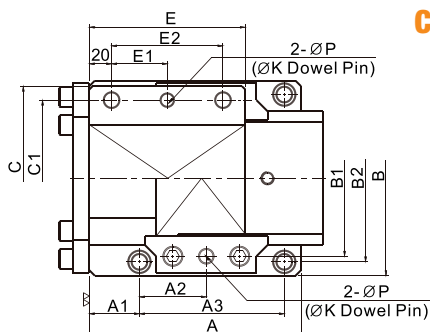
Die Mounted Cam Units (52~300mm)

Standard, Changeable



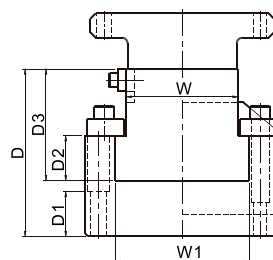
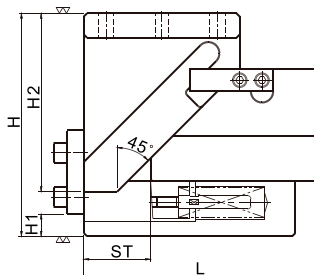
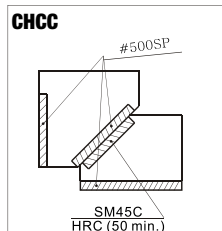
Code

CHCS/CHCC 52~300



CHCS/CHCC 52~300

CHCC



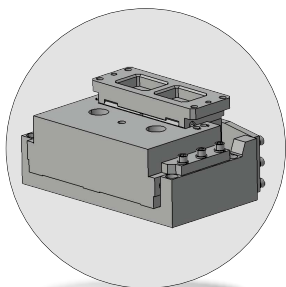
Product Code	Mounting Method	Option
CHCS: Standard Type CHCC: Changeable Type	N: Pin hole (K H7)	CHCCG: Changeable Type-Gas Spring (Working face width 100~300mm)

Cataloge No.	Working Face Width	Stroke	B	L	H	D	D3	W1	D2	H1	A	A1	A2	A3	B1	B2	E	H2	C	C1	E1	E2	D1	P	K
CHCS CHCC CHCCG	52	25	120								120		40	80			80	90			20	40			
		40	98	135	140	100	65	65	25	15	135	30	50	95	80	80	90	100	98	80	25	50	35	7	8
		60		180								180		25	140			110	120			35	70		
	65	40	140								145	30	50	100			100	110			30	60			
		60	130	190	160	115	70	80	30	30	180	40	65	125	105	105	110	130	130	105	35	70	40	9	10
	100	40	190							20	190		60	130			120	140			40	80			
		60	175	210	200	150	100	120	40			45	90	160	140	150	140	160	165	140	50	100	40	11	13
		80		250						10	220		90	160			150	170			55	110			
		40	190								190		60	125			120	140			40	80			
		60	260	210	220	170	100	180	40	45	200	45	65	135	210	220	140	160	230	200	50	100	60	15	16
	200	40	200								200		65	135			130	160			45	90			
		60	310	220	240	180	110	230	40	40	210	45	75	145	260	270	150	180	280	250	55	110	60	15	16
	250	40	210								200		60	135			140	170			50	100			
		60	360	230	270	210	130	280	50	50	220	45	80	155	310	320	160	190	330	300	60	120	60	15	16
300	40	210								200		60	135			140	170			50	100				
	60	410	230	270	210	130	330	50	50	220	45	80	155	360	370	160	190	380	350	60	120	60	15	16	

Order example: **CHCS 65-40-N** (cod. + WFW + Stroke + Mounting Method)

Die Mounted Cam Units (400~600mm)

Standard, Changeable

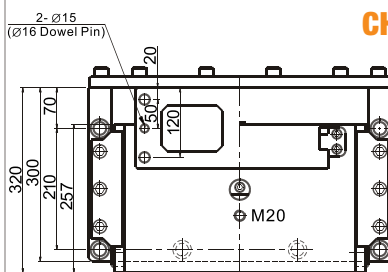


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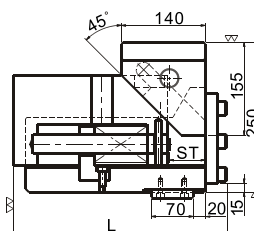
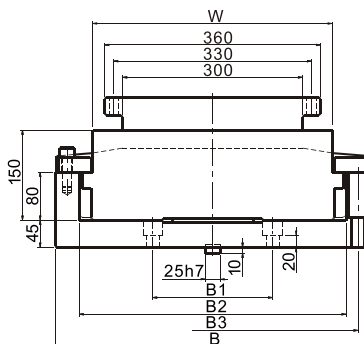
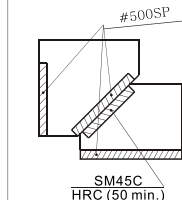
CHCS/CHCC 400~600



CHCS/CHCC 400,500,600



CHCC

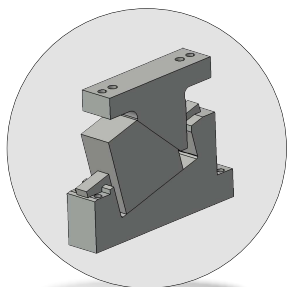
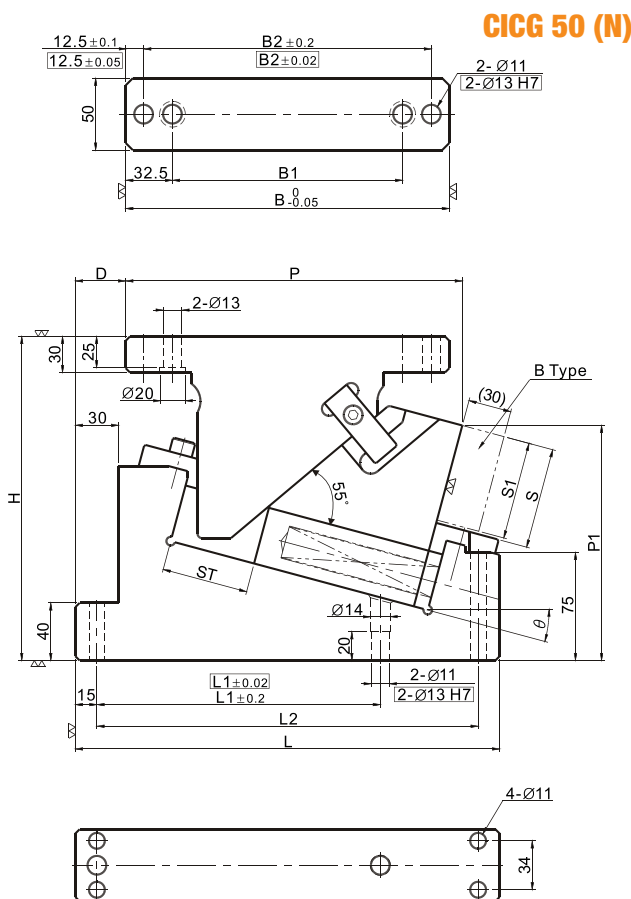


Product Code	Mounting Bolt	Mounting Method	Option
CHCS: Standard Type CHCC: Changeable Type	Cam Base: M20 Cam Driver: M16	N: Pin hole (16 H7)	CHCCG: Changeable Type-Gas Spring

Catalogue No.	Working Face Width	Stroke	L	L1	B	B1	B2	B3	B4	K
CHCS CHCC CHCCG	400	60	356	320	525	200	445	485	300	Ø16
	500	60	361	320	625	200	545	585	300	Ø16
	600	60	361	320	725	300	645	685	400	Ø16

Order example: **CHCS 400-60-N** (cod. + WFW + Stroke + Mounting Method)

Die Mounted Cam Units (50mm)

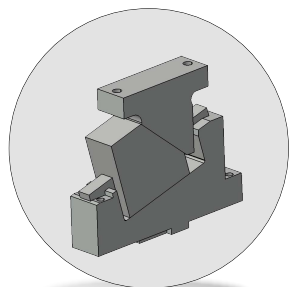
**Code****CICG 50 (N)**

Mounting Method	Working Face (Option)	Pin Hole
N: Pin mounting	Blank: Drawing Shape B: 30 mm extension	Blank: Drawing Shape A: Dimension & Tolerance

Catalog No.	Working Face Width	Stroke	θ	P	P1	L	H	B	L1	L2	B1	B2	D	S	S1
C1CG	50	30	15	200.1	148.7	265	210	195	167	235	130	170	35	55	53
		60	5	226.4	165.4	290	220	220	197	260	155	195	25	70	68
		60	15	234.0	163.2	295	225	225	197	265	160	200	35	70	68

Order example: **CICG 30-15-N-A** (cod. + **Stroke** + **θ** + **N** or **B** or **A**)

Die Mounted Cam Units (50mm)

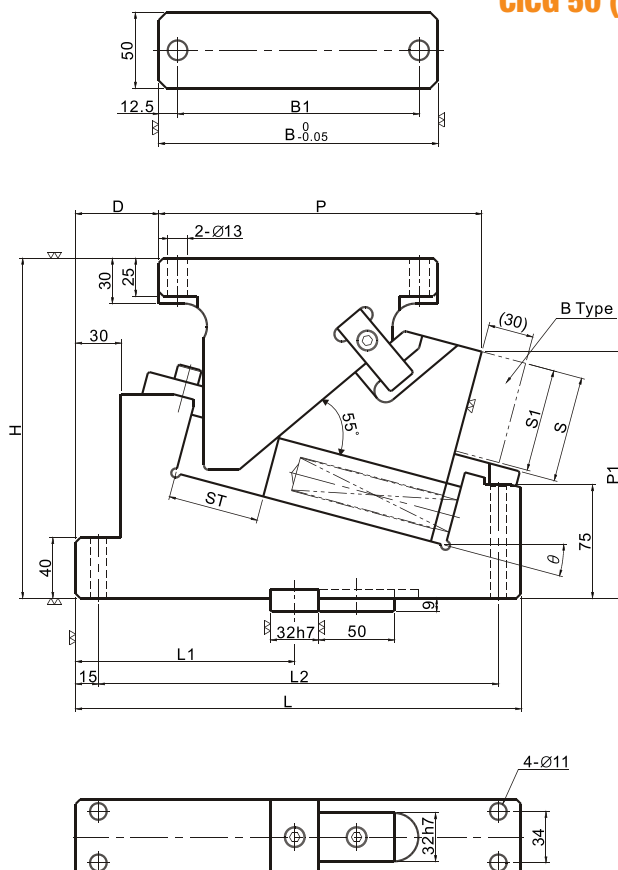


Code

CIG 50 (K)



CIG 50 (K)



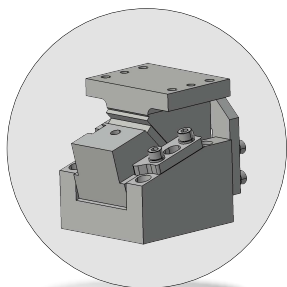
Mounting Method	Working Face (Option)
K: Key mounting	Blank: Drawing Shape B: 30 mm extension

Catalog No.	Working Face Width	Stroke	θ	P	P1	L	H	B	L1	L2	B1	D	S	S1
CIG	50	30	15	180.1	148.7	265	210	155	115	235	130	55	55	53
		60	5	206.4	165.4	290	220	180	145	260	155	45	70	68
		60	15	214.0	163.2	295	225	185	145	265	160	55	70	68

Order example: **CIG 30-15-B-K** (cod. + Stroke + θ + B or K)

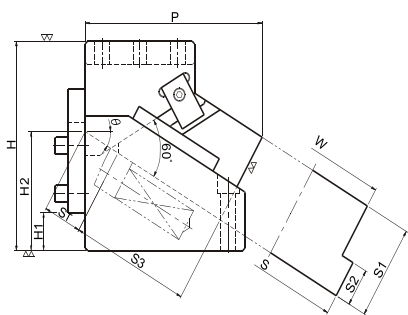
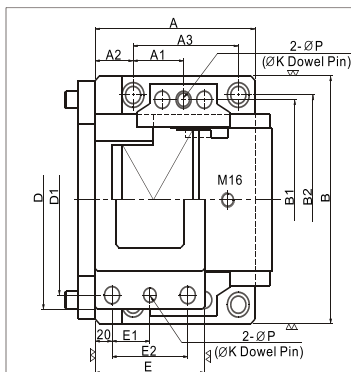
Die Mounted Cam Units (65~150mm)

Standard, Changeable



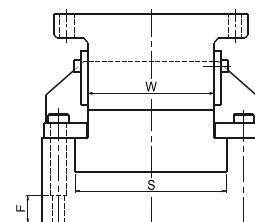
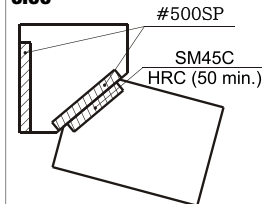
Code

CICS/CICC 65~150



CICS/CICC 65~150

CICC



Product Codes	Mounting Method	Option
CICS: Standard Type CICC: Changeable Type	N: Pin hole (K H7)	CICCG: Changeable Type- Gas Spring (Working face width 100~150mm)

Mounting Bolt & Dowel Pin

Catalog No.	Working Face (W)	P	K	Bolt
CLCS CICC	65	9	10	10
	100	11	12 or 13	12
	150	15	16	16

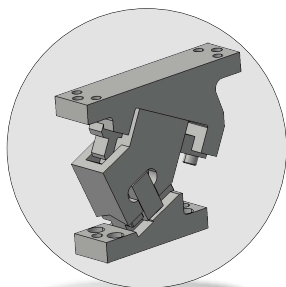
Die Mounted Cam Units (65~150mm)

Standard, Changeable

Cataloge No.	Working Face Width	Stroke	θ	P	B	H	D	S	S1	S2	S3	H1	H2	B1	B2	A	A1	A2	A3	D1	E	E1	F
CICS CICC CICCG	65	45	5	150.5		155						20	55				50						
			10	155.0		160						25	65				49						
			15	158.2	130	165	130	80	70	30	100	30	75	105	105	145							
			20	160.2		170						35	85				50						
			30	160.6		180						55	105										
			45	160.6																			
		70	5	195.5								30	65								95	27.5	
			10	199.4								35	75								100	30	
			15	201.8	130	170	130	80	70	30	120	35	85	105	105	180	25	40	125	105	105	32.5	
			20	202.5								45	95								110	35	
			30	199.7								55	115								120	40	
			45	199.7																			
	100	45	5	172.2								35	68								95	27.5	
			10	178.1								35	75								100	30	
			15	182.7	175	200	165	120	90	40	120	40	82	140	150	160	50	40	105	140	105	32.5	
			20	185.8								90	90								110	35	
			30	187.9								60	105								120	40	
			45	187.9																			
		70	5	207.1								35	68								115	37.5	
			10	212.6								80	80								120	40	
			15	216.5	175	200	165	120	90	40	130	50	92	150	150	190	25	45	130	140	125	42.5	
			20	218.7								105	105								130	45	
			30	218.2								80	130								140	50	
			45	218.2																			
	150	45	5	193.0								25	75								105	32.5	
			10	199.6								30	85								110	35	
			15	204.6	260	220	230	180	100	40	140	35	95	210	220	190	60	45	125	200	115	37.5	
			20	208.0								30	105								120	40	
			30	210.2								50	125								130	45	
			45	210.2																			
		70	5	217.9		215						20	70								125	42.5	
			10	224.2		220						30	90								130	45	
			15	228.7	260	225	230	180	100	40	140	40	103	210	220	200	75	45	135	200	135	47.5	
			20	231.5		230						45	115								140	50	
			30	231.8		240						70	140								150	55	
			45	231.8																			

Order example: CICS 65-150-N (cod. + W + Stroke + Mounting Method)

Aerial Cam Units (50mm)

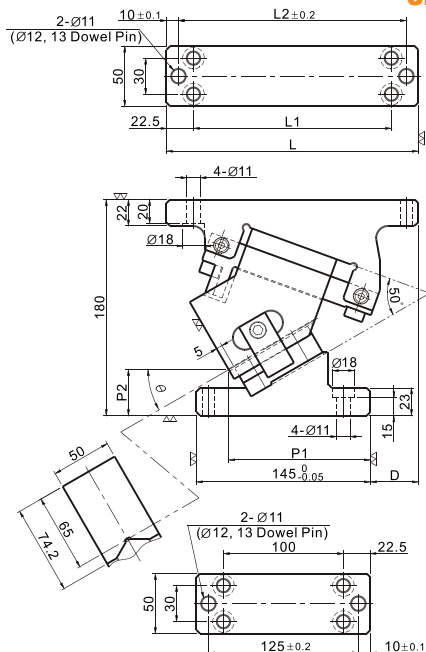


Code

CFCG 50 (N)



CFCG 50 (N)



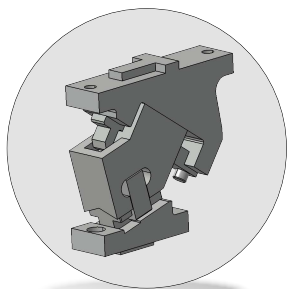
Mounting Method

N: Pin mounting

Catalog No.	Working Face (W)	Stroke (ST)	θ	P1	P2	D	L	L1	L2
CFCG	50	19	0	115.00	42.50	95.0	220	175	200
		21	5	117.38	46.96	85.0			
		23	10	119.70	46.21	75.0			
		25	15	116.95	45.27	75.0			
		27	20	119.01	44.13	65.0			
		30	25	115.98	40.95	60.0			
		28	30	118.08	38.22	50.0			
		30	35	119.65	36.33	40.0			
		33	40	119.01	34.85	32.5			
		36	45	117.72	36.67	25.0			
		40	50	119.28	38.84	15.0			
		45	55	125.10	33.99	0.0			
		51	60	131.32	29.42	-15.0			

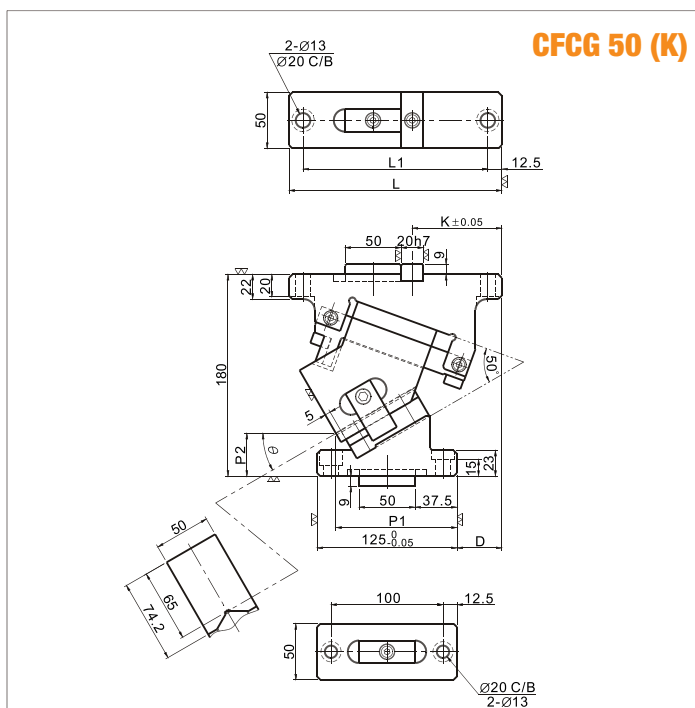
Order example: **CFCG 50-28-30-N** (cod. + W + ST + θ + MM)

Aerial Cam Units (50mm)



Code

CFCG 50 (K)



Mounting Method

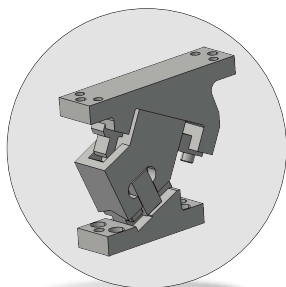
K: Key mounting

Catalog No.	Working Face (W)	Stroke (ST)	θ	P1	P2	D	L	L1	L2
CFCG	50	19	0	105.00	42.50	95.0	200	175	200
		21	5	107.38	46.96	85.0			
		23	10	109.70	46.21	75.0			
		25	15	106.95	45.27	75.0			
		27	20	109.10	44.13	65.0			
		30	25	105.98	40.95	60.0			
		28	30	108.08	38.22	50.0			
		30	35	109.65	36.33	40.0			
		33	40	109.01	34.85	32.5			
		36	45	107.72	36.67	25.0			
		40	50	109.28	38.84	15.0			
		45	55	115.10	33.99	0.0			
		51	60	121.32	29.42	-15.0			

Order example: **CFCG 50-23-10-K** (cod. + W + ST + θ + MM)

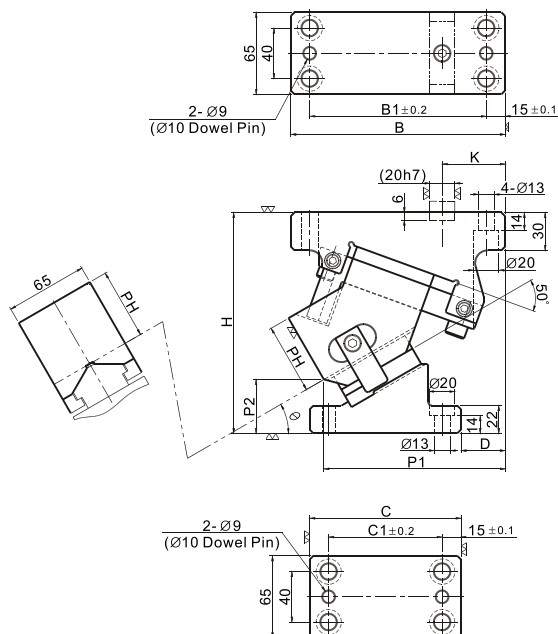
Aerial Cam Units (65mm)

CFCG 65



Code

CFCG 65



Mounting Method

N: Pin mounting

K: Key mounting

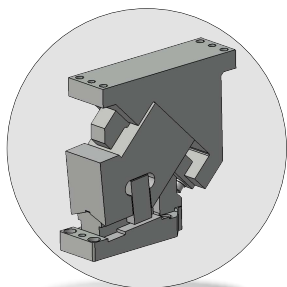
Catalog No.	Working Face (W)	Stroke (ST)	θ	PH	H	P1	P2	D	K	B	B1	C	C1
CFCG	65	19	0	76	200	210.00	64.00	70.0	70	210	180	160	130
		21	5			203.74	57.07	65.0					
		23	10			201.88	55.27	62.5					
		25	15			194.42	53.67	55.0					
		27	20			186.41	52.31	45.0					
		30	25			179.97	51.13	40.0					
		32	30			173.78	50.47	35.0					
		35	35			163.83	50.31	30.0					
		38	40			154.21	50.15	20.0					
		36	45			145.90	48.19	10.0					
		40	50			137.99	46.64	5.0					
		38	55			128.99	45.77	-5.0					
		43	60			120.47	45.22	-15.0					

θ

Order example: **CFCG 65-25-15-K (cod. + W + ST + θ + MM)**

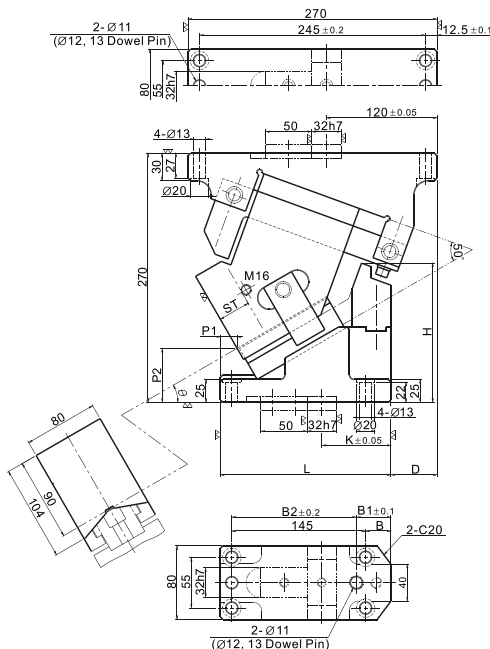
Aerial Cam Units (80mm)

CFCG 80



Code

CFCG 80



Mounting Method

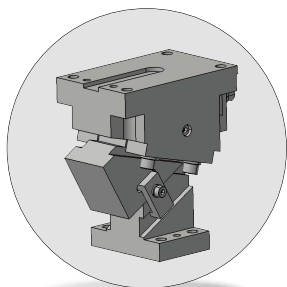
N: Pin mounting
K: Key mounting

Catalog No.	Working Face (W)	Stroke (ST)	θ	L	P1	P2	K	D	B	B1	B2
CFCG	80	30	0	200	28.00	70.00	95	105.0	42.5	50	137.5
		30	5		24.52	64.67		95.0		52.5	135
		31	10		21.05	64.05		85.0		47.5	
		29	15		21.72	63.12		80.0		44.5	
		32	20		22.44	61.90	75	75.0		42.5	
		32	25		20.28	70.41		63.0		39.5	
		34	30		18.27	58.64		50.0		37.5	
		36	35	170	10.42	56.62	50	43.0	12.5	12.5	145
		39	40		17.75	54.35		35.0			
		42	45		18.30	51.87		20.0			
		46	50		18.07	49.18		5.0			
		53	55		19.09	46.30		-8.0			
		61	60		19.36	43.27		-20.0			

Order example: **CFCG 80-25-15-K** (cod. + θ + MM)

Aerial Cam Units (65mm)

Standard, Changeable

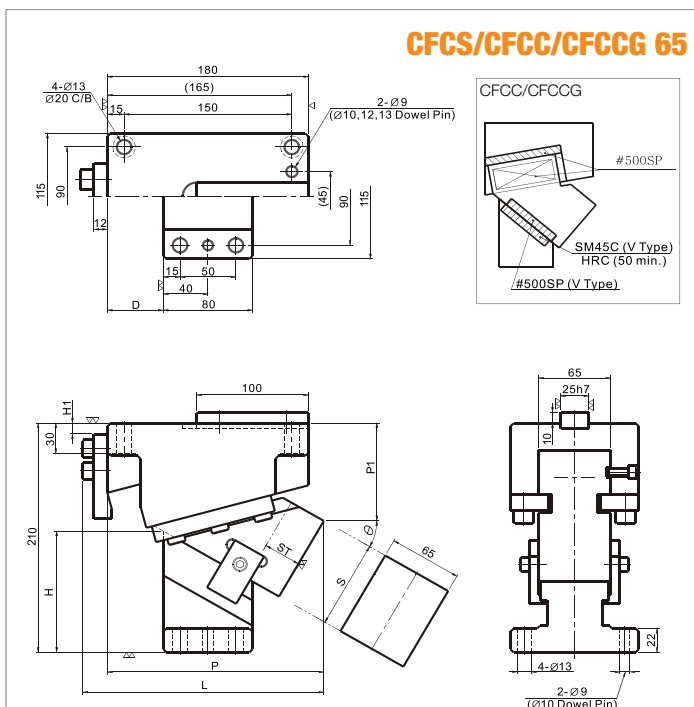


Code

CFCS/CFCC/CFCCG 65



Option	Cam Driver Fine Geinding (H7)	Cam Base Fine Geinding (H7)
DK	10,12,13	—
HK	—	10,12,13
HDK	10,12,13	10,12,13



Product Codes

CFCS: Standard Type
CFCC/CFCCG: Changeable Type (#500SP)

Return Springs

CFCS: With coil spring
CFCC/CFCCG: With gas spring

Mounting Method

K: Key width 25mm assemble
DK: Refer to below chart for Pin hole
HK: Refer to below chart for Pin hole
HDK: Refer to below chart for Pin hole

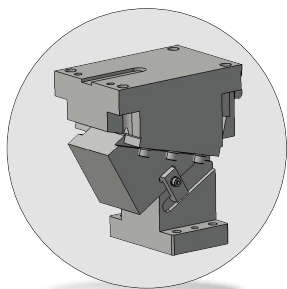
Cataloge No.	Working Face Width	Stroke	θ	P	P1	S	D	L	H	H1	
										CFCS	CFCC(G)
CFCS CFCC CFCCG	65	26	0	186.0	56.5	80	75	210.0	73.00	55	47
		29	5	192.2	61.5		72	216.2	49.00	55	43
		31	10	196.8	67.5		70	220.8	83.55	40	26
		31	15	197.7	70.6		65	221.7	92.14	40.6	
		33	20	198.1	74.3		60	222.1	101.00	10	32
		31	25	194.8	83.0		55	218.8	103.98		
		33	30	193.6	89.5		50	217.6	111.00		18
		39	35	193.2	94.1		45	217.2	122.01		10
		42	40	188.7	99.6	40	212.7		15	10	
		49	45	190.0	105.0	90	35	214.0	120.00	10	10
		54	50		110.0		3				
		43	55		100	25	1230.00				
		50	60			115.0	20				
		59	65		110	10	130.00				
		58	70			130.0	0				

Order example: **CFCS 65-31-10** (cod. + WFW + Stroke + θ)

- N Option is used for the product with included to 10°
- CFCC, CFCCG: Prepared pin hole

Aerial Cam Units (100mm)

Standard, Changeable

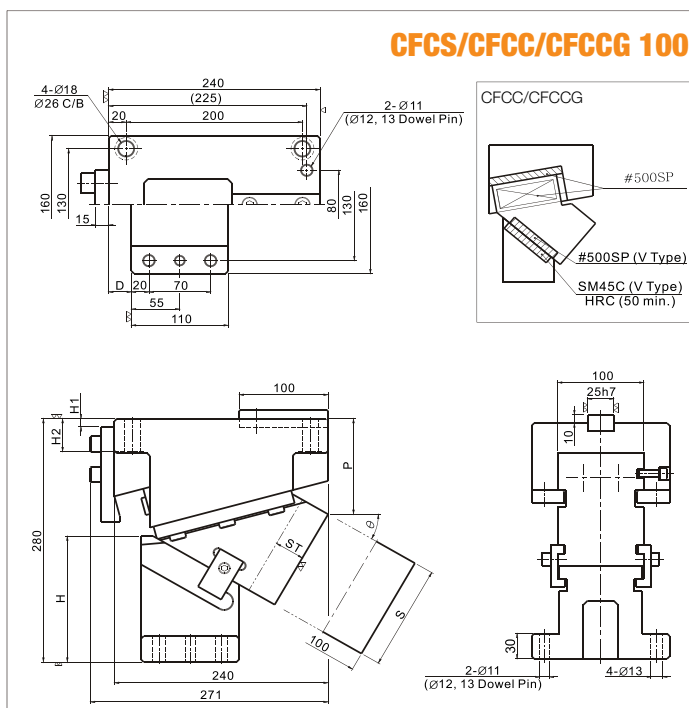


Code

CFCS/CFCC/CFCCG 100



Option	Cam Driver Fine Geinding (H7)	Cam Base Fine Geinding (H7)
DK	12,13	—
HK	—	12,13
HDK	12,13	12,13



Product Codes	Return Springs	Mounting Method
CFCS: Standard Type CFCC/CFCCG: Changeable Type (#500SP)	CFCS: With coil spring CFCC/CFCCG: With gas spring	K: Key width 25mm assemble DK: Refer to below chart for Pin hole HK: Refer to below chart for Pin hole HDK: Refer to below chart for Pin hole

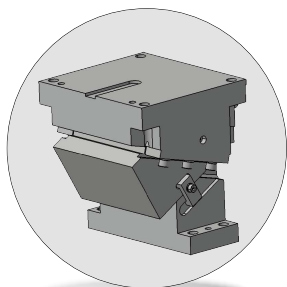
Cataloge No.	Working Face Width	Stroke	θ	P	S	D	H	H2	H1		
									CFCS	CFCC(G)	
CFCS CFCC CFCCG	100	28	0	85	100	60	95	38	55	55	
		30	5	88			106		67	67	
		33	10	90			110		35	35	
		28	15	100		55	126		52	52	
		30	20	110		50	125		15	15	
		31	25	100	120	40	150		30	15	
		33	30	110		30			155	10	10
		36	35	113					150	21.5	21.5
		39	40	115			150		10	10	
		42	45			140	20	60	10	10	
		46	50		120		10				160
		52	55	130	5		165				
		60	60	145	0		155				
		59	65				175				
		58	70				170				

Order example: **CFCS 100-30-20** (cod. + **WFW + Stroke + θ**)

- N Option is used for the product with inclined to 10°
- CFCC, CFCCG: Prepared pin hole

Aerial Cam Units (200mm)

Standard, Changeable

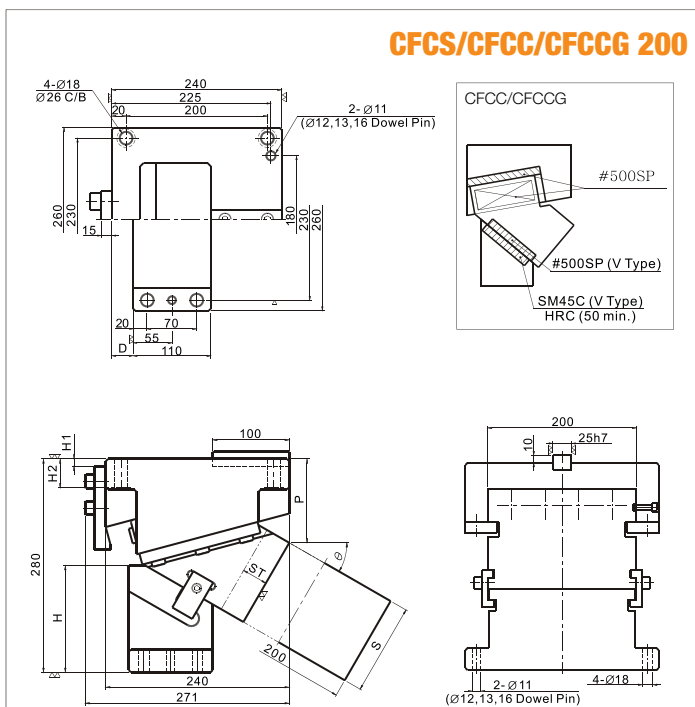


Code

CFCS/CFCC/CFCCG 200



Option	Cam Driver Fine Geinding (H7)	Cam Base Fine Geinding (H7)
DK	12,13,16	—
HK	—	12,13,16
HDK	12,13,16	12,13,16



Product Codes

CFCS: Standard Type
CFCC/CFCCG: Changeable Type (#500SP)

Return Springs

CFCS: With coil spring
CFCC/CFCCG: With gas spring

Mounting Method

K: Key width 25mm assemble
DK: Refer to below chart for Pin hole
HK: Refer to below chart for Pin hole
HDK: Refer to below chart for Pin hole

Cataloge No.	Working Face Width	Stroke	θ	P	S	D	H	H2	H1	
									CFCS	CFCC(G)
CFCS CFCC CFCCG	200	28	0	90	100	60	90	38	60	60
		30	5				105		67	67
		33	10				120		35	35
		28	15	100		55	126		52	52
		30	20	110		50	125		15	15
		31	25		40	30			30	
		33	30		120	30	150		10	10
		36	35	155			21.5		21.5	
		39	40	160			10		10	
		42	45	120	140	20	165	60	10	10
		46	50			10	160			
		52	55			5	165			
		60	60	0		170				
		59	65			175				
		58	70							

Order example: **CFCS 200-33-10** (cod. + WFW + Stroke + θ)

- N Option is used for the product with included to 10°
- CFCC, CFCCG: Prepared pin hole

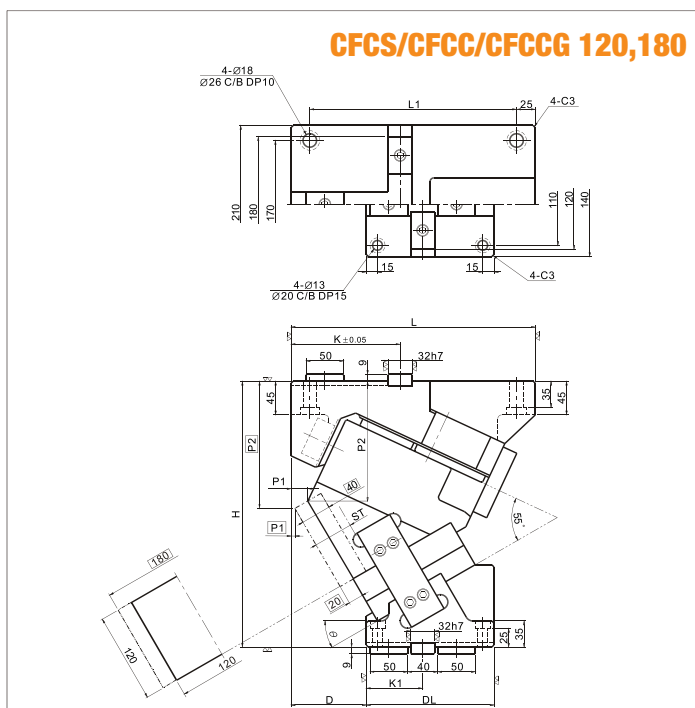
Aerial Cam Units (120,180mm)

Standard, Changeable



Code

CFCS/CFCC/CFCCG 120,180



Return Springs

CFCS: With coil spring (#500SP)
CFCC/CFCCG: With gas spring (#500SP)

Working face wisth

120mm: Drawing shape
180mm: Dimension

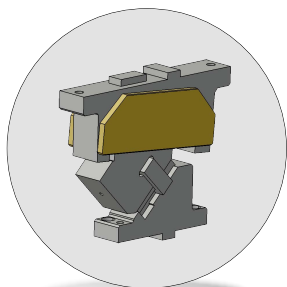
Catalog No.	Working Face (W)	Stroke (ST)	θ	P1	P2	K1	DL	H	D	K	L	L1
CFCC CFCCG	120	28	0	10.00	115.01	75	170	340	-5	175	290	240
		35	10	13.50	137.82			360	35		315	265
		39	15	19.30	146.31			355	50		305	255
		52	30	22.50	159.78			365	100		325	275
		63	40	51.08	188.29	90	180	370	155	125	350	300
		69	45	69.18	204.18			370	165		355	305
		77	50	73.28	216.10			370	200		350	300
		99	60	79.78	242.50			370	220		345	295

Catalog No.	Working Face (W)	Stroke (ST)	θ	P1	P2	K1	DL	H	D	K	L	L1
CFCC CFCCG	180	28	0	-10.00	115.00	75	170	340	-5	175	290	240
		35	10	-6.20	141.29			360	35		315	265
		39	15	0.00	151.48			355	50		305	255
		52	30	5.17	169.78			365	100		325	275
		63	40	35.76	201.15	90	180	370	155	125	350	300
		69	45	55.04	218.32			370	165		355	305
		77	50	60.42	231.42			370	200		350	300
		99	60	69.78	259.82			370	220		345	295

Order example: CFCC 180-52-30 (cod. + WFW + Stroke + θ)

Cam Units

NAAMS Aerial Cam Units (50mm)

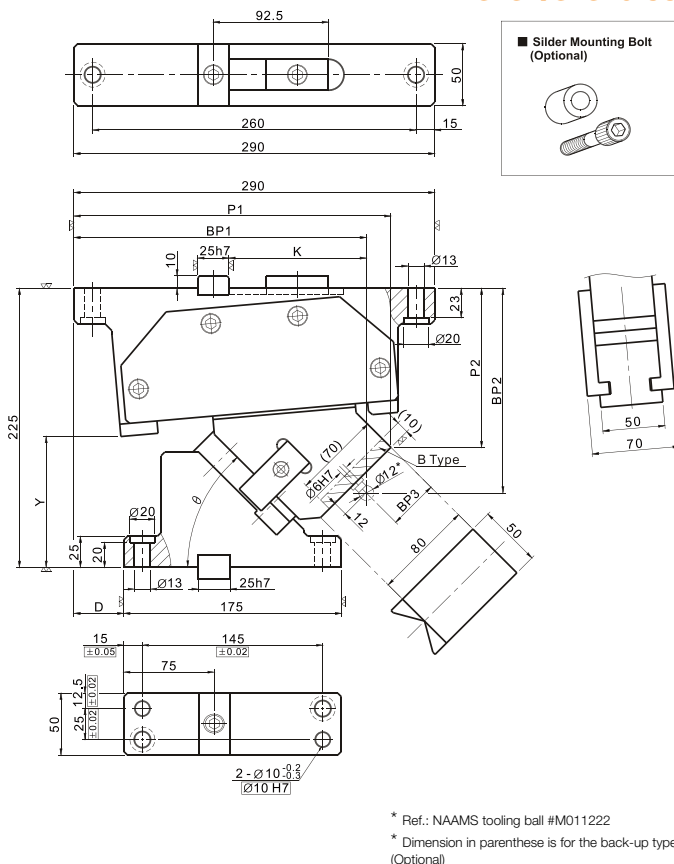


Code

CFCV/CFCVG 50



CFCV/CFCVG 50



Return Spring	Slider Mounting Bolt (Optional)	Pin Hole (Optional)	Slider Standard Hole (Optional)	Slider Option
CFCV: With coil spring CFCVG: With gas spring	L: Slider mounting bolt included	Blank: Drawing Shape N: Dim. & Tolerance	Blank: Ø6 X: No hole	B: Back-up type

NAAMS Aerial Cam Units (50mm)

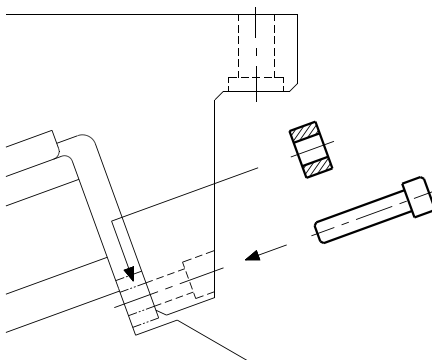
Catalog No.	NAAMS Code	Working Face (W)	Stroke (ST)	θ	P1	P2	BP1	BP2	BP3	K	D	Y
CFCV CFCVG	C130500	50	26	0	252.00	70.00	264	120	50	155.5	110	9.0
	C130505		28	5	256.40	74.14		125		149.5	105	19.4
	C130510		31	10	261.00	83.60	265	130	45	145.0	95	25.6
	C130515		34	15	268.06	88.43	268	135		140.5	89	37.2
	C130520		37	20	267.11	93.61	263	140	40	134.5	80	49.2
	C130525		40	25	266.03	103.68	260	145		130.0	70	57.1
	C130530		43	30	264.61	109.36	255	150		125.5	65	69.8
	C130535		47	35	260.11	115.35	247	155		119.5	52	82.5
	C130540		51	40	256.52	121.64	240	160		115.0	45	95.2
	C130545		56	45	254.80	128.23	235	165		110.5	40	107.5
	C130550		62	50	247.93	135.10	225	170		106.0	20	119.6
	C130555		70	55	245.07	136.49	211	175	50	101.5	5	
	C130560		60	60	237.97	147.11	205	180	45	98.5	-5	

Slider mounting bolt

This bolt is used for fixing to the final working position in the die.

How to use

1. Disassemble either gas spring or coil spring-
2. Assemble Slider mounting bolt as showing position.
3. Cam slider will be fixed to the final working position.

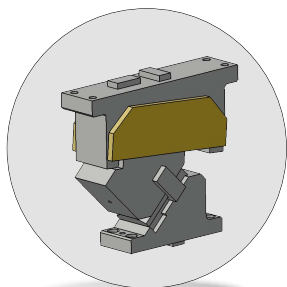


Notes

It might be some difference in proportion to accuracy of cam location and final height between upper die and bottom die.
Tolerance of location is $\pm 0,5\text{mm}$

Order example: **CFCV 50-43-B-L** (cod. + **WFW** + **Stroke** + **1st Option** + **2nd Option**)

NAAMS Aerial Cam Units (75mm)



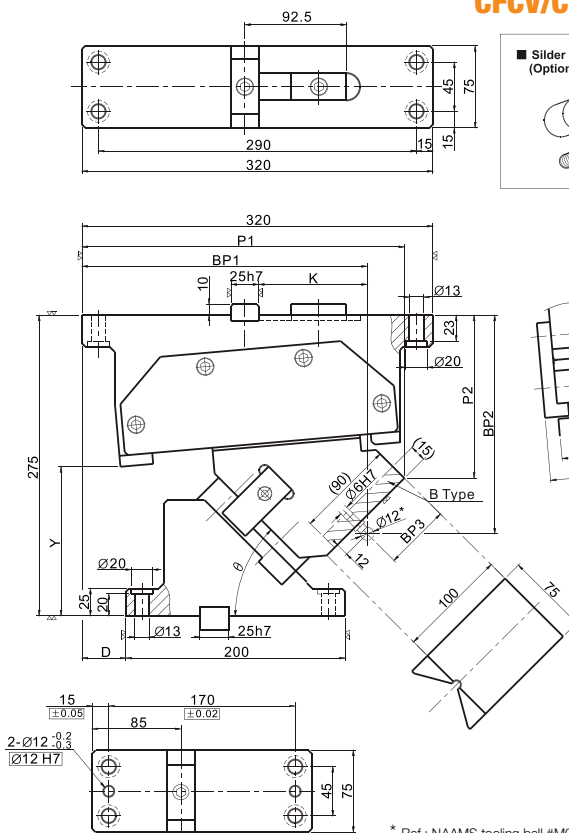
Code

CFCV/CFCVG 75



CFCV/CFCVG 75

■ Slider Mounting Bolt (Optional)



Return Spring	Slider Mounting Bolt (Optional)	Pin Hole (Optional)	Slider Standard Hole (Optional)	Slider Option
CFCV: With coil spring CFCVG: With gas spring	L: Slider mounting bolt included	Blank: Drawing Shape N: Dim. & Tolerance	Blank: Ø6 X: No hole	B: Back-up type

NAAMS Aerial Cam Units (75mm)

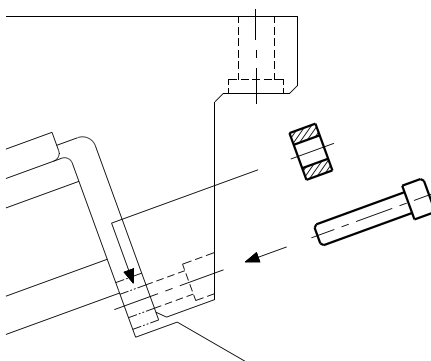
Catalog No.	NAAMS Code	Working Face (W)	Stroke (ST)	θ	P1	P2	BP1	BP2	BP3	K	D	Y
CFCV CFCVG	C130700	75	26	0	314.00	90.00	326	155	65	180.0	156	10.0
	C130705		28	5	314.28	99.18	321	160	60	160.5	141	17.4
	C130710		31	10	314.60	103.83	316	165		153.0	131	30.6
	C130715		34	15	305.94	108.94	302	170		144.0	109	44.5
	C130720		37	20	309.25	114.51	300	175		136.5	100	56.2
	C130725		40	25	304.48	120.55	290	180		127.5	85	71.2
	C130730		43	30	304.61	127.04	285	185		120.0	80	88.1
	C130735		47	35	301.58	133.97	277	190		112.5	67	101.6
	C130740		51	40	299.37	141.32	270	195		105.0	55	116.6
	C130745		56	45	393.94	149.09	260	200		99.0	40	131.4
	C130750		62	50	286.25	157.24	248	205		93.0	23	145.8
	C130755		70	55	275.27	165.76	233	210		72.0	0	
	C130760		60	60	267.97	182.11	235	215	45	79.0	-14	146.0

Slider mounting bolt

This bolt is used for fixing to the final working position in the die.

How to use

1. Disassemble either gas spring or coil spring-
2. Assemble Slider mounting bolt as showing position.
3. Cam slider will be fixed to the final working position.

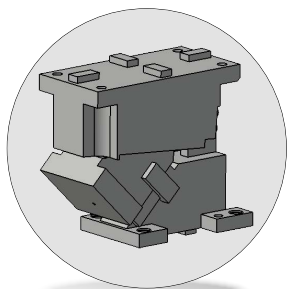


Notes

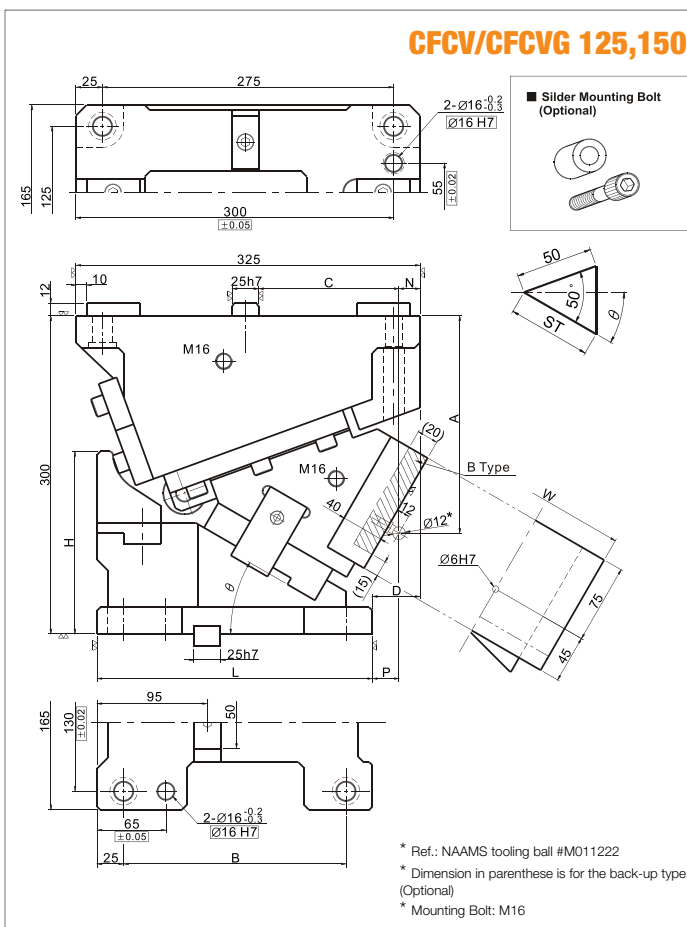
It might be some difference in proportion to accuracy of cam location and final height between upper die and bottom die.
Tolerance of location is $\pm 0,5\text{mm}$

Order example: **CFCV 75-43-30-B-L** (cod. + **WFW** + **Stroke** + θ + **1st Option** + **2nd Option**)

NAAMS Aerial Cam Units (150mm)

**Code**

CFCV/CFCVG 150



Return Spring	Slider Mounting Bolt (Optional)	Pin Hole (Optional)	Slider Standard Hole (Optional)	Slider Option
CFCV: With coil spring CFCVG: With gas spring	L: Slider mounting bolt included	Blank: Drawing Shape N: Dim. & Tolerance	Blank: Ø6 X: No hole	B: Back-up type

NAAMS Aerial Cam Units (150mm)

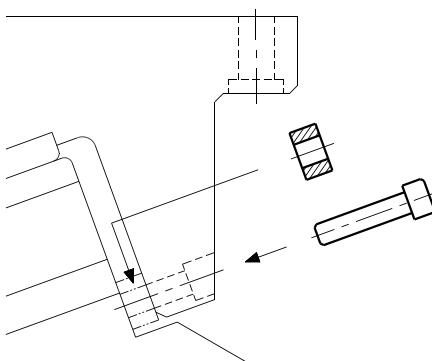
Catalog No.	NAAMS Code	Working Face (W)	Stroke (ST)	θ	A	P	N	D	C	H	L	B
CFCV CFCVG	C131500	125 150	32	0	170	-2.0	-28.0	-30.0	190.5	70	260	210
	C131505		35	5	175	15.0	-10.5	4.5	173.0	95		
	C131510		39	10	180	22.5	-3.0	19.5	165.5	102		
	C131515		42	15	185	30.0	-2.0	28.0	156.5	114		
	C131520		46	20	190	32.5	5.5	38.0	149.0	137		
	C131525		50	25	195	33.5	14.5	48.0	140.0	157		
	C131530		54	30	205	25.0	20.0	45.0	132.5	170		
	C131535		59	35	215	27.5	27.5	55.0	125.0	186		
	C131540		64	40	225	30.0	35.0	65.0	117.5	195		
	C131545		70	45	235	55.0	41.0	96.0	111.5	217		
	C131550		78	50	245	60.0	47.0	107.0	105.5	125	210	160
	C131555		87	55	255	64.5	52.5	117.0	120.0			
	C131560		100	60	265	67.5	64.5	132.0	113.0			

Slider mounting bolt

This bolt is used for fixing to the final working position in the die.

How to use

1. Disassemble either gas spring or coil spring-
2. Assemble Slider mounting bolt as showing position.
3. Cam slider will be fixed to the final working position.

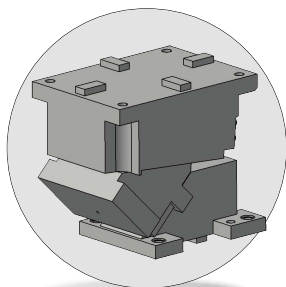


Notes

It might be some difference in proportion to accuracy of cam location and final height between upper die and bottom die.
Tolerance of location is $\pm 0,5\text{mm}$

Order example: **CFCV 150-50-25-B-L** (cod. + WFW + Stroke + θ + 1st Option + 2nd Option)

NAAMS Aerial Cam Units (175,200mm)

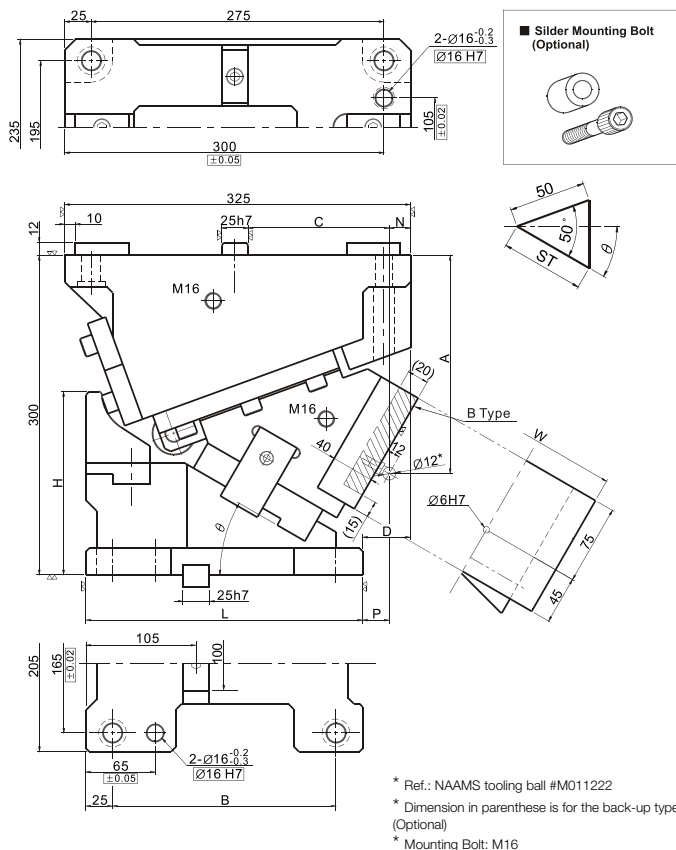


Code

CFCV/CFCVG 175,200



CFCV/CFCVG 175,200



Return Spring	Slider Mounting Bolt (Optional)	Pin Hole (Optional)	Slider Standard Hole (Optional)	Slider Option
CFCV: With coil spring CFCVG: With gas spring	L: Slider mounting bolt included	Blank: Drawing Shape N: Dim. & Tolerance	Blank: Ø6 X: No hole	B: Back-up type

NAAMS Aerial Cam Units (175,200mm)

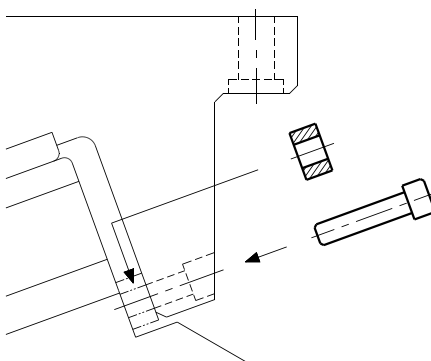
Catalog No.	NAAMS Code	Working Face (W)	Stroke (ST)	θ	A	P	N	D	C	H	L	B
CFCV CFCVG	C132000	175 200	32	0	170	-2.0	-28.0	-30.0	190.5	70	260	210
	C132005		35	5	175	15.0	-10.5	4.5	173.0	95		
	C132010		39	10	180	22.5	-3.0	19.5	165.5	102		
	C132015		42	15	185	30.0	-2.0	28.0	156.5	114		
	C132020		46	20	190	32.5	5.5	38.0	149.0	137		
	C132025		50	25	195	33.5	14.5	48.0	140.0	157		
	C132030		54	30	205	25.0	20.0	45.0	132.5	170		
	C132035		59	35	215	27.5	27.5	55.0	125.0	186		
	C132040		64	40	225	30.0	35.0	65.0	117.5	195		
	C132045		70	45	235	55.0	41.0	96.0	111.5	217		
	C132050		76	50	245	60.0	47.0	107.0	105.5	125	210	160
	C132055		87	55	255	64.5	52.5	117.0	120.0			
	C132012		100	60	265	67.5	64.5	132.0	113.0			

Slider mounting bolt

This bolt is used for fixing to the final working position in the die.

How to use

1. Disassemble either gas spring or coil spring-
2. Assemble Slider mounting bolt as showing position.
3. Cam slider will be fixed to the final working position.

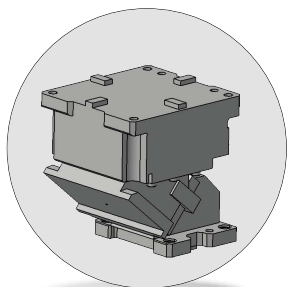


Notes

It might be some difference in proportion to accuracy of cam location and final height between upper die and bottom die.
Tolerance of location is $\pm 0,5\text{mm}$

Order example: **CFCV 175-46-20-B-L** (cod. + WFW + Stroke + θ + 1st Option + 2nd Option)

NAAMS Aerial Cam Units (250,300mm)

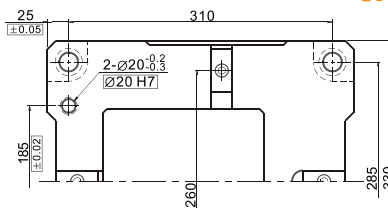


Code

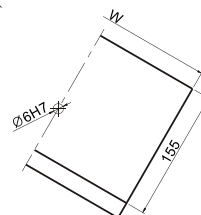
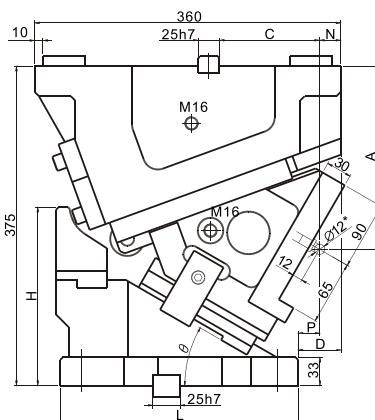
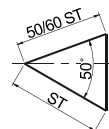
CFCV/CFCVG 250,300



CFCV/CFCVG 250,300



■ Slider Mounting Bolt (Optional)



* Ref.: NAAMS tooling ball #M011222
* Mounting Bolt: M16

Return Spring	Slider Mounting Bolt (Optional)	Pin Hole (Optional)	Slider Standard Hole (Optional)
CFCV: With coil spring CFCVG: With gas spring	L: Slider mounting bolt included	Blank: Drawing Shape N: Dim. & Tolerance	Blank: ∅6 X: No hole

NAAMS Aerial Cam Units (250,300mm)

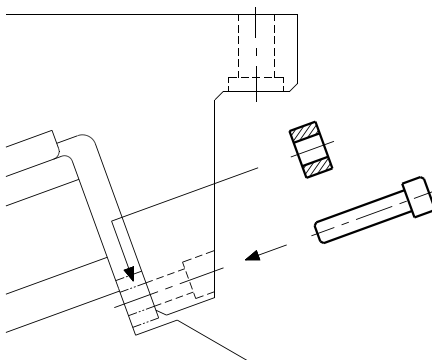
Catalog No.	NAAMS Code	Working Face (W)	Stroke (ST)	θ	A	P	N	D	C	H	L	B
CFCV CFCVG	C133000	250 300	38	0	180	-5.0	-48.0	-53.0	193.0	102	280	230
	C133005		42	5	185	5.0	-37.5	-32.5	182.5	125		
	C133010		46	10	190	15.0	-27.0	-12.0	172.0	142		
	C133015		51	15	195	25.0	-16.5	8.5	161.5	161		
	C133020		55	20	200	35.0	-6.0	29.0	151.0	180		
	C133025		50	25	205		14.5	49.5	140.5	198		
	C133030		54	30	215	25.0	25.0	50.0	130.0	211		
	C133035		59	35	225	30.0	34.0	64.0	121.0	230		
	C133040		64	40	235	25.0	43.0	68.0	112.0	241		
	C133045		70	45	245	25.0	52.0	77.0	103.0	263.5		
	C133050		78	50	265	90.0	66.0	156.0	94.0	160	230	180
	C133055		87	55	285	110.0	73.5	183.5	86.5	162		
	C133060		100	60	300		81.0	191.0	79.0	170		

Slider mounting bolt

This bolt is used for fixing to the final working position in the die.

How to use

1. Disassemble either gas spring or coil spring-
2. Assemble Slider mounting bolt as showing position.
3. Cam slider will be fixed to the final working position.

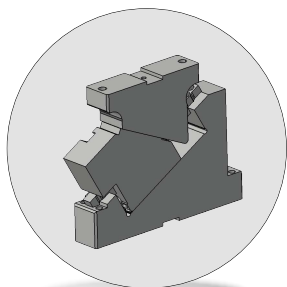


Notes

It might be some difference in proportion to accuracy of cam location and final height between upper die and bottom die.
Tolerance of location is $\pm 0,5\text{mm}$

Order example: **CFCV 250-46-10-L** (cod. + WFW + Stroke + θ + Option)

Die Mounted Cam Units (50mm)

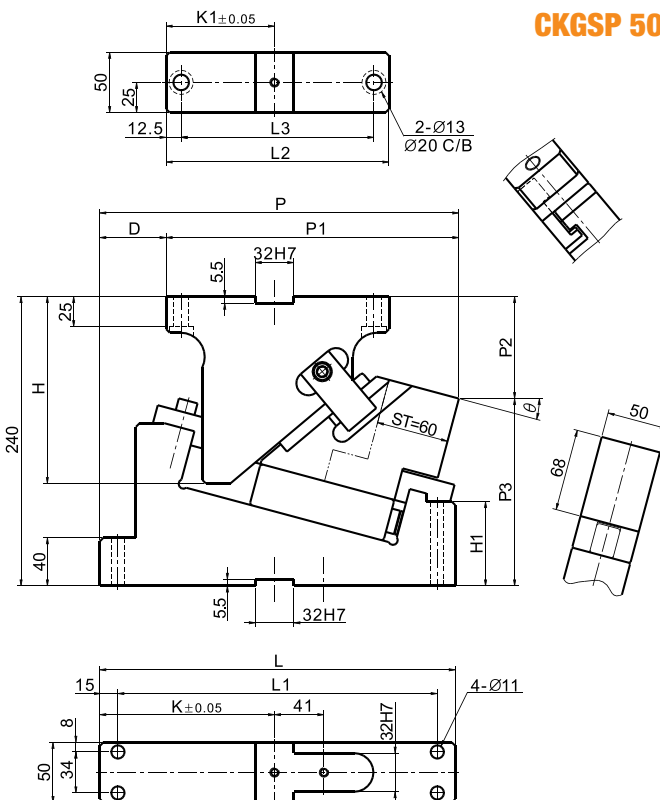


Code

CKGSP 50



CKGSP 50



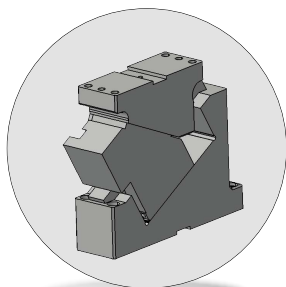
Mounting Method

K: Metric dedicated key is attached for both cam holder and driver.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H	K	K1	L	L1	L2	L3	H1
CKGSP	50	60	0	240.00	230.00	75.00	165.0	10	200	120	85	255	225	170	145	82
			5	281.25	236.25	77.24	162.8	45	185	145	90	290	260	180	155	75
			10	287.27	237.27	80.45	159.6	50	170			295	265	185	160	70
			15	297.97	242.97	84.61	155.4	55	155							
			20	308.26	238.26	89.68	150.3	70	145							
			25	308.07	238.07	95.63	144.4		135							
			30	312.32	232.32	102.42	137.6	80	120							

Order example: **CKGSP 50-05** (cod. + WFW + θ)

Die Mounted Cam Units (80mm)

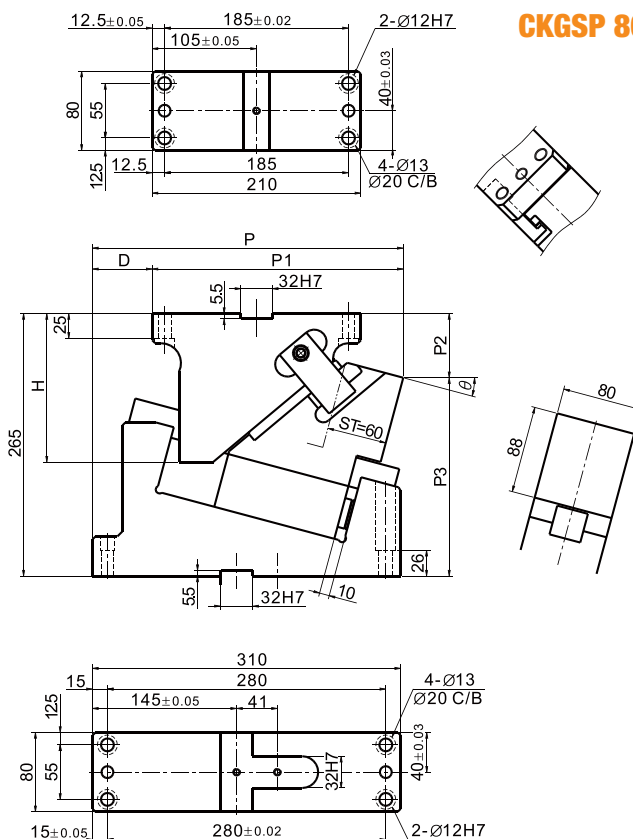


Code

CKGSP 80



CKGSP 80



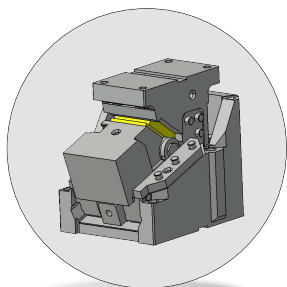
Mounting Method

K: Metric dedicated key is attached for both cam holder and driver.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H
CKGSP	80	60	0	285.00	235.00	55.00	210.00	50	200
			5	293.00	238.32	56.97	208.03	55	180
			10	303.17	248.17	60.26	204.74	60	160
			15	312.60	252.60	64.85	200.15	70	150
			20	321.51	251.51	70.68	194.32	80	135
			25	329.78	249.78	77.74	187.26	85	125
			30	332.31	247.31	85.95	179.05	85	110

Order example: **CKGSP 80-05** (cod. + WFW + θ)

Die Mounted Cam Units (150mm)

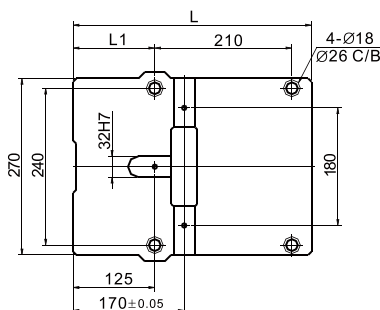
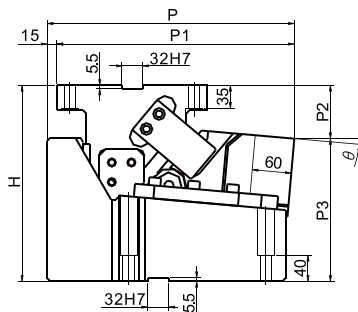
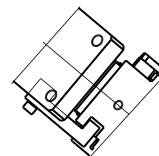
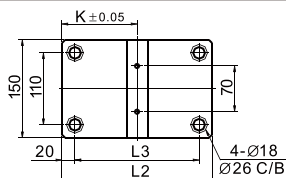


Code

CKGSP 150



CKGSP 150



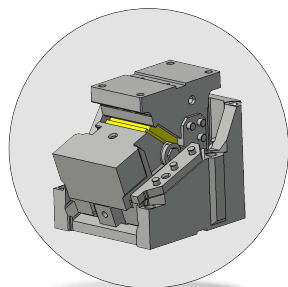
Mounting Method

K: Metric dedicated key is attached for both cam holder and driver.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	K	L	L1	L2	L3	A	B	H
CKGSP	150	60	0	365.00	365.00	70.00	230.00	115	355	115	230	190	190	255	300
			5	378.47	363.47	81.55	318.45	120	365	125	240	200	200		310
			10	385.01	370.01	99.18	210.82	125	355	120	250	210	210		
			15	394.53	379.53	107.74	202.26	135	345	115	265	225	225	250	335
			20	396.96	381.96	137.04	197.96	140	340	110	270	230	230		345
			25	397.25	382.25	158.89	188.11	140	340	110	285	245	245		
			30	400.35	385.35	182.11	177.89	145	335	105	295	255	249		360

Order example: **CKGSP 150-10** (cod. + **WFW** + **θ**)

Die Mounted Cam Units (200mm)

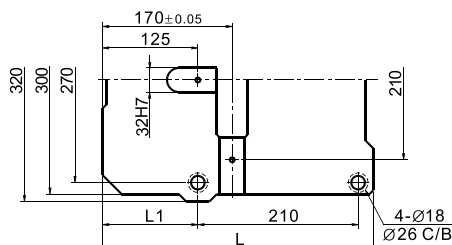
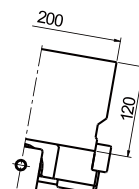
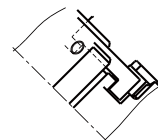
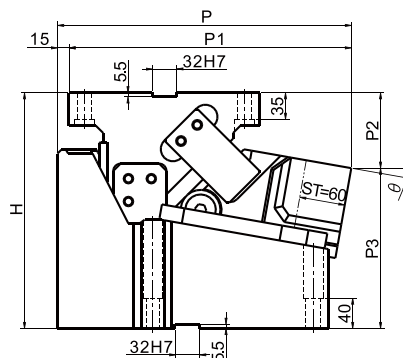
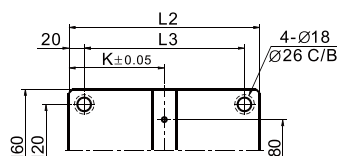


Code

CKGSP 200



CKGSP 200



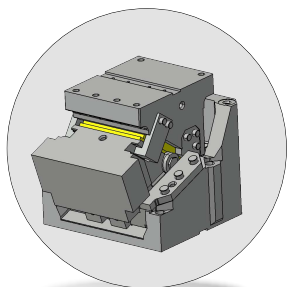
Mounting Method

K: Metric dedicated key is attached for both cam holder and driver.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	K	L	L1	L2	L3	A	B	H
CKGSP	200	60	0	365.00	365.00	70.00	230.00	115	355	115	230	190	190	88	300
			5	378.47	363.47	81.55	318.45	120	365	125	240	200	200	98	
			10	385.01	370.01	99.18	210.82	125	355		250	210	210	93	310
			15	394.53	379.53	107.74	202.26		350	120	265	225	225		
			20	396.96	381.96	137.04	197.96	135	345	115	270	230	230	88	335
			25	397.25	382.25	158.89	188.11	140	340	110	285	245	245	83	345
			30	400.35	385.35	182.11	177.89	145	335	105	295	255	255	132	360

Order example: **CKGSP 200-00** (cod. + WFW + θ)

Die Mounted Cam Units (300mm)

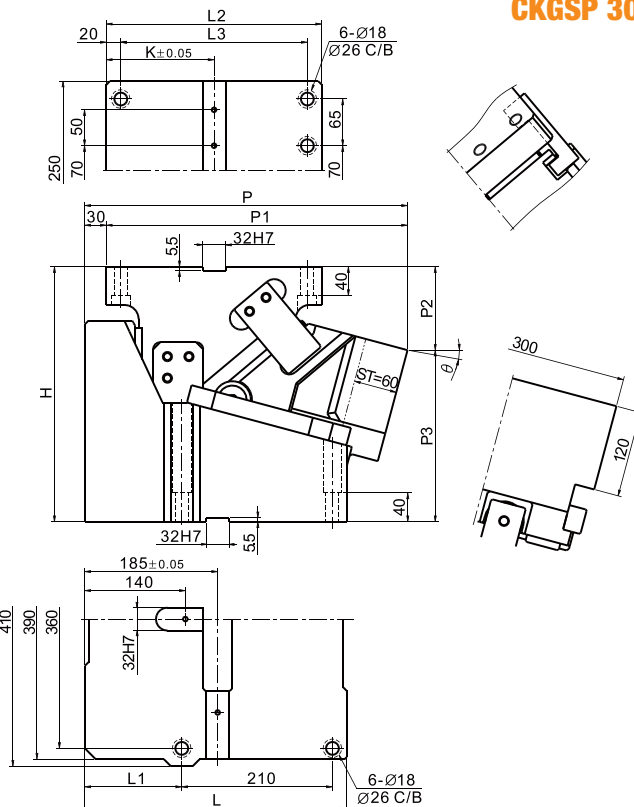


Code

CKGSP 300



CKGSP 300



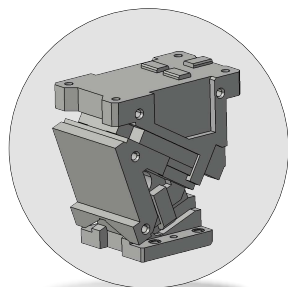
Mounting Method

K: Metric dedicated key is attached for both cam holder and driver.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	K	L	L1	L2	L3	A	B	H
CKGSP	300	60	0	420.00	390.00	70.00	265.00	135	380	145	270	230	230	115	335
			5	431.84	401.84	74.31	260.69	140	375		280	240	240	119	
			10	442.57	412.57	107.83	247.17	145	370	140	290	250	250	114	355
			15	449.63	419.63	116.09	238.91	150	365	135	300	260	260	109	
			20	454.17	424.17	145.29	229.71	155	360	130	310	270	270	104	375
			25	461.14	431.14	170.21	214.79	165	355	125	330	290	290	99	385
			30	465.47	435.47	200.63	204.37	175	350	120	350	310	310	148	405

Order example: **CKGSP 300-00** (cod. + WFW + θ)

Aerial Cam Units (200mm)

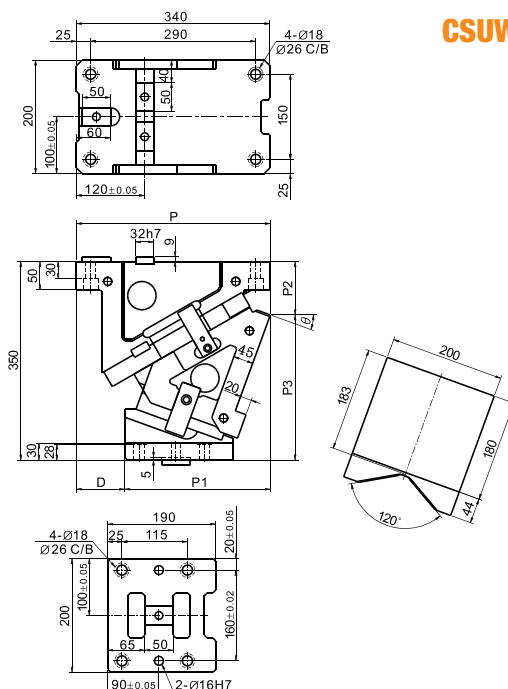


Code

CSUWB 200



CSUWB 200



Mounting Method

K: Key width 32mm assemble

Return Spring

Coil Spring: TM 50-225

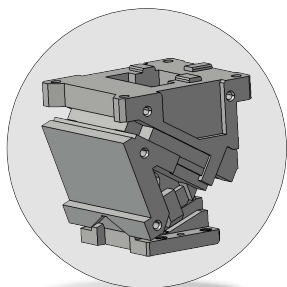
Gas Spring:

GD-L.750.075 (DADCO)

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CSUWB	200	38.6	0	313.00	175.00	58.00	292.00	138
		42.6	5	320.64	195.64	64.34	285.66	125
		46.7	10	331.08	216.08	72.47	277.53	115
		50.9	15	336.17	236.17	82.37	267.63	100
		55.3	20	340.76	255.76	94.00	256.00	85
		60.0	25	344.69	274.69	102.32	274.68	70
		65.1	30	347.83	292.83	112.25	237.75	55
		70.8	35	355.03	310.03	123.73	226.27	45
		77.1	40	351.17	326.17	136.66	213.34	25
		84.5	45	356.12	341.12	150.95	199.05	15
		93.3	50	348.77	354.77	161.49	188.51	-6
		104.6	55	352.01	367.01	178.16	171.84	-15
		120	60	332.75	377.75	195.83	154.17	-45

Order example: **CSUWB 200-10-GD** (cod. + **WFW** + **θ** + **RS**)

Aerial Cam Units (300mm)

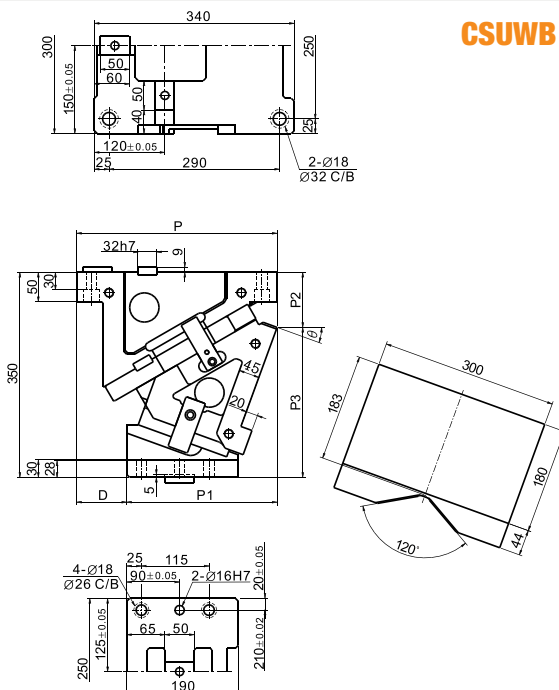


Code

CSUWB 300



CSUWB 300

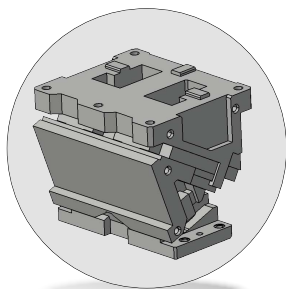


Mounting Method	Return Spring
K: Key width 32mm assemble	Coil Spring: TM 50-225 Gas Spring: GD-L.750.075 (DADCO) 

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CSUWB	300	38.6	0	313.00	175.00	58.00	292.00	138
		42.6	5	320.64	195.64	64.34	285.66	125
		46.7	10	331.08	216.08	72.47	277.53	115
		50.9	15	336.17	236.17	82.37	267.63	100
		55.3	20	340.76	255.76	94.00	256.00	85
		60.0	25	344.69	274.69	102.32	274.68	70
		65.1	30	347.83	292.83	112.25	237.75	55
		70.8	35	355.03	310.03	123.73	226.27	45
		77.1	40	351.17	326.17	136.66	213.34	25
		84.5	45	356.12	341.12	150.95	199.05	15
		93.3	50	348.77	354.77	161.49	188.51	-6
		104.6	55	352.01	367.01	178.16	171.84	-15
		120	60	332.75	377.75	195.83	154.17	-45

Order example: **CSUWB 300-10-GD** (cod. + **WFW** + **θ** + **RS**)

Aerial Cam Units (400mm)

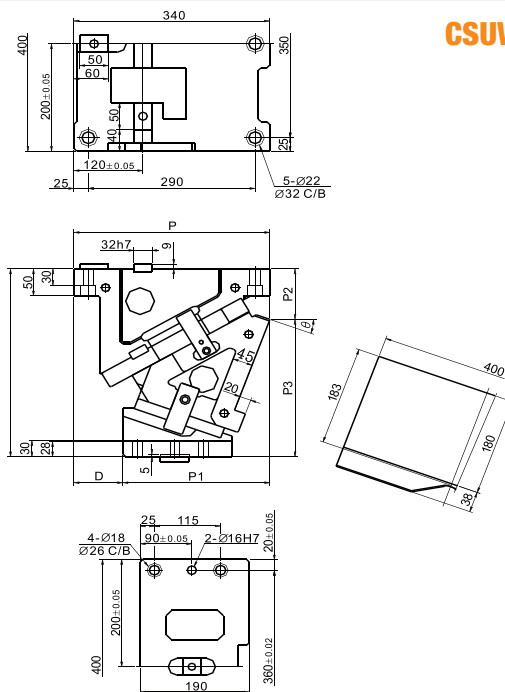


Code

CSUWB 400



CSUWB 400



Mounting Method

K: Key width 32mm assemble

Return Spring

Coil Spring: TM 50-225

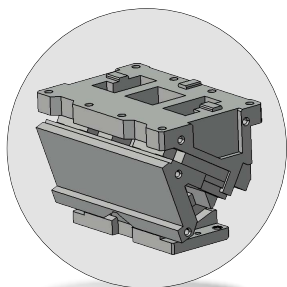
Gas Spring:

GD-L.750.075 (DADCO) 

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CSUWB	400	38.6	0	313.00	175.00	58.00	292.00	138
		42.6	5	320.64	195.64	64.34	285.66	125
		46.7	10	331.08	216.08	72.47	277.53	115
		50.9	15	336.17	236.17	82.37	267.63	100
		55.3	20	340.76	255.76	94.00	256.00	85
		60.0	25	344.69	274.69	102.32	274.68	70
		65.1	30	347.83	292.83	112.25	237.75	55
		70.8	35	355.03	310.03	123.73	226.27	45
		77.1	40	351.17	326.17	136.66	213.34	25
		84.5	45	356.12	341.12	150.95	199.05	15
		93.3	50	348.77	354.77	161.49	188.51	-6
		104.6	55	352.01	367.01	178.16	171.84	-15
		120	60	332.75	377.75	195.83	154.17	-45

Order example: **CSUWB 400-10-GD** (cod. + WFW + θ + RS)

Aerial Cam Units (500mm)

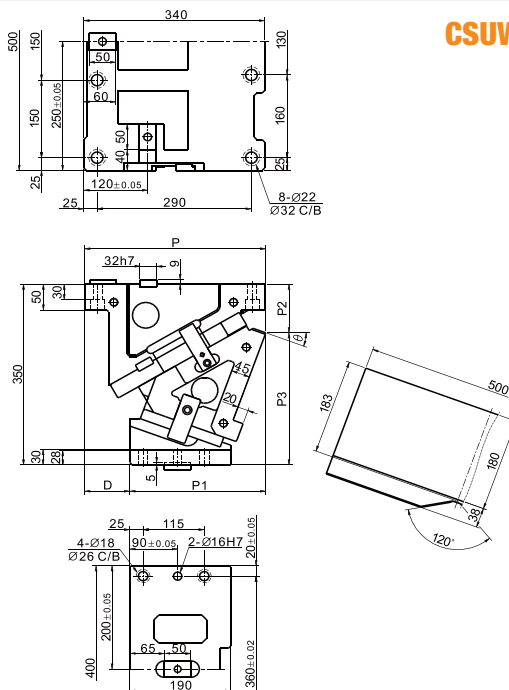


Code

CSUWB 500



CSUWB 500



Mounting Method

K: Key width 32mm assemble

Return Spring

Coil Spring: TM 50-225

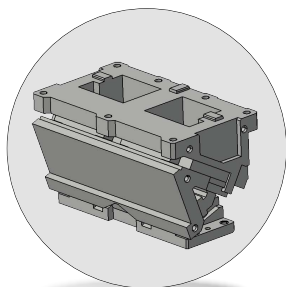
Gas Spring:

GD-L.750.075 (DADCO) 

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CSUWB	500	38.6	0	313.00	175.00	58.00	292.00	138
		42.6	5	320.64	195.64	64.34	285.66	125
		46.7	10	331.08	216.08	72.47	277.53	115
		50.9	15	336.17	236.17	82.37	267.63	100
		55.3	20	340.76	255.76	94.00	256.00	85
		60.0	25	344.69	274.69	102.32	274.68	70
		65.1	30	347.83	292.83	112.25	237.75	55
		70.8	35	355.03	310.03	123.73	226.27	45
		77.1	40	351.17	326.17	136.66	213.34	25
		84.5	45	356.12	341.12	150.95	199.05	15
		93.3	50	348.77	354.77	161.49	188.51	-6
		104.6	55	352.01	367.01	178.16	171.84	-15
		120	60	332.75	377.75	195.83	154.17	-45

Order example: **CSUWB 500-10-GD** (cod. + WFW + θ + RS)

Aerial Cam Units (600mm)

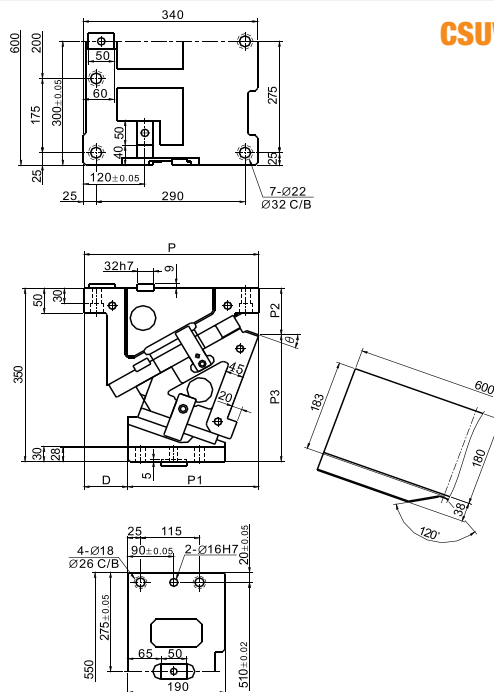


Code

CSUWB 600



CSUWB 600



Mounting Method

K: Key width 32mm assemble

Return Spring

Coil Spring: TM 50-225

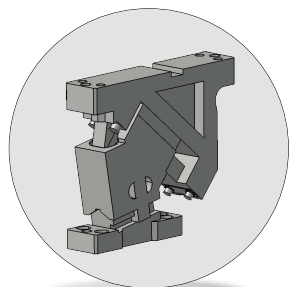
Gas Spring:

GD-L.750.075 (DADCO) 

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CSUWB	600	38.6	0	313.00	175.00	58.00	292.00	138
		42.6	5	320.64	195.64	64.34	285.66	125
		46.7	10	331.08	216.08	72.47	277.53	115
		50.9	15	336.17	236.17	82.37	267.63	100
		55.3	20	340.76	255.76	94.00	256.00	85
		60.0	25	344.69	274.69	102.32	274.68	70
		65.1	30	347.83	292.83	112.25	237.75	55
		70.8	35	355.03	310.03	123.73	226.27	45
		77.1	40	351.17	326.17	136.66	213.34	25
		84.5	45	356.12	341.12	150.95	199.05	15
		93.3	50	348.77	354.77	161.49	188.51	-6
		104.6	55	352.01	367.01	178.16	171.84	-15
		120	60	332.75	377.75	195.83	154.17	-45

Order example: **CSUWB 600-10-GD** (cod. + WFW + θ + RS)

Aerial Cam Units (50mm)

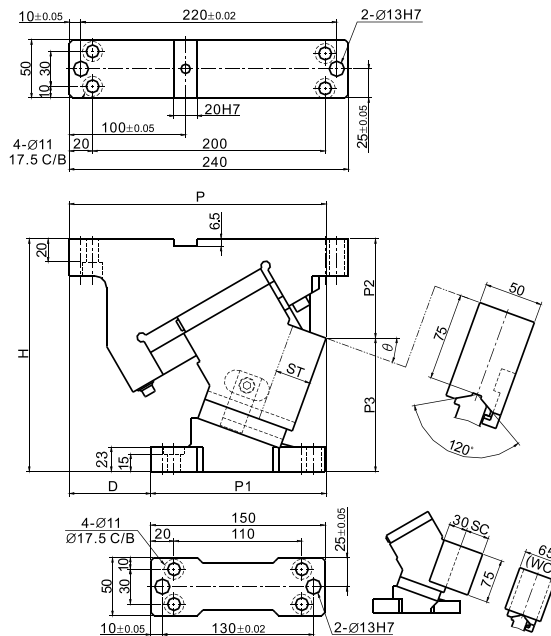


Code

CUCMSC 50



CUCMSC 50



Mounting Method

Blank: Drawing Shape
K: Key width 20 mm assemble

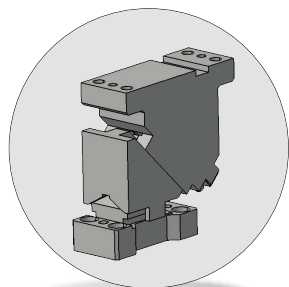
Working Face (Option)

Blank: As drawing
SC: The mount surface is extended forward in the range of from 10 to 60 mm (At increments of 10 mm)
WC: The Mount width is changed to 65 mm

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	Q	H
CUCMSC	50	30.2	0	225.00	118.00	77.50	122.50	107	75	200
		30.5	5	226.91	126.91	78.33	121.67	100		
		30.3	10	223.72	133.72	79.93	120.07	90		
		30.5	15	224.36	139.36	82.29	117.71	85		
		30.4	20	220.76	150.76	85.39	114.61	70		
		30.0	25	215.85	157.85	89.22	110.78	58		
		32.6	30	213.58	158.58	94.73	105.27	55		
		35.4	35	204.89	169.89	96.90	103.10	35		
		38.6	40	206.72	176.72	102.69	97.31	30		
		42.3	45	202.01	182.01	103.06	96.94	20		
		46.7	50	195.73	185.73	105.94	94.06	10		
		52.1	55	189.83	189.83	116.30	83.70	0	65	
		59.1	60	179.27	194.27	125.08	74.92	-15		
		58.3	65	176.60	208.60	126.87	73.13	-32	75	
		57.6	70	177.00	215.00	135.83	64.17	-38		

Order example: **CUCMSC 50-10** (cod. + **W** + **θ** + (Option))

Aerial Cam Units (65mm)

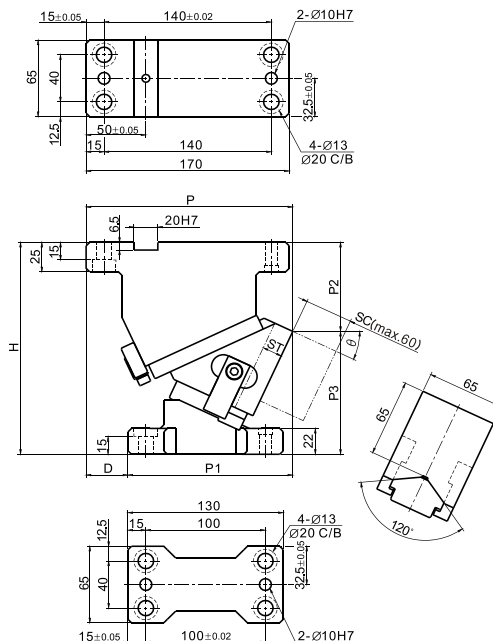


Code

CUCMSC 65



CUCMSC 65

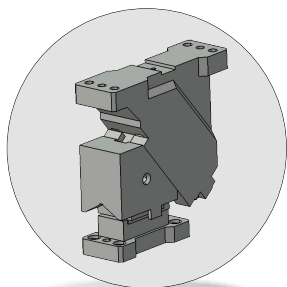


Mounting Method	Working Face (Option)
Blank: Drawing Shape K: Key width 20 mm assemble	Blank: As drawing SC: The mount surface is extended forward in the range of from 10 to 60 mm (At increments of 10 mm)

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H
CUCMSC	65	15.0	0	170.00	110.00	53.00	127.00	60	180
		15.1	5	171.41	116.41	60.27	119.73	55	
		15.2	10	177.16	122.16	63.06	116.94	50	
		15.5	15	177.20	127.20	66.33	113.67	40	
		16.5	20	176.51	136.51	70.01	109.99	35	
		17.1	25	172.94	137.94	75.64	104.36	30	
		18.5	30	177.78	147.78	78.32	101.68	20	
		19.6	35	173.29	153.29	83.25	96.75	10	
		21.5	40	170.78	160.78	82.44	97.56	2.5	
		23.3	45	165.50	163.00	86.51	93.49	-5	
		26.5	50	165.41	170.41	96.79	93.21	-10	190
		29.7	55	159.51	169.51	99.89	89.94	-20	
		35.0	60	156.68	176.68	120.78	90.11	-25	210
		41.4	65	150.33	175.33	122.80	87.20	-32	
		51.1	70	146.45	178.45	131.68	78.32	-32	

Order example: **CUCMSC 65-10** (cod. + **W** + **θ** + (Option))

Aerial Cam Units (80mm)

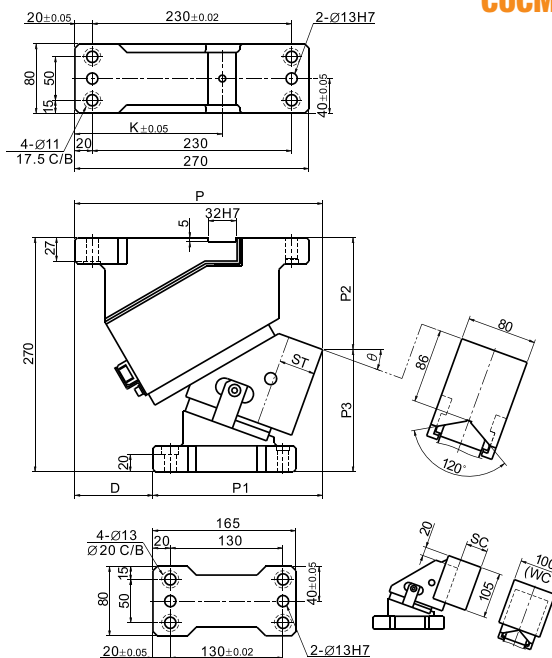


Code

CUCMSC 80



CUCMSC 80

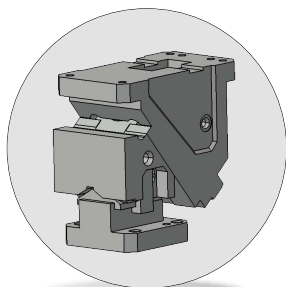


Mounting Method	Working Face (Option)
Blank: Drawing Shape K: Key width 32 mm assemble	Blank: As drawing SC: The mount surface is extended forward in the range of from 10 to 60 mm (At increments of 10 mm) WC: The Mount width is changed to 100 mm

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	K
CUCMSC CUCMSF	80	32.1	0	260.00	160.00	99.00	171.00	100	130
		38.4	5	272.93	172.93	109.39	160.61		150
		38.9	10	279.92	179.92	120.43	149.57		
		39.7	15	285.93	185.93	132.04	137.96		
		46.1	20	285.90	195.90	129.12	140.88	90	170
		47.8	25	289.80	199.80	141.60	128.40		
		54.3	30	282.59	207.59	134.36	135.64	75	
		57.4	35	284.27	209.27	147.32	122.68		
		64.3	40	274.80	214.80	140.38	129.62	60	
		69.6	45	274.20	214.20	153.44	116.56		
		77.8	50	262.46	227.46	151.39	118.61	35	
		87.2	55	259.60	224.60	164.14	105.86		
		98.5	60	240.64	240.64	176.59	93.41	0	
		81.6	65	235.61	240.61	188.65	81.34	-5	
		86.4	70	227.83	237.83	195.53	74.47	-10	

Order example: **CUCMSC 80-15** (cod. + **W** + θ + (Option))

Aerial Cam Units (150mm)



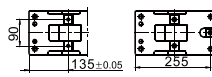
Code

CUCMSC/CUCMSF 150

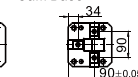


CUCMSC/UCMSF 150

<Key Option>

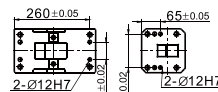


Cam Base



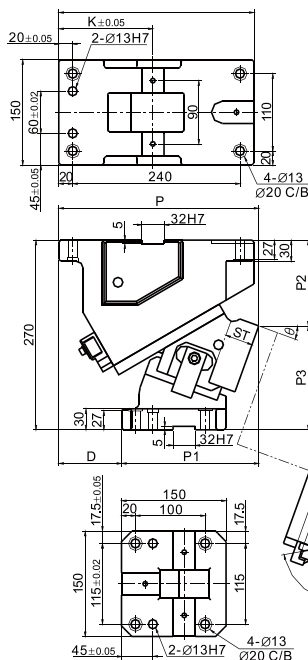
Cam Driver

<Pin Hole Option>



Cam Base

Cam Driver



Mounting Method

Blank: Drawing Shape

K: Key width 32 mm assemble

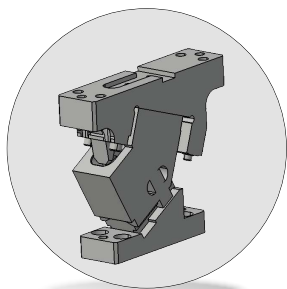
TK: Center key, Cross Key assemble

N12: Dowel pin finished hole for Ø12

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H
CUCMSC CUCMSF	150	32.1	0	280.00	160.00	85.00	185.00	120	100
		32.3	5	288.26	173.26	95.84	174.16	115	
		38.9	10	285.54	180.54	102.36	167.64	105	
		39.7	15	291.79	186.79	114.47	155.53		
		46.1	20	286.97	196.97	122.07	147.93	90	135
		47.8	25	291.02	201.02	135.08	134.92		
		54.3	30	283.92	213.92	138.40	131.60	70	
		57.4	35	285.66	215.66	151.91	118.09		
		64.3	40	276.20	231.20	155.53	114.47	45	170
		69.6	45	275.56	230.56	169.14	100.86		
		77.8	50	263.74	238.74	167.65	102.35	25	
		87.2	55	260.74	235.74	180.94	89.06		
		98.5	60	246.60	246.60	193.92	76.08	0	
		93.2	65	241.35	241.35	206.49	63.51		
		86.4	70	240.01	245.01	218.56	51.44	-5	

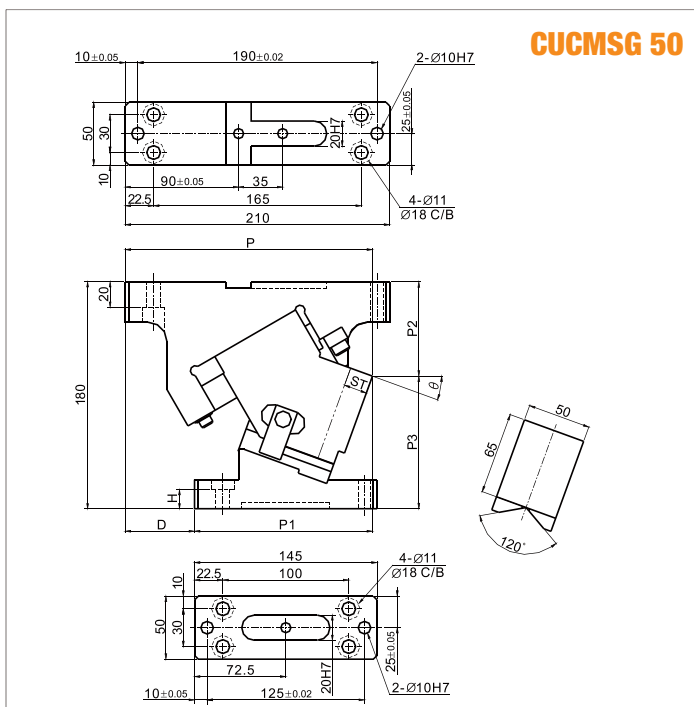
Order example: CUCMSC 150-10 (cod. + W + θ + (Option))

Aerial Cam Units (50mm)



Code

CUCMSG 50



Mounting Method

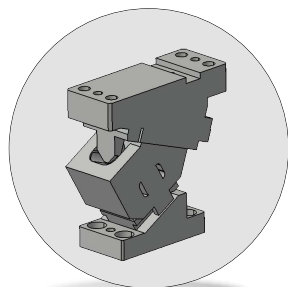
Blank: Drawing Shape

K: Key width 20mm assemble

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H
CUCMSG	50	15.0	0	195.00	115.00	67.50	112.50	80	15
		15.6	5	198.04	123.04	68.29	111.71	75	
		15.6	10	195.99	130.99	69.77	110.23	65	
		17.0	15	198.77	133.77	71.95	108.05		
		18.4	20	196.34	141.34	74.79	105.21	55	
		18.0	25	191.62	150.62	80.28	99.72	41	
		17.4	30	190.58	150.58	85.39	97.61	40	
		18.9	35	187.15	162.15	90.10	89.90	25	
		20.6	40	183.29	160.79	95.35	84.65	22.5	
		22.5	45	179.94	169.94	98.13	81.87	10	
		23.3	50	174.07	169.07	99.37	80.63	5	
		26.1	55	168.64	183.64	111.04	68.96	-15	10
		31.5	60	162.61	187.61	118.08	61.92	-25	
		36.6	65	155.95	190.95	125.44	54.56	-35	
		39.5	70	153.63	193.63	133.06	46.94	-40	

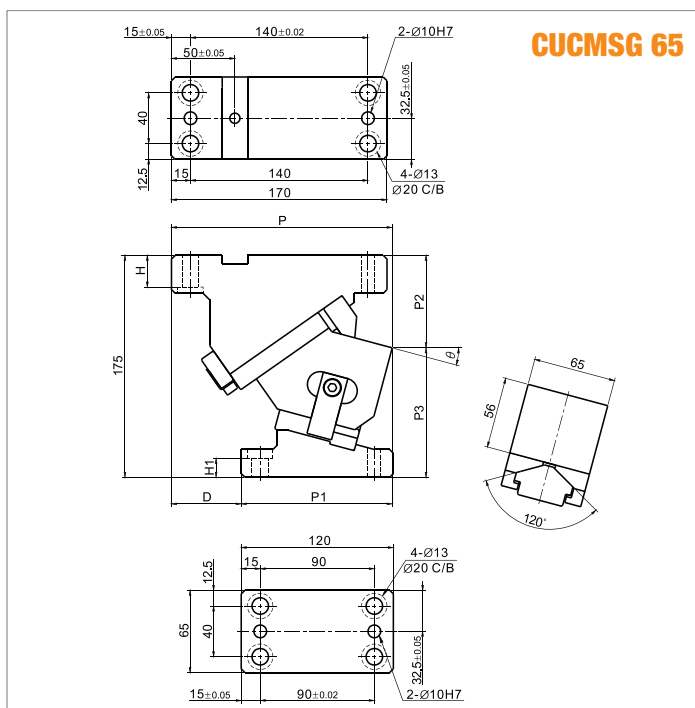
Order example: **CUCMSG 50-10** (cod. + WFW + θ + MM)

Aerial Cam Units (65mm)



Code

CUCMSG 65



Mounting Method

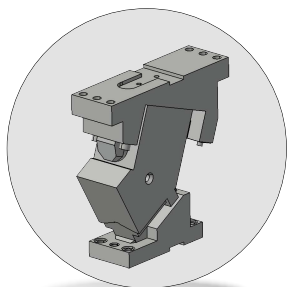
Blank: Drawing Shape

K: Key width 20mm assemble

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H	H1
CUCMSG	65	15.0	0	170.00	100.00	60.00	115.00	70	25	15
		15.6	5	170.36	105.36	67.22	107.78	65		
		15.6	10	175.07	112.57	69.88	105.12	62.5		
		17.0	15	174.09	119.09	72.92	102.08	55		
		18.4	20	172.40	127.40	76.28	98.72	45		
		19.5	30	171.78	136.78	83.71	91.29	35		
		23.1	40	163.07	143.07	91.63	83.37	20		
		24.9	50	156.22	151.22	104.50	70.50	5	15	10
		32.0	60	146.29	161.29	116.78	58.22	-15		

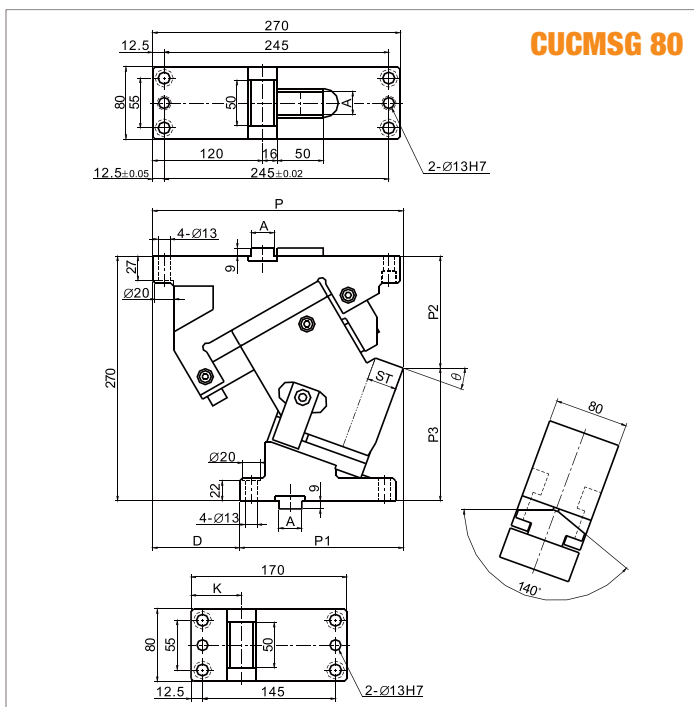
Order example: **CUCMSG 65-10** (cod. + WFW + θ + MM)

Aerial Cam Units (80mm)



Code

CUCMSG 80



Mounting Method

Blank: Drawing Shape

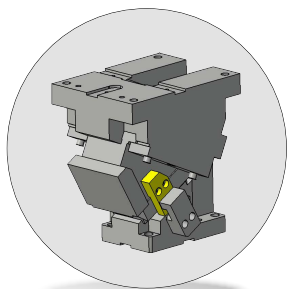
K: Key width 20mm assemble

N12: Dowel pin hole of cam holder and cam driver ae changed to Ø12

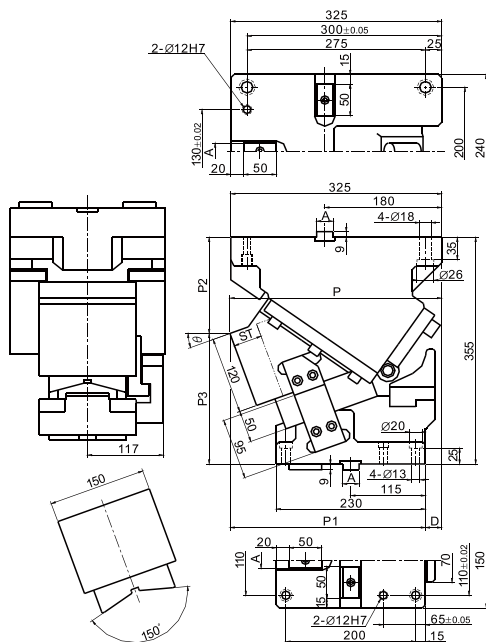
Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	K
CUCMSG	80	30.2	0	277.00	142.00	110.00	160.00	135	65
		30.5	5	278.32	153.32	115.67	154.33	125	
		31.1	10	274.54	164.54	117.32	152.68	110	
		33.9	15	277.58	172.58	119.95	150.05	105	55
		32.3	20	273.34	178.34	123.52	146.48	95	
		35.0	25	268.75	188.75	128.03	141.97	80	
		34.7	30	261.73	196.73	133.42	136.58	65	60
		37.7	35	258.20	203.20	139.66	130.34	55	
		39.9	40	245.09	210.09	146.70	123.30	35	
		43.7	45	245.34	215.34	154.49	115.51	30	50
		46.7	50	255.87	220.87	162.97	107.03	5	
		53.8	55	229.64	229.64	172.07	97.93	0	
		64.1	60	208.58	228.58	181.73	88.27	-20	50
		70.9	65	203.67	233.67	191.87	78.13	-30	

Order example: **CUCMSG 80-10** (cod. + WFW + θ + MM)

Aerial Cam Units (150mm)

**Code**

CUCMSG 150



Mounting Method

Blank: Drawing Shape

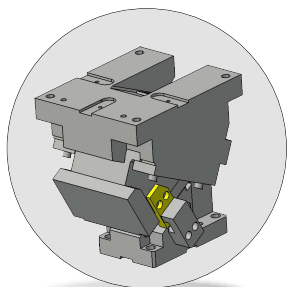
K: Key width 20mm assemble

N12: Dowel pin hole of cam holder and cam driver ae changed to Ø13

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CUCMSG	150	28.7	0	325.00	245.00	130.00	225.00	80
		32.3	5	319.70	259.70	133.26	221.74	60
		35.9	10	319.06	274.06	137.79	217.21	45
		39.7	15	322.98	287.98	143.56	211.44	35
		43.6	20	326.33	301.33	150.51	204.49	25
		47.8	25	329.03	314.03	158.61	196.39	15
		52.3	30	325.98	325.98	167.78	187.22	0
		57.4	35	322.08	337.08	192.95	162.05	-15
		63.0	40	312.26	347.26	204.06	150.94	-35
		69.6	45	306.42	356.42	216.01	138.99	-50
		77.5	50	294.51	364.51	228.71	126.29	-70
		87.2	55	281.46	371.46	242.07	112.93	-90
		99.6	60	272.22	377.22	255.98	99.02	-105
		116.5	65	261.75	381.75	270.34	84.66	-120

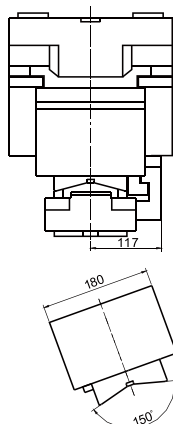
Order example: **CUCMSG 150-10** (cod. + **WFW** + **0** + **MM**)

Aerial Cam Units (200mm)

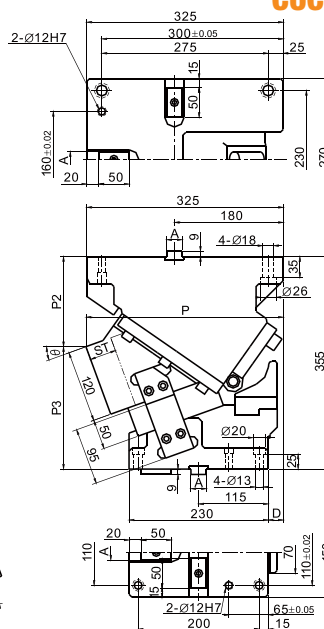


Code

CUCMSG 200



CUCMSG 200



Mounting Method

Blank: Drawing Shape

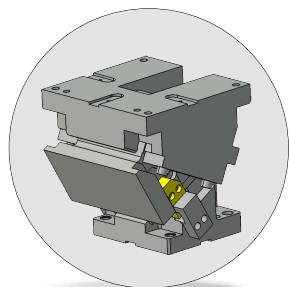
K: Key width 20mm assemble

N12: Dowel pin hole of cam holder and cam driver ae changed to Ø13

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CUCMSG	200	28.7	0	325.00	245.00	130.00	225.00	80
		32.3	5	319.70	259.70	133.26	221.74	60
		35.9	10	319.06	274.06	137.79	217.21	45
		39.7	15	322.98	287.98	143.56	211.44	35
		43.6	20	326.33	301.33	150.51	204.49	25
		47.8	25	329.03	214.03	158.61	196.39	15
		52.3	30	325.98	325.98	167.78	187.22	0
		57.4	35	322.08	337.08	192.95	162.05	-15
		63.0	40	312.26	347.26	204.06	150.94	-35
		69.6	45	306.42	356.42	216.01	138.99	-50
		77.5	50	294.51	364.51	228.71	126.29	-70
		87.2	55	281.46	371.46	242.07	112.93	-90
		99.6	60	272.22	377.22	255.98	99.02	-105
		116.5	65	261.75	381.75	270.34	84.66	-120

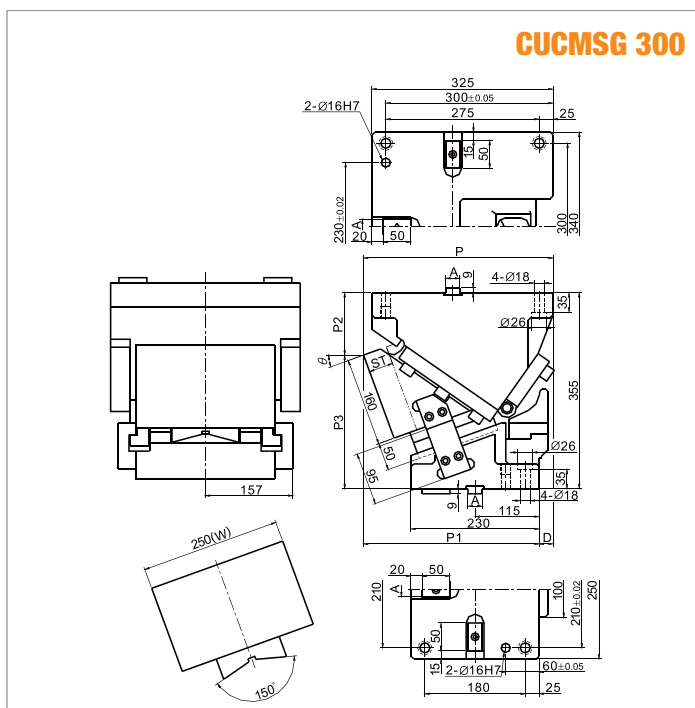
Order example: **CUCMSG 200-10** (cod. + WFW + θ + MM)

Aerial Cam Units (300mm)



Code

CUCMSG 300



Mounting Method

Blank: Drawing Shape

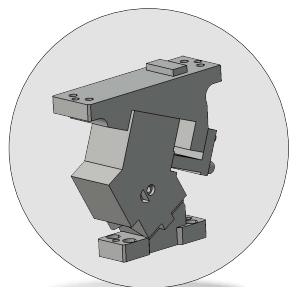
K: Key width 20mm assemble

N12: Dowel pin hole of cam holder and cam driver ae changed to Ø13

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CUCMSG	300	28.7	0	325.00	245.00	90.00	265.00	80
		32.3	5	323.19	263.19	93.41	261.59	60
		35.9	10	326.01	281.01	98.40	256.60	45
		39.7	15	333.33	298.33	104.92	250.08	35
		43.6	20	340.02	315.02	112.93	242.07	25
		47.8	25	345.94	330.94	122.35	232.65	15
		52.3	30	345.98	345.98	133.13	221.87	0
		57.4	35	345.03	360.03	160.19	194.81	-15
		63.0	40	337.97	372.97	173.41	181.59	-35
		69.6	45	334.71	384.71	187.72	167.28	-50
		77.5	50	325.15	395.15	203.00	152.00	-70
		87.2	55	314.23	404.23	219.12	135.88	-90
		99.6	60	306.87	411.87	235.98	119.02	-105
		116.5	65	298.00	418.00	253.44	101.56	-120

Order example: **CUCMSG 300-10** (cod. + WFW + θ + MM)

Aerial Cam Units (70mm)

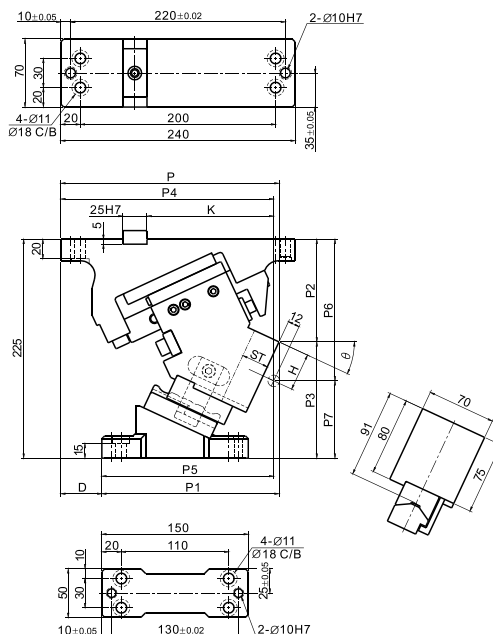


Code

CUCMSNR 70



CUCMSNR 70



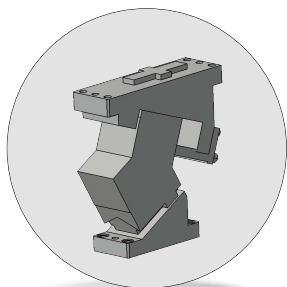
Return Spring

GD: C180-038 (DADCO) 
ISO: TJL25-115 Coil Spring

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	P4	P5	P6	P7	D	K	H
CUCMSNR	70	19.3	0	237.37	135.37	85.00	140.00	249.37	147.37	120	105	102	155.5	35.00
		21.3	5	234.87	142.87	86.28	138.72	243.53	151.53	125	100	92	149.5	37.82
		23.3	10	232.82	151.82	88.76	136.24	237.74	156.74	130	95	81	145.0	39.76
		25.4	15	217.54	160.54	96.59	128.41	219.7	162.67	135	90	57	140.5	36.55
		27.6	20	224.52	172.52	99.67	125.33	222.62	170.62	140	85	52	134.5	38.55
		30.0	25	223.46	181.46	105.45	119.55	218.26	176.26	145	80	42	130.0	38.04
		32.6	30	211.54	181.54	112.99	112.01	204.0	174.03	150	75	30	125.5	35.81
		35.4	35	210.68	193.68	117.20	107.80	198.86	181.86	155	70	17	119.5	37.74
		38.6	40	204.84	200.84	125.07	99.93	191.19	187.19	160	65	4	115.0	35.53
		42.3	45	198.15	200.15	131.28	93.72	181.4	183.4	165	60	-2	110.5	35.68
		46.8	50	190.95	211.95	135.15	89.85	168.08	189.08	170	55	-21	106.0	39.92
		52.3	55	190.51	213.51	146.01	78.99	170.02	193.02	175	50	-23	101.5	33.41
		60.0	60	185.81	220.81	155.86	69.14	167.99	202.99	180	45	-35	98.5	27.50

Order example: **CUAKQLP 50-10-GD (cod. + UDU) θ) PQ'**

Aerial Cam Units (80mm)

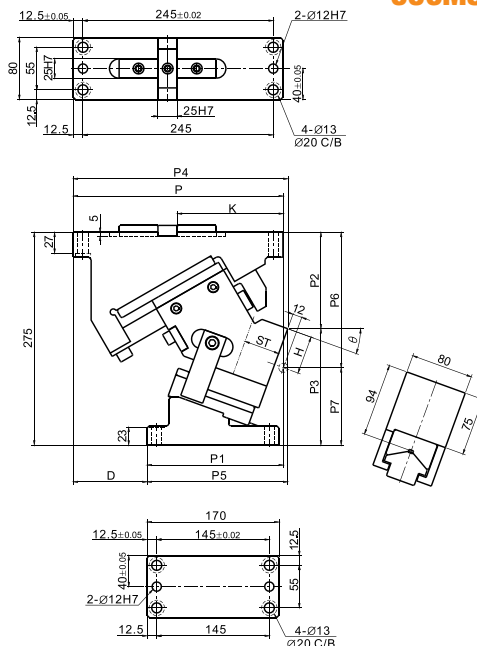


Code

CUCMSNR 80



CUCMSNR 80



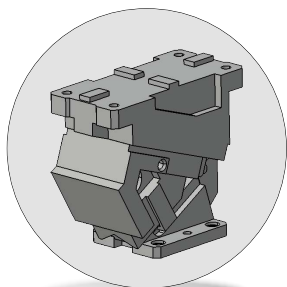
Return Spring

GD: C180-050 (DADCO)
ISO: TJL32-152 Coil Spring

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	P4	P5	P6	P7	D	K	H
CUCMSNR	80	32.10	0	280.00	145.00	110.00	165.00	292.00	157.00	155	120	135	180.0	45.00
		35.50	5	281.31	156.31	115.93	159.07	289.50	164.50	160	115	125	160.0	43.19
		38.90	10	277.50	167.50	117.84	157.16	281.37	171.37	165	110	110	153.0	45.77
		42.40	15	280.48	175.48	120.72	154.28	279.70	174.70	170	105	105	144.0	47.80
		46.10	20	276.16	171.16	124.55	150.45	270.57	175.57	175	100	95	136.5	49.32
		50.00	25	271.47	191.47	129.29	145.71	261.07	181.07	180	95	80	127.5	50.35
		54.30	30	264.33	199.33	134.92	140.08	249.27	184.27	185	90	65	120.0	50.90
		59.00	35	260.66	205.66	141.38	133.62	241.26	186.26	190	85	55	112.5	50.95
		64.30	40	252.32	217.32	147.76	127.24	228.34	193.34	195	80	35	105.0	51.60
		70.45	45	247.46	217.46	156.61	118.39	221.04	191.04	200	75	30	99.0	49.36
		77.80	50	237.80	222.80	165.27	109.73	209.12	194.12	205	70	15	93.0	47.51
		87.20	55	231.36	231.36	174.53	100.47	201.62	201.62	210	65	0	72.0	44.70
		100.00	60	233.95	233.95	185.89	89.11	207.53	207.53	215	60		49.0	37.43

Order example: **CUAKQLP 80-10-GD (cod. + UDU) θ) PQ'**

Aerial Cam Units (165mm)

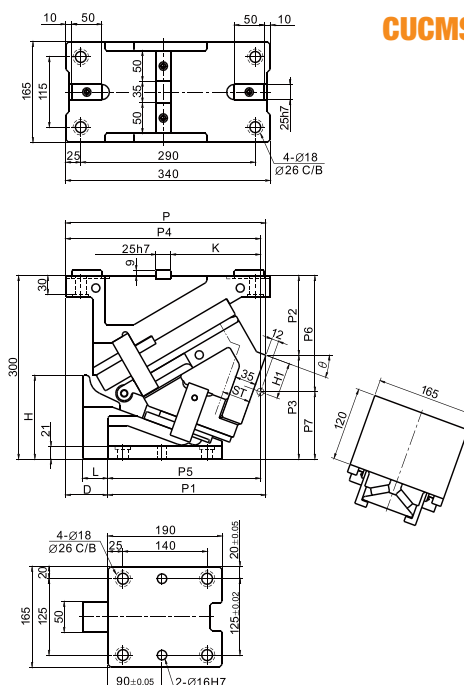


Code

CUCMSNR 165



CUCMSNR 165



Return Spring

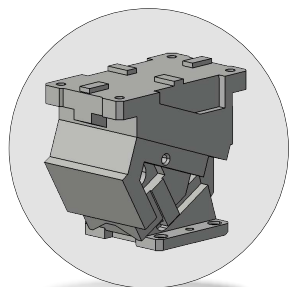
GD: L300.063.138 (DADCO) 
ISO: TJM40-178 Coil Spring

N: Ø16H7 Dowel hole is drilled on the cam holder

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	P4	P5	P6	P7	D	K	H	H1	L
CUCMSNR	165	32.10	0	335.84	207.84	96.98	202.03	347.84	219.84	170	130	128	180.5	80	73.02	55
		35.50	5	335.25	222.25	100.91	199.09	340.82	277.82	175	125	113	173.0	98	73.32	
		38.90	10	337.27	236.27	111.09	188.91	337.30	236.30	180	120	101	165.5	109	67.86	50
		42.40	15	329.78	249.78	122.47	177.53	325.45	245.45	185	115	80	156.5	120	61.53	45
		46.10	20	332.68	262.68	129.99	170.01	323.61	253.61	190	110	70	149.0	137	59.49	42
		50.00	25	332.88	274.88	138.62	161.38	319.83	261.83	195	105	58	140.0	154	56.61	37
		54.30	30	334.28	286.28	148.28	151.72	315.39	267.39	205	95	48	132.5	170	58.57	30
		59.00	35	329.80	296.80	158.89	141.11	305.16	272.16	215	85	33	125.0	187	60.10	
		64.30	40	321.35	306.35	170.38	129.62	291.18	276.18	225	75	15	117.5	204	61.23	25
		70.45	45	314.86	314.86	182.66	117.34	279.49	279.49	235	65	0	111.5		62.02	
		77.80	50	307.27	322.27	195.63	104.37	267.10	282.10	245	55	-15	105.5		62.51	
		87.20	55	296.59	328.59	210.30	89.70	253.67	285.67	255	45	-32	120.0	-	60.97	-
		100.00	60	288.56	333.56	222.26	77.74	238.54	283.54	265	35	-45	113.0		64.69	

Order example: **CUAKQLP 165-15-GD** (cod. + WFW + θ + RS)

Aerial Cam Units (200mm)

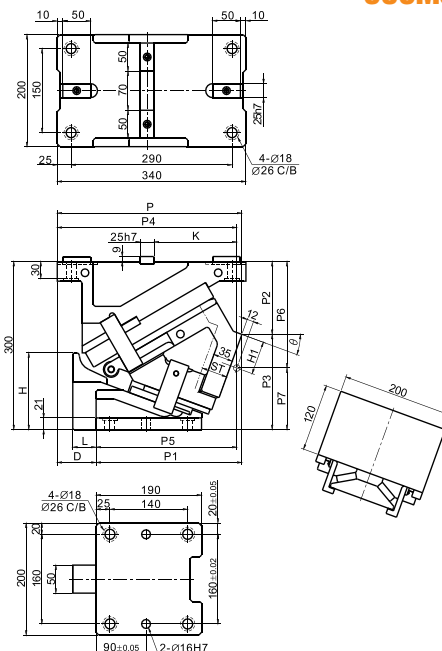


Code

CUCMSNR 200



CUCMSNR 200



Return Spring

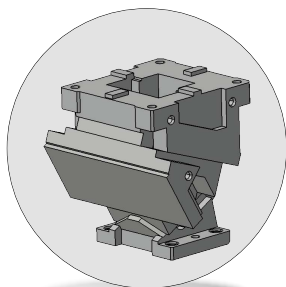
GD: L500.063.138 (DADCO) 
ISO: TJM50-178 Coil Spring

N: Ø16H7 Dowel hole is drilled on the cam holder

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	P4	P5	P6	P7	D	K	H	H1	L
CUCMSNR	200	32.10	0	335.84	207.84	96.98	202.03	347.84	219.84	170	130	128	180.5	80	73.02	55
		35.50	5	335.25	222.25	100.91	199.09	340.82	277.82	175	125	113	173.0	98	73.32	
		38.90	10	337.27	236.27	111.09	188.91	337.30	236.30	180	120	101	165.5	109	67.86	50
		42.40	15	329.78	249.78	122.47	177.53	325.45	245.45	185	115	80	156.5	120	61.53	45
		46.10	20	332.68	262.68	129.99	170.01	323.61	253.61	190	110	70	149.0	137	59.49	42
		50.00	25	332.88	274.88	138.62	161.38	319.83	261.83	195	105	58	140.0	154	56.61	37
		54.30	30	334.28	286.28	148.28	151.72	315.39	267.39	205	95	48	132.5	170	58.57	30
		59.00	35	329.80	296.80	158.89	141.11	305.16	272.16	215	85	33	125.0	187	60.10	
		64.30	40	321.35	306.35	170.38	129.62	291.18	276.18	225	75	15	117.5	204	61.23	25
		70.45	45	314.86	314.86	182.66	117.34	279.49	279.49	235	65	0	111.5	220	62.01	
		77.80	50	307.27	322.27	195.63	104.37	267.10	282.10	245	55	-15	105.5		62.51	
		87.20	55	296.59	328.59	210.30	89.70	253.67	285.67	255	45	-32	120.0	-	60.97	-
		100.00	60	288.56	333.56	222.26	77.74	238.54	283.54	265	35	-45	113.0		64.69	

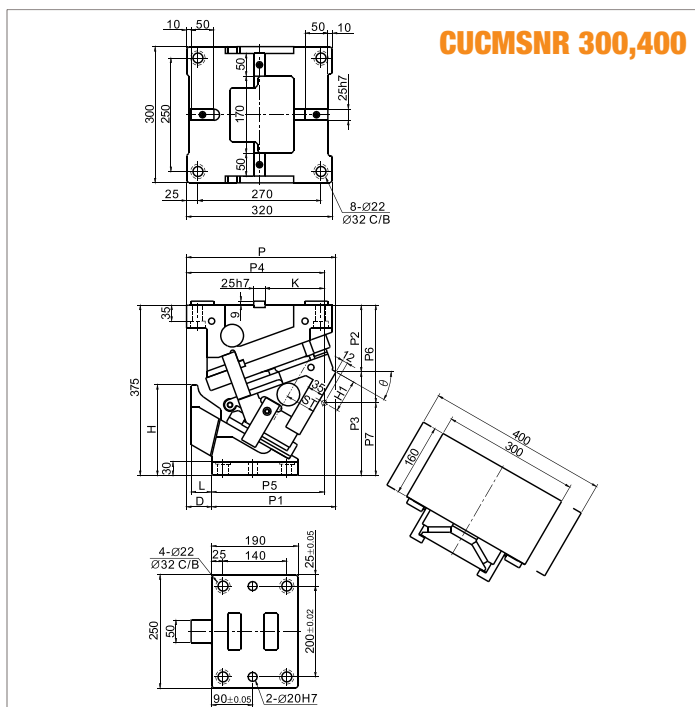
Order example: **CUAKQLP 200-15-GD** (cod. + WFW + θ + RS)

Aerial Cam Units (300,400mm)



Code

CUCMSNR 300,400



Return Spring

GD: L500.075.138 (DADCO) 

ISO: TJM50-203 Coil Spring

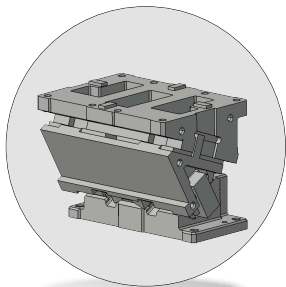
N: Ø16H7 Dowel hole is drilled on the cam holder

N20: Dowel pin holes of cam hold are changed to Ø20

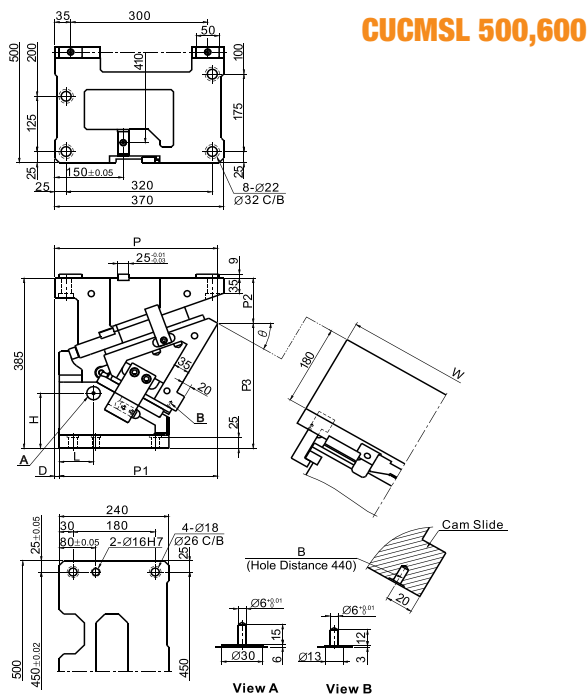
Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	P4	P5	P6	P7	D	K	H	H1	L
CUCMSNR	300 400	38.60	0	313.00	175.00	98.00	277.00	325.00	187.00	180	195	139	193.0	114	82.00	55
		42.60	5	317.15	192.15	104.19	270.81	322.13	197.13	185	190	125	182.5	127	80.07	
		46.70	10	324.13	209.13	111.86	263.14	322.54	207.54	190	185	115	172.0	139	77.23	
		50.90	15	325.82	225.82	121.01	253.99	318.41	218.41	195	180	100	161.5	152	73.39	
		55.30	20	327.08	242.08	131.59	243.41	314.95	229.95	200	175	85	151.0	164	68.43	
		60.00	25	334.71	259.71	138.65	236.35	317.01	242.01	205	170	75	140.5	182	67.61	50
		65.10	30	327.83	272.83	146.89	228.11	302.36	247.36	215	160	55	130.0	200	71.71	45
		70.80	35	334.51	289.51	159.17	215.83	303.07	258.07	225	150	45	121.0	216	71.96	35
		77.10	40	325.46	300.46	167.30	207.70	284.32	259.32	235	140	25	112.0	237	78.30	30
		84.50	45	324.84	317.84	179.24	195.76	276.04	269.04	245	130	7	103.0	256	81.01	
		79.30	50	306.63	341.63	196.84	178.16	244.08	279.08	265	110	-35	94.0		91.73	
		88.90	55	277.93	362.93	229.29	145.71	219.29	304.29	285	90	-85	86.5	-	79.99	
		102.00	60	286.45	371.45	245.64	129.36	216.29	301.29	300	75	-85	79.0		87.94	

Order example: **CUAKQLP 300-15-GD** (cod. + WFW + θ + RS)

Aerial Cam Units (500,600mm)

**Code**

CUCMSL 500,600



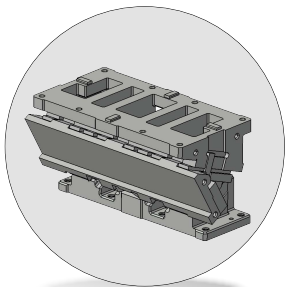
Return Spring

GD: L70.075.TO.140 (DADCO) 

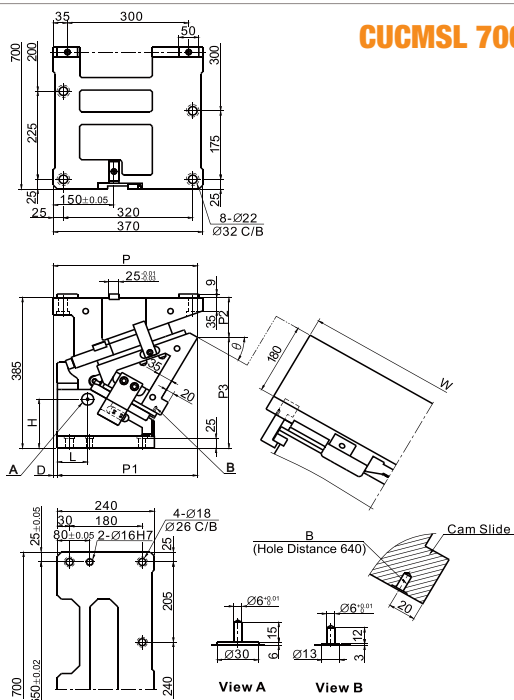
Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H	L
CUCMSL	500 600	38.6	0	323.00	228.00	57.00	328.00	95	55	75
		42.6	5	329.58	249.58	58.64	326.36	80	70	
		46.7	10	335.94	270.94	62.16	322.84	65	80	
		50.9	15	341.91	291.91	67.52	317.48	50	95	
		55.3	20	347.34	312.34	74.69	310.31	35	110	
		60	25	347.06	332.06	83.62	301.38	15	120	
		65.1	30	350.93	350.93	104.23	280.77	0	125	
		70.8	35	353.80	368.80	116.44	268.56	-15	135	
		77.1	40	355.54	385.54	130.16	254.84	-30	140	100
		84.5	45	361.02	401.02	145.29	239.71	-40	160	
		93.3	50	355.12	415.12	161.72	223.28	-60	160	110
		104.6	55	367.74	427.74	179.31	205.69	-60	180	
		120	60	378.77	438.77	197.93	187.07	-60	180	130

Order example: **CUCMSL 300-10** (cod. + **WFW** + **0** + **RS**)

Aerial Cam Units (700,800mm)

**Code**

CUCMSL 700,800



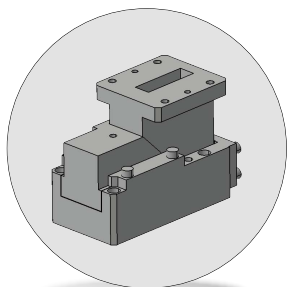
Return Spring

GD: L70.075.TO.140 (DADCO) 

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H	L
CUCMSL	700 800	38.6	0	323.00	228.00	57.00	328.00	95	55	75
		42.6	5	329.58	249.58	58.64	326.36	80	70	
		46.7	10	335.94	270.94	62.16	322.84	65	80	
		50.9	15	341.91	291.91	67.52	317.48	50	95	
		55.3	20	347.34	312.34	74.69	310.31	35	110	
		60	25	347.06	332.06	83.62	301.38	15	120	
		65.1	30	350.93	350.93	104.23	280.77	0	125	
		70.8	35	353.80	368.80	116.44	268.56	-15	135	
		77.1	40	355.54	385.54	130.16	254.84	-30	140	100
		84.5	45	361.02	401.02	145.29	239.71	-40	160	
		93.3	50	355.12	415.12	161.72	223.28	-60	160	110
		104.6	55	367.74	427.74	179.31	205.69	-60	180	
		120	60	378.77	438.77	197.93	187.07	-60	180	130

Order example: **CUCMSL 700-10** (cod. + **WFW** + **0** + **RS**)

Die Mounted Cam Units (52~300mm)

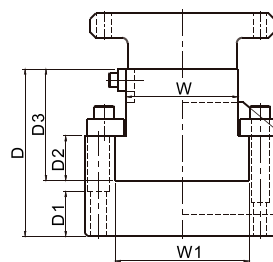
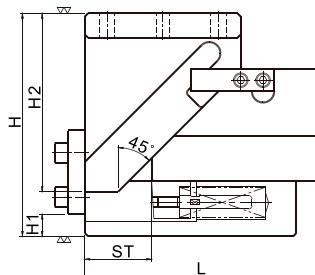
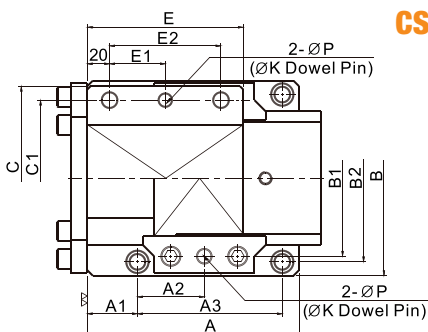


Code

CSKCA/CSKC 52~300



CSKCA/CSKC 52~300



Product Code

CSKCA: Dowel pin hole finished
CSKC: Dowel pin prepared hole

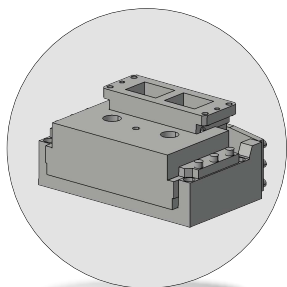
Mounting Method

N: Pin hole (K H7)

Catalogue No.	Working Face Width	Stroke	B	L	H	D	D1	D2	D3	W1	H1	H2	A	A1	A2	A3	B1	B2	E	C	C1	E1	E2	P	K		
CSKCA CSKC	52	25	98	120	140	100	35	25	65	65	15	90	120	30	40	80	80	80	80	98	80	20	40	7	8		
		40		135								50	95		90	25			50								
		60		180								25	140		110	35			70								
	65	40	130	140	160	115	40	30	70	80	25	110	145	30	50	100	105	105	100	130	105	30	60	9	10		
		60		190								130	180		40	65			125			110	35			70	
		80		250								45	160		140	150			140			165	140			50	100
	100	40	175	190	200	150	40	40	100	120	30	140	190	45	60	130	140	150	120	165	140	40	80	11	13		
		60		210								160	90		160	140			150			50	100			40	80
		80		250								10	170		220	90			160			150	55			110	
	150	40	260	190	220	170	60	40	100	180	45	140	190	45	60	125	210	220	120	230	200	40	80	15	16		
		60		210								160	65		135	140			150			50	100			40	80
		80		250								160	200		65	135			140			150	50			100	40
	200	40	310	200	240	180	60	40	110	230	40	160	200	45	65	135	260	270	130	280	250	45	90	15	16		
		60		220								180	210		75	145			150			55	110				
		80		260								170	200		60	135			310			320	140			160	50
	250	40	360	210	270	210	60	50	130	280	50	170	200	45	60	135	310	320	140	330	300	50	100	15	16		
		60		230								190	220		80	155			160			60	120				
		80		270								190	220		80	155			160			50	100			60	120
	300	40	410	210	270	210	60	50	130	330	50	170	200	45	60	135	360	370	140	380	350	50	100	15	16		
		60		230								190	220		80	155			160			50	100			60	120
		80		270								190	220		80	155			160			50	100			60	120

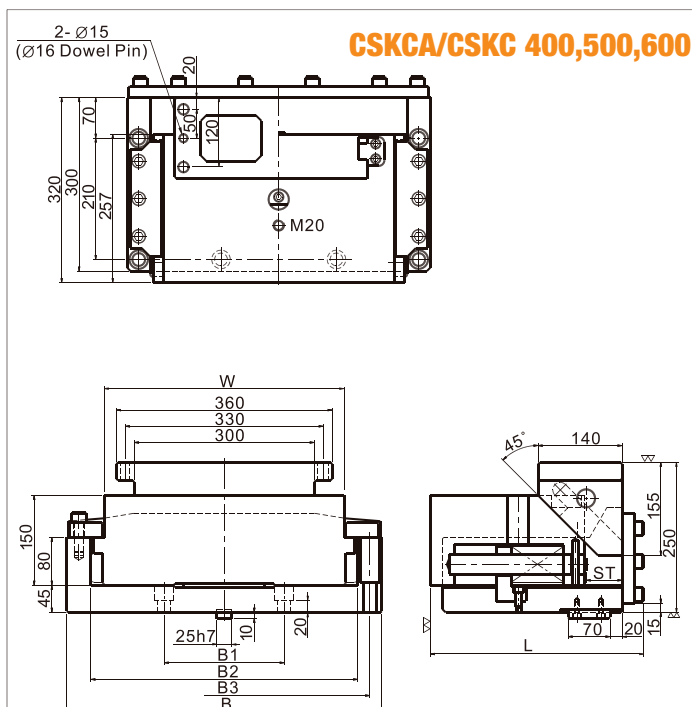
Order example: **CSKCA 65-00-52** (cod. + WFW + 00 + Stroke)

Die Mounted Cam Units (400~600mm)



Code

CSKCA/CSKC 400~600

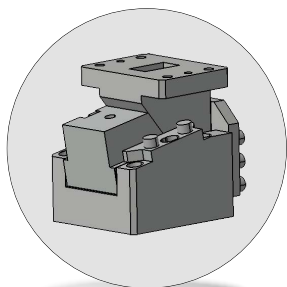


Product Code	Mounting Method	Mounting Bolt
CSKCA: Dowel pin hole finished CSKC: Dowel pin prepared hole	N: Pin hole (K H7)	Cam Base: M20 Cam Driver: M16

Catalogue No.	Working Face Width	Stroke	L	L1	B	B1	B2	B3	B4	K
CSKCA CSKC	400	60	356	320	525	200	445	485	300	Ø16
	500	60	361	320	625	200	545	585	300	Ø16
	600	60	361	320	725	300	645	685	400	Ø16

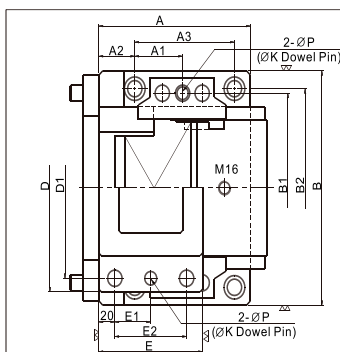
Order example: **CSKCA 400-00-60-K** (cod. + WFW + 00 + Stroke + K)

Die Mounted Cam Units (65~150mm)

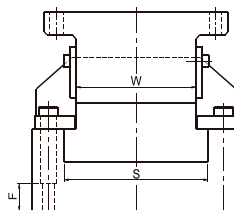
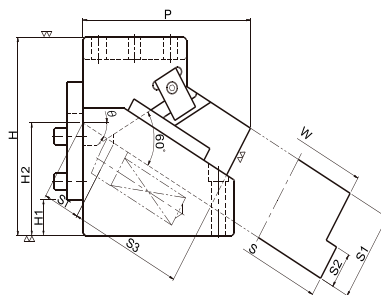


Code

CSKCA/CSKC 65~150



CSKCA/CSKC 65,100,150



Product Code

CSKCA: Dowel pin hole finished
CSKC: Dowel pin prepared hole

Mounting Method

N: Pin hole (K H7)

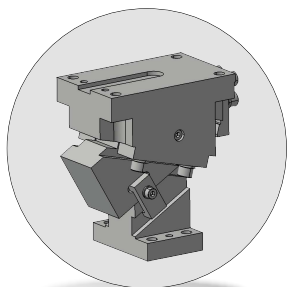
Mounting Bolt & Dowel Pin

Catalog No.	Working Face (W)	P	K	Bolt
CSKCA CSKC	65	9	10	10
	100	11	12 or 13	12
	150	15	16	16

Catalogue No.	Working Face Width	Stroke	Ø	P	B	H	D	D1	S	S1	S2	S3	H1	H2	B1	B2	A	A1	A2	A3	E	E1	F
CSKCA CSKC	65	45	5	150.55	130	160	130	105	80	70	30	100	12.5	55	105	105	145	50	30	100	100	30	20
			10	154.95									20	65				49					
			15	158.18									25	75				50					
			20	160.20									30	85									
		70	5	195.38	130	170	130	105	80	70	30	120	25	65	105	105	180	25	40	125	95	28	20
			10	199.27									75	75							100	30	
			15	201.64									85	85							105	33	
			20	202.48									40	95							110	35	
	100	45	5	172.22	175	200	165	140	120	90	40	120	27.5	68	140	150	160	50	40	105	95	28	25
			10	178.12									30	75							100	30	
			15	182.67									32.5	82							105	33	
			20	185.83									35	90							110	35	
		70	5	207.08	175	200	165	140	120	90	40	130	30	68	150	150	190	25	45	130	115	38	25
			10	212.59									30	80							120	40	
			15	216.48									35	92							125	43	
			20	208.05									45	105							130	45	
	150	45	5	193.01	260	220	230	200	180	100	40	140	30	75	210	220	190	60	45	125	105	33	30
			10	199.55									85	85							110	35	
			15	204.58									95	95							115	38	
			20	208.00									105	105							120	40	
		70	5	217.92	260	220	230	200	180	100	40	140	40	70	210	220	200	75	45	135	125	43	30
			10	224.17									90	90							130	45	
			15	228.73									103	103							135	48	
			20	231.54									115	115							140	50	

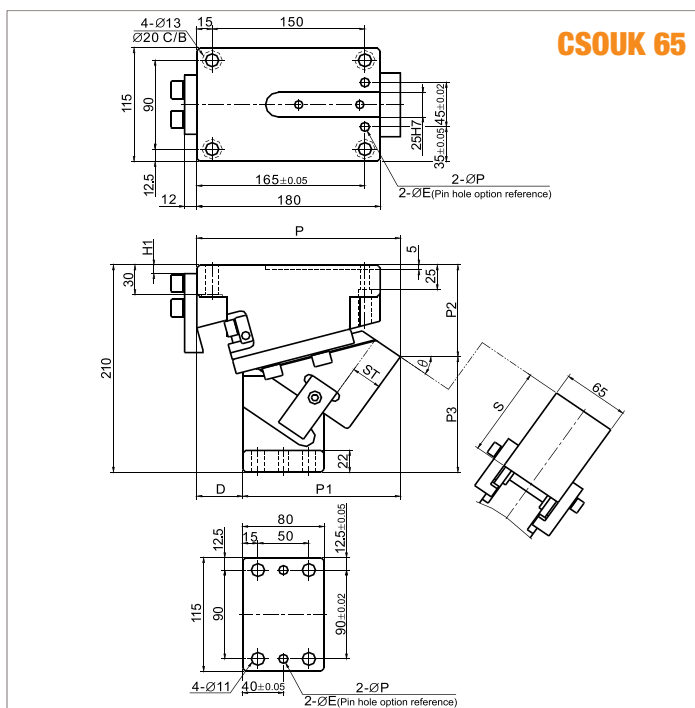
Order example: **CSKCA 65-20-45** (cod. + WFW + Ø + H2)

Aerial Cam Units (65mm)



Code

CSOUK 65



Working Face (Option)

Blank: Prepared pin hole

K: Positioned by the dedicated key for the 25mm

DK: Refer to below chart for Pin hole.

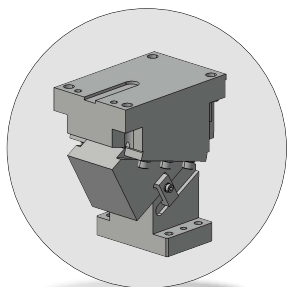
HK: Refer to below chart for Pin table.

HDK: Refer to below chart for Pin hole.

Catalog No.	Working Face (W)	Stroke	θ	P	P1	P2	P3	D	H1	S	ØP	ØE
CSOUK	65	26.9	0	185.94	110.94	56.57	153.43	75	55	80	9	10 12 13
		27.0	5	193.01	123.01	56.57	153.43	70	55	90		
		31.6	10	196.80	126.80	67.58	142.42	40	80			
		32.2	15	203.77	136.77	68.81	141.19	67	90			
		33.8	20	198.10	138.10	74.31	135.69	60	80			
		35.0	25	204.75	149.75	76.73	133.27	55	90			
		33.5	30	193.63	143.63	89.52	120.48	50	80			
		35.4	35	199.76	154.76	93.06	116.94	45	90			
		42.9	40	188.72	148.72	99.62	110.38	40	15	80		
		46.5	45	194.13	160.13	104.16	105.84	34	15	90		
		54.5	50	190.00	160.00	110.00	100.00	30	10	90		
		43.6	55	190.00	170.00	115.00	95.00	20	10	100		
		50.0	60	190.00	170.00	115.00	95.00	20	10	100		
		47.3	65	190.00	190.00	130.00	80.00	0	10	110		
		58.5	70	190.00	190.00	130.00	80.00	0	10	110		

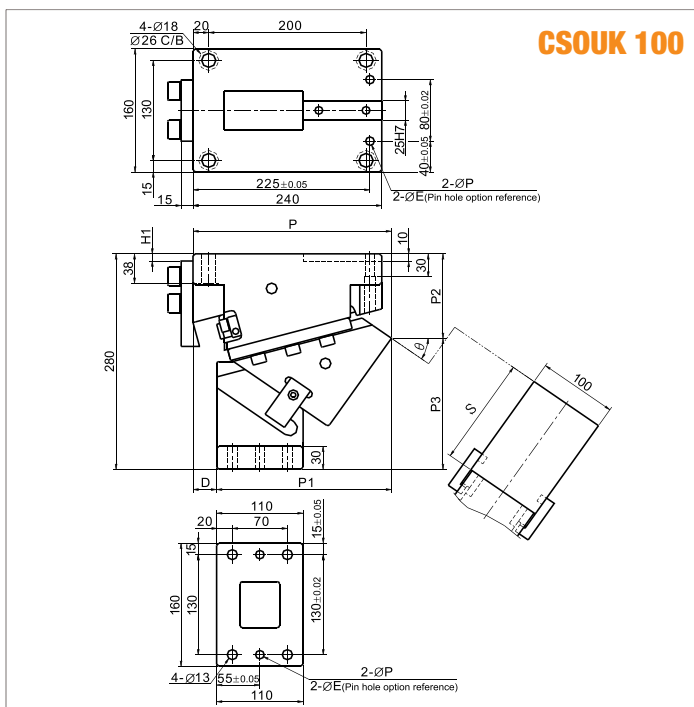
Order example: **CSACD 52-15-WC120 (cod. + WFW + θ + WF(O))**

Aerial Cam Units (100mm)



Code

CSOUK 100



Working Face (Option)

Blank: Prepared pin hole

K: Positioned by the dedicated key for the 25mm

DK: Refer to below chart for Pin hole.

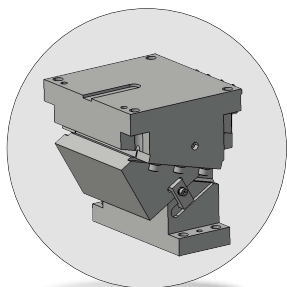
HK: Refer to below chart for Pin table.

HDK: Refer to below chart for Pin hole.

Catalog No.	Working Face (W)	Stroke	θ	P	P1	P2	P3	D	H1	S	ØP	ØE		
CSOUK	100	28.3	0	240.00	180.00	85.00	195.00	60	55	100	11	12 13		
		28.4	5	236.89	176.89	73.82	206.18			140				
		33.3	10	240.00	180.00	90.00	190.00			100				
		33.9	15	254.35	194.35	81.51	198.49			140				
		30.9	20	240.00	190.00	110.00	170.00	50	15	100				
		32.0	25	253.26	203.26	102.60	177.40			140				
		33.5	30	240.00	210.00	110.00	170.00	30		120				
		35.4	35	252.34	222.34	109.69	170.31			140				
		39.0	40	240.00	210.00	115.00	165.00			120				
		42.3	45	247.41	217.41	114.68	165.32							
		46.7	50	240.00	230.00	120.00	160.00	10	10	140				
		52.3	55											
		60.0	60											
		47.3	65											
		58.5	70											
					240.00	145.00	135.00	0						

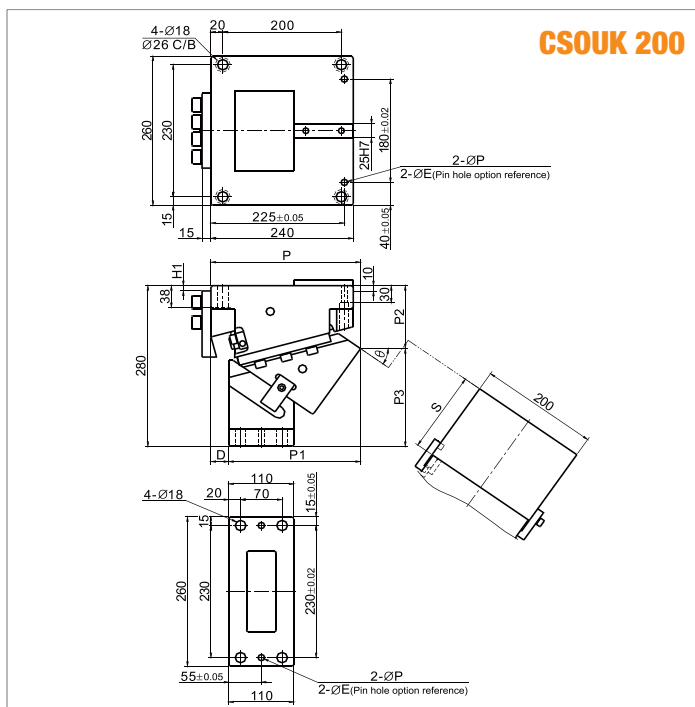
Order example: **CSOUK 100-05-DK12 (cod. + WFW + θ + WF(O))**

Aerial Cam Units (200mm)



Code

CSOUK 200



Mounting Method

Blank: Prepared pin hole

K: Positioned by the dedicated key for the 25mm

DK: Refer to below chart for Pin hole.

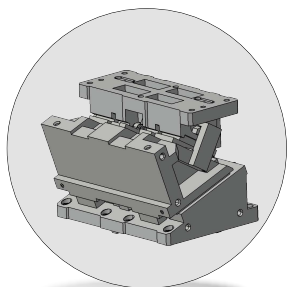
HK: Refer to below chart for Pin table.

HDK: Refer to below chart for Pin table.

Catalog No.	Working Face (W)	Stroke	θ	P	P1	P2	P3	D	H1	S	ØP	ØE
CSOUK	200	28.3	0	240.00	180.00	90.00	190.00	60	60	100	11	12 13
		28.4	5	236.82	176.82	78.84	201.16			130		
		33.3	10	240.00	180.00	90.00	190.00			100		
		33.9	15	254.35	194.35	81.51	198.49			130		
		30.9	20	240.00	190.00	110.00	170.00	50	15	100		
		32.0	25	253.27	203.27	102.60	177.40			130		
		33.5	30	240.00	210.00	110.00	170.00	30	10	120		
		35.4	35	252.34	222.34	109.69	170.31			140		
		39.0	40	240.00	210.00	115.00	165.00			120		
		42.3	45	247.41	217.41	114.68	165.32			140		
		46.7	50	240.00	230.00	120.00	160.00	10		140		
		52.3	55	240.00	240.00	145.00	135.00	0		140		
		60.0	60	240.00	240.00	145.00	135.00			140		
		47.3	65	240.00	240.00	145.00	135.00			140		
		58.5	70	240.00	240.00	145.00	135.00		140			

Order example: **CSOUK 200-10-K (cod. + WFW + θ + MM)**

Die Mounted Cam Units (500, 600mm)

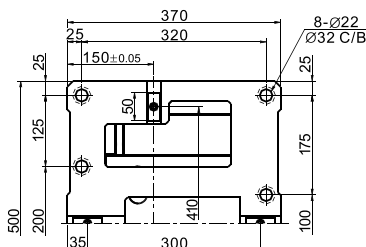
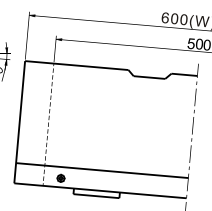
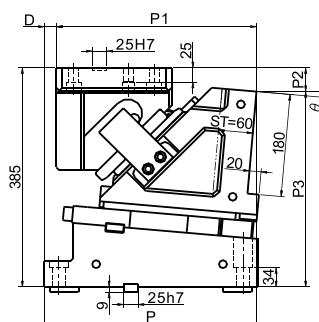
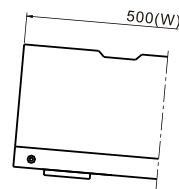
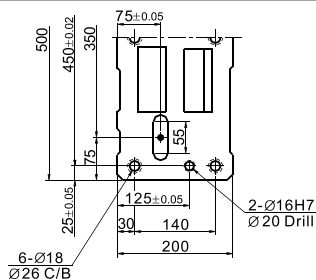


Code

CKCMSL 500,600



CKCMSL 500,600



Return Spring

GD: L750.063.140 (DADCO)

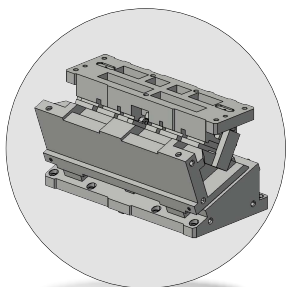


Blank: Gas spring exception.

Catalog No.	Working Face (W)	Stroke	θ	P	P1	P2	P3	D
CKCMSL	500 600	60.0	0	350.00	344.00	25.00	360.00	6
			5	368.00	347.20	41.73	343.27	21
			10	384.93	348.93	56.68	326.32	36
			15	400.17	349.17	75.71	309.29	51
			20	413.93	347.93	92.70	292.30	66

Order example: **CKCMSL 500-20 (cod. + WFW +θ)**

Die Mounted Cam Units (700, 800mm)

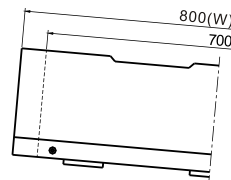
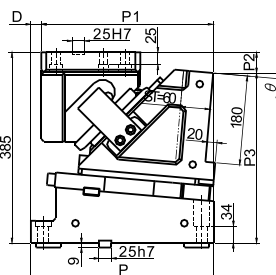
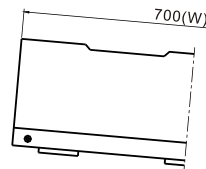
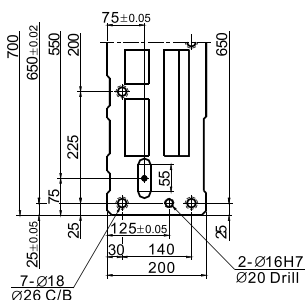


Code

CKCMSL 700,800



CKCMSL 700,800



Return Spring

GD: L750.063.140 (DADCO)

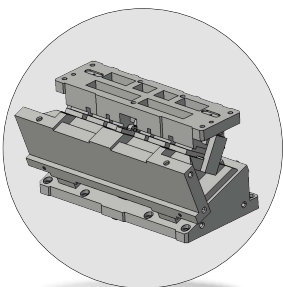


Blank: Gas spring exception.

Catalog No.	Working Face (W)	Stroke	θ	P	P1	P2	P3	D
CKCMSL	700 800	60.0	0	350.00	344.00	25.00	360.00	6
			5	368.00	347.20	41.73	343.27	21
			10	384.93	348.93	56.68	326.32	36
			15	400.17	349.17	75.71	309.29	51
			20	413.93	347.93	92.70	292.30	66

Order example: **CKCMSL 700-20 (cod. + WFW + θ)**

Die Mounted Cam Units (900, 1000mm)

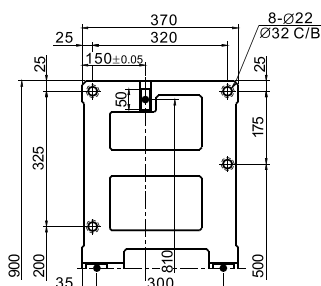
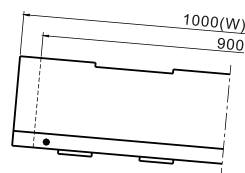
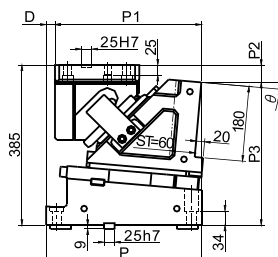
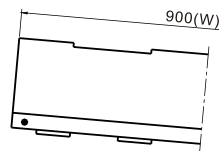
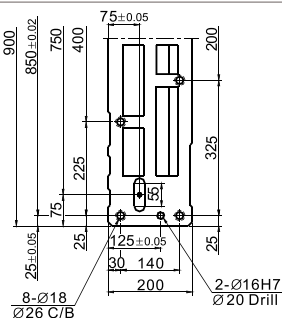


Code

CKCMSL 900,1000



CKCMSL 900,1000



Return Spring

GD: L750.063.140 (DADCO)



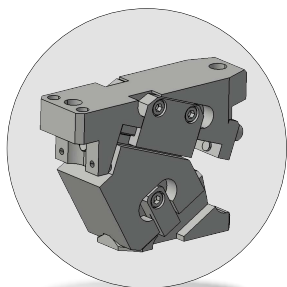
Blank: Gas spring exception.

Catalog No.	Working Face (W)	Stroke	θ	P	P1	P2	P3	D
CKCMSL	900 1000	60.0	0	350.00	344.00	25.00	360.00	6
			5	368.00	347.20	41.73	343.27	21
			10	384.93	348.93	56.68	326.32	36
			15	400.17	349.17	75.71	309.29	51
			20	413.93	347.93	92.70	292.30	66

Order example: CKCMSL 900-20 (cod. + WFW + θ)

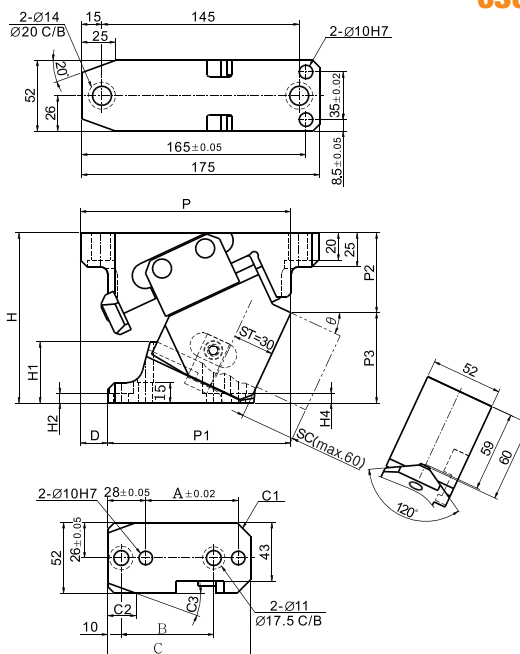
Aerial Cam Units (52mm)

CSUCD 52



Code

CSUCD 52



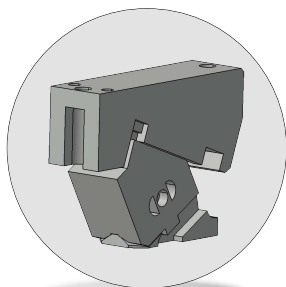
Working Face (Option)

SC: The mount surface is extended ward in the range of 1 to 60mm (in increments of 1 mm)

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H	H1	H2	H4	C1	C2	C3	C4	C5	A	B	C
CSUCD	52	19.3	0	150.00	105.00	43.00	82.00	45	125	21	7	15	5	-	-	59	60	68	68	105
		21.3	5	153.10	111.10	45.21	79.79	42		26										
		23.3	10	153.55	116.55	47.83	77.17	37		31										
		25.4	15	153.32	121.32	50.82	74.18	32		36		10								
		27.6	20	153.38	126.38	55.10	69.90	27		40										
		30	25	154.71	134.71	58.62	66.38	20		45										
		32.6	30	153.28	136.28	63.31	61.69	17		49		12								
		35.4	35	152.09	142.09	67.1	57.90	10		54										
		38.6	40	149.14	145.14	71.93	53.07	4		58		7	15	21	20					
		42.3	45	145.41	149.41	75.73	49.27	-4		63										
		46.7	50	143.92	152.92	79.43	45.57	-9		67										
		52.3	55	144.67	154.67	82.97	42.03	-10		73		17		34						
		60	60	150.69	159.69	90.28	34.72	-9		74										
		47.3	65	130.16	175.16	99.54	25.46	-45		73	12	5								
		58.5	70	133.62	173.62	106.97	18.03	-40		72.5										
		46.3	75	148.74	178.74	124.59	24.41	-30	150	83	15	10	13.5	22.5	70	71	55	55	111	110
		57.3	80																	

Order example: **CSUCD 52-30** (cod. + WFW + θ)

Aerial Cam Units (52mm)

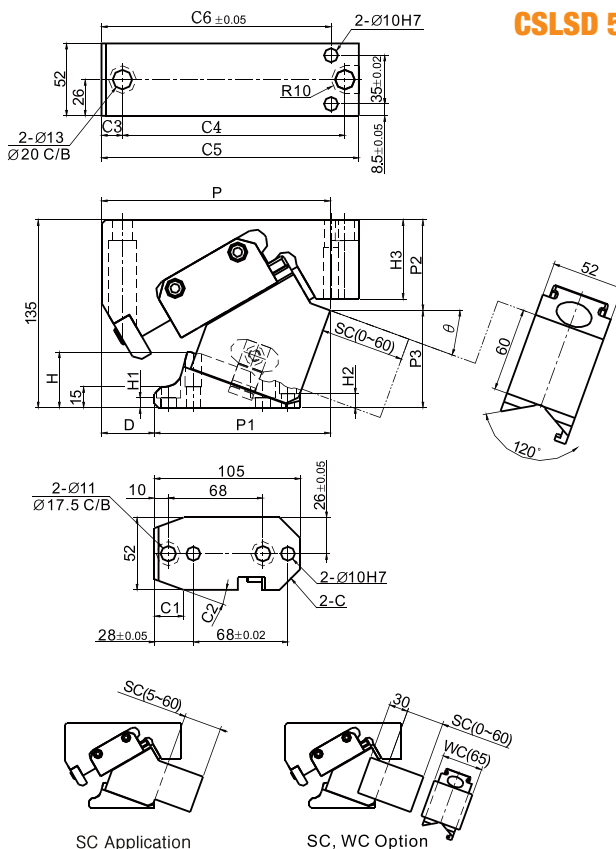


Code

CSLSD 52



CSLSD 52



Working Face (Option)

Blank: As drawing

SC: The mount surface is extended forward in the range from 10 to 60mm (in increments of 10 mm)

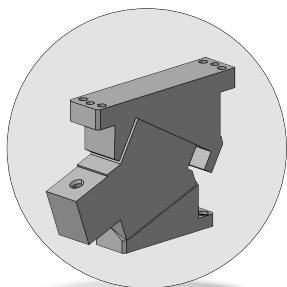
WC: The mount width is changed to 65 mm.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	H	H1	H2	H3	C	C1	C2	C3	C4	C5	C6									
CSLSD	52	30.2	0	161.00	105.00	53.00	82.00	56	21	7	15	49	5	-	-	15	160	185	165									
		31.9	5	162.10	111.10	55.21	79.79	51	26			50																
		35.0	10	162.55	116.55	57.38	77.17	46	31			52																
		38.2	15	164.32	121.32	60.82	74.18	43	36			54																
		41.5	20	164.38	126.38	65.10	69.90	38	40		10	57	10			185	165											
		45.0	25	162.71	134.71	68.62	66.38	28	45			64																
		48.8	30	160.28	136.28	73.31	61.69	24	49			67																
		53.1	35	158.09	142.09	77.10	57.90	16	54			72																
		57.9	40	153.14	145.14	81.93	53.07	8	58		7	74	15							21	20	35	140	175	150			
		54.9	45	139.41	149.41	85.73	49.27	-10	63			78																
		60.7	50	135.92	152.92	89.73	45.57	-17	68			12														34	30	130

Order example: **CSLSD 52-15-SC** (cod. + WFW + WF(O))

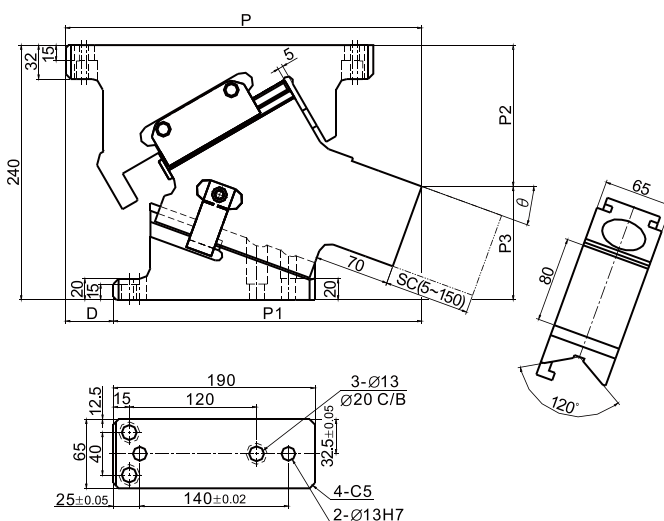
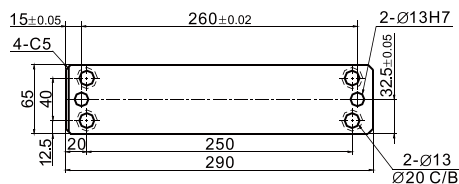
Aerial Cam Units (65mm)

CSULNC 65



Code

CSULNC 65



Working Face (Option)

Blank: Drawing Shape

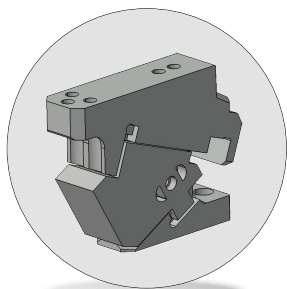
SC: The mount surface is extended forward in the range of from 5 to 150mm (in increments of 5 mm)

N12: Dowel pin hole of cam holder and cam driver are changed to Ø 12

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D
CSULNC	65	30.2	0	335.00	260.00	93.00	147.00	75.0
		31.9	5	338.62	268.62	99.49	140.51	70.0
		35.0	10	341.65	276.65	106.70	133.30	65.0
		31.4	15	339.01	284.01	114.58	125.41	55.0
		32.3	20	335.66	290.66	133.09	106.91	45.0
		35.0	25	331.55	296.55	142.14	97.86	35.0

Order example: **CSULNC 65-05** (cod. + WFW + θ)

Aerial Cam Units (52mm)

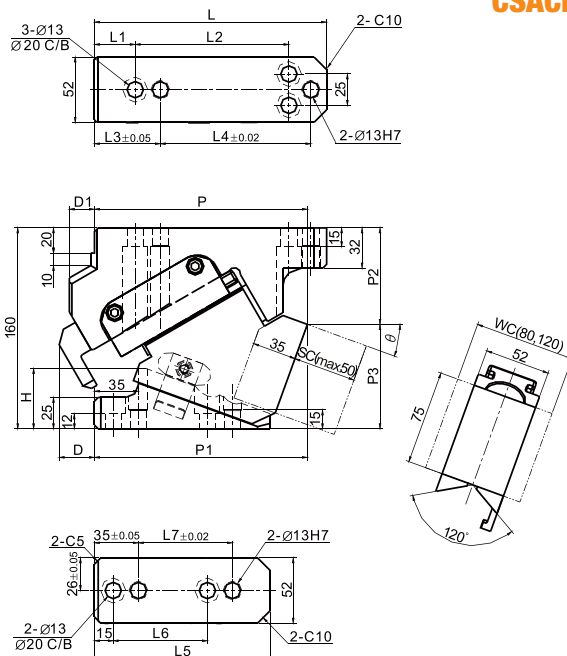


Code

CSACD 52



CSACD 52



Working Face (Option)

Blank: As drawing

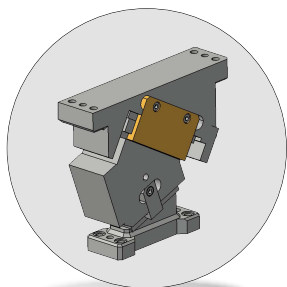
SC: The mount surface is extended forward in the range from 5 to 50mm (in increments of 5 mm)

WC: The mount width is changed to 80/120 mm.

Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	D1	L	L1	L2	L3	L4	L5	L6	L7	H
CSACD	52	30.2	0	160.00	125.00	42.00	118.00	35	20	175	27.5	117.5	47.5	115	125	75	75	41
		33.4	5	161.10	136.10	53.31	106.69	25	25						130			40
		36.6	10	159.28	144.28	62.11	97.89	15	25									42
		39.9	15	168.99	151.49	66.32	93.68	17.5	20	32.5	122.5	52.5	120	140		49		
		43.3	20	169.72	169.72	76.86	83.14	0							48			
		47.0	25	168.92	168.92	78.63	81.37	-13							55			
		51.0	30	166.59	166.59	85.55	74.45	-17.5	17	185	37.5	117.5	57.5	115	115	60	60	63
		55.4	35	163.72	163.72	92.52	67.48	-30	16									68
		60.4	40	163.80	173.80	98.47	61.53	-10	10									70
		66.2	45	157.35	180.35	104.78	55.22	-23			78.5							
		73.1	50	159.37	174.37	103.89	56.11	-15			-	47.5	107.5	67.5	105	90	40	40
		64.5	55	152.53	182.53	111.09	48.91	-30										
		54.0	60	142.95	157.95	113.10	46.9	-15										

Order example: **CSACD 52-15-WC120 (cod. + WFW + θ + WF(O))**

Aerial Cam Units (65mm)

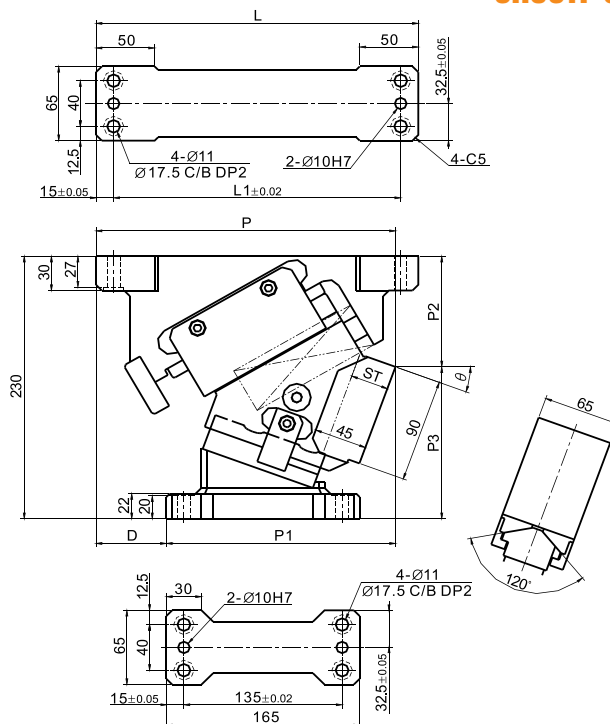


Code

CHUCTF 65



CHUCTF 65



Catalog No.	Working Face (W)	Stroke (ST)	θ	P	P1	P2	P3	D	L	L1
CHUCTF	65	22.5	0	255.00	160.00	79.20	150.8	95	275	245
		22.6	5	265.68	170.68	82.29	147.71			
		27.2	10	256.04	181.04	86.29	143.71	75		
		27.8	15	266.02	191.02	91.18	138.82			
		32.3	20	255.53	195.53	96.93	133.07	60		
		33.4	25	264.51	204.51	103.48	126.52			
		38.0	30	252.88	212.88	110.79	119.21	40	290	260
		40.2	35	260.58	220.58	118.80	111.2			
		45.0	40	242.56	222.56	122.45	107.55	20		
		48.7	45	248.75	228.75	131.67	98.33			
		54.5	50	236.28	236.28	125.98	104.02	0		
		61.0	55	240.78	240.78	136.14	93.86			
		70.0	60	234.50	244.50	145.31	94.69	-10		
		68.5	65	231.79	276.79	146.72	83.28	-45		
		67.2	70	228.97	273.97	147.89	82.11			

Order example: **CHUCTF 65-40 (cod. + WFW + θ)**

Cam Units

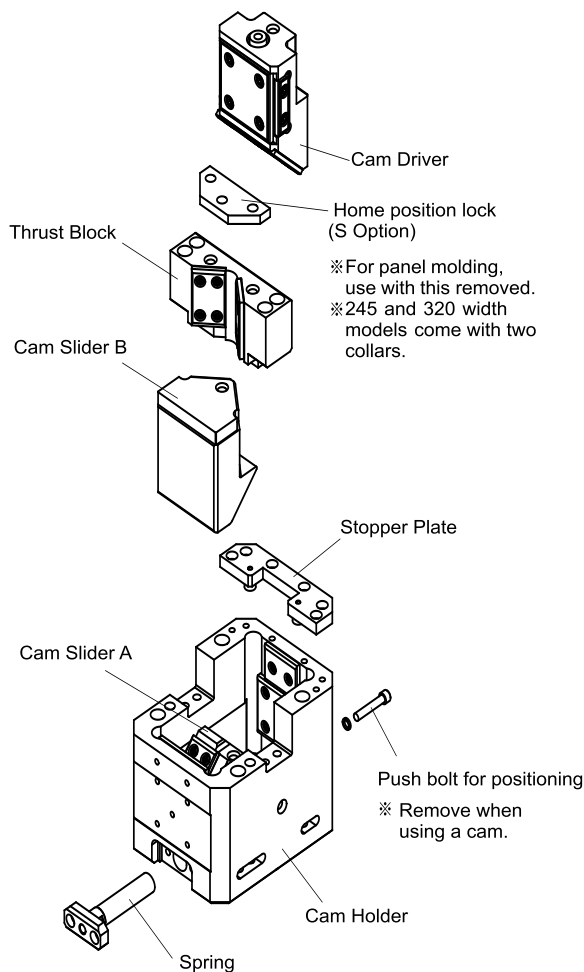
Counter Cam Unit



THRUST BLOCK TYPE

The counter cam unit CCTS and CCTVS series are the optimum cam units for bending panels upward. There are 8 variations available; regular/robust type and 4 different widths

■ Structure and features of counter cam unit

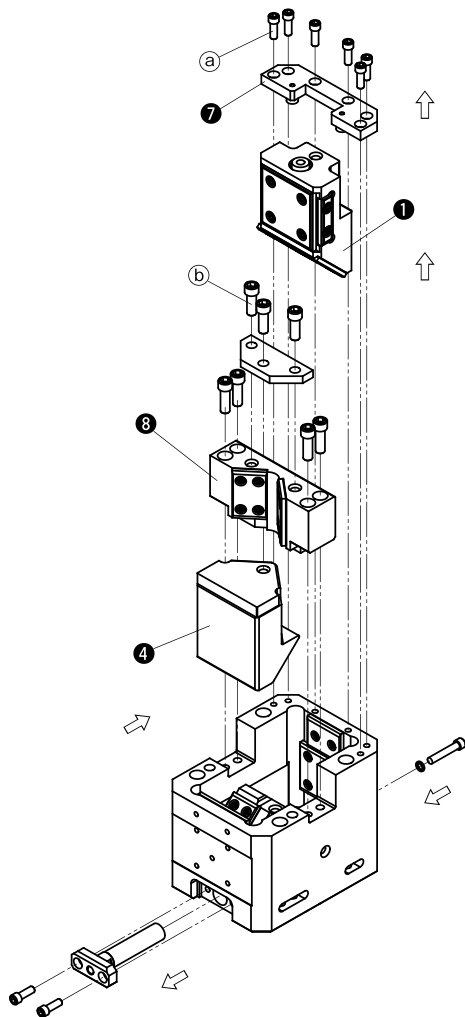


- Robust structure integrated into the casting is applied.
 - The highly rigid type is reinforcing the backup wall of cam slider B. It is not necessary to machine the die for backup.
 - V-shaped cam slider B is highly resistant to the reaction force on the side.
- (145/245/320 mm wide only)
- Urethane stopper for shock absorption are provided on the stopper plate to prevent direct force on the screws.
 - The thrust block is installed as the stopper block could prevent the cam slider B from lifting up over the specified stroke.
 - A thread hole is drilled so that a pushing bolt for the end-position kit could be installed.

Counter Cam Unit

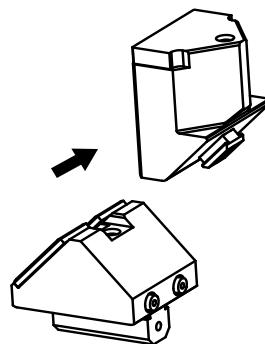
■ Assembly method of CCTCS/CCTVS

1. Assemble components in the reverse order of disassembly.
- Make sure that there is no foreign matter on the sliding area and assemble components.
- When cam is disassembled and then reassembled, please do not forget to assemble all bolts provided.



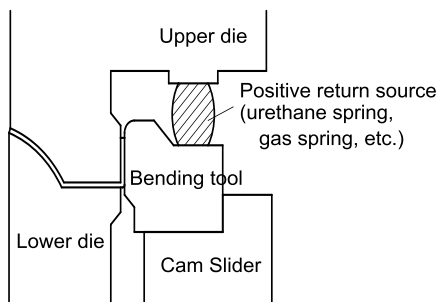
■ Disassembly method of CCTCS/CCTVS

1. Loosen hexagon socket head bolt (a) and remove stopper plate (7).
 2. Pull and remove cam driver (1) upward.
 3. Remove hexagon socket head bolt (b) and remove thrust block (8).
 4. Slide cam slider B (4) with positive return obliquely upward and remove it. (See the figure below).
- (In the same way, slide cam slider B diagonally from above to assemble.)

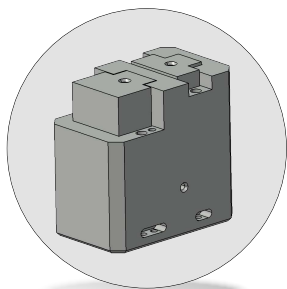
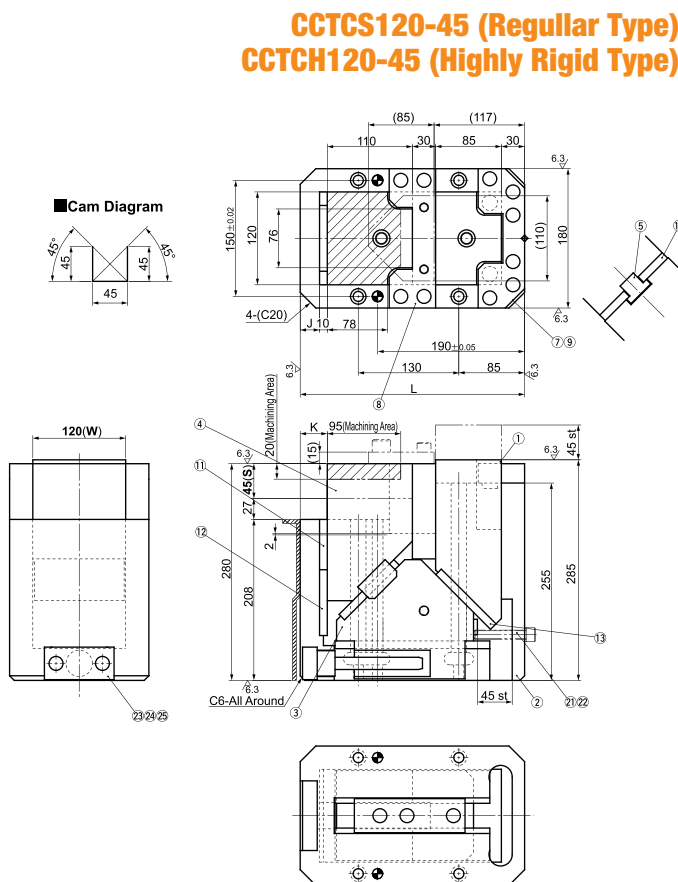


■ For Operation

In order to make the counter cam unit correctly track the up-down motion of the press, use a return assist pressure source (urethane spring, gas spring, etc.) (See the figure below).



Counter Cam Unit

**Code****CCTCS/CCTCH 120-45**

Catalog No.	(W)	Travel S	Working Force kN(tonf)	Spring PS*	Total Weight (kg)
CCTCS CCTCH	120	45	29.4 (3.0)	ISO NISO GD NGD	88.0

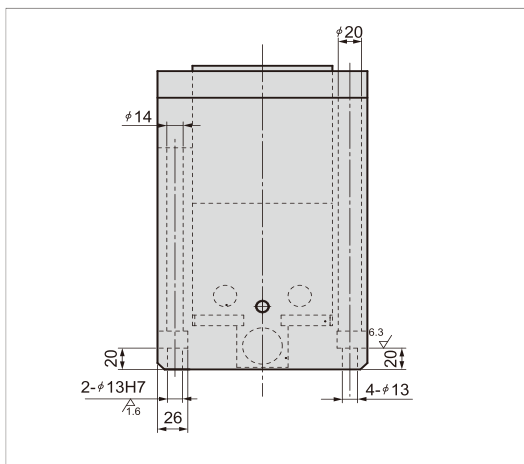
Option Code	Specification
S	End-position kit is included
N12	Dowel pin holes of holder are changed to Ø12H7
NF	Nitrogen gas is not charged.

■ Spring Specification

Spring (PS)	Spring Force N(kgf)	
	Initial	Final
ISO	330 (33.7)	1815 (185.1)
GD	1407 (143.5)	2072 (211.3)

* If no spring is required, specify "NISO" or "NGD" prefixing "N" to the ISO or GD spring

Counter Cam Unit



■ Specification

Catalog No.	J	K	L
CCTCS	25	35	290
CCTCS	35	45	300

■ Table Components

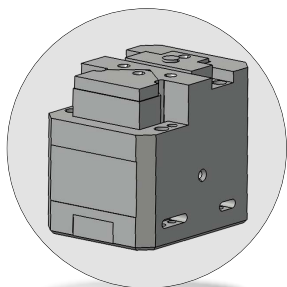
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Holder	1
3	Cam Slider A	1
4	Cam Slider B	1
5	Cam Positive Return	1
6	Spring Guide Block	1
7	Stopper Plate	1
8	Thrust Block	1
9	Stopper	4
10	Spring Stopper	1
11	Wear Plate	1
12	Wear Plate	1
13	Wear Plate	1
14	Wear Plate	4
15	Wear Plate	2
21	Spacer	1
22	Locate Cap Bolt	1
23	Spring Stopper A	1
24	Spring Guide Pin	1
25	Coil Spring	1

Order example: **CCTCS 120-45-ISO** (cod. + **W** + **Stroke** + **PS**)

* For the spring specification, refer to the above and below.

- ISO --- TJM32-178, Spring constant 33N(3,37kgf)/mm
Guideline of spring durability 1.000.000 strokes

Counter Cam Unit

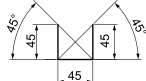


Code

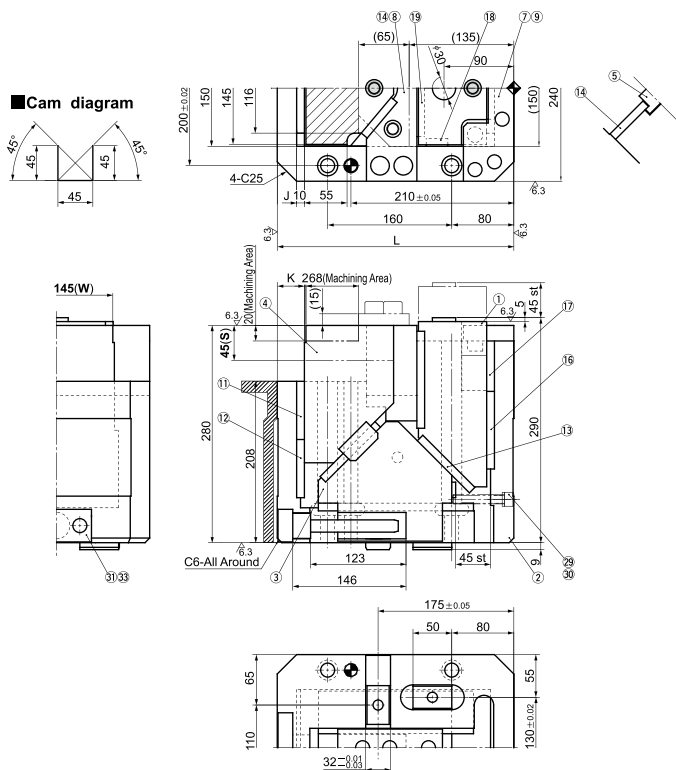
CCTVS/CCTVH 145-45



■ Cam diagram



CCTVS145-45 (Regular Type) CCTVH145-45 (Highly Rigid Type)



Catalog No.	(W)	Travel S	Working Force kN(tonf)	Spring PS*	Total Weight (kg)
CCTVS CCTVH	145	45	73.5 (7.5)	ISO NISO GD NGD	124.0

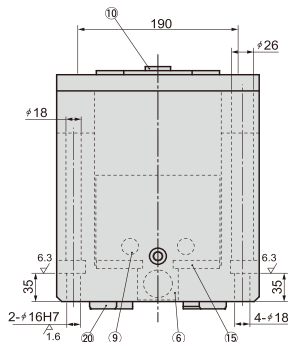
Option Code	Specification
S	End-position kit is included
NF	Nitrogen gas is not charged.

■ Spring Specification

Spring (PS)	Spring Force N(kgf)	
	Initial	Final
ISO	330 (33.7)	1815 (185.1)
GD	1407 (143.5)	2072 (211.3)

* If no spring is required, specify "NISO" or "NGD" prefixing "N" to the ISO or GD spring

Counter Cam Unit



■ Specification

Catalog No.	J	K	L
CCTVS	25	35	305
CCTVH	40	50	320

■ Table Components

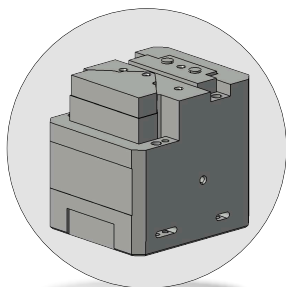
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Holder	1
3	Cam Slider A	1
4	Cam Slider B	1
5	Cam Positive Return	1
6	Spring Guide Block	1
7	Stopper Plate	1
8	Thrust Block	1
9	Stopper A	4
10	Stopper B	1
11	Wear Plate	1
12	Wear Plate	1
13	Wear Plate	2
14	Wear Plate	4
15	Wear Plate	2
16	Wear Plate	1
17	Wear Plate	1
18	Wear Plate	2
19	Wear Plate	1
20	Key	4
29	Spacer	1
30	Locate Cap Bolt	1
31	Spring Stopper A	1
32	Spring Guide Pin	1
33	Coil Spring	1
25	Coil Spring	1

Order example: CCTVS 145-45-ISO (cod. + **W** + **Stroke** + **PS**)

* For the spring specification, refer to the above and below.

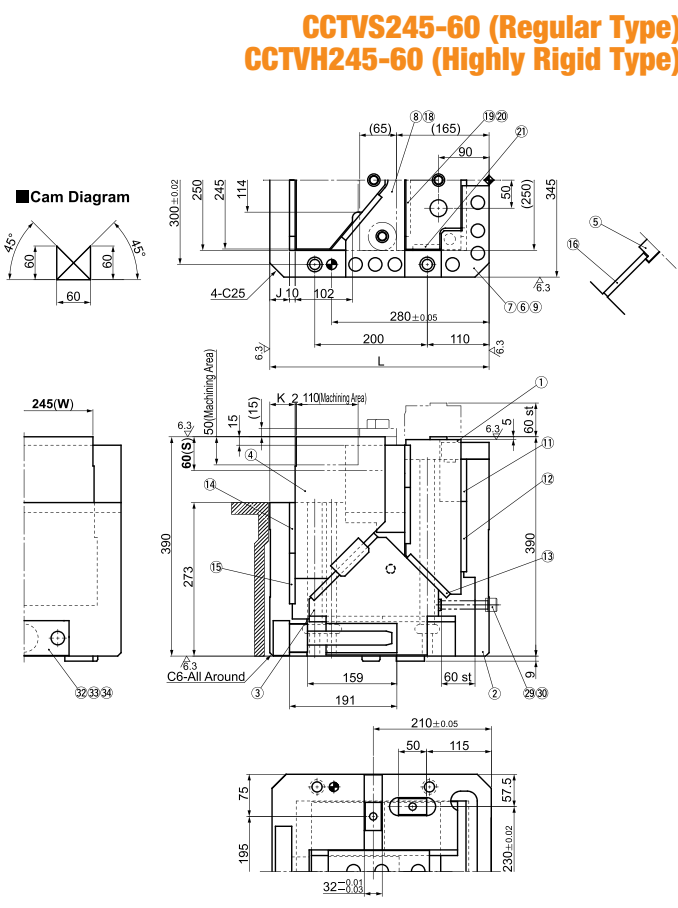
- ISO --- TJM32-178, Spring constant 33N(3,37kgf)/mm
Guideline of spring durability 1.000.000 strokes

Counter Cam Unit



Code

CCTVS/CCTVH 245-60



Catalog No.	(W)	Travel S	Working Force kN(tonf)	Spring PS*	Total Weight (kg)
CCTVS CCTVH	245	60	117.6 (12.0)	ISO NISO GD NGD	295

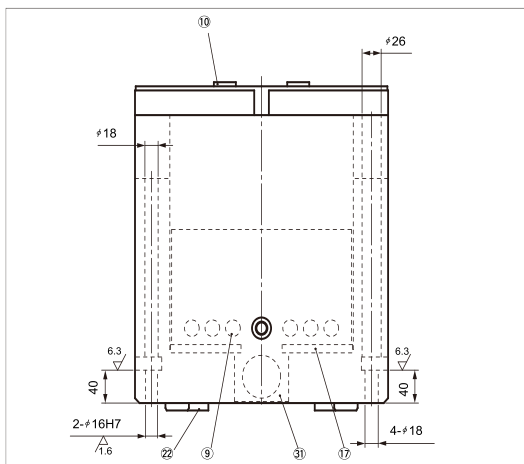
Option Code	Specification
S	End-position kit is included
NF	Nitrogen gas is not charged.

■ Spring Specification

Spring (PS)	Spring Force N(kgf)	
	Initial	Final
ISO	582 (59.3)	4074 (415.4)
GD	3436 (350.4)	4691 (478.3)

* If no spring is required, specify "NISO" or "NGD" prefixing "N" to the ISO or GD spring. The parts for installing the spring are included.

Counter Cam Unit



Specification

Catalog No.	J	K	L
CCTVS	35	45	390
CCTVH	55	65	410

Table Components

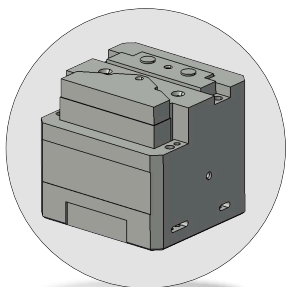
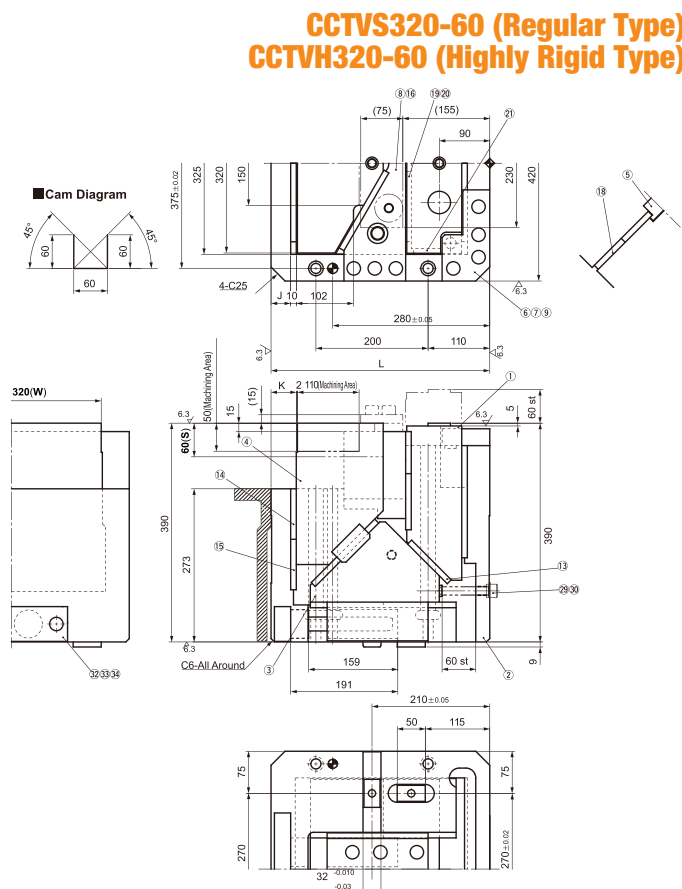
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Holder	1
3	Cam Slider A	1
4	Cam Slider B	1
5	Cam Positive Return	1
6	Stopper Plate R	1
7	Stopper Plate L	1
8	Thrust Block	1
9	Stopper A	8
10	Stopper B	2
11	Wear Plate	2
12	Wear Plate	2
13	Wear Plate	2
14	Wear Plate	2
15	Wear Plate	2
16	Wear Plate	2
17	Wear Plate	4
18	Wear Plate	4
19	Wear Plate	2
20	Wear Plate	2
21	Wear Plate	2
22	Key	4
29	Spacer	1
30	Locate Cap Bolt	1
31	Spring Guide Block	1
32	Spring Stopper A	1
33	Spring Guide Pin	1
34	Coil Spring	1

Order example: CCTVS 245-60-ISO (cod. + W + Stroke + PS)

* For the spring specification, refer to the above and below.

- ISO --- TJM50-229, Spring constant 58,2N(5,96kgf)/mm
Guideline of spring durability 1.000.000 strokes

Counter Cam Unit

**Code****CCTVS/CCTVH 320-60**

Catalog No.	(W)	Travel S	Working Force kN(tonf)	Spring PS*	Total Weight (kg)
CCTVS CCTVH	320	60	156.8 (16.0)	ISO NISO GD NGD	362

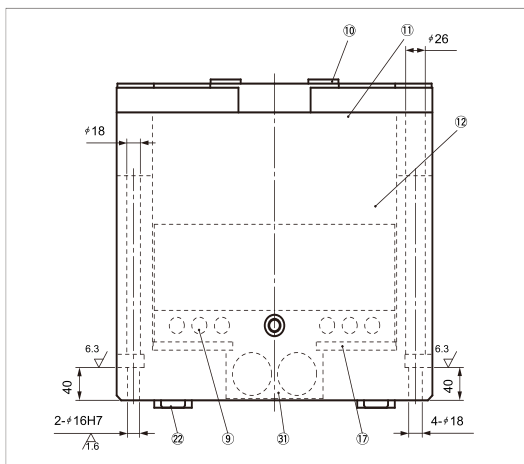
Option Code	Specification
S	End-position kit is included
NF	Nitrogen gas is not charged.

■ Spring Specification

Spring (PS)	Spring Force N(kgf)	
	Initial	Final
ISO	1164 (118.7)	8148 (830.9)
GD	6872 (700.7)	9382 (956.7)

* If no spring is required, specify "NISO" or "NGD" prefixing "N" to the ISO or GD spring.

Counter Cam Unit



Specification

Catalog No.	J	K	L
CCTVS	35	45	390
CCTVH	55	65	410

Table Components

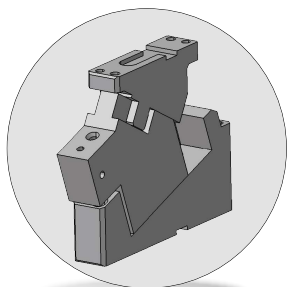
NO.	Description	Q'TY
1	Cam Holder	1
2	Spring Guide Block	1
3	Cam Slider Guide(Lower)	1
4	Slider Plate	1
5	Keeper Plate	1
6	Cam Slider Stopper	1
7	Stopper	1
8	Lock Spacer	1
9	Gas Spring	10
10	Stopper B	2
11	Wear Plate	2
12	Wear Plate	4
13	Wear Plate	4
14	Wear Plate	2
15	Wear Plate	2
16	Wear Plate	4
17	Wear Plate	4
18	Wear Plate	4
19	Wear Plate	2
20	Wear Plate	2
21	Wear Plate	2
22	Key	4
23	Spacer	1
24	Locate Cap Bolt	1
25	Spring Guide Block	1
26	Spring Stopper A	1
27	Spring Guide Pin	2
28	Coil Spring	2

Order example: **CCTVS 320-60-ISO** (cod. + W + Stroke + PS)

* For the spring specification, refer to the above and below.

- ISO --- TJM50-229, Spring constant 58,2N(5,96kgf)/mm
Guideline of spring durability 1.000.000 strokes

Die Mounted Cam Units

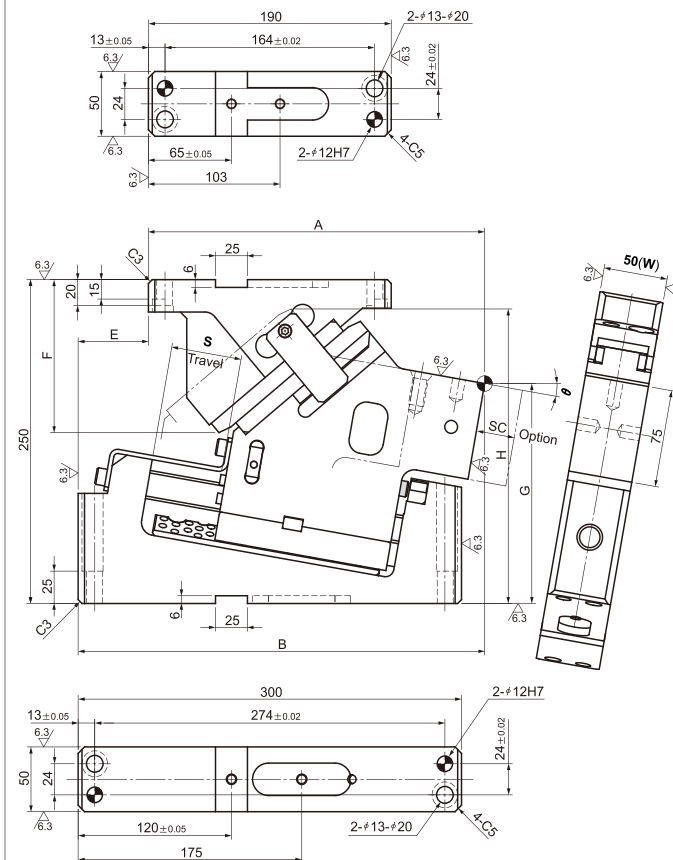


Code

CSVSC 50



CSVSC 50



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	50	00	55	29.4 (3.0)	GD. NGP	19.1
		05				19.2
		10				19.4
		15				20
		20				21

θ	A	B	E	F	G	H
00	260.00	300.00	40	136.20	191.00	221.40
05	260.76	310.76	50	128.60	180.73	224.90
10	263.12	318.12	55	118.10	169.80	227.40
15	260.02	325.02	65	107.40	162.25	232.80
20	261.41	331.41	70	96.10	155.12	238.10

Die Mounted Cam Units

Spring Specification

GGas Spring(Standard)			
Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final	
GD	—	2720 (277.6)	C.180.063 (DADCO)

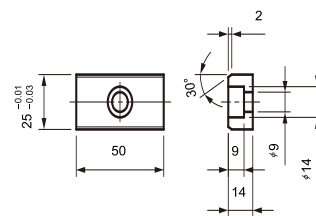
GGas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final	
GD	—	4940 (504.1)	U.0325.063 (DADCO)

Option

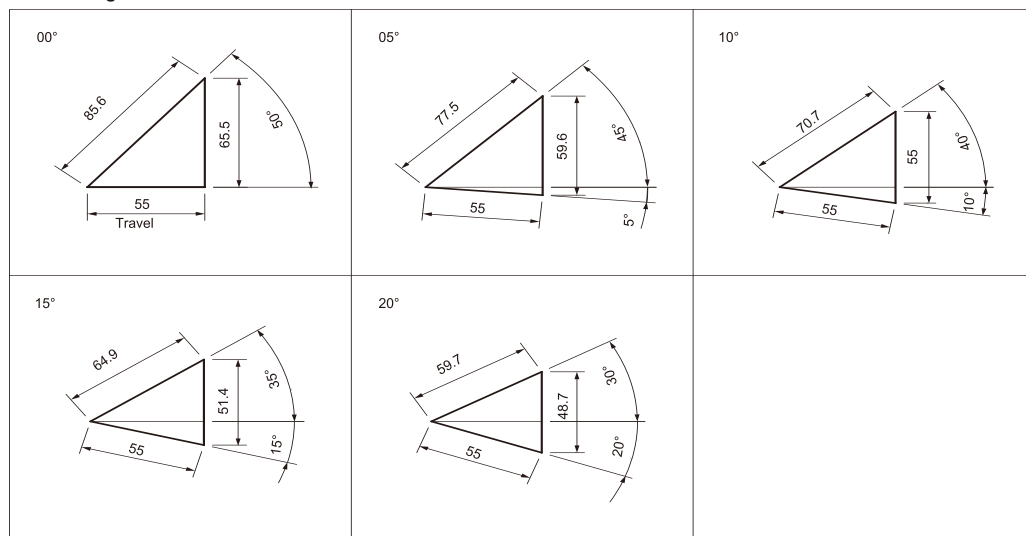
Option Code	Specification
SC	The mount surface is extended forward in the range of 1 to 40mm. (In increment of 1mm)
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

Key Specification (Option)

(Qty 4 with M8×15 bolt)

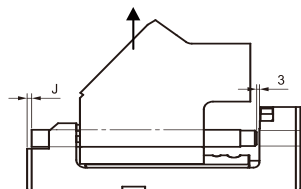


Cam Diagram

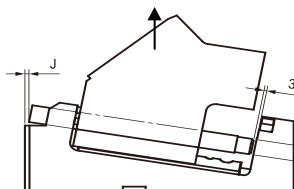


Required space for removing

Working Angle 00°



Working Angle 05°~20°

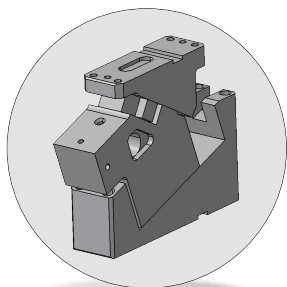


* No space for removing backward required

Working Angle	J
00	5.0
05	5.3
10	4.4
15	5.5
20	8.5

Order example: CSVSC 50-10-55-GD (cod. + W + θ + S + PS)

Die Mounted Cam Units

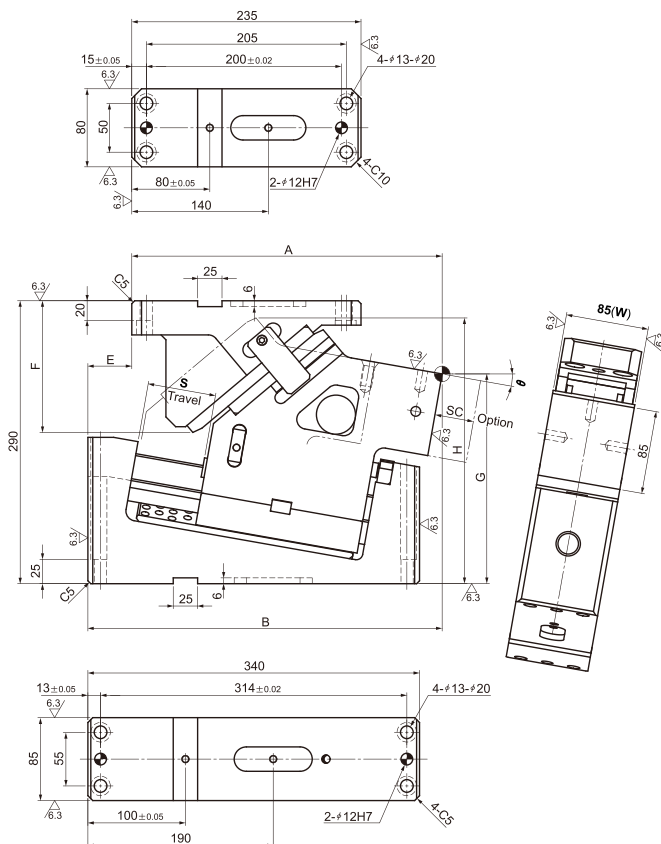


Code

CSVSC 85



CSVSC 85



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	85	00	70	58.8 (6.0)	GD. NGP.	44.6
		05				44.8
		10				45.1
		15				45.9
		20				46.8

θ	A	B	E	F	G	H
00	325.00	340.00	15	158.40	235.00	258.40
05	324.32	354.32	30	146.60	225.40	265.90
10	318.20	363.20	45	134.90	215.01	272.40
15	316.58	371.58	55	122.60	204.86	278.70
20	309.39	379.39	70	109.60	195.01	284.70

Die Mounted Cam Units

Spring Specification

GGas Spring(Standard)			
Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final	
GD	—	4000 (408.2)	90.3.00300.080 (DADCO)

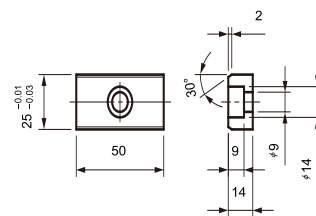
GGas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final	
GD	—	6840 (698.0)	U.0600.080 (DADCO)

Option

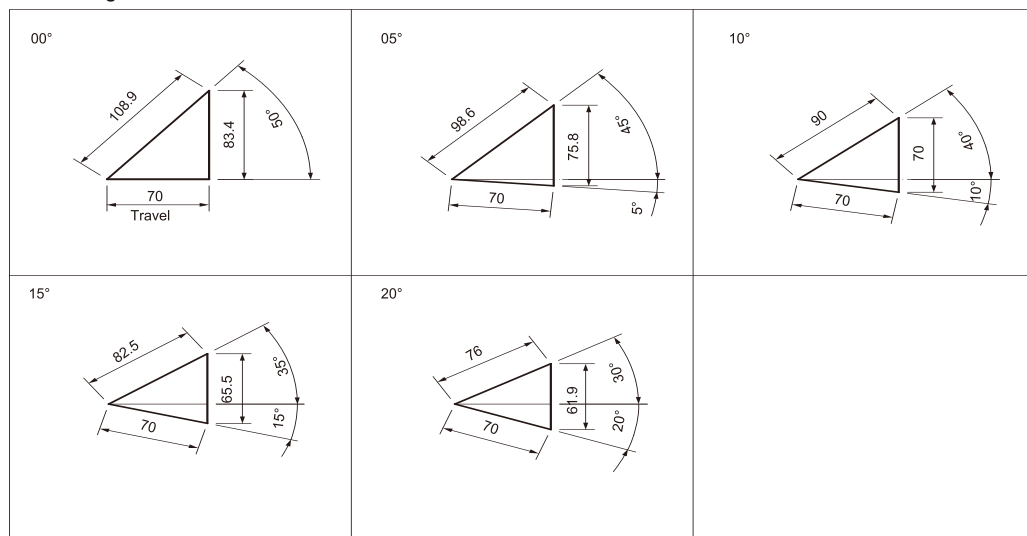
Option Code	Specification
SC	The mount surface is extended forward in the range of 1 to 40mm. (In increment of 1mm)
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

Key Specification(Option)

(Qty 4 with M8×15 bolt)

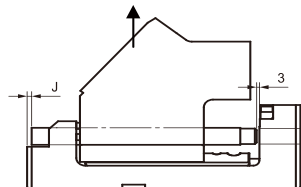


Cam Diagram

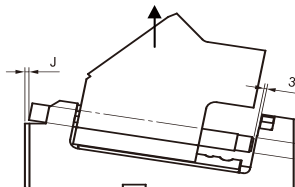


Required space for removing

Working Angle 00°



Working Angle 05°~20°

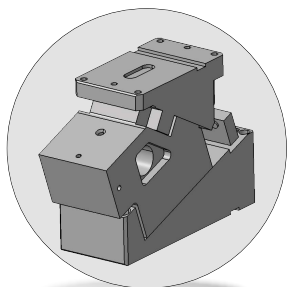


* No space for removing backward required

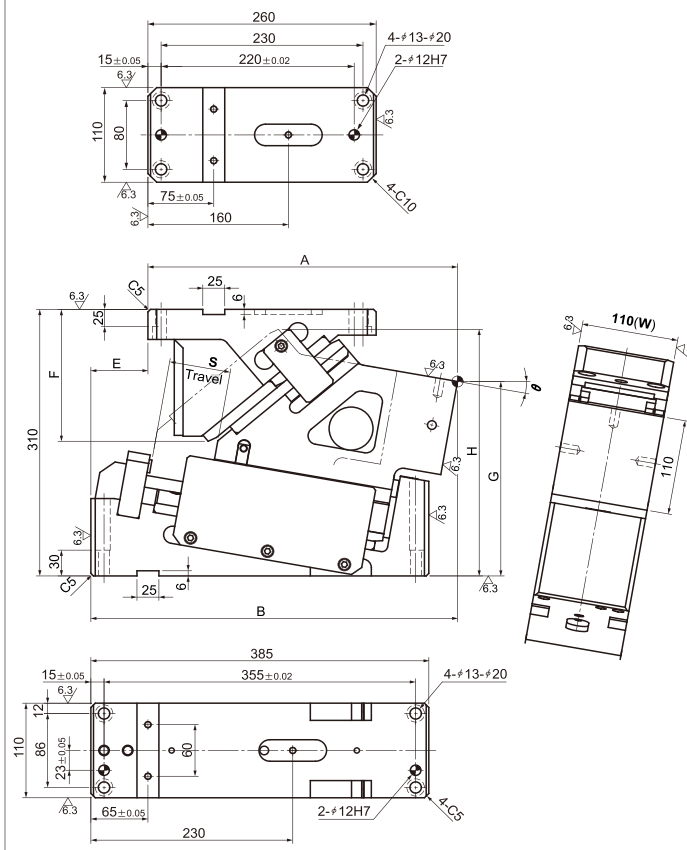
Working Angle	J
00	3.0
05	0.6
10	1.9
15	1.0
20	-2.3

Order example: CSVSC 85-10-70-GD (cod. + W + θ + S + PS)

Die Mounted Cam Units

**Code****CSVSC 110**

CSVSC 110



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	110	00	70	117.7 12.0)	GD. NGP.	70.4
		05				70.3
		10				71.1
		15				73
		20				75

θ	A	B	E	F	G	H
00	360.00	385.00	25	177.80	250.00	274.30
05	361.59	401.59	40	168.50	235.56	278.20
10	352.76	417.76	65	153.40	226.13	286.80
15	353.41	428.41	75	138.70	215.75	294.00
20	348.46	438.46	90	124.70	204.47	299.60

Die Mounted Cam Units

■ Spring Specification

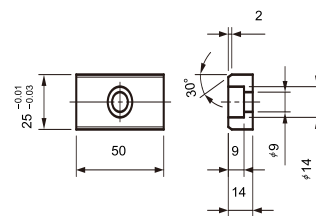
GGas Spring(Standard)				GGas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model	Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final			Initial	Final	
GD	—	6100 (622.4)	90.10.00500.080 (DADCO)	GD	—	11360 (1159.2)	U.0800.080 (DADCO)

■ **Option**

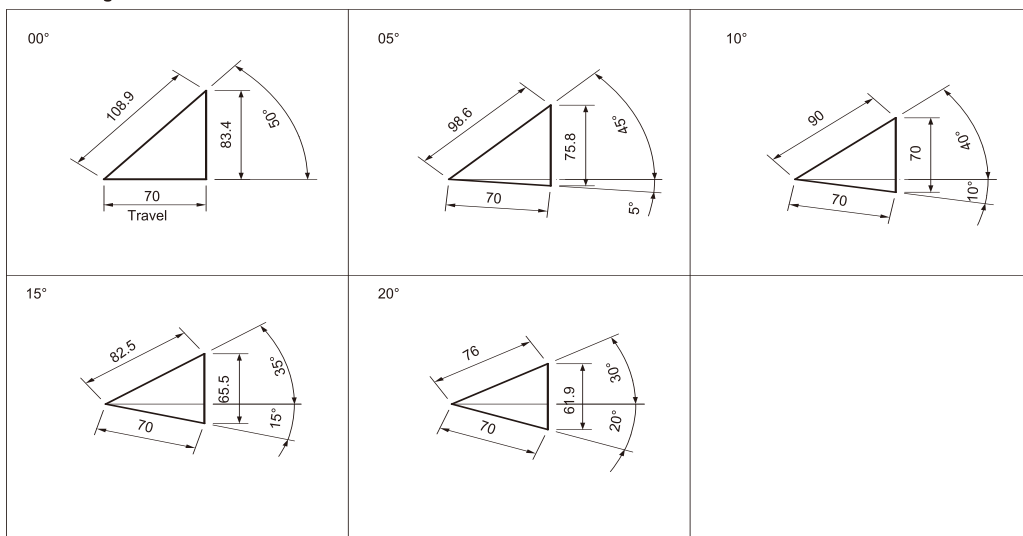
Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

■ Key Specification(Optional)

(Qty 6 with M8 × 15 bolt)



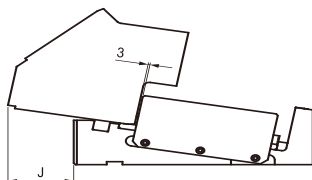
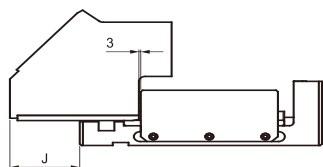
■ **Cam Diagram**



■ Required space for removing

Working Angle 00°

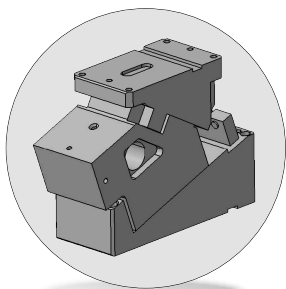
Working Angle 05°~20°



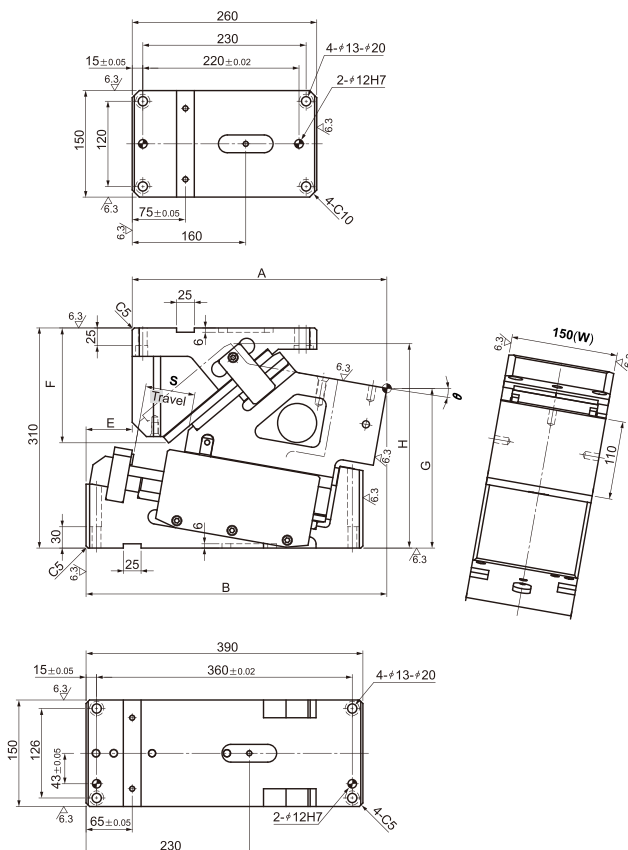
Working Angle	J
00	111.0
05	109.0
10	105.0
15	101.0
20	94.0

Order example: CSVSC 110-10-70-GD (cod. + W + θ + S + PS)

Die Mounted Cam Units

**Code****CSVSC 150**

CSVSC 150



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	150	00	70	166.7 (17.0)	GD. NGP.	99.5
		05				100.3
		10				100.8
		15				103.3
		20				106.0

θ	A	B	E	F	G	H
00	355.00	390.00	35	189.00	250.00	273.70
05	362.59	407.59	45	175.80	237.48	280.90
10	358.74	423.74	65	161.70	224.96	287.80
15	364.37	434.37	70	147.10	212.49	294.20
20	364.40	444.40	80	132.00	200.13	300.20

Die Mounted Cam Units

■ Spring Specification

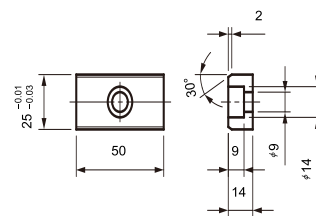
Gas Spring(Standard)				Gas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model	Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final			Initial	Final	
GD	—	11200 (1142.9)	90.10.00750.080 (DADCO)	GD	—	11360 (1159.2)	U.0800.080 (DADCO)

■ **Option**

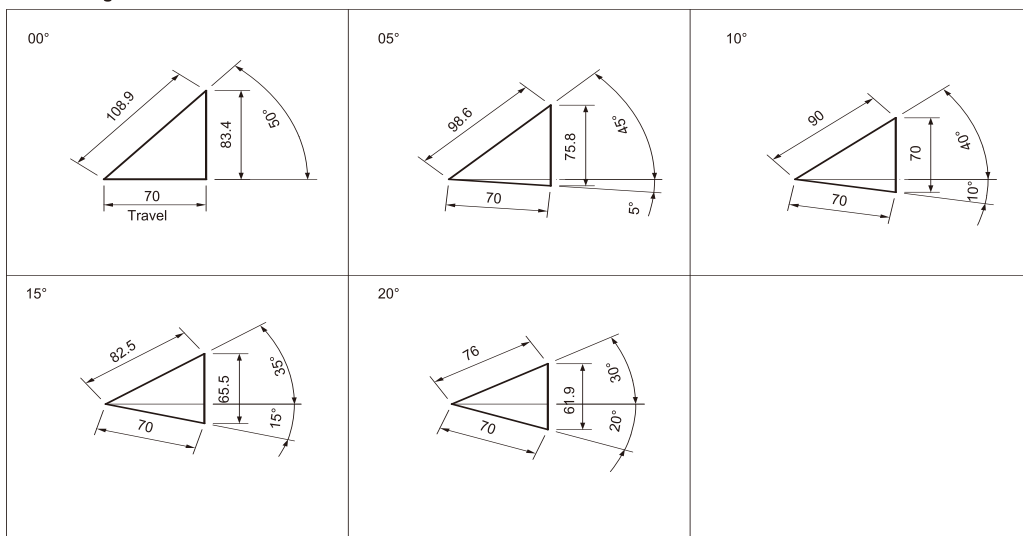
Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

■ Key Specification(Optional)

(Qty 6 with M8 × 15 bolt)



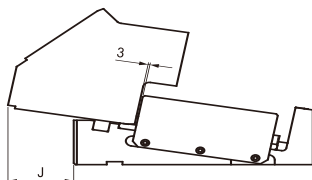
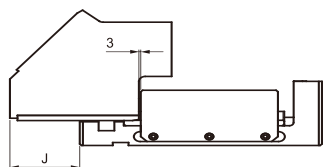
■ **Cam Diagram**



■ Required space for removing

Working Angle 00°

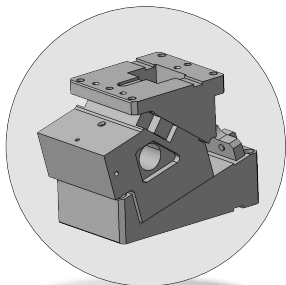
Working Angle 05°~20°



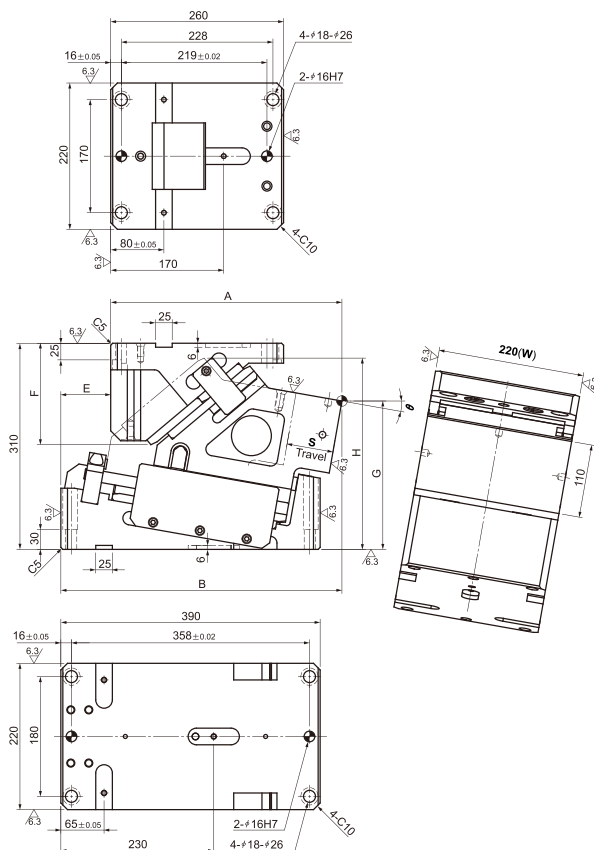
Working Angle	J
00	114.0
05	111.6
10	106.6
15	103.2
20	96.2

Order example: CSVSC 150-10-70-GD (cod. + W + θ + S + PS)

Die Mounted Cam Units

**Code****CSVSC 220**

CSVSC 220



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	220	00	70	245.2 (25.0)	GD. NGP.	139.0
		05				140.0
		10				141.0
		15				145.0
		20				150.0

θ	A	B	E	F	G	H
00	355.00	390.00	35	177.60	247.00	274.50
05	356.59	406.59	50	165.90	234.56	280.70
10	347.76	422.76	75	152.60	223.13	287.60
15	348.41	433.41	85	138.60	211.75	294.10
20	346.46	443.46	97	124.30	200.47	300.00

Die Mounted Cam Units

■ Spring Specification

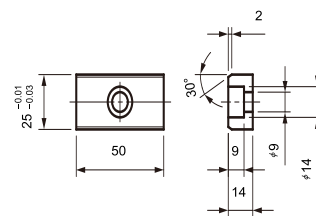
GGas Spring(Standard)				GGas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model	Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final			Initial	Final	
GD	–	12200 (1244.9)	90.10.00500.080 (DADCO)	GD	–	22720 (2318.4)	U.0800.080 (DADCO)

■ **Option**

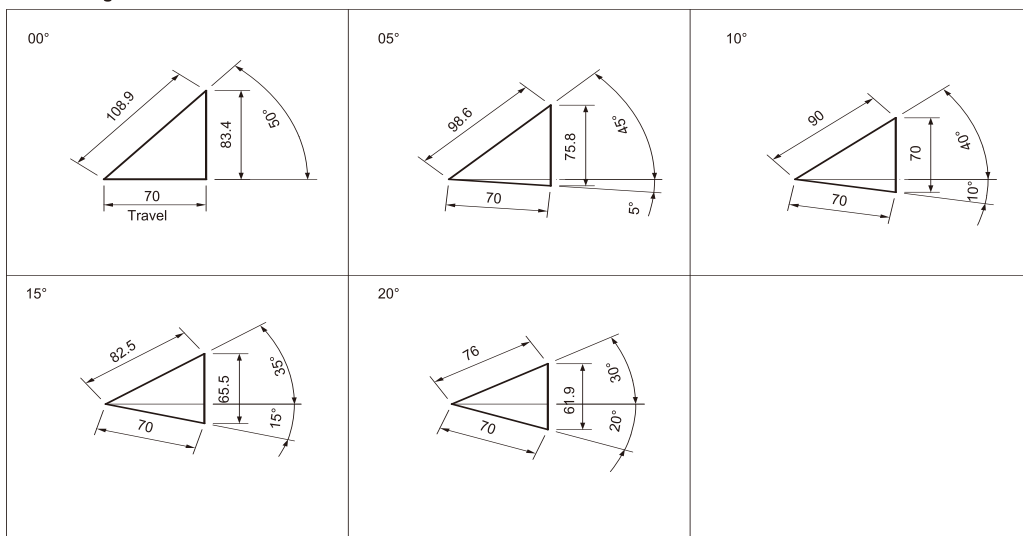
Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

■ Key Specification(Optional)

(Qty 6 with M8 × 15 bolt)



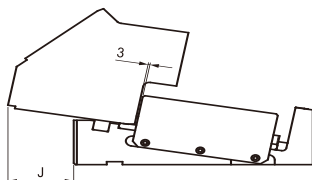
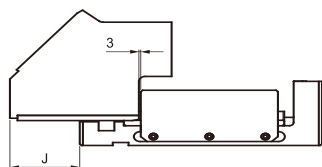
■ **Cam Diagram**



■ Required space for removing

Working Angle 00°

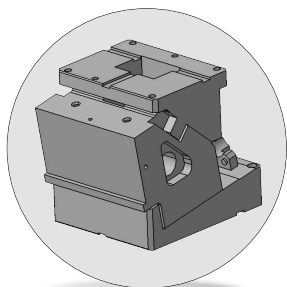
Working Angle 05°~20°



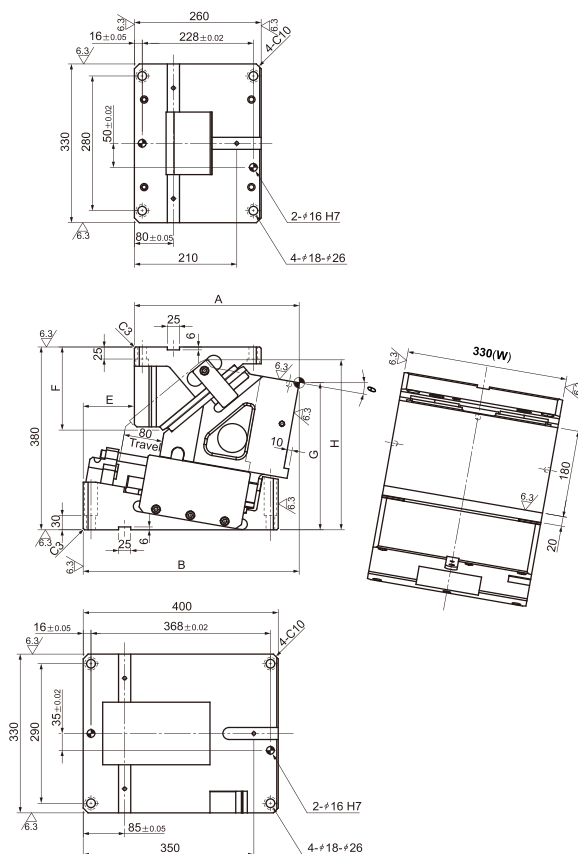
Working Angle	J
00	106.0
05	104.0
10	98.0
15	94.0
20	87.0

Order example: CSVSC 220-10-70-GD (cod. + W + θ + S + PS)

Die Mounted Cam Units

**Code****CSVSC 330**

CSVSC 330



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	330	00	80	343.2 (35.0)	GD. NGP.	251.0
		05				252.0
		10				253.0
		15				254.0
		20				262.0

θ	A	B	E	F	G	H
00	335.00	400.00	65	195.50	326.00	339.40
05	334.20	424.20	90	185.80	316.67	347.30
10	337.94	442.94	105	172.70	305.68	353.30
15	336.09	461.09	125	161.50	292.08	356.40
20	333.52	478.52	145	145.40	282.93	363.40

Die Mounted Cam Units

■ Spring Specification

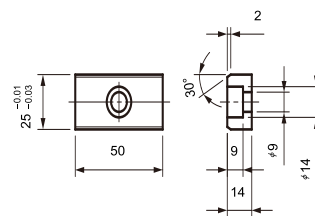
GGas Spring(Standard)				GGas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model	Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final			Initial	Final	
GD	–	22000 (2244.9)	90.3.00750.100 (DADCO)	GD	–	34000 (3469.4)	U.1000.100 (DADCO)

■ **Option**

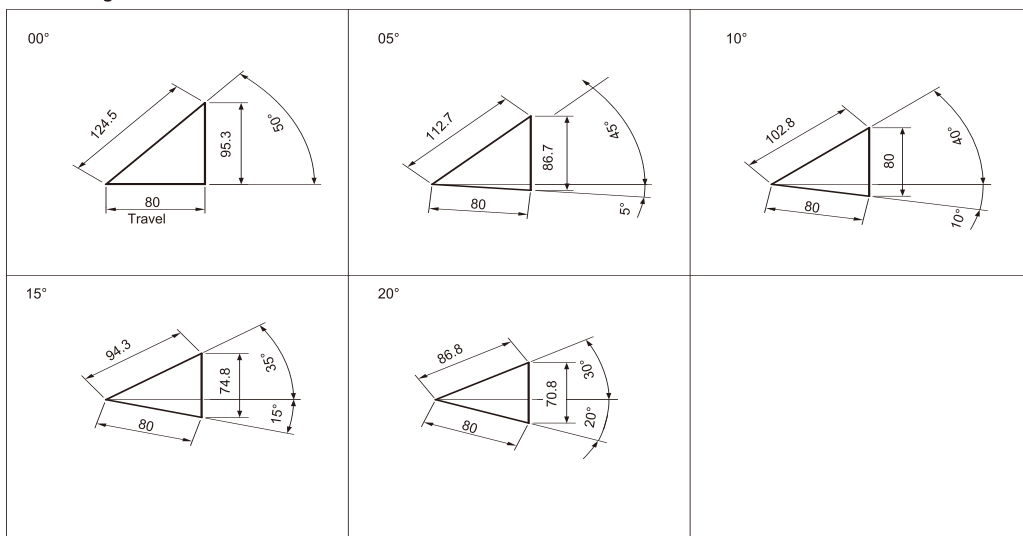
Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

■ Key Specification(Optional)

(Qty 6 with M8 × 15 bolt)



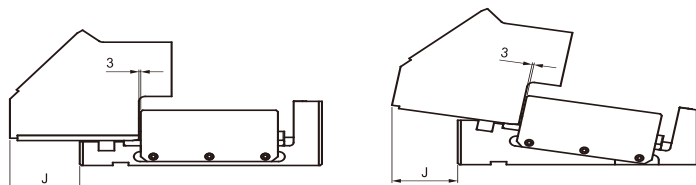
■ **Cam Diagram**



■ Required space for removing

Working Angle 00°

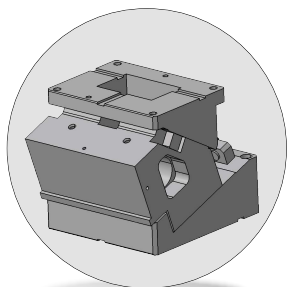
Working Angle 05°~20°



Working Angle	J
00	89.5
05	87.3
10	86.7
15	82.6
20	75.2

Order example: CSVSC 330-10-80-GD (cod. + W + θ + S + PS)

Die Mounted Cam Units

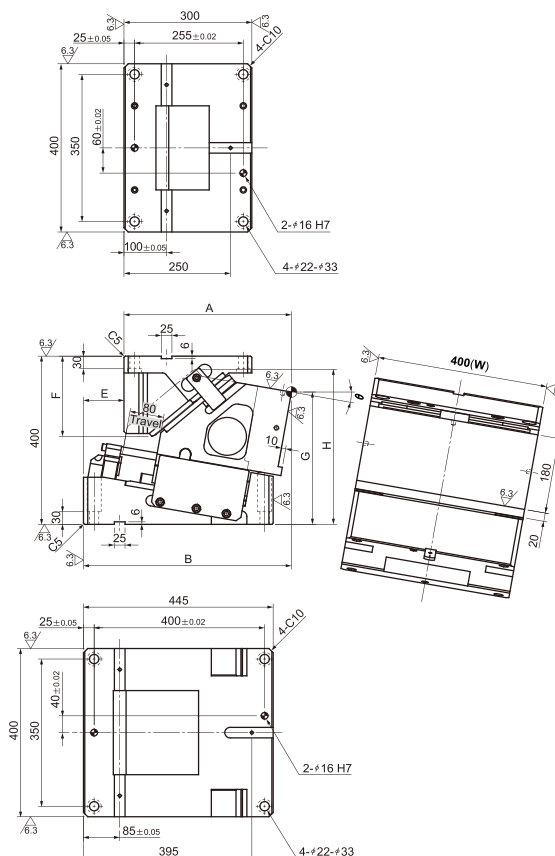


Code

CSVSC 400



CSVSC 400



Catalog No.	(W)	θ	Travel S	Working Force kN(tonf)	Spring Type PS	Total Weight
CSVSC	400	00	80	431.5 (44.0)	GD. NGP.	345.0
		05				341.0
		10				348.0
		15				355.0
		20				366.0

θ	A	B	E	F	G	H
00	335.00	400.00	65	195.50	326.00	339.40
05	334.20	424.20	90	185.80	316.67	347.30
10	337.94	442.94	105	172.70	305.68	353.30
15	336.09	461.09	125	161.50	292.08	356.40
20	333.52	478.52	145	145.40	282.93	363.40

Die Mounted Cam Units

■ Spring Specification

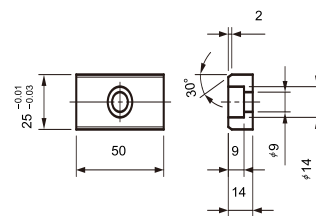
GGas Spring(Standard)				GGas Spring(Power option V)			
Spring (PS)	Spring Force N(kgf)		Model	Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final			Initial	Final	
GD	–	22000 (2244.9)	90.3.00750.100 (DADCO)	GD	–	34000 (3469.4)	U.1000.100 (DADCO)

■ **Option**

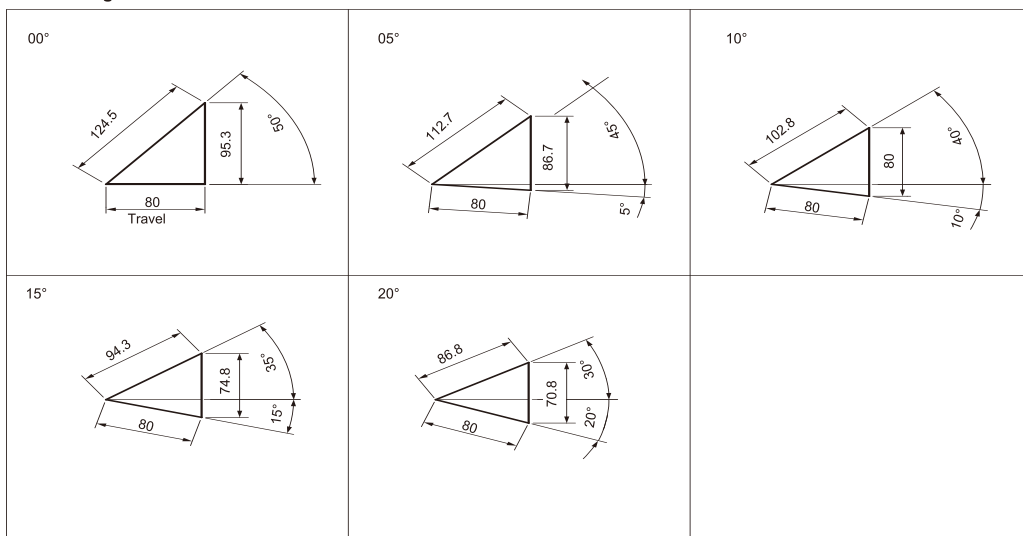
Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD
V	Gas Spring is changed to Power type

■ Key Specification(Optional)

(Qty 6 with M8×15 bolt)



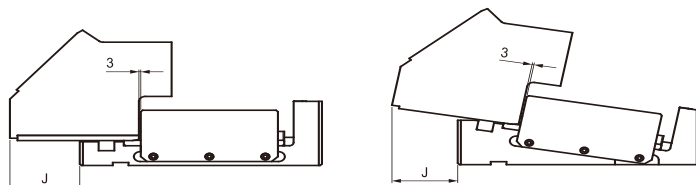
■ **Cam Diagram**



■ Required space for removing

Working Angle 00°

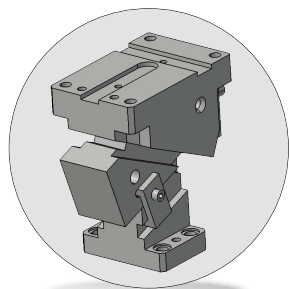
Working Angle 05°~20°



Working Angle	J
00	76.0
05	73.3
10	71.9
15	71.8
20	63.1

Order example: **CSVSC 400-10-80-GD (cod. + W + θ + S + PS)**

Aerial Cam Units

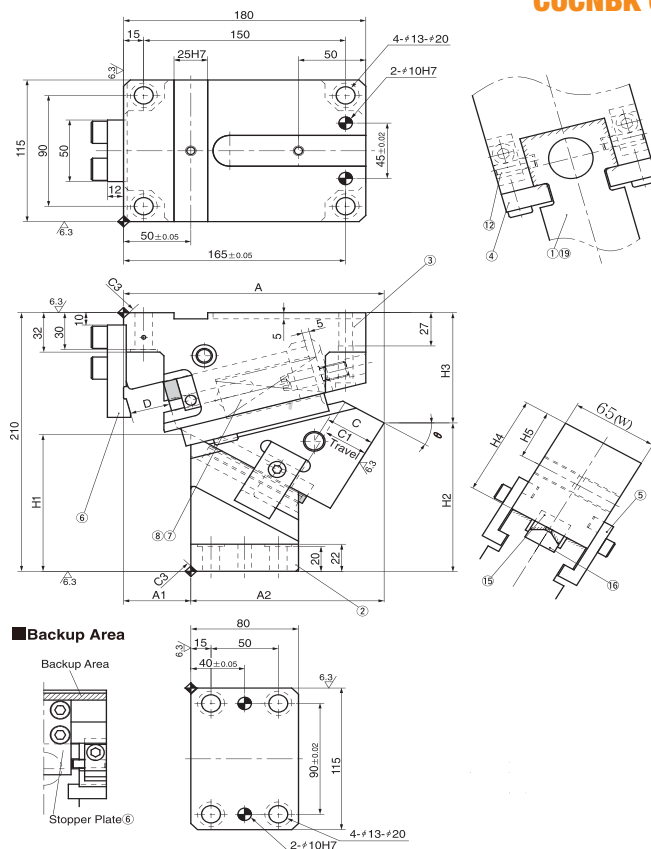


Code

CUCNBK 65



CUCNBK 65



θ	A	A1	A2	C	C1	D	H1	H2	H3	H4	H5	B	
00	185.94	75.00	110.94	37.5	26.90	38.0	73.40	153.43	56.57	80.00	38.90	52	
05	193.01	70.00	123.01	41.0	27.00		73.90			90.00	42.60		
10	196.80		126.80	37.5	31.60		83.50	142.42	67.58	80.00	38.90	61	
15	203.77	67.00	113.47	41.0	32.20		84.70	141.19	68.81	90.00	42.60		
20	198.10	60.00	138.10	37.5	33.80	35.0	100.80	135.69	74.31	80.00	38.90	71	
25	204.75	55.00	149.75	41.0	35.00		103.80	133.27	76.73	90.00	42.60		
30	193.63	50.00	143.63	37.5	33.50	30.0	111.00	120.48	89.52	80.00	38.90	79	
35	199.76	45.00	154.76	41.0	35.40		105.00	116.94	93.06	90.00	42.60		
40	188.72	40.00	148.72	37.5	42.90	33.0	120.00	110.38	99.62	80.00	28.60		77
45	194.12	34.00	160.13	41.0	46.50		115.00	105.84	104.16	90.00	42.60		
50	190.00	30.00	160.00	54.5	41.00	35.0	130.00	100.00	110.00			100.00	43.20
55		20.00	170.00	41.0	43.60	25.0		95.00	115.00	110.00	46.60		
60				37.5	50.00								20.0
65		0.00	190.00	46.7	47.30	47.20							
70		42.7	58.50										

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Travel (S)	Working Force (KN)		Spring Force N(kgf)		Return Force N(kgf)
				Standar Working Force	Allowable Working Force	Initial	Final	
CUCNBK	65	00	26.9	19.6 (2.0)	39.2 (4.0)	166.3 (17.0)	1069.2 (109.0)	1349 (137.6)
		05	27.0			237.6 (42.2)	1140.5 (116.3)	1544 (157.6)
		10	31.6			237.6 (24.2)		1427 (145.6)
		15	32.2			308.9 (31.5)		1533 (156.5)
		20	33.8			427.7 (43.6)		1417 (144.6)
		25	35.0			356.4 (36.3)		1522 (155.3)
		30	33.5			308.9 (31.5)		1406 (143.5)
		35	35.4			296.9 (30.3)		1510 (154.0)
		40	42.9			890.7 (90.8)		1395 (142.4)
		45	46.5			1039 (106.0)		1497 (152.8)
		50	54.5			1140.5 (116.3)		1491 (152.1)
		55	43.6			1039 (106.0)		1480 (151.0)
		60	50			890.7 (90.8)		1637 (167.0)
		65	47.3			1039 (106.0)		1576 (160.8)
		70	58.5			1140.5 (116.3)		1824 (186.1)

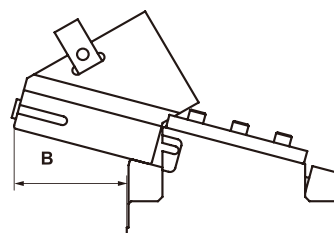
■ Table of Components

NO.	Description	Q'TY
1	Cam Slider	1
2	Cam Driver	1
3	Cam Holder	1
4	Upper Plate	2
5	Positive Return Plate	2
6	Stopper Plate	1
7	Spring Guide Pin	1
8	Coil Spring	1
12	Plate	2
15	Cam Bottom Plate	1
16	Cam Bottom Plate	1
19	Stopper	2

■ Spring Specification

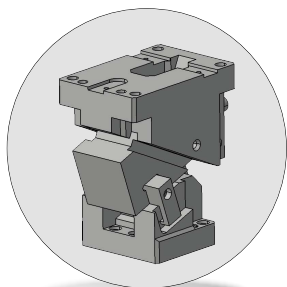
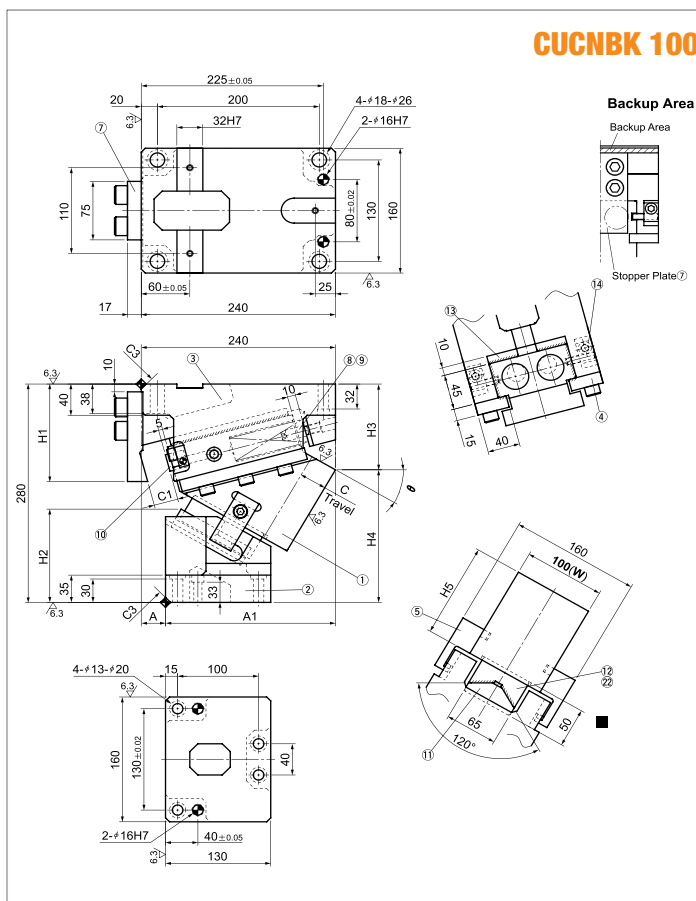
θ	Spring
00~50	TL30-125
55~70	TL30-100

■ Space for removing



Order example: **CUCNBK 65-10 (cod. + W + θ)**

Aerial Cam Units

**Code****CUCNBK 100**

θ	A	A1	C	C1	H1	H2	H3	H4	H5	B
00	80	160.00	28.30	40.0	220.00	90.00	85.00	195.00	100	83.00
05		154.824				86.40	80.00	200.00	120	
10	60	180.00	33.30		190.00	100.00	90.00	190.00	100	96.00
15	70	181.24	33.90			95.00	87.27	192.76	120	
20	50	190.00	30.90	32.0	165.00	109.50	110.00	170.00	100	116.00
25	40	209.21	32.00			105.50	107.70	172.30	120	
30	30	210.00	33.50	125.00	120.00	110.00	170.00	127.00		
35		217.46	35.30		132.40	114.00	166.00			
40		210.00	39.00	95.00	145.30	115.00	165.00			130.00
45	15	227.73	42.20		152.70	128.04	151.96		129.00	
50	10	230.00	46.70	30.0	80.00	153.60	120.00	160.00	140	132.00
55	0	243.28	52.30			153.17	142.12	137.88		
60		240.00	60.00			168.10	145.00	135.00	142.00	
65	-25	255.94	70.90					177.17	149.23	130.77
70	0	240.00	58.50	20.0		179.30	145.00	135.00	140	132.00

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Travel (S)	Working Force (KN)		Spring Force N(kgf)		Return Force N(kgf)
				Standar Working Force	Allowable Working Force	Initial	Final	
CUCNBK	100	00	28.3	44.1 (4.5)	88.2 (9.0)	313.3 (31.9)	2819.7 (287.5)	3568 (364.1)
		05	28.3					3835 (391.3)
		10	33.3					3537 (360.9)
		15	33.9					3806 (388.4)
		20	30.9			219.3 (22.4)	2558.5 (260.9)	3192 (325.7)
		25	32.0					3430 (350.0)
		30	33.5			175.4 (17.9)	2807 (286.2)	3470 (354.1)
		35	35.3					3724 (380.0)
		40	39					3437 (350.7)
		45	42.2					3690 (376.5)
		50	46.7					3669 (374.4)
		55	52.3					3990 (407.1)
		60	60					4412 (450.2)
		65	70.9					4977 (507.8)
		70	58.5			548.3 (55.9)	2741.5 (279.6)	5625 (574.0)

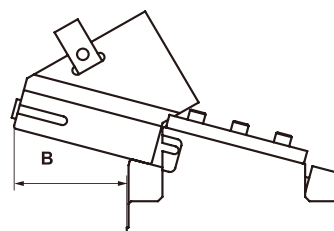
■ Table of Components

NO.	Description	Q'TY
1	Cam Slider	1
2	Cam Driver	1
3	Cam Holder	1
4	Upper Plate	2
5	Positive Return Plate	2
7	Stopper Plate	1
8	Spring Guide Pin	2
9	Coil Spring	2
10	Stopper	2
11	Cam Bottom Plate	1
12	Cam Bottom Plate	1
13	Low Palte	2
14	Plate	2
22	Screw Plug	2

■ Spring Specification

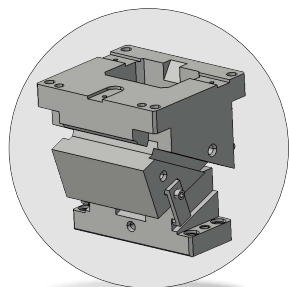
θ	Spring
00~15	TM30-175
20~25	TM30-150
30~65	TM30-125
70	TM30-100

■ Space for removing



Order example: **CUCNBK 100-10 (cod. + W + θ)**

Aerial Cam Units

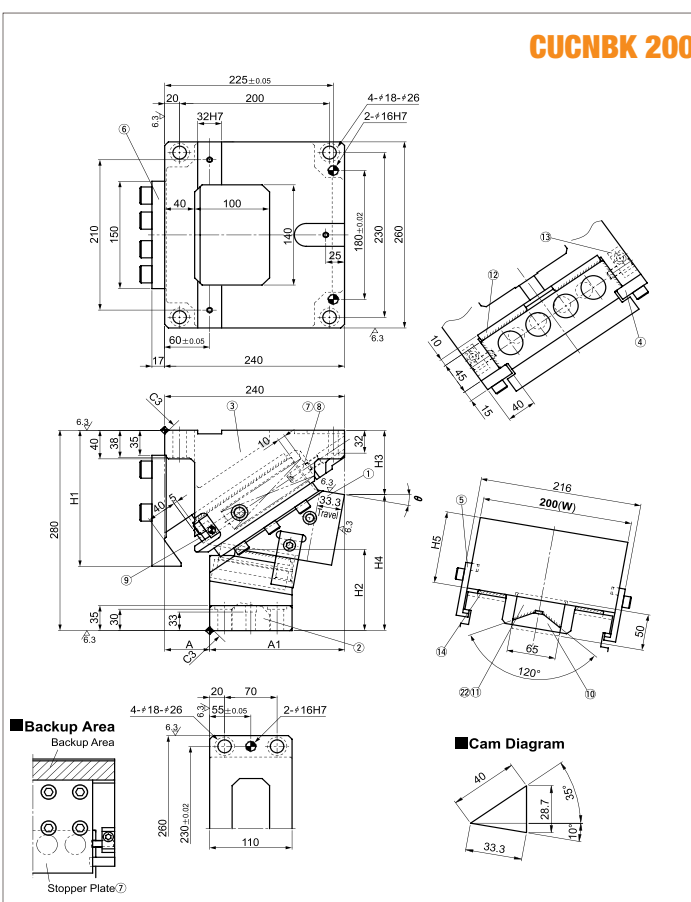


Code

CUCNBK 200



CUCNBK 200



θ	A	A1	C	C1	H1	H2	H3	H4	H5	B
00	80	160.00	28.30	40.0	220.00	90.00	85.00	195.00	100	83.00
05		154.824				86.40	80.00	200.00	120	
10	60	180.00	33.30		190.00	100.00	90.00	190.00	100	96.00
15	70	181.24	33.90			95.00	87.27	192.76	120	
20	50	190.00	30.90	32.0	165.00	109.50	110.00	170.00	100	116.00
25	40	209.21	32.00			105.50	107.70	172.30	120	
30	30	210.00	33.50	30.0	125.00	120.00	110.00	170.00		127.00
35		217.46	35.30			132.40	114.00	166.00		
40		210.00	39.00			145.30	115.00	165.00		130.00
45	15	227.73	42.20		95.00	152.70	128.04	151.96	129.00	
50	10	230.00	46.70			80.00	153.60	120.00		160.00
55	0	243.28	52.30		153.17		142.12	137.88		
60		240.00	60.00		168.10		145.00	135.00	142.00	
65		-25	255.94		70.90		177.17	149.23		130.77
70	0	240.00	58.50	20.0	179.30	145.00	135.00	140	132.00	

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Travel (S)	Working Force (KN)		Spring Force N(kgf)		Return Force N(kgf)
				Standar Working Force	Allowable Working Force	Initial	Final	
CUCNBK	200	00	28.3	93.1 (9.5)	186.2 (19.0)	626 (63.9)	5639 (574.9)	7119 (726.4)
		05	28.3					7675 (783.1)
		10	33.3					7066 (721.0)
		15	33.9					7617 (777.2)
		20	30.9			438.6 (44.7)	5117 (521.8)	6378 (650.8)
		25	32.0					6860 (700.0)
		30	33.5					6940 (708.2)
		35	35.3					7450 (760.2)
		40	39			350.9 (35.8)	5614.1 (572.5)	6877 (701.7)
		45	42.2					7379 (753.0)
		50	46.7					7342 (749.2)
		55	52.3					7989 (815.2)
		60	60					8829 (900.9)
		65	70.9					9961 (1016.4)
		70	58.5			1096.6 (111.8)	5483 (559.1)	11253 (1148.2)

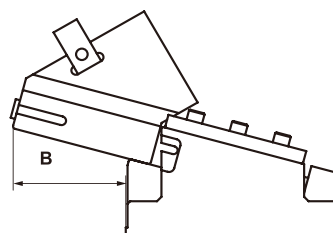
■ Table of Components

NO.	Description	Q'TY
1	Cam Slider	1
2	Cam Driver	1
3	Cam Holder	1
4	Upper Plate	2
5	Positive Return Plate	2
6	Stopper Plate	1
7	Spring Guide Pin	4
8	Coil Spring	4
9	Stopper	4
10	Cam Bottom Plate	1
11	Cam Bottom Plate	1
12	Low Palte	2
13	Plate	2
14	Driver Plate	2
22	Screw Plug	2

■ Spring Specification

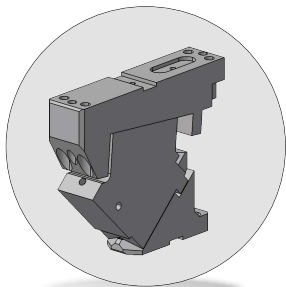
θ	Spring
00~15	TM30-175
20~25	TM30-150
30~65	TM30-125
70	TM30-100

■ Space for removing

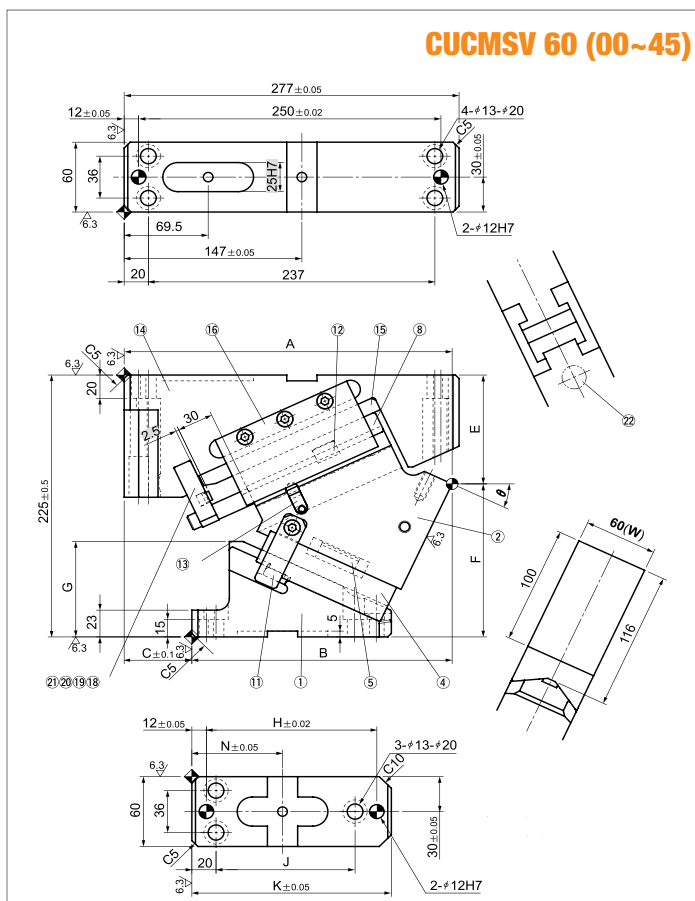


Order example: **CUCNBK 100-10 (cod. + W + θ)**

Aerial Cam Units

**Code**

CUCMSV 60 (00~45)



θ	Travel	A	B	C	E	F	G	H	J	K	N
00	19.3	267.00	167.00	100	69.00	156.00	38.0	141	115	165	75
05	21.3	274.45	179.45	95	73.08	151.92	46.5				
10	23.3	272.04	186.04	86	77.56	147.44	55.0				
15	25.4	273.74	196.74	77	82.44	142.56	62.0				
20	27.6	273.50	204.50	69	88.73	136.27	71.0				
25	30.0	271.28	215.28	56	93.53	131.47	82.0				
30	32.6	270.02	222.02	48	98.57	126.43	96.5	121	95	145	65
35	35.4	266.76	217.76	49	105.15	119.85	101.0				
40	38.6	262.47	223.47	39	112.10	112.90	108.0				
45	42.3	256.13	225.13	31	126.50	98.50	110.0				

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	60	00	75.0	3667 (374.2)	GD
		05		3661 (373.5)	
		10		3654 (372.8)	
		15		3647 (372.1)	
		20		3640 (371.4)	
		25		3632 (370.6)	
		30		3624 (369.8)	
		35		3616 (369.0)	
		40		3608 (368.2)	
		45		3600 (367.4)	

■ Table of Components

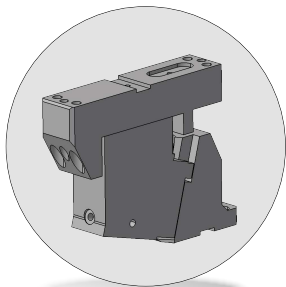
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Slider	1
4	Cam Bottom Plate	1
5	Key	1
8	Slide Plate	1
11	Positive Return	2
12	Key	1
13	Spring Stopper	2
14	Cam Holder	1
15	Slide Plate	1
16	Slide Keeper	2
18	Stopper Plate	1
19	Stopper	2
20	Bolt	1
21	Lock Block	1
22	Gas Spring	1

■ Spring Specification

Spring (PS)	Spring Force N(kgf)		Model
	Initial	Final	
GD	–	2458 (250.8)	U.0175.038.TO (DADCO)

Order example: **CUCMSV 60-25-GD (cod. + W + θ + PS)**

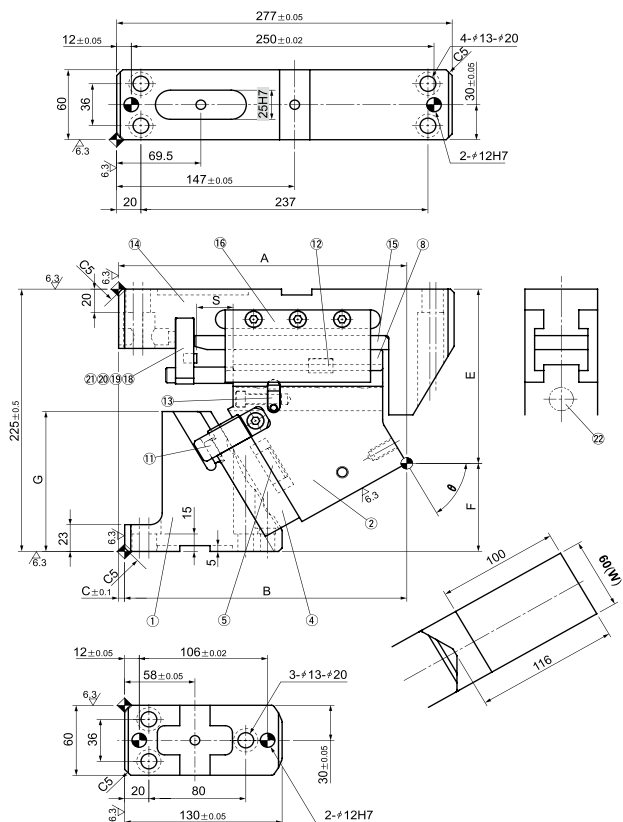
Aerial Cam Units

**Code**

CUCMSV 60 (50~75)



CUCMSV 60 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	46.7	249.80	226.80	23	134.78	90.22	113.0	30
55	52.3	247.39	231.39	16	141.94	83.06	112.0	
60	60.0	237.95	232.95	5	149.36	75.64	120.0	
65	71.0	235.00	240.00	-5	163.68	61.32		
70	58.5	230.00	245.00	-15	177.95	47.05	20	
75	77.3	222.00	247.00	-25	187.73	37.27		

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	60	50	75.0	3592 (366.6)	GD
		55		3908 (398.8)	
		60		4321 (440.9)	
		65		4872 (497.1)	
		70		5662 (577.8)	
		75		6773 (691.1)	

■ Table of Components

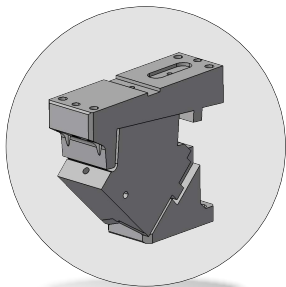
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Slider	1
4	Cam Bottom Plate	1
5	Key	1
8	Slide Plate	1
11	Positive Return	2
12	Key	1
13	Spring Stopper	2
14	Cam Holder	1
15	Slide Plate	1
16	Slide Keeper	2
18	Stopper Plate	1
19	Stopper	2
20	Bolt	1
21	Lock Block	1
22	Gas Spring	1

■ Spring Specification

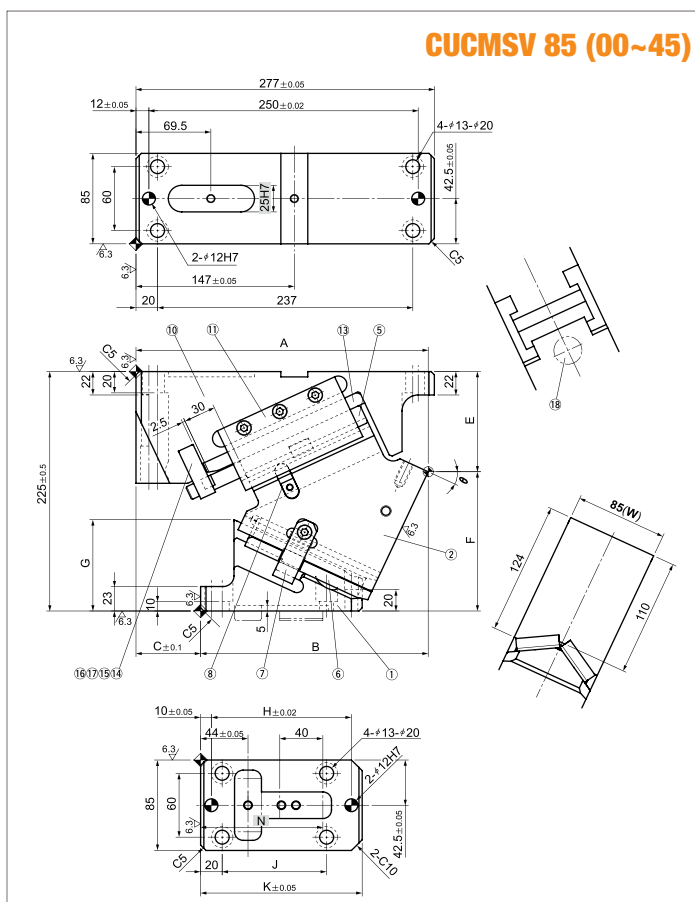
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50~65	—	2458 (250.8)	U.0175.038.TO (DADCO)
GD	70~75	—	2468 (251.8)	U.0175.025.TO (DADCO)

Order example: **CUCMSV 60-50-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 85 (00~45)



θ	Travel	A	B	C	E	F	G	H	J	K	N
00	19.3	267.00	152.00	115	63.00	162.00	45.0	130	97	150	113.5
05	21.3	272.39	162.39	110	67.16	157.74	51.9				
10	23.3	275.07	174.07	101	71.77	153.23	59.7				
15	25.4	277.99	185.99	92	79.72	145.28	65.7				
20	27.6	273.08	204.08	69	88.43	136.57	71.0				
25	30.0	271.30	211.30	60	94.15	130.85	85.8				
30	32.6	269.61	217.61	52	100.26	124.74	93.0				
35	35.4	265.99	218.99	47	103.46	121.54	104.0				
40	38.6	262.39	225.39	37	110.53	114.47	110.0	120	87	140	107
45	42.3	256.82	233.82	23	117.97	107.03	115.0				

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	85	00	100.0	7446 (759.8)	GD
		05		7436 (758.8)	
		10		7426 (757.8)	
		15		7416 (756.7)	
		20		7405 (755.6)	
		25		7393 (754.4)	
		30		7382 (753.2)	
		35		7370 (752.0)	
		40		7358 (750.8)	
		45		7346 (749.6)	

■ Table of Components

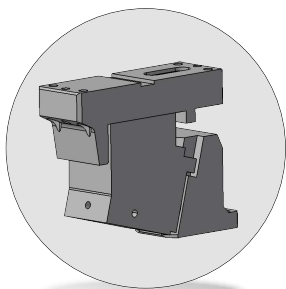
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Slider	1
5	Slide Plate	1
6	Slide Plate	2
7	Positive Return	2
8	Spring Stopper	2
10	Cam Holder	1
11	Slide Keeper	2
13	Slide Plate	1
14	Stopper Plate	1
15	Stopper	2
16	Lock Block	1
17	Bolt	2
18	Gas Spring	1

■ Spring Specification

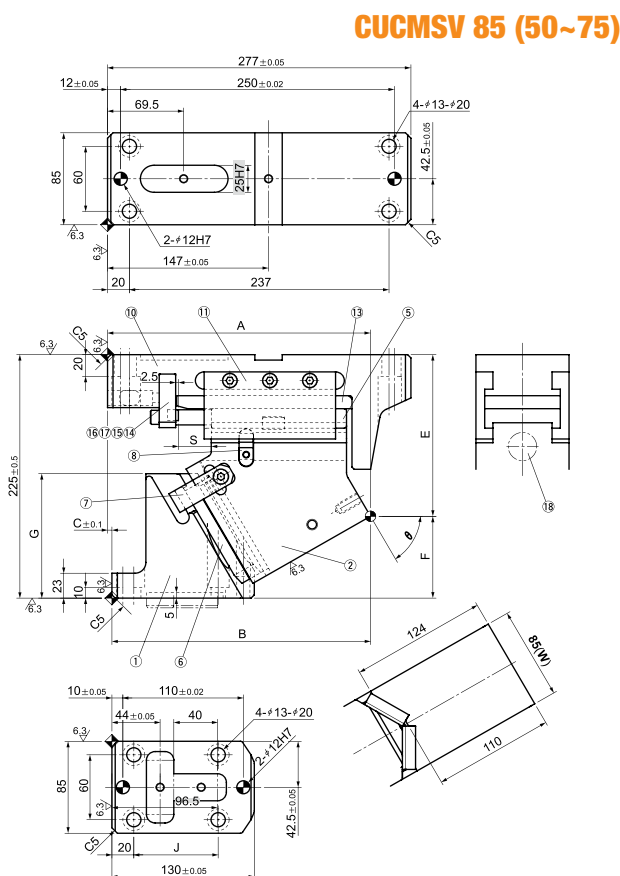
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	—	4574 (466.7)	U.0325.038.TO (DADCO)

Order example: **CUCMSV 85-25-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 85 (50~75)



θ	Travel	A	B	C	E	F	G	S	J
50	46.7	249.24	229.24	20	330.48	91.52	115.0	30	77
55	52.3	250.67	231.67	19	140.79	84.21	110.0		
60	60.0	240.10	236.10	4	149.35	75.65	115.0		
65	71.0	235.00	240.00	-5	159.05	65.95	120.0		
70	58.5	230.00	245.00	-15	168.88	56.12		20	80
75	77.3	228.00	253.00	-25	186.99	38.01	135.0		90

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	85	50	100.0	7334 (748.3)	GD
		55		7979 (814.2)	
		60		8822 (900.2)	
		65		9948 (1015.1)	
		70		11571 (1180.7)	
		75		13839 (1412.2)	

■ Table of Components

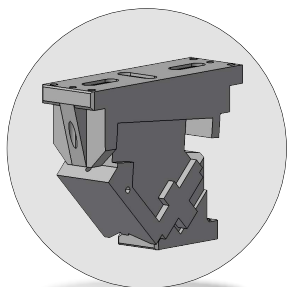
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Slider	1
5	Slide Plate	1
6	Slide Plate	2
7	Positive Return	2
8	Spring Stopper	2
10	Cam Holder	1
11	Slide Keeper	2
13	Slide Plate	1
14	Stopper Plate	1
15	Stopper	2
16	Lock Block	1
17	Bolt	2
18	Gas Spring	1

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50~65	—	4574 (466.7)	U.0325.038.TO (DADCO)
GD	70~75	—	4592 (468.6)	U.0325.025.TO (DADCO)

Order example: **CUCMSV 85-60-GD (cod. + W + θ + PS)**

Aerial Cam Units

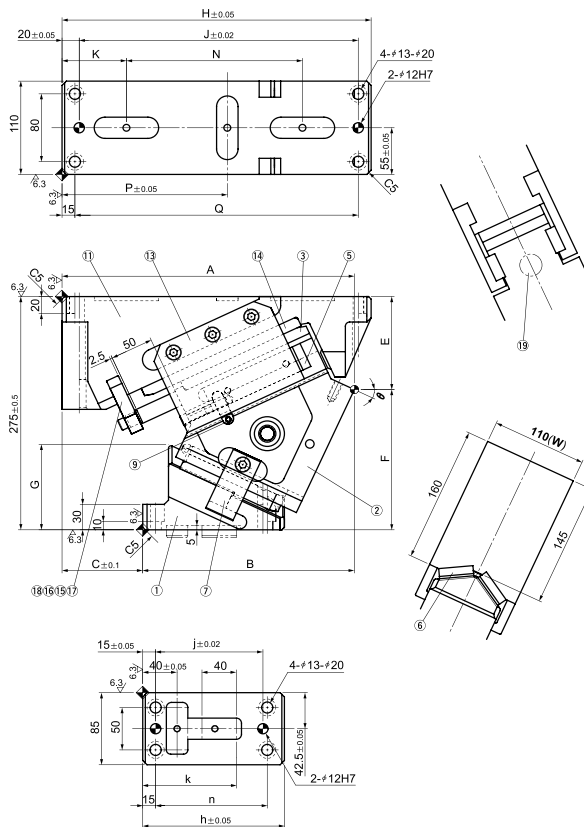


Code

CUCMSV 110 (00~45)



CUCMSV 110 (00~45)



θ	Travel	A	B	C	E	F	G	H	J	K	N	P	Q
00	32.1	318.00	180.00	138	70.00	205.00	55.0	330	295	70	185.0	137.5	300
05	35.5	324.46	194.46	130	79.26	195.74	59.6						
10	38.9	330.22	209.22	121	84.13	190.87	70.2						
15	42.4	336.20	222.20	114	94.45	180.55	76.8						
20	46.1	339.32	234.32	105	100.42	174.58	89.3	360	325	75	205.0	192.5	330
25	50.0	340.51	246.51	94	109.67	165.33	100.8						
30	54.3	348.36	278.36	70	120.54	154.46	124.5						
35	59.0	343.52	289.52	54	127.82	147.18	125.0						
40	64.3	332.59	268.59	64	139.41	135.59	130.0						
45	70.4	322.52	277.52	45	149.44	125.56	140.0						

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS	j	k	n	h
CUCMSV	110	00	150.0	7533 (768.7)	GD	125	109	130	150
		05		7516 (767.0)					
		10		7499 (765.2)					
		15		7480 (763.3)					
		20		7461 (761.3)		140	115	180	
		25		7441 (759.2)					
		30		7420 (757.1)					
		35		7399 (755.0)					
		40		7378 (752.8)		105	95	150	
		45		7356 (750.6)					

■ Table of Components

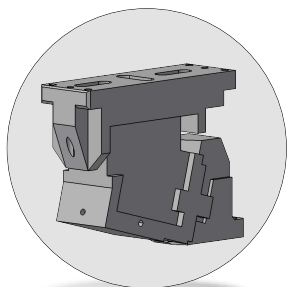
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Slider	1
3	Slide Plate	1
5	OillessPlate	2
6	Slide Plate	2
7	Positive Return	2
9	Spring Stopper	2
11	Cam Holder	1
13	Slide Keeper	1
14	Slide Plate	1
15	Stopper	2
16	Stopper Plate	1
17	Lock Block	1
18	Bolt	1
19	Gas Spring	1

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	–	4581 (467.4)	U.0325.063.TO (DADCO)

Order example: **CUCMSV 110-25-GD (cod. + W + θ + PS)**

Aerial Cam Units

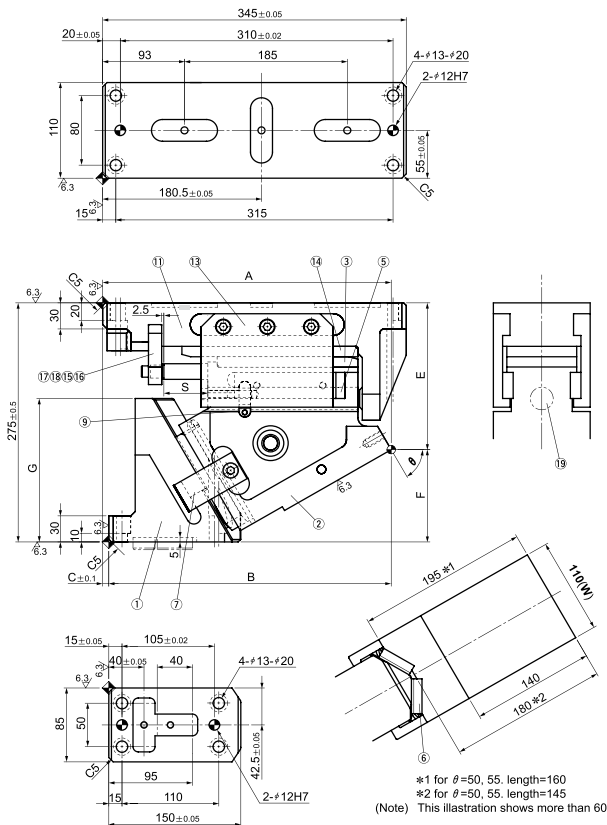


Code

CUCMSV 110 (50~75)



CUCMSV 110 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	77.8	309.47	284.47	25	156.17	118.83	150.0	50
55	87.2	311.07	293.07	18	169.79	105.21	155.0	
60	100.0	327.93	320.93	7	168.85	106.15	165.0	40
65	94.6	317.17	327.17	-10	185.00	90.00		28
70	81.9	313.12	333.12	-20	205.00	70.00		
75	108.2	306.76	336.76	-30	225.00	50.00		

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	110	50	150.0	7335 (748.5)	GD
		55		7979 (814.2)	
		60		8819 (899.8)	
		65		9977 (1018.1)	
		70		11141 (1136.9)	
		75		13323 (1359.5)	

■ Table of Components

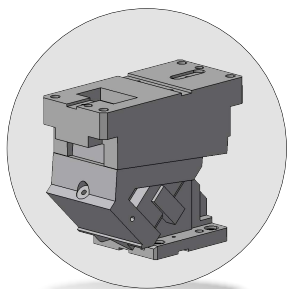
NO.	Description	Q'TY
1	Cam Driver	1
2	Cam Slider	1
3	Slide Plate	1
5	OillessPlate	2
6	Slide Plate	2
7	Positive Return	2
9	Spring Stopper	2
11	Cam Holder	1
13	Slide Keeper	1
14	Slide Plate	1
15	Stopper	2
16	Stopper Plate	1
17	Lock Block	1
18	Bolt	1
19	Gas Spring	1

■ Spring Specification

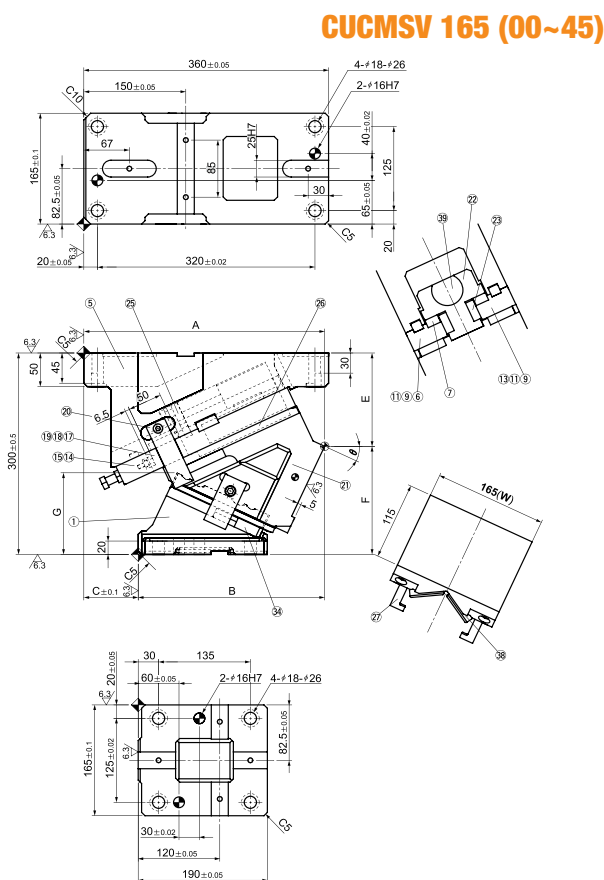
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50~60	—	4581 (467.4)	U.0325.063.TO (DADCO)
GD	65	—	4592 (468.6)	U.0325.050.TO (DADCO)
GD	70~75	—	4482 (457.3)	U.0325.038.TO (DADCO)

Order example: **CUCMSV 110-60-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 165 (00~45)



θ	Travel	A	B	C	E	F	G
00	32.1	360.00	210.00	150	95.00	205.00	77.5
05	35.5	356.25	222.25	134	100.91	199.09	87.8
10	38.9	359.27	241.27	118	111.09	188.91	94.6
15	42.4	355.78	244.78	111	122.47	177.53	101.0
20	46.1	355.68	262.68	93	130.00	170.00	111.8
25	50.0	354.25	274.25	80	138.92	161.08	121.6
30	54.3	357.28	287.28	70	148.28	151.72	131.3
35	59.0	345.80	281.80	64	158.89	141.11	139.9
40	64.3	344.27	286.27	58	170.38	129.62	147.7
45	70.4	344.86	304.86	40	182.66	117.34	154.5

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	165	00	171.0	14996 (1530.3)	GD
		05		14972 (1527.8)	
		10		14945 (1525.0)	
		15		14918 (1522.3)	
		20		14890 (1519.4)	
		25		14860 (1516.3)	
		30		14830 (1513.2)	
		35		14799 (1510.1)	
		40		14768 (1506.9)	
		45		14736 (1503.7)	

■ Table of Components

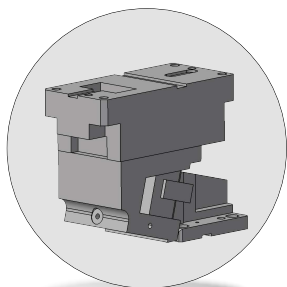
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	4
11	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	2
17	Lock Block	1
18	Bolt	2
19	Nut	2
20	Safety Plate	2
21	Cam Slider	1
22	Spring Guide	1
23	Slide Plate	2
25	Gas Spring Guide	1
26	Slide Plate	2
27	Positive Return Plate	2
34	Cam Slider Guide	1
38	Slide Plate	2
39	Gas Spring	1

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	—	10526 (1074.1)	U.0800.063.TO (DADCO)

Order example: **CUCMSV 165-20-GD (cod. + W + θ + PS)**

Aerial Cam Units

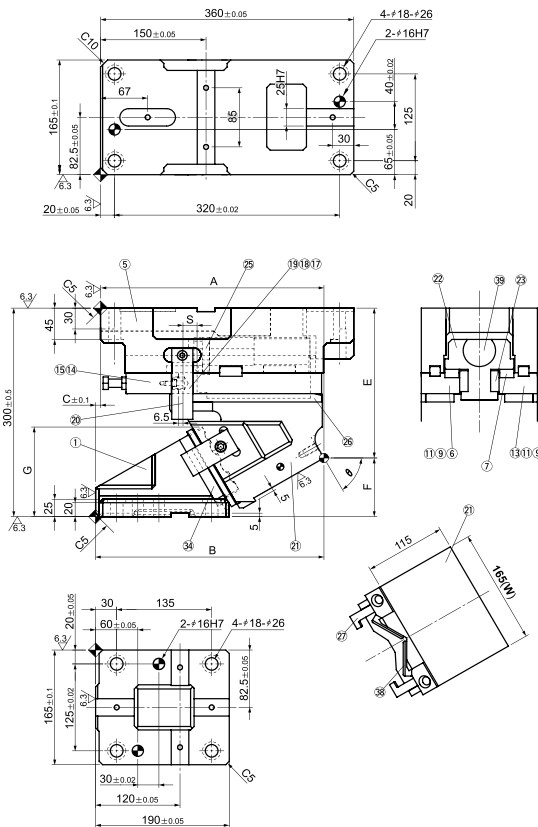


Code

CUCMSV 165 (50~75)



CUCMSV 165 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	77.8	327.27	317.27	10	195.63	104.37	141.2	50
55	61.0	324.39	324.39	0	210.20	89.80	127.3	35
60	40.0	317.59	324.59	-7	215.63	84.37	128.9	20
65	47.3	314.23	329.23	-15	231.40	68.60	132.5	
70	58.5	308.07	333.07	-25	245.67	54.33	132.9	
75	58.0	301.08	336.08	-35	260.24	39.76	132.3	

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	165	50	171.0	14705 (1500.5)	GD
		55		15372 (1568.5)	
		60		15715 (1603.6)	
		65		17719 (1808.0)	
		70		20488 (2090.6)	
		75		22993 (2346.2)	

■ Table of Components

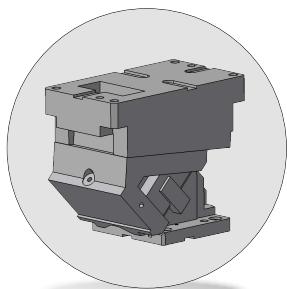
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	4
11	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	2
17	Lock Block	1
18	Bolt	2
19	Nut	2
20	Safety Plate	2
21	Cam Slider	1
22	Spring Guide	1
23	Slide Plate	2
25	Gas Spring Guide	1
26	Slide Plate	2
27	Positive Return Plate	2
34	Cam Slider Guide	1
38	Slide Plate	2
39	Gas Spring	1

■ Spring Specification

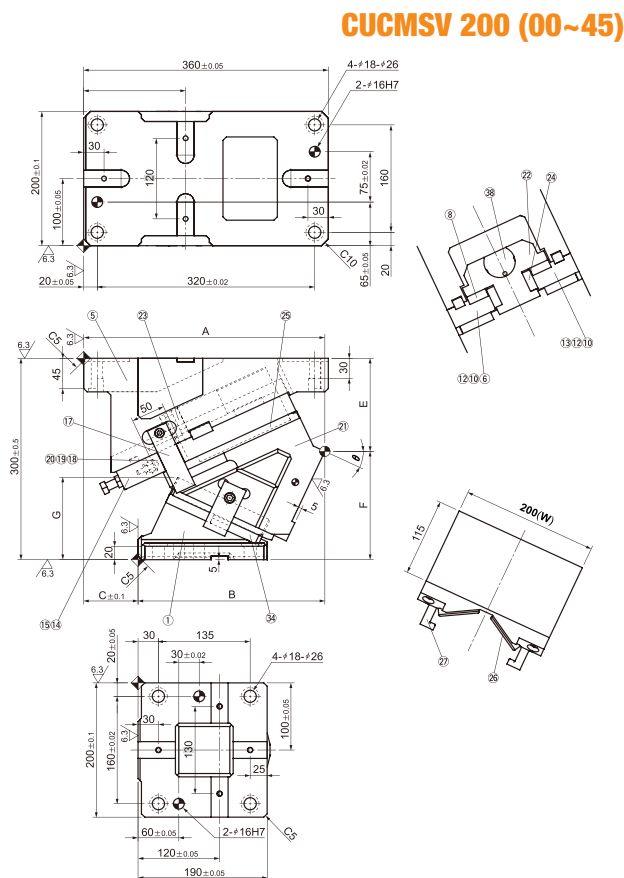
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50	–	10526 (1074.1)	U.0800.063.TO (DADCO)
GD	55	–	10148 (1035.5)	U.0800.050.TO (DADCO)
GD	60~70	–	9446 (963.9)	U.0800.038.TO (DADCO)
GD	75	–	8915 (909.7)	U.0800.038.TO (DADCO)

Order example: **CUCMSV 165-60-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 200 (00~45)



θ	Travel	A	B	C	E	F	G
00	32.1	360.00	210.00	150	95.00	205.00	78.5
05	35.5	356.25	222.25	134	100.91	199.09	88.8
10	38.9	359.27	241.27	118	111.09	188.91	95.6
15	42.4	355.78	244.78	111	122.47	177.53	101.9
20	46.1	355.68	262.68	93	130.00	170.00	112.7
25	50.0	354.88	274.88	80	138.62	161.38	122.8
30	54.3	357.28	287.28	70	148.28	151.72	132.2
35	59.0	345.80	281.80	64	158.89	141.11	140.7
40	64.3	344.27	286.27	58	170.38	129.62	148.4
45	70.4	344.86	304.86	40	182.66	117.34	155.2

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	200	00	218.0	15061 (1536.8)	GD
		05		15030 (1533.6)	
		10		14996 (1530.2)	
		15		14961 (1526.7)	
		20		14925 (1523.0)	
		25		14887 (1519.1)	
		30		14849 (1515.2)	
		35		14810 (1511.2)	
		40		14770 (1507.2)	
		45		14730 (1503.1)	

■ Table of Components

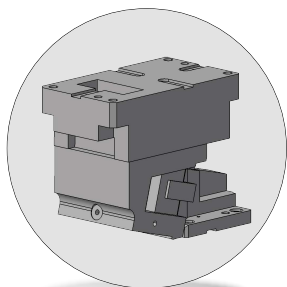
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
8	Oilless Plate	2
10	Key	4
12	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	1
17	Safety Plate	2
18	Lock Block	1
19	Bolt	2
20	Nut	2
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
25	Slide Plate	2
26	Slide Plate	2
27	Positive Return Plate	2
34	Gas Spring Guide	1
38	Gas Spring	1

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	—	10526 (1074.1)	U.0800.063.TO (DADCO)

Order example: **CUCMSV 200-25-GD (cod. + W + θ + PS)**

Aerial Cam Units

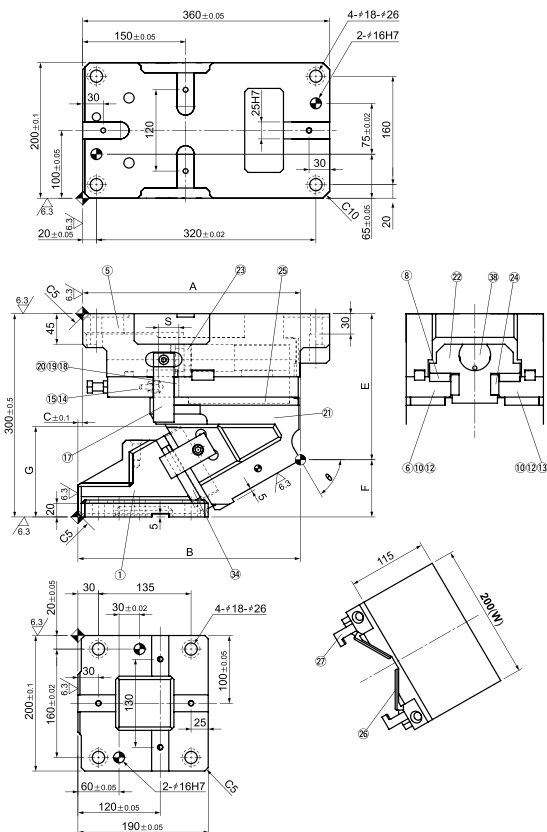


Code

CUCMSV 200 (50~75)



CUCMSV 200 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	77.8	327.27	317.27	10	195.63	104.37	142.0	50
55	52.3	324.39	324.39	0	210.20	89.80	132.0	30
60	60.0	317.59	324.59	-7	215.63	84.37	134.0	
65	71.0	319.23	334.23	-15	231.40	68.60	133.0	
70	58.5	313.07	338.07	-25	245.67	54.33	134.0	20
75	77.3	306.08	341.08	-35	260.24	39.76	133.0	

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	200	00	218.0	15061 (1536.8)	GD
		05		15030 (1533.6)	
		10		14996 (1530.2)	
		15		14961 (1526.7)	
		20		14925 (1523.0)	
		25		14887 (1519.1)	
		30		14849 (1515.2)	
		35		14810 (1511.2)	
		40		14770 (1507.2)	
		45		14730 (1503.1)	

■ Table of Components

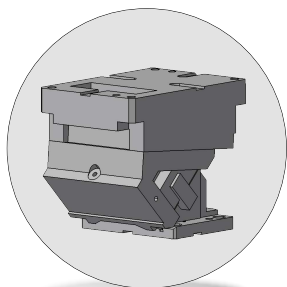
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
8	Oilless Plate	2
10	Key	4
12	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	1
17	Safety Plate	2
18	Lock Block	1
19	Bolt	2
20	Nut	2
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
25	Slide Plate	2
26	Slide Plate	2
27	Positive Return Plate	2
34	Gas Spring Guide	1
38	Gas Spring	1

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50	—	10526 (1074.1)	U.0800.063.TO (DADCO)
GD	55~65	—	11360 (1159.2)	U.0800.050.TO (DADCO)
GD	70~75	—	9446 (963.9)	U.0800.038.TO (DADCO)

Order example: **CUCMSV 200-60-GD (cod. + W + θ + PS)**

Aerial Cam Units

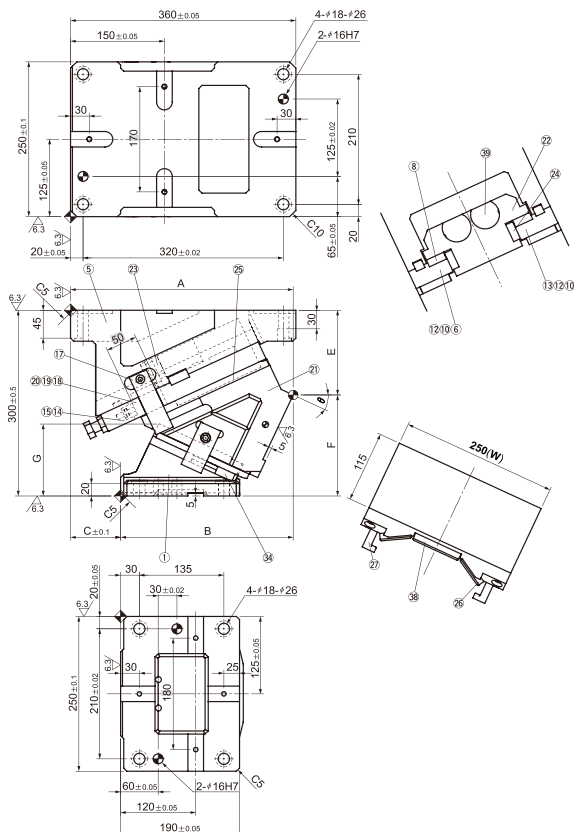


Code

CUCMSV 250 (00~45)



CUCMSV 250 (00~45)



θ	Travel	A	B	C	E	F	G
00	32.1	360.00	210.00	150	95.00	205.00	72.5
05	35.5	356.43	222.43	134	98.92	201.08	84.8
10	38.9	359.62	241.62	118	109.12	190.88	91.7
15	42.4	356.30	245.30	111	120.53	179.47	96.8
20	46.1	356.37	263.37	93	128.12	171.88	107.2
25	50.0	355.73	275.73	80	136.81	163.19	117.1
30	54.3	358.28	288.28	70	146.55	153.45	126.2
35	59.0	346.94	282.94	64	157.25	142.75	134.6
40	64.3	345.56	287.56	58	168.85	131.15	142.1
45	70.4	346.27	306.24	40	181.24	118.76	148.8

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	250	00	284.0	29916 (3052.7)	GD
		05		29876 (3048.5)	
		10		29832 (3044.0)	
		15		29786 (3039.4)	
		20		29738 (3034.5)	
		25		29688 (3029.4)	
		30		29637 (3024.2)	
		35		29586 (3019.0)	
		40		29534 (3013.6)	
		45		29481 (3008.3)	

■ Table of Components

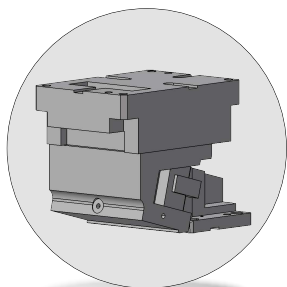
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
8	Oilless Plate	2
10	Key	4
12	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	2
17	Safety Plate	2
18	Lock Block	1
19	Bolt	2
20	Nut	2
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
25	Slide Plate	2
26	Slide Plate	2
27	Positive Return Plate	2
34	Cam Slider Guide	1
38	Slide Plate	1
39	Gas Spring	2

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	—	21053 (2148.3)	U.0800.063.TO (DADCO)

Order example: **CUCMSV 250-25-GD (cod. + W + θ + PS)**

Aerial Cam Units

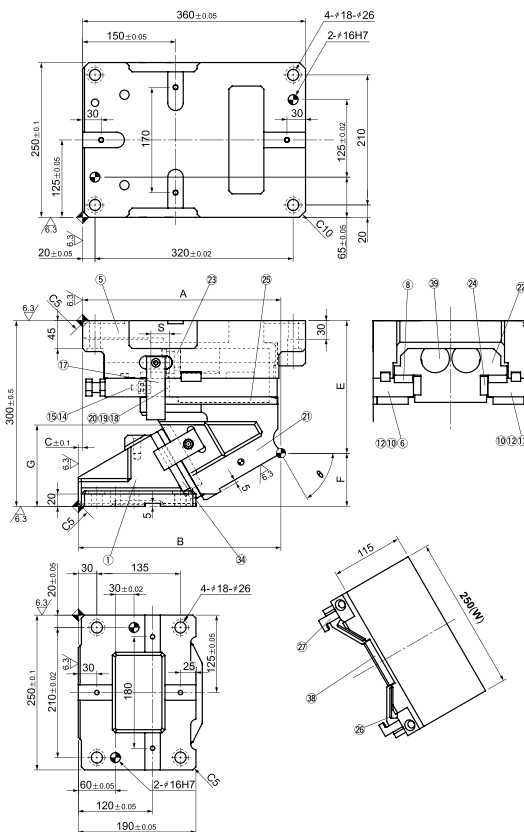


Code

CUCMSV 250 (50~75)



CUCMSV 250 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	77.8	328.80	318.80	10	194.34	105.66	139.2	50
55	52.3	326.84	326.84	0	208.48	91.52	126.1	30
60	60.0	320.19	327.19	-7	214.13	85.87	132.2	
65	71.0	319.23	334.23	-15	231.40	68.60	135.0	
70	58.5	313.07	338.07	-25	245.67	54.33	135.9	20
75	77.3	306.08	341.08	-35	260.24	39.76	135.9	

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	250	50	284.0	29429 (3003.0)	GD
		55		29429 (3003.0)	
		60		32542 (3320.6)	
		65		36709 (3745.8)	
		70		41018 (4185.5)	
		75		49066 (5006.7)	

■ Table of Components

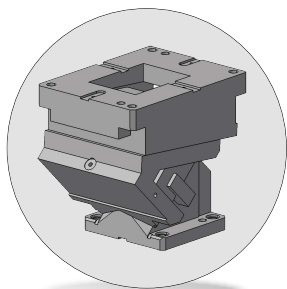
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
8	Oilless Plate	2
10	Key	4
12	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	2
17	Safety Plate	2
18	Lock Block	1
19	Bolt	2
20	Nut	2
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
25	Slide Plate	2
26	Slide Plate	2
27	Positive Return Plate	2
34	Cam Slider Guide	1
38	Slide Plate	1
39	Gas Spring	2

■ Spring Specification

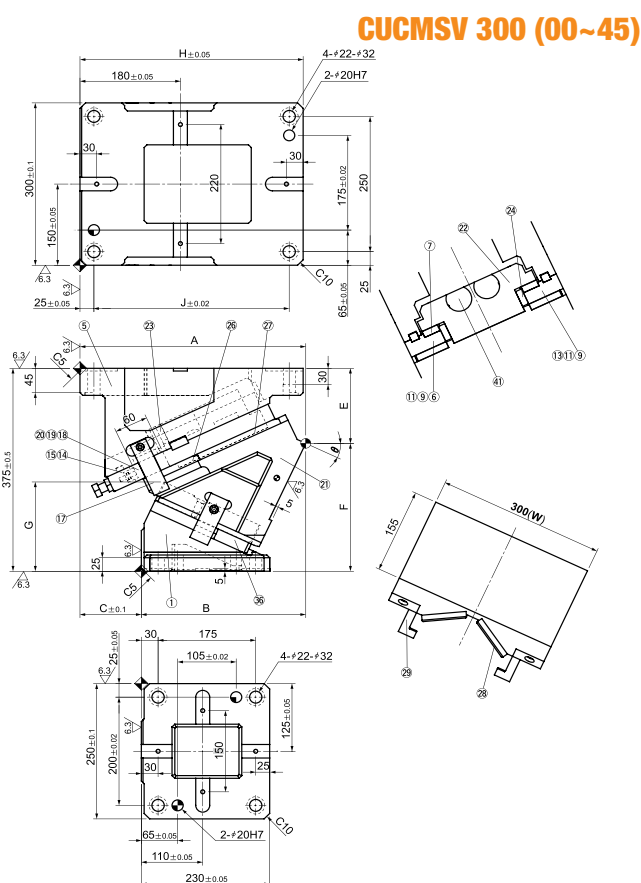
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50	–	21053 (2148.3)	U.0800.063.TO (DADCO)
GD	55~65	–	22720 (2318.4)	U.0800.050.TO (DADCO)
GD	70~75	–	18893 (1927.9)	U.0800.038.TO (DADCO)

Order example: **CUCMSV 250-25-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 300 (00~45)



θ	Travel	A	B	C	E	F	G	H	J
00	38.6	395.00	232.00	163	98.00	277.00	105.0	390	340
05	42.6	387.15	232.15	155	104.19	270.81	116.9		
10	46.7	394.13	249.13	145	111.86	263.14	128.5		
15	50.9	395.82	260.82	135	121.01	253.99	139.6		
20	55.3	397.08	277.08	120	131.59	243.41	150.2		
25	60.0	404.71	294.71	110	138.65	236.35	165.0	400	350
30	65.1	408.22	323.22	85	146.89	228.11	179.2		
35	70.8	404.52	334.52	70	159.17	215.83	189.6		
40	77.1	400.46	345.46	55	167.30	207.70	204.5		
45	84.5	394.84	345.84	40	179.24	195.76	215.6		

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	300	00	364.0	29608 (3021.2)	GD
		05		29543 (3014.6)	
		10		29475 (3007.6)	
		15		29402 (3000.2)	
		20		29327 (2992.6)	
		25		29250 (2984.7)	
		30		29170 (2976.5)	
		35		29089 (2968.3)	
		40		29007 (2959.9)	
		45		28925 (2951.5)	

■ Table of Components

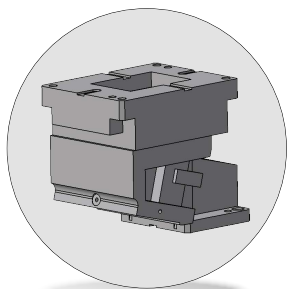
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	4
11	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	2
17	Safty Plate	2
18	Lock Block	1
19	Bolt	1
20	Nut	1
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
26	Slide Plate	2
27	Slide Plate	2
28	Slide Plate	2
29	Positive Return Plate	2
36	Cam Slider Guide	1
41	Gas Spring	2

■ Spring Specification

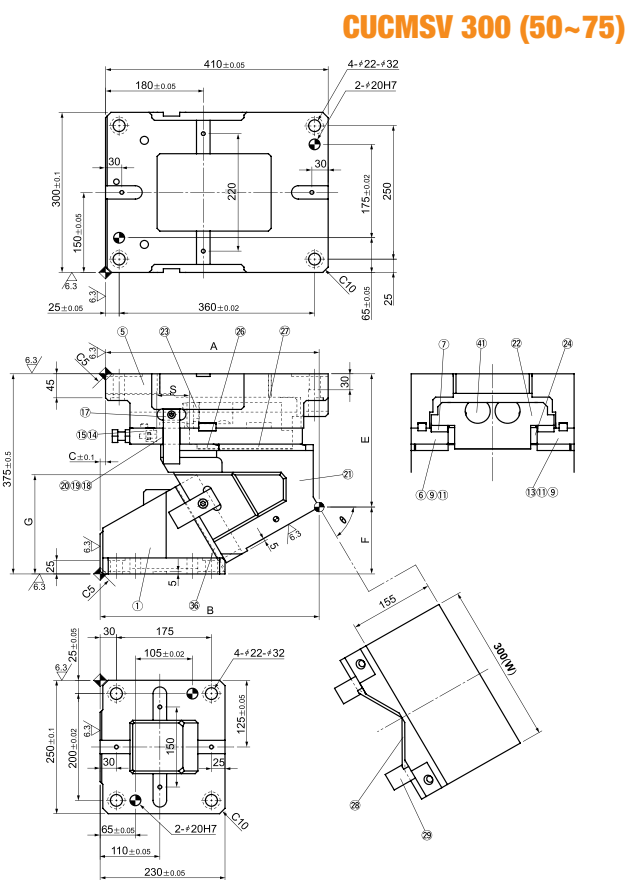
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	—	20700 (2112.2)	U.0800.080.TO (DADCO)

Order example: **CUCMSV 300-25-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 300 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	93.3	393.35	376.35	17	196.04	178.96	194.8	60
55	104.6	393.35	393.35	0	222.75	152.25	188.8	
60	120.0	393.35	403.35	-10	249.61	125.39	182.3	
65	94.6	387.48	415.48	-28	266.49	108.51	185.4	40
70	73.1	378.65	423.65	-45	281.99	93.01	189.2	25
75	96.6	364.72	429.72	-65	296.88	78.12	193.0	

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	300	50	284.0	28842 (2943.1)	GK GD
		55		31364 (3200.4)	
		60		34665 (3537.2)	
		65		37172 (3793.0)	
		70		40388 (4121.2)	
		75		48308 (4929.4)	

■ Table of Components

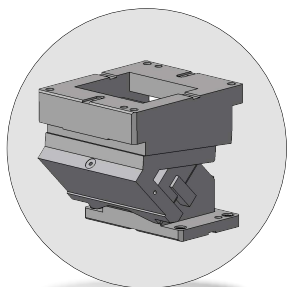
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	4
11	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	2
17	Safety Plate	2
18	Lock Block	1
19	Bolt	1
20	Nut	1
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
26	Slide Plate	2
27	Slide Plate	2
28	Slide Plate	2
29	Positive Return Plate	2
36	Cam Slider Guide	1
41	Gas Spring	2

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50~60	—	20700 (2112.2)	U.0800.080.TO (DADCO)
GD	65	—	22720 (2318.4)	U.0800.063.TO (DADCO)
GD	70~75	—	19200 (1959.2)	U.0800.050.TO (DADCO)

Order example: **CUCMSV 300-60-GD (cod. + W + θ + PS)**

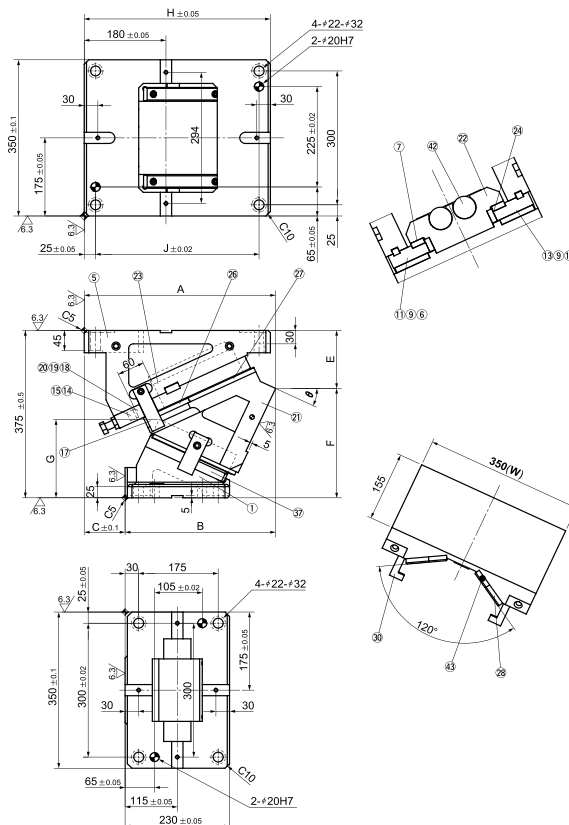
Aerial Cam Units

**Code**

CUCMSV 350 (00~45)



CUCMSV 350 (00~45)



θ	Travel	A	B	C	E	F	G	H	J
00	38.6	395.00	235.00	160	85.00	290.00	117.5	390	340
05	42.6	409.62	254.62	155	95.02	279.98	126.0		
10	46.7	414.52	274.52	140	104.67	270.33	136.1		
15	50.9	408.60	293.60	115	113.76	261.24	147.7		
20	55.3	422.92	312.92	110	122.21	252.79	160.8		
25	60.0	421.53	331.53	90	129.96	245.04	175.3	410	360
30	65.1	418.50	348.50	70	136.94	238.06	191.2		
35	70.8	415.89	365.89	50	153.12	221.88	198.2		
40	77.1	410.78	380.78	30	168.43	206.57	206.2		
45	84.5	405.25	395.25	10	182.84	192.16	215.1		

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	350	00	405.0	42142 (4300.2)	GD
		05		42067 (4292.6)	
		10		41988 (4284.5)	
		15		41904 (4275.9)	
		20		41816 (4266.9)	
		25		41725 (4257.7)	
		30		41632 (4248.2)	
		35		41537 (4238.5)	
		40		41442 (4228.7)	
		45		41346 (4218.9)	

■ Table of Components

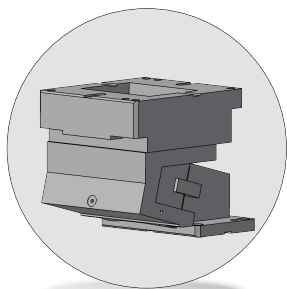
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	4
11	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	4
17	Safety Plate	2
18	Lock Block	1
19	Bolt	1
20	Nut	1
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
26	Slide Plate	2
27	Slide Plate	2
28	Slide Plate	2
29	Positive Return Plate	2
36	Cam Slider Guide	1
41	Gas Spring	2
43	Slide Plate	2

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	—	31225 (3186.2)	U.1200.080.TO (DADCO)

Order example: **CUCMSV 350-25-GD (cod. + W + θ + PS)**

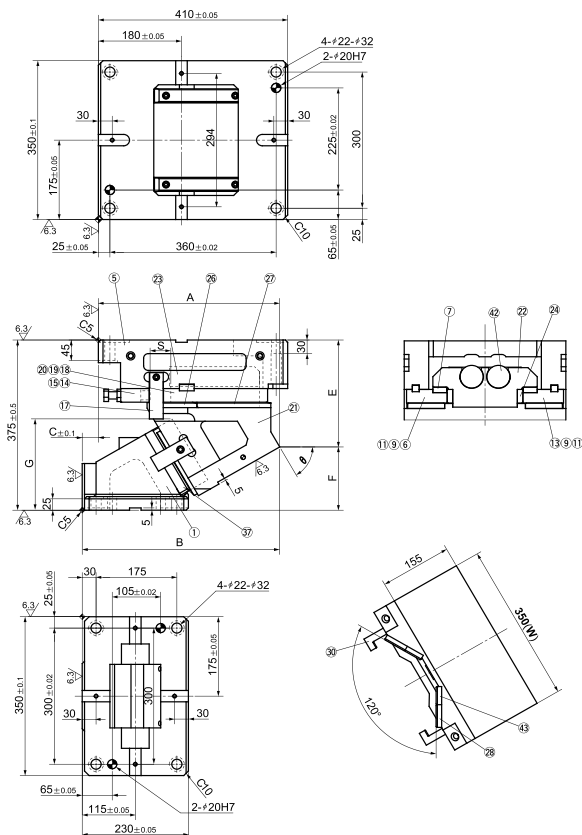
Aerial Cam Units

**Code**

CUCMSV 350 (50~75)



CUCMSV 350 (50~75)



θ	Travel	A	B	C	E	F	G	S
50	93.3	397.37	407.37	-10	201.32	173.68	219.8	60
55	87.2	398.61	418.61	-20	214.69	160.31	200.6	
60	90.0	392.76	427.76	-35	235.67	139.33	200.3	
65	94.6	398.83	438.83	-40	255.31	119.69	200.9	40
70	87.7	394.78	444.78	-50	274.53	100.47	201.2	25
75	96.6	394.55	449.55	-55	295.21	79.79	199.4	

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	350	50	405.0	41250 (4209.2)	GD
		55		43059 (4393.7)	
		60		48747 (4974.1)	
		65		52806 (5388.3)	
		70		59962 (6118.6)	
		75		67961 (6934.8)	

■ Table of Components

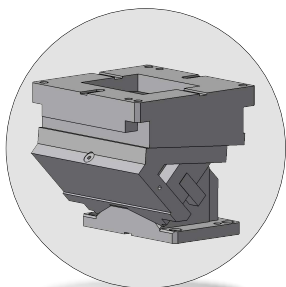
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	4
11	Key	2
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	4
17	Safety Plate	2
18	Lock Block	1
19	Bolt	1
20	Nut	1
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
26	Slide Plate	2
27	Slide Plate	2
28	Slide Plate	2
29	Positive Return Plate	2
36	Cam Slider Guide	1
41	Gas Spring	2
43	Slide Plate	2

■ Spring Specification

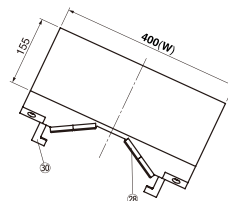
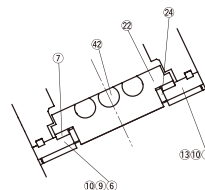
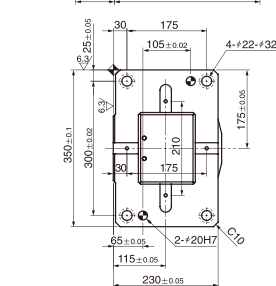
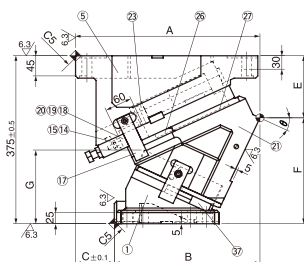
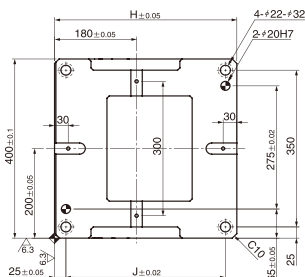
Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	50	–	31225 (3186.2)	U.1200.080.TO (DADCO)
GD	55	–	30107 (3072.1)	U.1200.075.TO (DADCO)
GD	60	–	30746 (3137.3)	U.1200.063.TO (DADCO)
GD	65	–	29681 (3028.7)	U.1200.063.TO (DADCO)
GD	70	–	29212 (2980.8)	U.1200.050.TO (DADCO)
GD	75	–	27870 (2843.9)	U.1200.050.TO (DADCO)

Order example: **CUCMSV 350-60-GD (cod. + W + θ + PS)**

Aerial Cam Units

**Code**

CUCMSV 400 (00~45)



CUCMSV 400 (00~45)

θ	Travel	A	B	C	E	F	G	H	J
00	38.6	395.00	237.00	158	88.00	287.00	116.0	390	340
05	42.6	387.15	232.15	155	94.19	280.81	126.4		
10	46.7	394.13	249.13	145	106.86	267.14	133.0		
15	50.9	395.82	260.82	135	118.01	256.99	142.1		
20	55.3	397.08	297.08	100	131.59	243.41	149.7		
25	60.0	404.71	319.71	85	138.65	236.35	165.4	400	350
30	65.1	408.22	343.22	65	146.89	228.11	178.7		
35	70.8	404.52	354.52	50	159.17	215.83	189.2		
40	77.1	400.46	360.46	40	167.30	207.70	204.1		
45	84.5	394.84	374.84	20	179.24	195.76	215.2		

Aerial Cam Units

■ Specification Table

Catalog No.	Mounting Width (W)	Working Angle (θ)	Working Force (KN)	Return Force N(kgf)	Spring Type PS
CUCMSV	400	00	450.0	44337 (4524.1)	GD
		05		44248 (4515.1)	
		10		44154 (4505.5)	
		15		44055 (4495.4)	
		20		43951 (4484.8)	
		25		43844 (4473.9)	
		30		43734 (4462.6)	
		35		43621 (4451.2)	
		40		43508 (4439.6)	
		45		43395 (4428.0)	

■ Table of Components

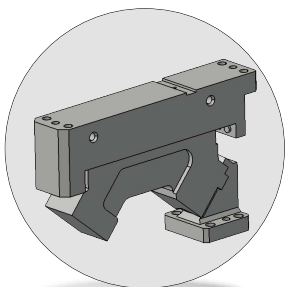
NO.	Description	Q'TY
1	Cam Driver	1
5	Cam Holder	1
6	Base Plate R	1
7	Oilless Plate	2
9	Key	2
11	Key	4
13	Base Plate L	1
14	Stopper Plate	1
15	Stopper	4
17	Safety Plate	2
18	Lock Block	1
19	Bolt	1
20	Nut	1
21	Cam Slider	1
22	Spring Guide	1
23	Gas Spring Guide	1
24	Slide Plate	2
26	Slide Plate	2
27	Slide Plate	2
28	Slide Plate	4
30	Positive Return Plate	2
37	Cam Slider Guide	1
42	Gas Spring	2

■ Spring Specification

Spring (PS)	θ	Spring Force N(kgf)		Model
		Initial	Final	
GD	00~45	–	31050 (3168.4)	U.0800.080.TO (DADCO)

Order example: **CUCMSV 400-25-GD (cod. + W + θ + PS)**

Long Body Cam Units

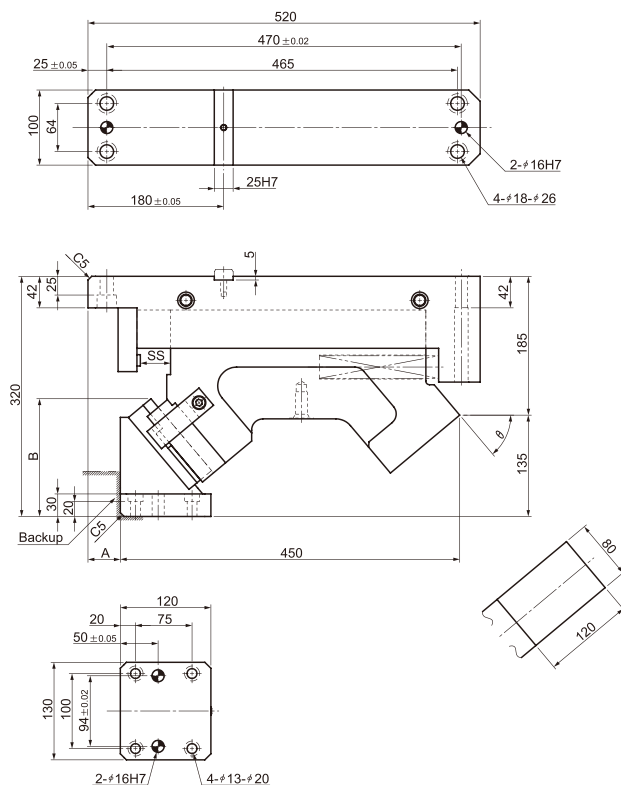


Code

CSACLB 80



CSACLB 80



Catalog No.	Mount Width	Work Angle	Over All Width	Shut Height	Working Force kN
CSACLB	80	50~80	100	320	58.8

θ	SS	A	B
50°	40	43	156.8
55°		38	160.8
60°		33	163.8
65°		21	167.8
70°		10	168.8
75°		5	170.8
80°	14	0	169.9

Long Body Cam Units

Spring Return force

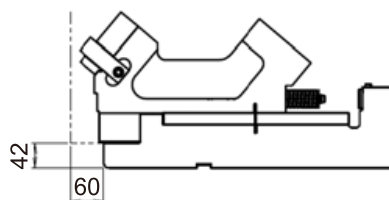
θ	Stroke SS	Coil Spring N(kgf)		Model	Gas Spring N(kgf)		Model	Weight (kg)
		Initial	Final		Initial	Final		
50	40	440.7 (45.0)	2644.3 (269.8)	TH30-200	–	2726.0 (278.2)	U.0325.050.TO (DADCO)	62.7
55	40	440.7 (45.0)	2644.3 (269.8)	TH30-200	–	2726.0 (278.2)	U.0325.050.TO (DADCO)	62.4
60	40	440.7 (45.0)	2644.3 (269.8)	TH30-200	–	2726.0 (278.2)	U.0325.050.TO (DADCO)	62.4
65	34	503.7 (51.4)	2644.3 (269.8)	TH30-175	–	2580.0 (263.3)	U.0325.050.TO (DADCO)	62.4
70	28	587.7 (60.0)	2644.6 (269.9)	TH30-150	–	2653.0 (270.7)	U.0325.038.TO (DADCO)	62.5
75	21	330.6 (33.7)	2644.6 (269.9)	TH30-100	–	2744.0 (280.0)	U.0325.025.TO (DADCO)	62.7
80	14	587.6 (60.0)	2644.4 (269.8)	TH30-75	–	2585.0 (263.8)	U.0325.019.TO (DADCO)	63.0

**Filling gas pressure : 10MPa

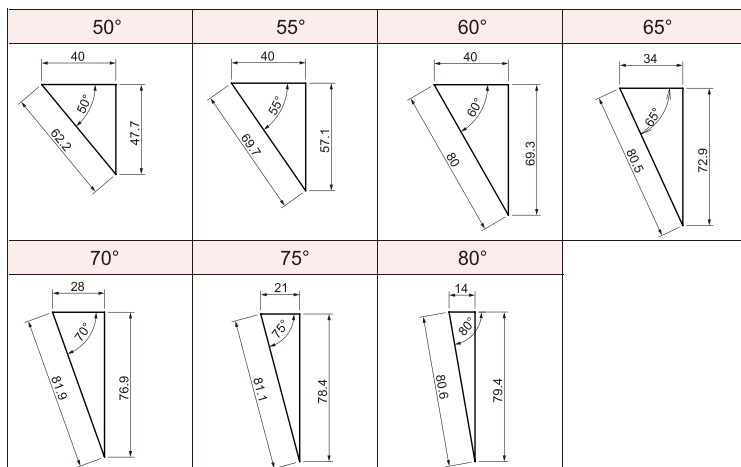
Option

Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged.

Backup Area



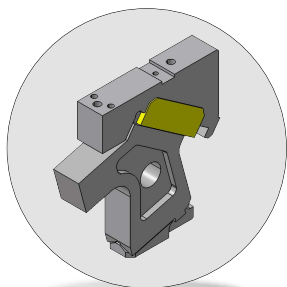
Cam Diagram



Order example: **CSACLB 80-50-GK (cod. + W + θ + SPRING + OPTION)**

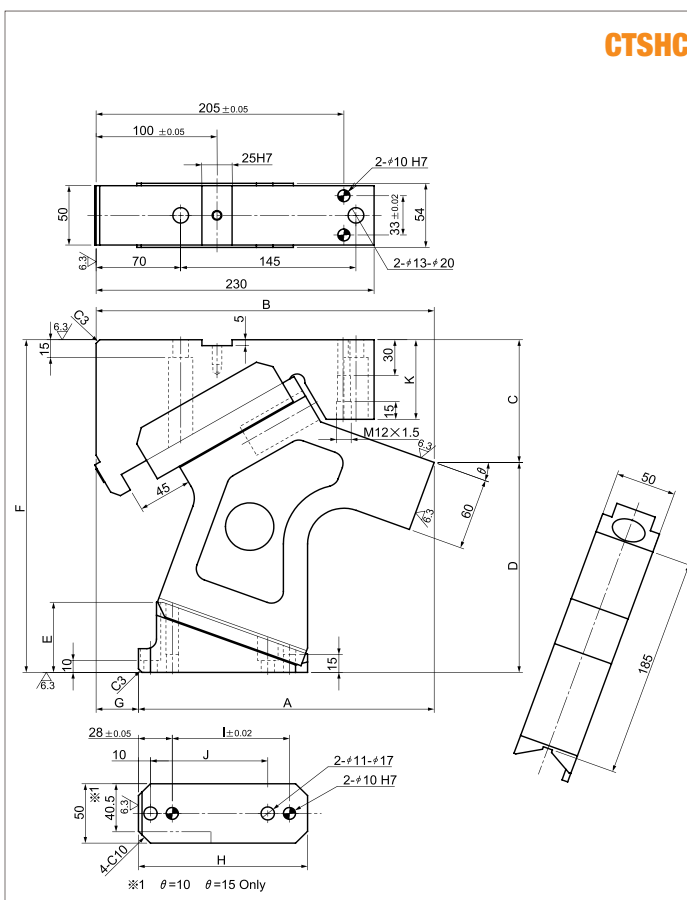
Long Leg Cam Units

CTSHC



Code

CTSHC



θ	A	B	C	D	E	F	G	H	I	J	K	L	M	N
10	228.88	278.88	79.58	190.42	37	270	50	130	87	87	60	60	200	360
15	237.20	277.20	92.86	182.14	46	275	40	135	92	92	65	75	183	340
20	244.75	279.75	103.25	176.75	59	280	35	140	97	97	67	86	320	320
25	260.57	290.57	118.76	166.23	71	285	30	145	102	102	70	95	145	300
30	266.10	286.10	127.41	162.59	87	290	20	150	107	107	70	110	123	280

■ Specification Table

Catalog No.	θ	Mounting Width (W)	Working Force (KN)	Spring Type PS	Total Weight (kg)
CTSHC	10	50	14.7	GD	16.1
	15				16.2
	20				16.4
	25				16.2
	30				16.6

Long Leg Cam Units

■ Spring Force

Spring Type		Spring Force N(kgf)	
		Initial	Final
ISO	TF27-125	141(14.4)	565(57.7)
GD	C.090.050.BU (DADCO)	—	554(56.5)

■ Option

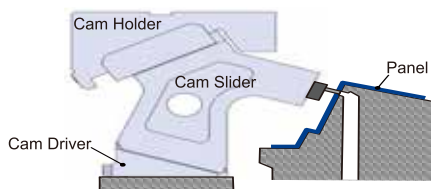
Option Code	Specification
K	Dedicated key is attached. (It is not assembled to the main unit)
NF	Gas is not charged. Applicable to GD only.

■ Spring Return force

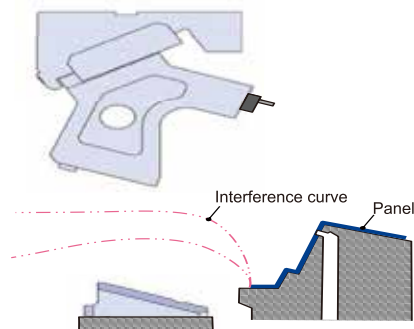
θ	Coil Spring		Gas Spring	
	N	kgf	N	kgf
10	798	81.4	920	93.9
15	790	80.6	912	93.1
20	783	79.9	905	92.4
25	776	79.2	898	91.6
30	768	78.3	890	90.8

■ Features

As the position of the cam driver is lower than an ordinary cam, there will be no interference with the panel.



Cam position during panel processing.



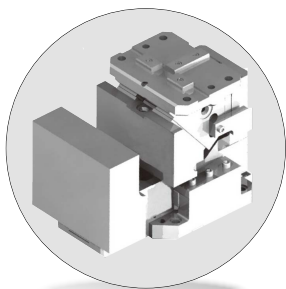
Cam does not interfere during panel transfer.

Order example: **CTSHC 50-10-GD-NF (cod. + W + θ + PS)**

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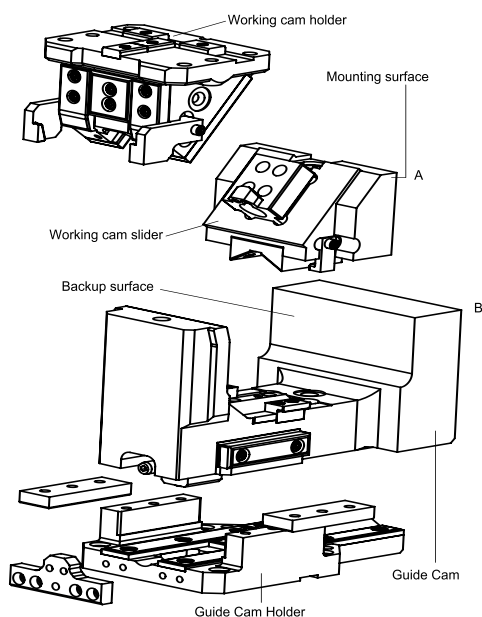
Cam Units

Double Cam Unit



The double cam unit CWCMS series is the optimum part for drilling the flat countersunk head screw holes at the door inner panel lock.

Types and Features of Double cam unit



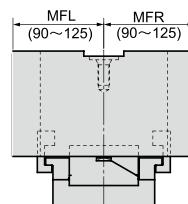
Spring Specification

Spring Type	Working Cam	Guide Cam
ISO	TJM32-152	TJM40-76
GD(DADCO)	U.0400.050.TO	U.0600.013.TO

THRUST BLOCK TYPE

- Designation of mounting surface

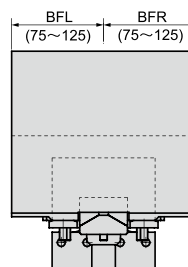
(View A)



Dimension can be designed from the center line in the range of 90 to 125 for the left (MFL) and the right (MFR) (Increments of 5mm).

- Designation of mounting surface

(View B)



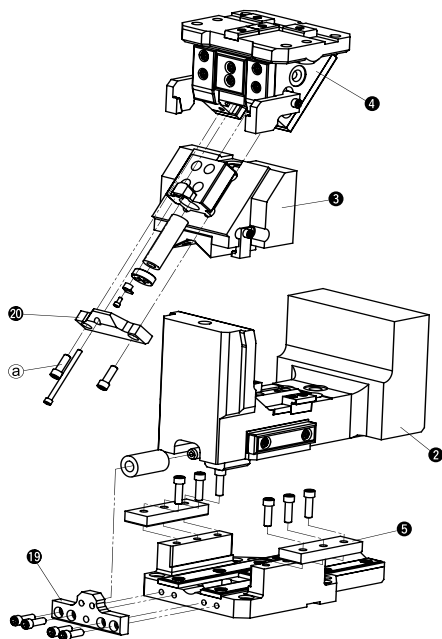
Dimension can be designed from the center line in the range of 75 to 125 for the left (BFL) and the right (BFR) (Increments of 5mm). To maintain the same relation as the mounting surface, L and R are determined when viewed from the back of the backup surface (view B)

Spring Force

Spring Type		Spring Force N(kgf)	
		Initial	Final
ISO	TJM32-152		
	TJM40-76		
GD	U.0400.050.TO (DADCO)	1407	2389
	U.0600.013.TO (DADCO)	2198	2720

Double Cam Unit

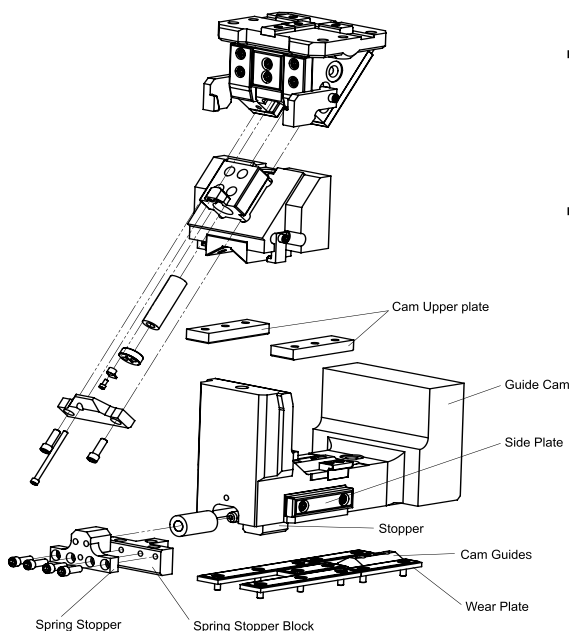
■ Structure and Assembly/Disassembly of CWCMSH



1. Remove hexagon socket head bolt (a) and remove stopper plate (20).
2. Pull and remove cam slider (3) from cam holder B (4) to the rear.
3. Guide cam (2) can be removed upward by removing spring stopper (18) and cam upper plate (5).

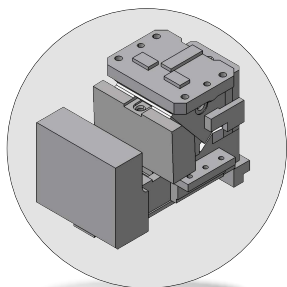
1. Assemble components in the reverse order of disassembly.
 - Make sure that there is no foreign matter on the sliding area and assemble components.
 - The clearance between the cam slider and the cam holder is controlled. Match the stamped serial number on the holder and slider before assembly.
 - When cam is disassembled and then reassembled, please do not forget to assemble all bolts provided.

■ Structure and Assembly/Disassembly of CWCMS

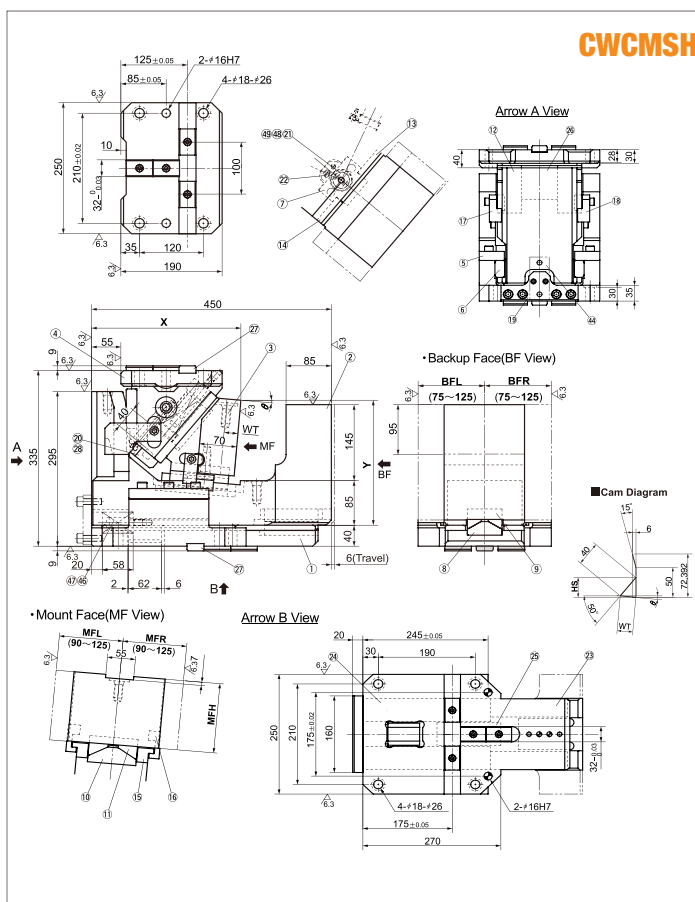


- The guide cam mounting surface (mounting surface of wear plate) is machined for mounting the stopper and the spring stopper block.
 - Side plate A wall surface for forward/backward movement of the guide cam is provided.
- Fixing and sliding is controlled with the Cam upper plate.

Double Cam Unit

**Code**

CWCMSH



■ Specification Table

Catalog No.	Nominal	Mounting Surface Increments of 5mm		*θ Increments of 0.5°	Backup Surface Increments of 5mm		*PS Spring Type
		MFL	MFR		BFL	BFR	
CWCMSH	250	90-125	90-125	0.0~10.0	75-125	75-125	ISO . GD

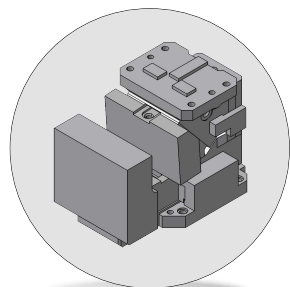
* θ : The angle can be specified at increments of 0.1° from 1.6° to 3.9°

■ Spring Specification

Spring Type	Working Cam Spring Force N		Guide Cam Spring Force N	
	Initial	Final	Initial	Final
ISO	424.6	1968.6	1263.6	1895.4
GD	1407	2389	2198	2720

Order example: CWCMSH 250-10-90-3.0-100-90-GD (cod. + WFW + N + MFL + MFR + θ + BFL + BFR + PS)

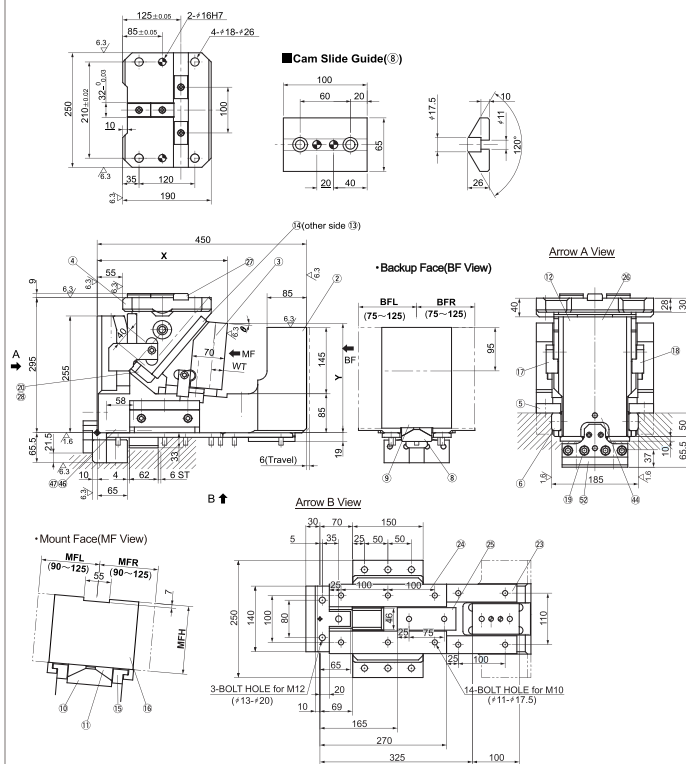
Double Cam Unit

**Code**

CWCMS



CWCMS



■ Specification Table

Catalog No.	Nominal	Mounting Surface Increments of 5mm		*θ Increments of 0.5°	Backup Surface Increments of 5mm		*PS Spring Type
		MFL	MFR		BFL	BFR	
CWCMSH	250	90-125	90-125	0.0~10.0	75-125	75-125	ISO . GD

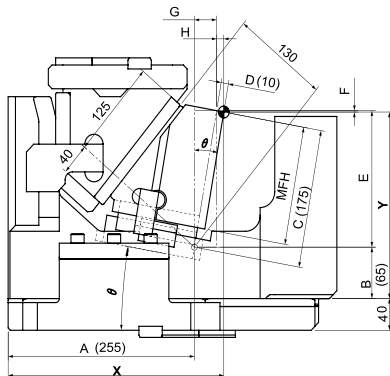
* θ : The angle can be specified at increments of 0.1° from 1.6° to 3.9°

■ Spring Specification

Spring Type	Working Cam Spring Force N		Guide Cam Spring Force N	
	Initial	Final	Initial	Final
ISO	424.6	1968.6	1263.6	1895.4
GD	1407	2389	2198	2720

Order example: CWCMS 250-10-90-5.0-100-90-GD (cod. + WFW + N + MFL + MFR + θ + BFL + BFR + PS)

- Calculation of X and Y coordinates



$$E = C \times \cos \theta = 175 \times \cos \theta$$

$$F = D \times \sin \theta = 10 \times \sin \theta$$

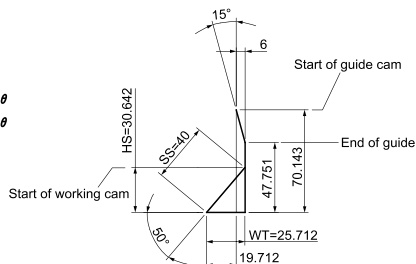
$$G = C \times \sin \theta = 175 \times \sin \theta$$

$$H = D \times \cos \theta = 10 \times \cos \theta$$

$$X = A + C \times \sin \theta + D \times \cos \theta$$

$$Y = B + C \times \cos \theta - D \times \sin \theta$$

- Cam diagram (Example of 0.0°)



■ Values of XY coordinates cam diagram

θ	0.0	0.5	1.0	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
X	265.000	266.527	268.053	269.578	269.882	270.187	270.492	270.797	271.101	271.406	271.710	272.015	272.319	272.624
Y	240.000	239.906	239.799	239.678	239.653	239.626	239.600	239.572	239.544	239.516	239.487	239.458	239.428	239.397
MFH	140	140	140	145	145	145	145	145	145	145	145	145	145	145
WT	25.712	25.712	25.715	25.720	25.722	25.723	25.724	25.726	25.727	25.729	25.730	25.732	25.734	25.736
HS	30.642	30.866	31.091	31.315	31.360	31.405	31.450	31.495	31.540	31.585	31.630	31.674	31.719	31.764

θ	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9
X	272.928	273.233	273.537	273.841	271.145	274.449	274.753	275.057	275.361	275.665	275.969	276.272	276.576	276.880
Y	239.366	239.335	239.303	239.270	239.237	239.203	239.169	239.134	239.099	239.063	239.027	238.990	238.953	238.915
MFH	145	145	145	145	145	145	145	145	145	145	145	145	145	145
WT	25.738	25.740	25.742	25.744	25.747	25.749	25.752	25.754	25.757	25.760	25.762	25.765	25.768	25.771
HS	31.809	31.854	31.899	31.944	31.989	32.034	32.079	32.124	32.169	32.214	32.259	32.304	32.350	32.395

θ	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
X	277.183	278.700	280.214	281.727	283.238	284.746	286.253	287.757	289.258	290.757	292.253	293.746	295.237
Y	238.876	238.676	238.463	238.236	237.996	237.743	237.477	237.198	236.905	236.600	236.281	235.950	235.605
MFH	145	145	145	150	150	150	150	150	150	150	150	150	150
WT	25.774	25.791	28.810	25.830	25.853	25.878	25.905	25.933	25.964	25.997	26.032	26.069	26.108
HS	32.440	32.665	32.891	33.118	33.344	33.571	33.799	34.027	34.255	34.484	34.714	34.944	35.175

■ Table of Components (CWMSH / CWCMS)

NO.	Description	Q'TY
1	Cam Holder A	1
2	Guide Cam	1
3	Cam Slider	1
4	Cam Holder B	1
5	Upper Plate	2
6	Slide Plate	2
7	Spring Guide Block	1
8	Cam Slide Guide	1
9	Cam Slide Guide	1
10	Cam Slide Guide	1
11	Cam Slide Guide	1
12	Cam Stroke Plate	2

NO.	Description	Q'TY
13	Slide Plate R	1
14	Slide Plate L	1
15	Positive Return Block	2
16	Positive Return	2
17	Positive Return R	1
18	Positive Return L	1
19	Spring Stopper A	1
20	Stopper Plate	1
21	Spring Stopper B	1
22	Stopper	1
23	Wear Plate	2
24	Wear Plate	2

NO.	Description	Q'TY
25	Wear Plate	1
26	Wear Plate	1
27	Key	8
28	Stopper	2
44	Lock Plate	1
46	Spring Guide Pin	1
47	Spring	1
48	Spring Guide Pin	1
49	Spring	1
51	Spring	1
52	Spring Guide Block	1

Cam Units

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