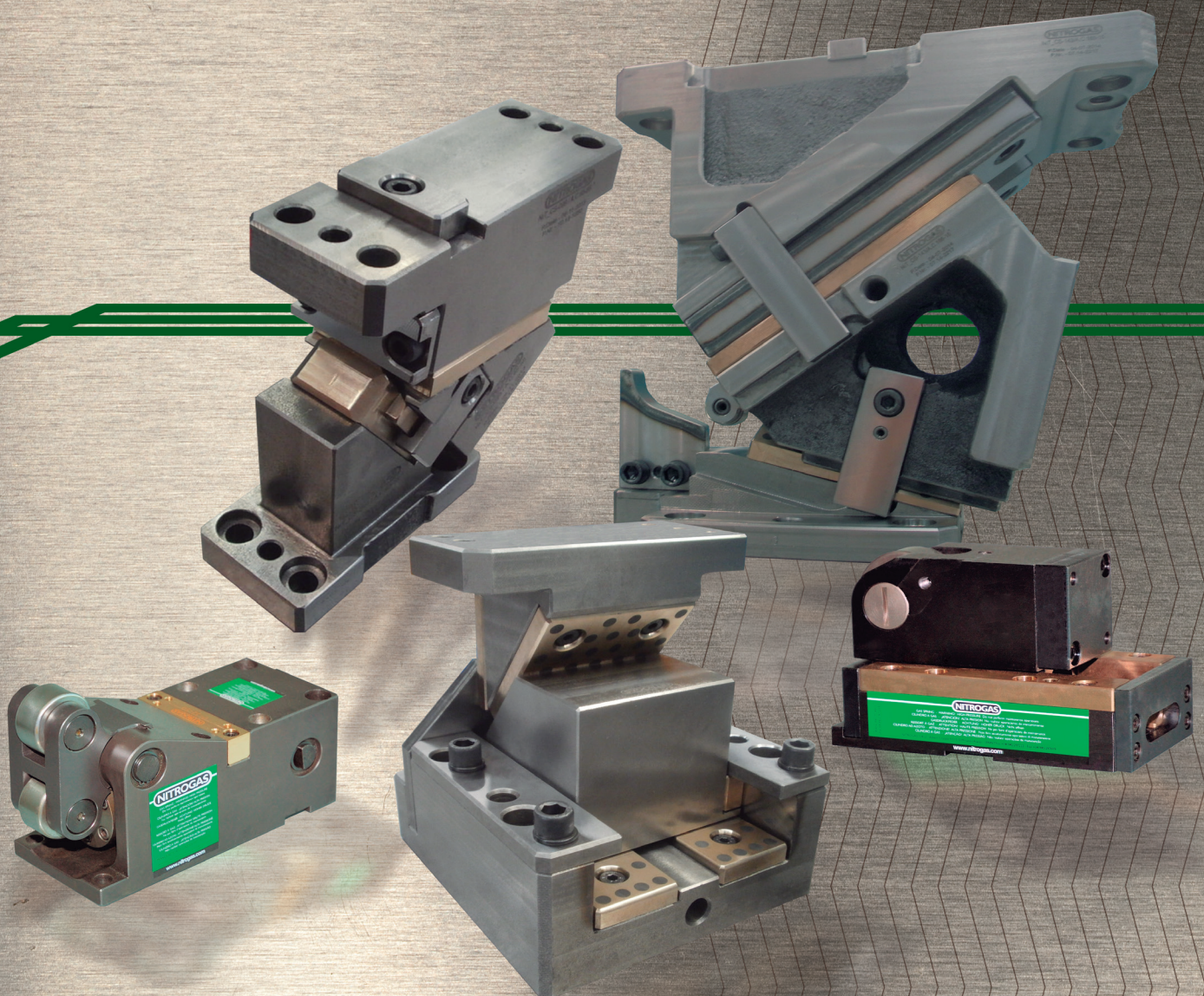


NITROGAS

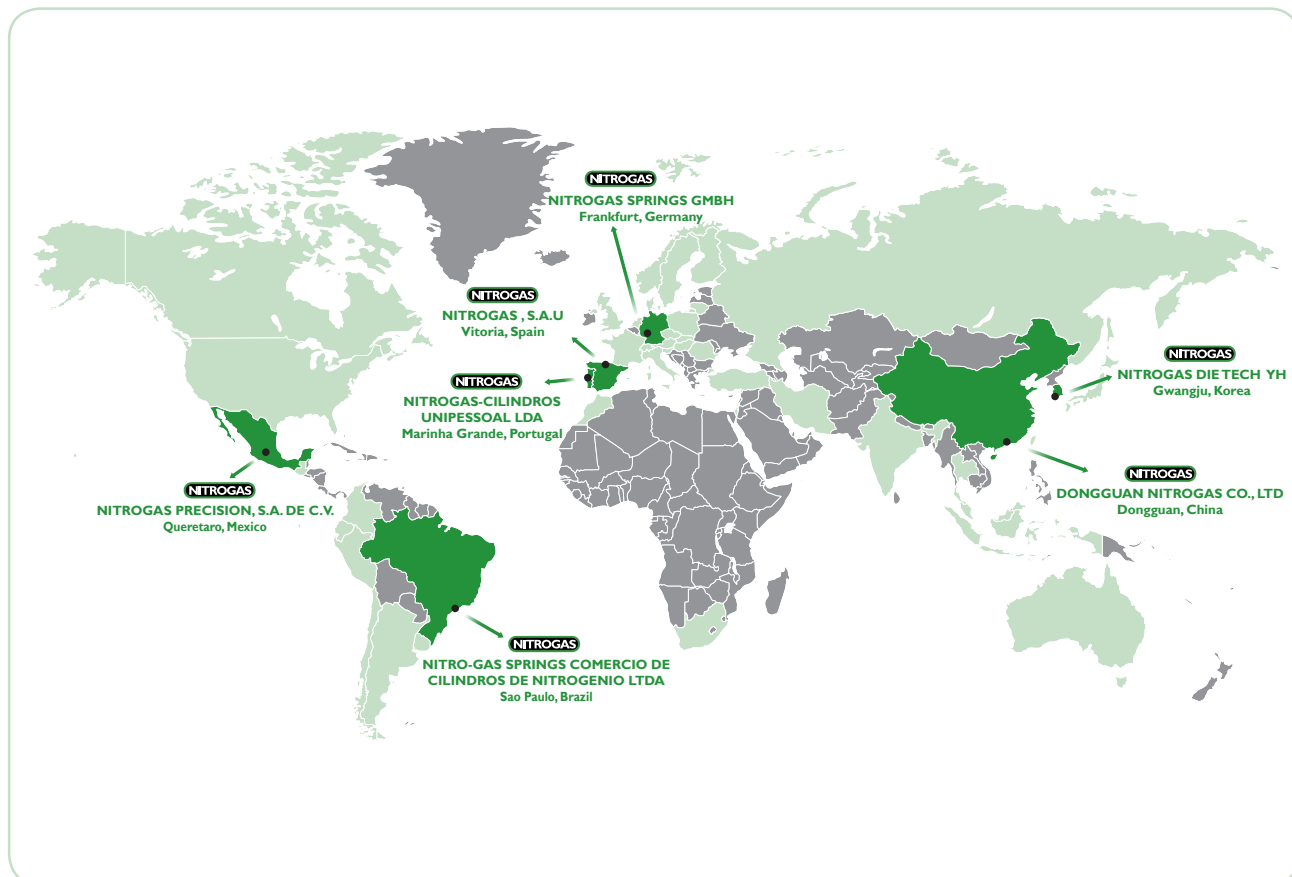
CAM UNITS



Worldwide

NITROGAS is a global company that has a worldwide presence through its own network of subsidiaries and extensive distributor network.

SUBSIDIARIES



DISTRIBUTORS

WESTERN EUROPE

Austria	Italy	Sweden
Denmark	Netherlands	Switzerland
Finland	Norway	United Kingdom
France	Portugal	
Germany	Spain	

EASTERN EUROPE

Slovakia	Hungary
Slovenia	Czech Republic
Lithuania	Poland
Romania	Turkey
Russia	

AMERICA

Argentina	Guatemala
Brazil	Mexico
Canada	Peru
Chile	Uruguay
Colombia	USA
Ecuador	

ASIA-OCEANIA

Australia	Japan
China	Korea
India	Malaysia
Indonesia	Russia
Iran	Taiwan
Israel	Thailand

AFRICA

Morocco
South Africa

Our customers can learn more about the nearest contact on our website:

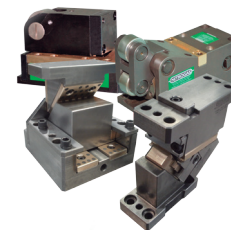
www.nitrogas.com/es/Worldwide.aspx

**GENERAL INFORMATION****2****Why NITROGAS?****2****NTC****3****Selection Guide****4****PUNCHING UNIT****6****CPUN** CONVENTIONAL DESIGN**8****CPUS** COMPACT DESIGN**12****ROLLER CAM****16****CRCN** CONVENTIONAL DESIGN**18****CRCs** QUICK PUNCH REPLACEMENT**20****CRCe** LOW HEIGHT AND QUICK PUNCH REPLACEMENT**22****DIE MOUNTED CAM****24****CDCA** CONVENTIONAL DESIGN**26****CDCV** VDI STANDARD DESIGN**28****AERIAL CAM****30****CACS** COMPACT DESIGN**32****CACC** REINFORCED DESIGN**34****CACG** HEAVY DUTY DESIGN**38****CACK** HIGH RIGIDITY DESIGN**42****CACN** NAAMS STANDARD DESIGN I**44****CACN-F** NAAMS STANDARD DESIGN II**48****CACV** VDI STANDARD DESIGN I**52****CACV-F** VDI STANDARD DESIGN II**58**

BEST CAM UNITS IN THE MARKET

NITROGAS's cam units offer the world's most advanced technology, guaranteeing longer cam unit life than other products on the market.

NITROGAS offers customers products that meet any test of approval, confirming the longest life of our cam units.



25 YEARS OF EXPERIENCE SPEAKS FOR ITSELF



NITROGAS was founded in Vitoria (Spain) in 1988 and has become one of the most important manufacturer of cam units.

For 25 years we have developed this technology.

Today, NITROGAS has his wholly owned subsidiaries in Germany, Portugal, China, Korea, Mexico and Brazil besides its dealer network.

ENGINEERS TO THE SERVICE OF TECHNICAL DEPARTMENTS

NITROGAS ensures maximum technical support to its customers, with prompt response to any application assistance or questions related to their products.



TECHNOLOGICAL PARTNERS – SPECIFIC SOLUTIONS



NITROGAS created the NITROGAS TECHNOLOGY CENTER (NTC), bringing together a group of engineers and technicians to concentrate on the R & D services the company gives to customers with specific projects that may require special solutions or need higher performance than other standard products on the market.

WORLD PRESENCE – PLANT SUPPORT (STOCK, REPAIRS...)

NITROGAS analyzes and diagnoses with its customers any product and service needs required in each customers' facility, formulating a response that meets customer expectations.

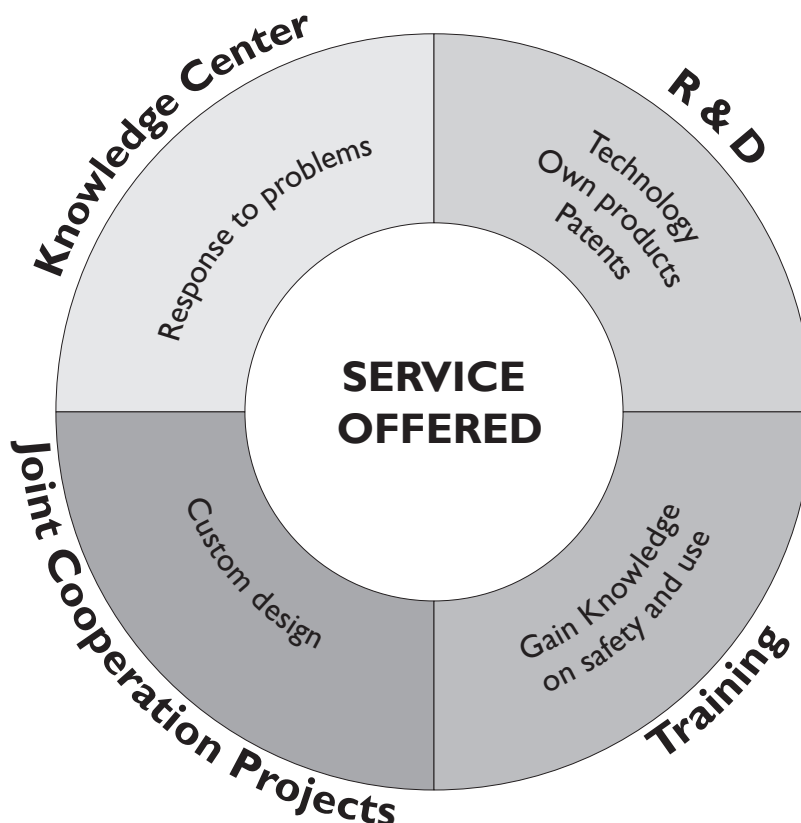
NITROGAS structure allows reaching any market in the world.



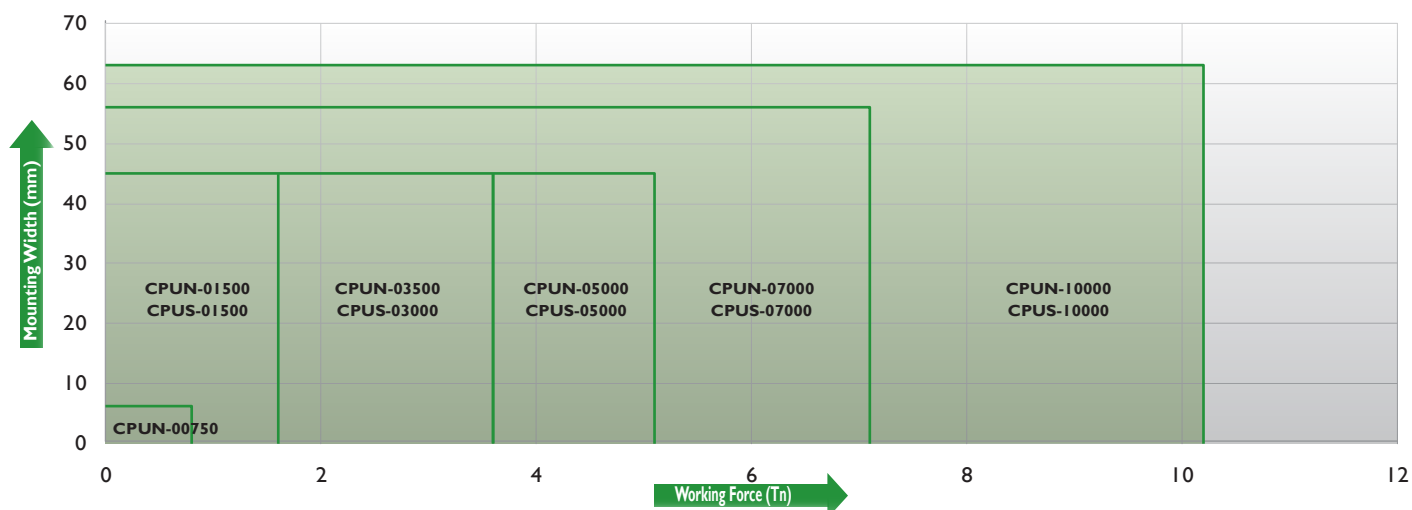


NITROGAS is a company strongly committed to research and innovation. It has the largest Research and Knowledge Center in the world concerning gas springs: NITROGAS TECHNOLOGY CENTER.

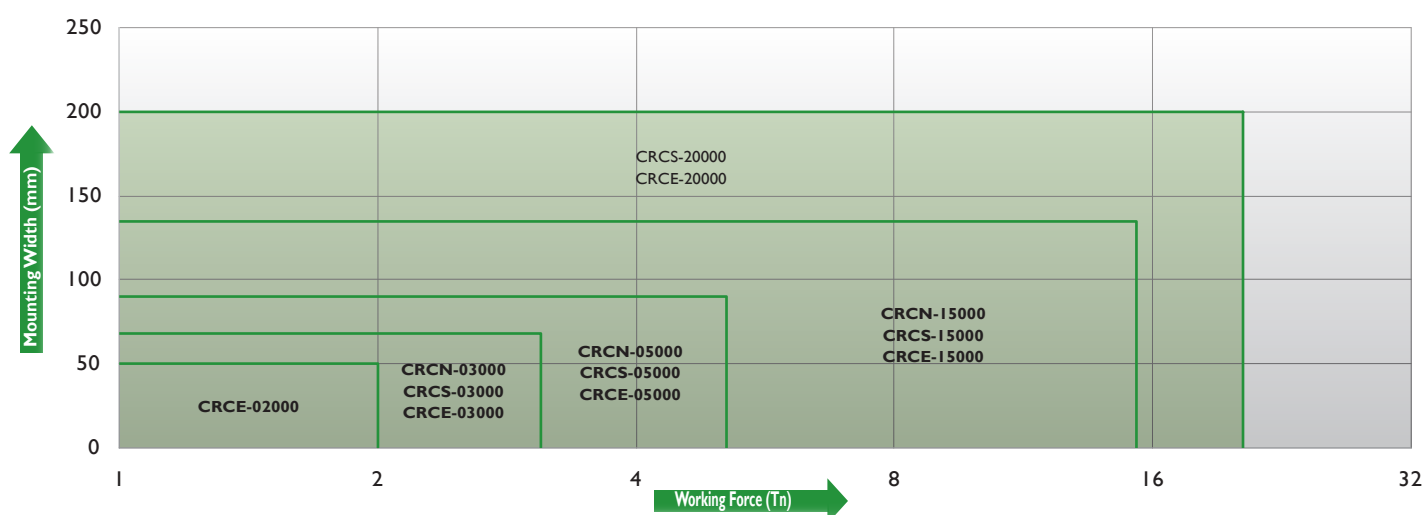
Here a team of experienced engineers investigate and test the latest improvements and technologies related to the development of cam units. As a result of hard work, several worldwide patents were obtained, and allow NITROGAS to remain leader in the development of new products, offering high tech solutions. NITROGAS also provides solutions to special request, or response to any question, problem or need of our customer.



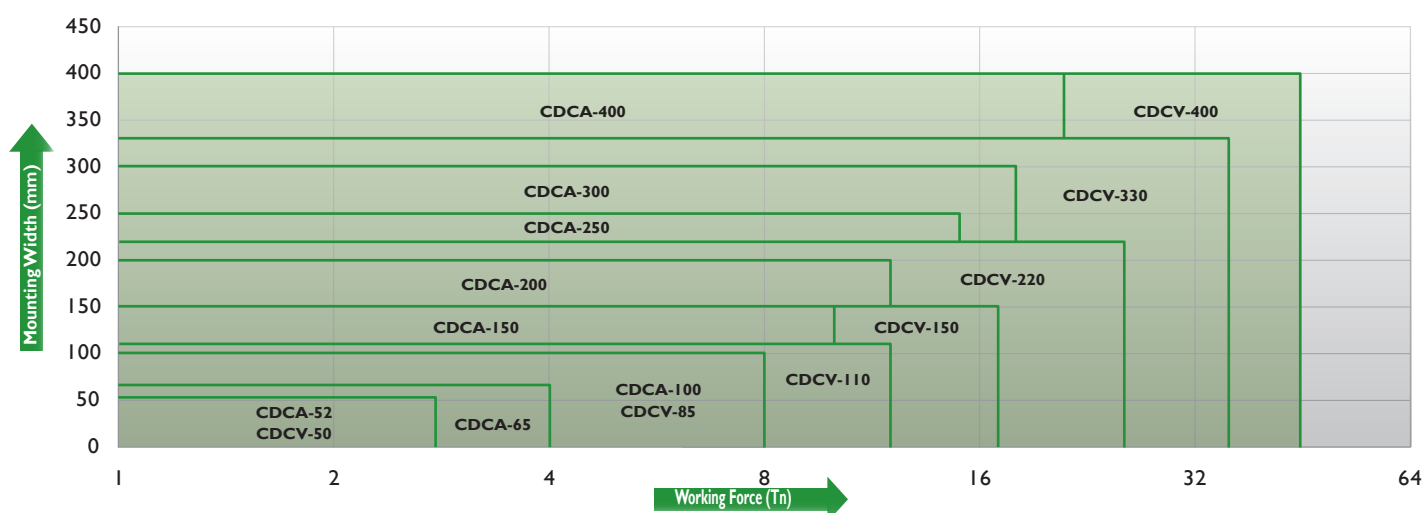
Punching Units



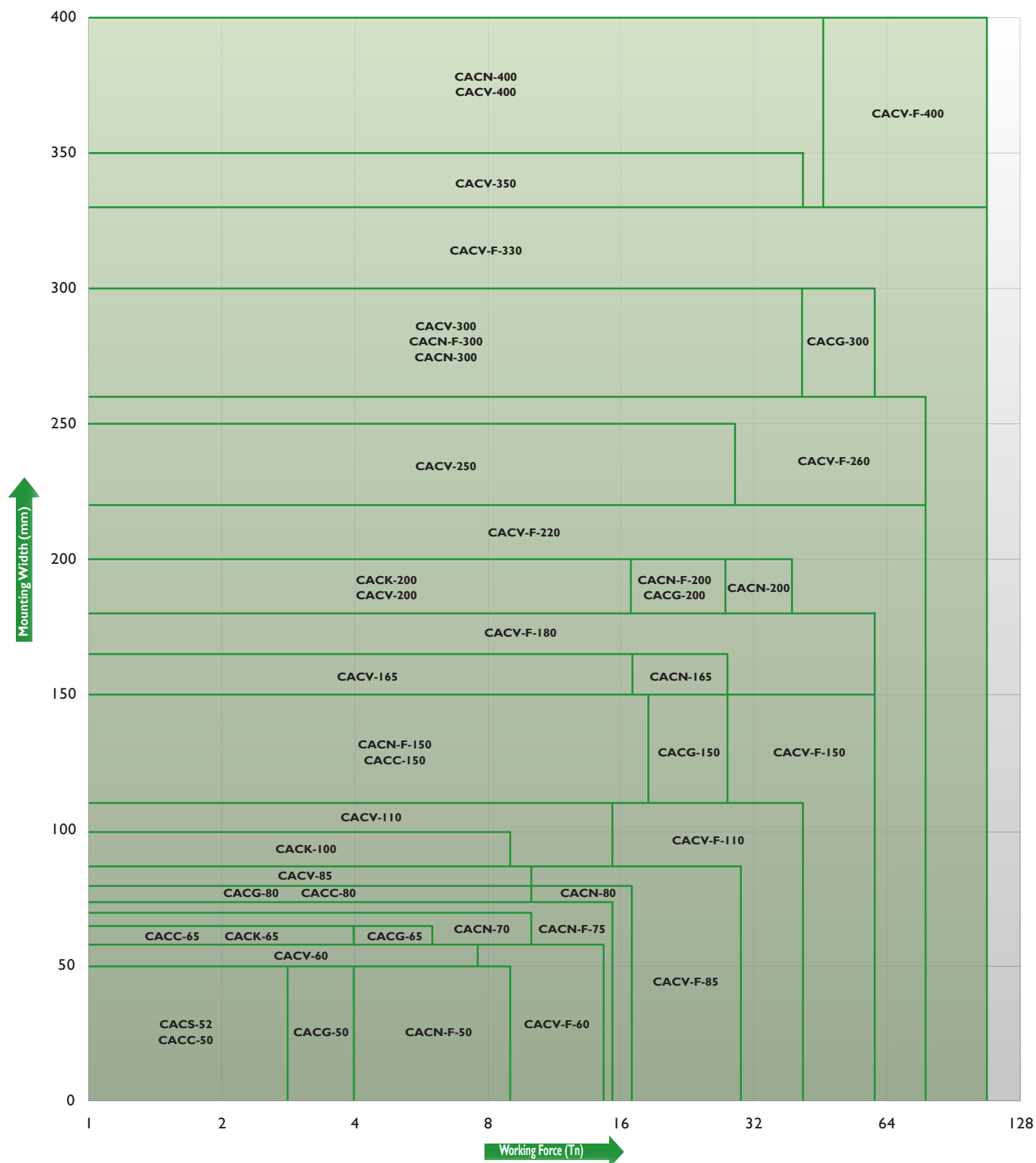
Roller Cam Units



Die Mounted Cam Units



Aerial Cam Units



NITROGAS Punching Units are manufactured to the highest quality. All components are made with hardened steel, resulting in a tough, strong product ready for a long working life in the most exigent working conditions.

Their design allows to be used in any position, making them easy to fit to the work tool. Punching Units are suitable for all types of operations (cutting, punching, bending, etc.), due to the guiding all around the diameter.

The Punching units are equipped with easily adjustable anti-rotation systems, which are needed when using shaped punches (except CPUN-00750-10 model, due to its small size).

The cam units are fitted with gas springs to provide the return force (except the CPUN-00750-10 model, which is fitted with a coil spring) and ensure the return of the rod.

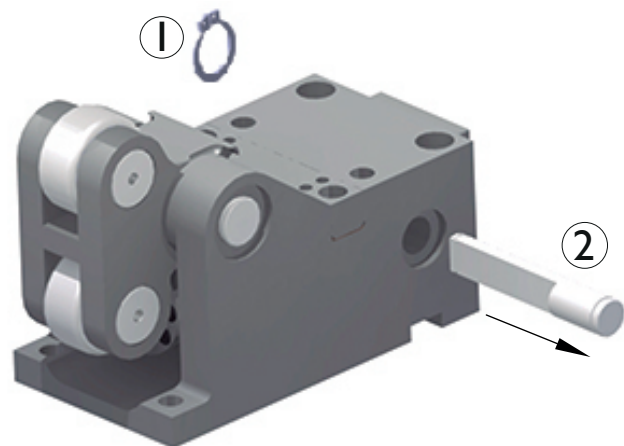
As the movement of the press is transformed by a cam assy, the punching units are applicable for short strokes (<50 mm) and small loads.

Nominal forces of 750 daN, 1500 daN, 5000 daN, 7000 daN, and 10000 daN are available. Choose the solution that best suits to your application.

Punch adjustment

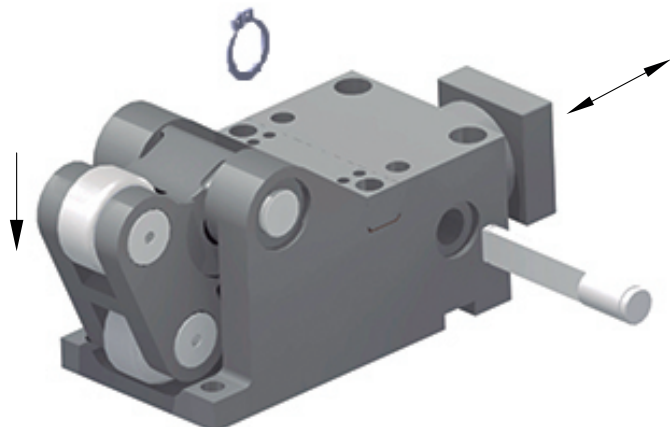
STEP 1

To adjust and line up the punch, remove the bolt circlip (1) and extract the gas spring bolt (2).

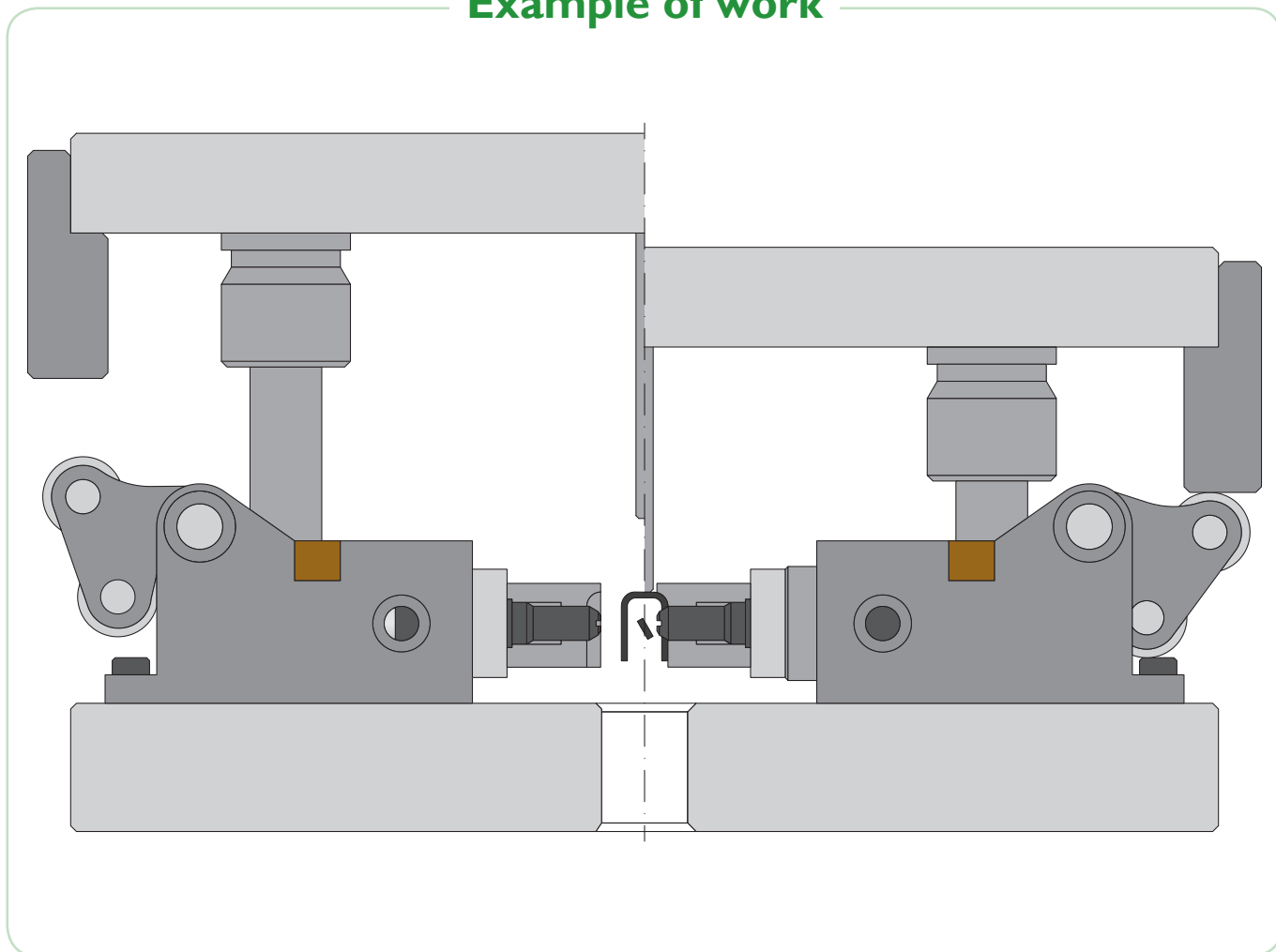


STEP 2

Once the rod is out it is possible to move easily the rod pulling down the cam assy.



Example of work



Spare parts available for all the Punching Units.
Center as much as possible the force of the punch.
It is recommended not to use more than the 90% of the stroke.



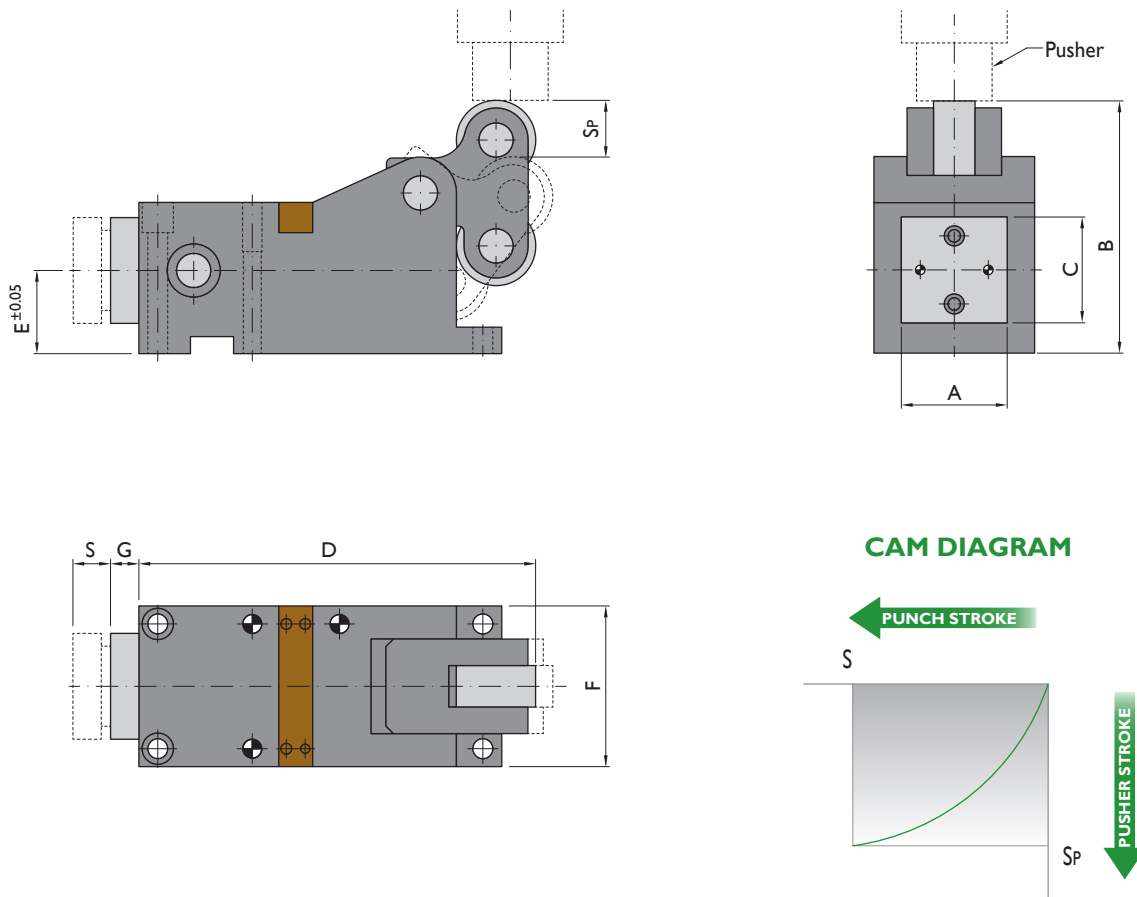
Maximum press speed..... 1.6 m/s
Maximum cadence (at 20°C) 40 strokes/min

NITROGAS offers engineering support referring to cam applications for die designers and builders.

CAD files of Punching Units can be downloaded FREE from our website:

www.nitrogas.com

Structure for horizontal Punching Units

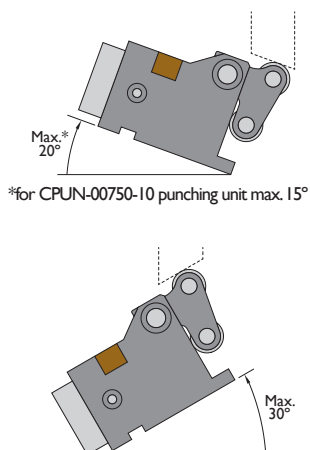


CPUN-00750-10 Cam unit is served with a punch. Maximum punch diameter supplied (6mm) if not specified.

Ordering example: 4 x CPUN-Working Force-Stroke
4 x CPUN-01500-12

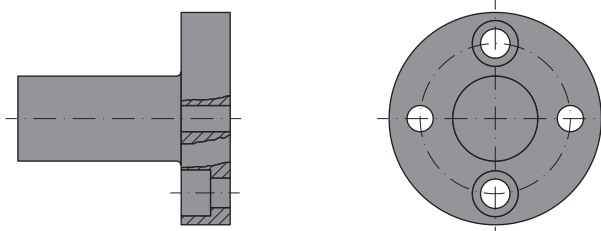
Ordering example: 4 x CPUN-00750-10 x Ø
4 x CPUN-00750-10 x 3.2

Maximum inclination angle



Optional accessories

PUSHER*



* Only for horizontal mounting. For any other installation angle contact with NITROGAS engineering.

Dimensions on www.nitrogas.com

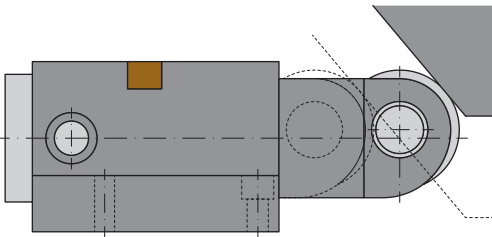
Ordering example: SE-I

Order No.			General Dimensions										Accessories ⁽²⁾
Model	Working Force daN	S ⁽¹⁾ mm	Reference	Return Force daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	S _p mm	Pusher
CPUN	00750	10	V19X32 Coil Spring	40	44.5	50	44.5	80	18	44.5	20	7.5	SE-1
CPUN	01500	12	P-90-12 	160	45	76	45	104	28	65	15	11.5	SE-1
CPUN	03500	20	P-200-20 	310	45	84	45	152	28	75	15	24.5	SE-1
CPUN	05000	25	P-200-25 	270	45	116	45	163.5	37	80	15	25	SE-2
CPUN	07000	38	P-300-38 	550	56	134	56	210	44	85	15	42.5	SE-2
CPUN	10000	50	P-300-50 	550	63	149.5	63	240.5	50	96	15	52.7	SE-3

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

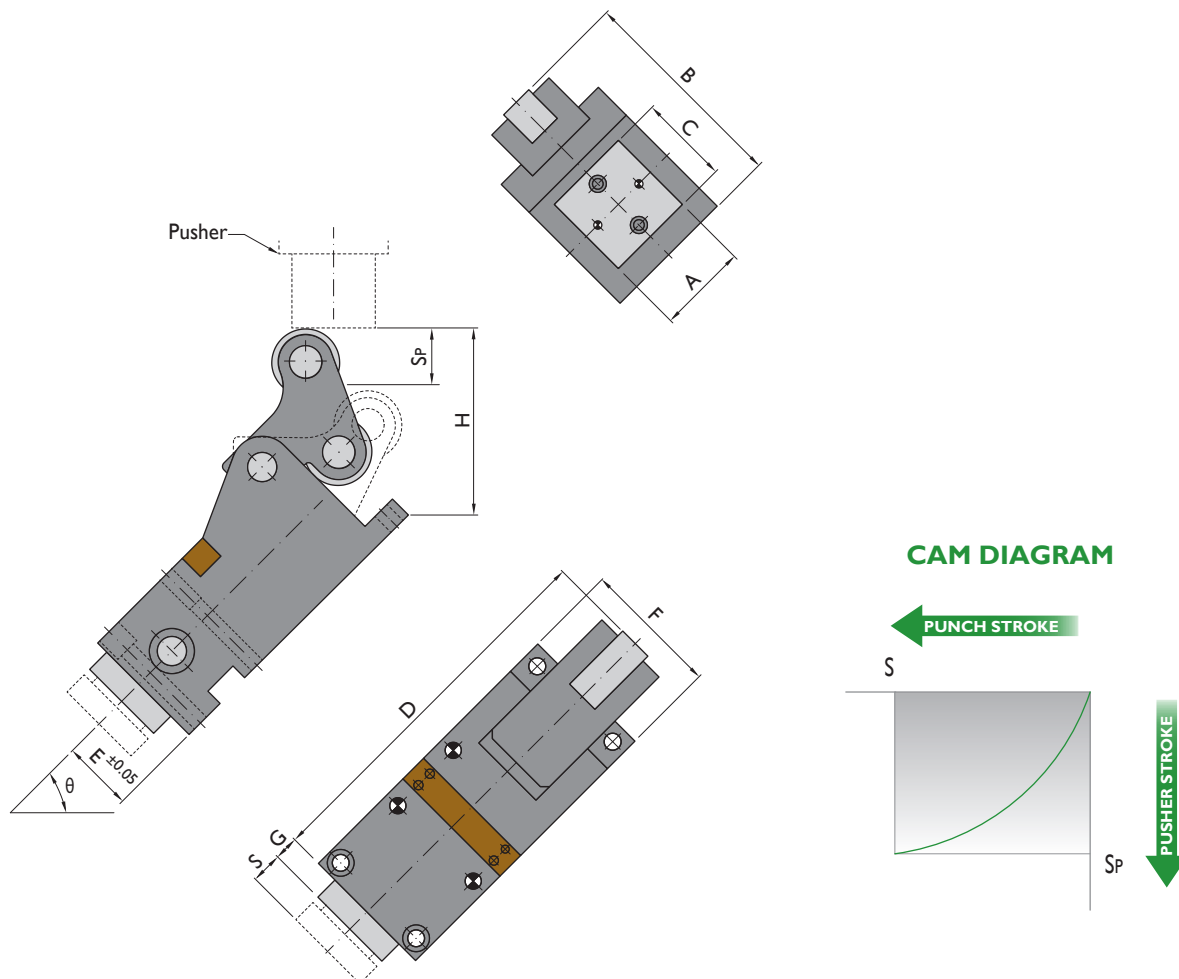
CPUN-20000-50 Punching Unit and Pusher available under request. For more information contact with NITROGAS engineering at engineering@nitrogas.com

CPUN	20000	50											
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More details about Punching Units and spare parts on our website:

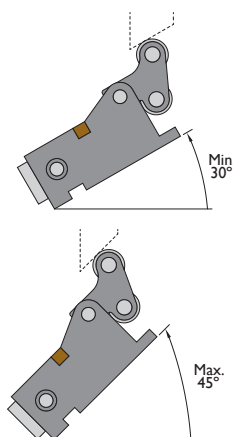
<http://www.nitrogas.com/es/CPUN.aspx>

Structure for inclined Punching Units



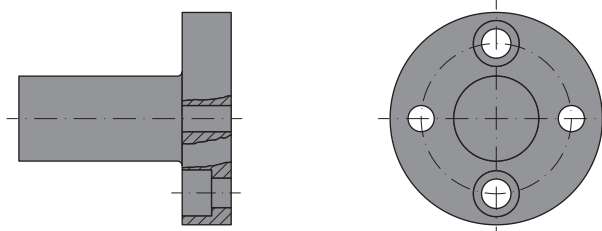
Ordering example: 4 x CPUN-Working Force-Stroke- θ
4 x CPUN-05000-25-45

Maximum inclination angle



Optional accessories

PUSHER*



* Only for 45° degrees mounting. For any other installation angle contact with NITROGAS engineering.

Dimensions on www.nitrogas.com

Ordering example: SE-2

Order No.				General Dimensions											Accessories ⁽²⁾
Model	Working Force daN	S ⁽¹⁾ mm	θ °	Reference	Return Force daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	Sp mm	Pusher
CPUN	05000	25	45	P-200-25 	270	45	98	45	198.5	37	80	15	97	37.5	SE-2
CPUN	07000	38	45	P-300-38 	550	56	122	56	255.5	44	85	15	122.6	58.3	SE-3
CPUN	10000	50	45	P-300-50 	550	63	131	63	283.5	50	96	15	125.7	64.6	SE-4

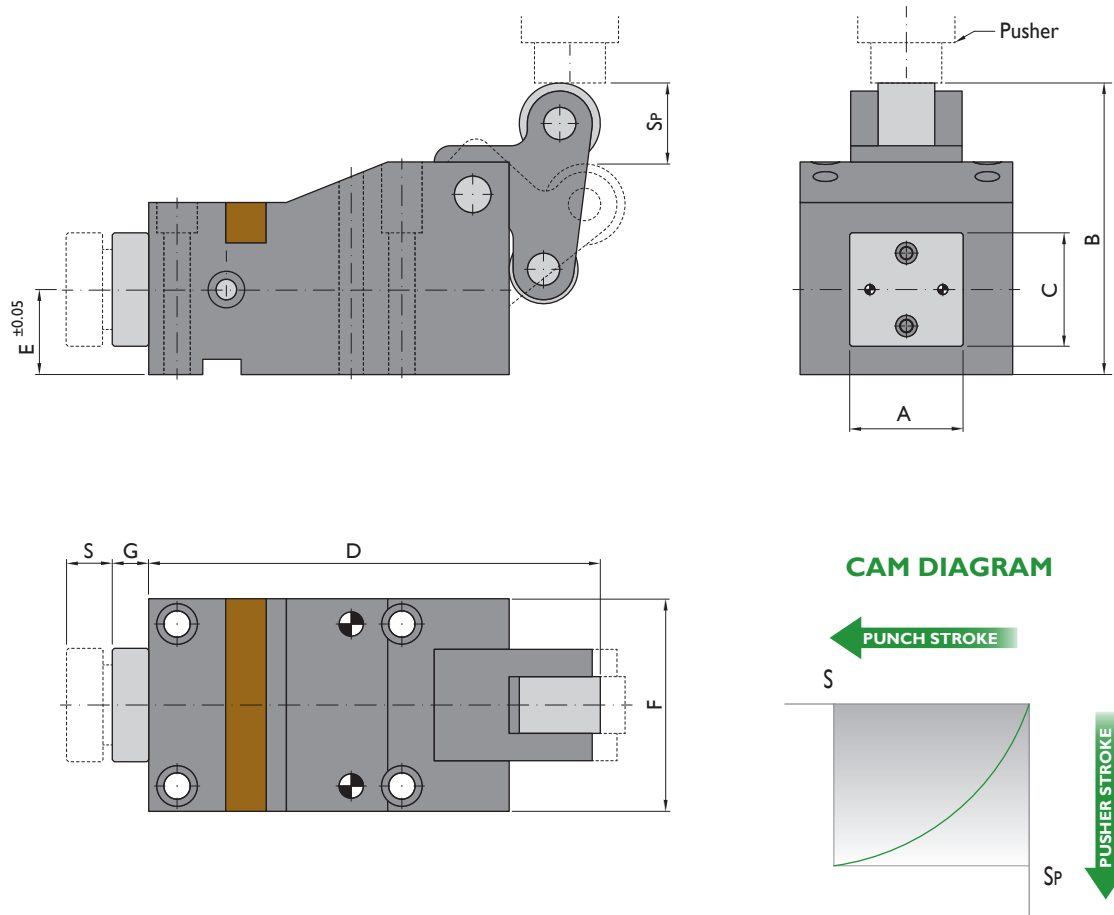
⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

More details about Punching Units and spare parts on our website:

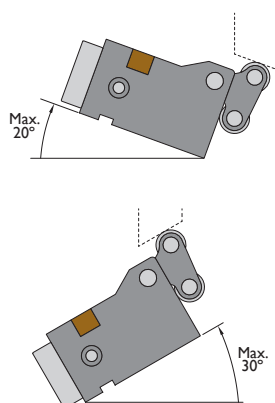
<http://www.nitrogas.com/es/CPUN.aspx>

Structure for horizontal Punching Units



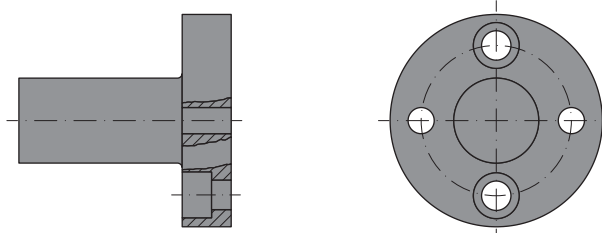
Ordering example: 4 x CPUS-Working Force-Stroke
4 x CPUS-05000-30

Maximum inclination angle



Optional accessories

PUSHER*



* Only for horizontal mounting. For any other installation angle contact with NITROGAS engineering.

Dimensions on www.nitrogas.com

Ordering example: SE-2

Order No.			General Dimensions										Accessories ⁽²⁾
Model	Working Force daN	S ⁽¹⁾ mm	Reference	Return Force daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	S _p mm	Pusher
CPUS	01500	15	KP-150-19 	280	45	76	45	117.5	26	65	15	13.8	SE-1
CPUS	03000	20	R-200-25 YELLOW 	270	45	98	45	155	28.5	75	15	20.2	SE-1
CPUS	05000	30	KP-320-38 	550	45	121	45	186	35	90	15	27	SE-2
CPUS	07000	40	KP-350-50 	540	56	144	56	223	42	105	18	41.3	SE-3
CPUS	10000	50	KP-350-63 	540	63	167	63	262	48	120	20	51.2	SE-3

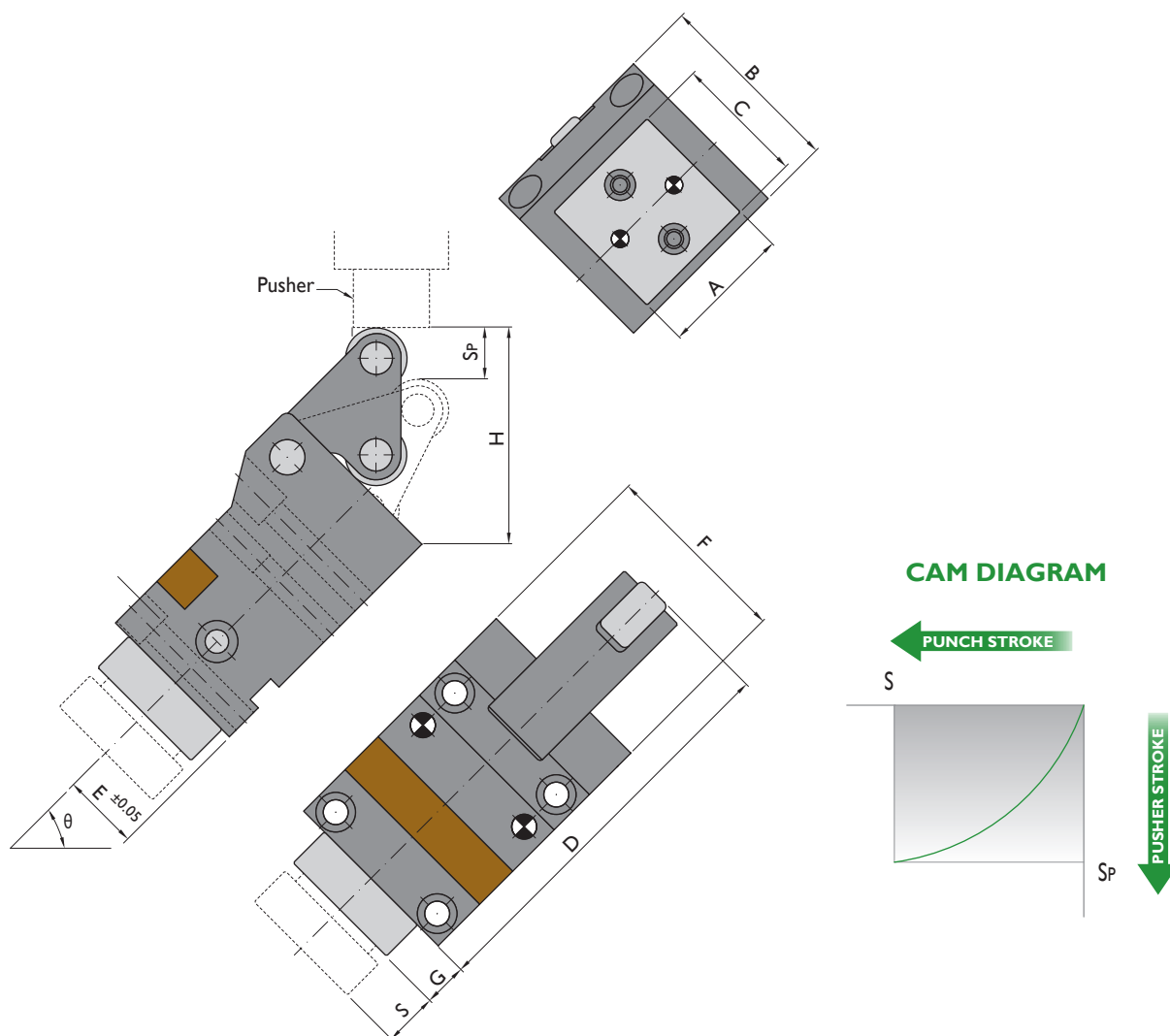
⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

More details about Punching Units and spare parts on our website:

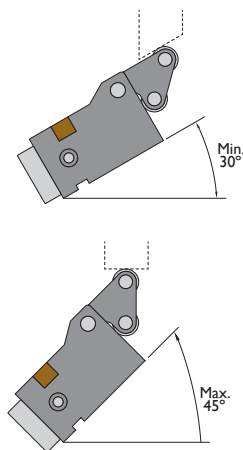
<http://www.nitrogas.com/es/CPUS.aspx>

Structure for inclined Punching Units



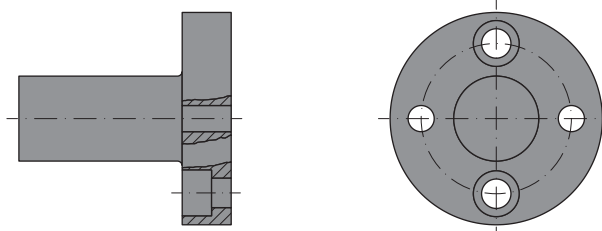
Ordering example: 4 x CPUS-Working Force-Stroke-θ
4 x CPUS-05000-30-45

Maximum inclination angle



Optional accessories

PUSHER*



* Only for 45° degrees mounting. For any other installation angle contact with NITROGAS engineering.

Dimensions on www.nitrogas.com

Ordering example: SE-2

Order No.				General Dimensions											Accessories ⁽²⁾
Model	Working Force daN	S ⁽¹⁾ mm	θ °	Reference	Return Force daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	Sp mm	Pusher
CPUS	01500	15	45	KP-150-19 	280	45	65	45	137.5	26	65	15	74	18.5	SE-1
CPUS	03000	20	45	R-200-25 YELLOW 	270	45	75	45	190	28.5	75	15	97	30.9	SE-2
CPUS	05000	30	45	KP-320-38 	550	45	90	45	227	35	90	15	116	44.1	SE-2
CPUS	07000	40	45	KP-350-50 	540	56	105	56	265	42	105	18	134.5	60.4	SE-3
CPUS	10000	50	45	KP-350-63 	540	63	120	63	304	48	120	20	150	71.2	SE-3

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

More details about Punching Units and spare parts on our website:

<http://www.nitrogas.com/es/CPUS.aspx>

NITROGAS Roller Cams are compact and cost effective. Designed for a long service life, since the wear surfaces are mounted with Aluminium-Bronze alloy with graphite against steel surfaces hardened to 55-60 HRC.

As the movement of the press is transformed by a roller, the roller cams are applicable for longer strokes (50-100 mm) and for loads up to 20000 daN. Nominal forces of 2000 daN, 3000 daN, 5000 daN, 15000 daN and 20000 daN are available.

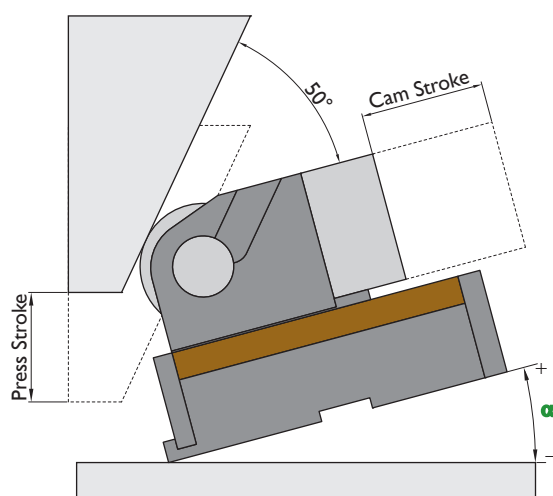
Roller Cams are recommended in case of long strokes and little space. Due to the guiding type they are not recommended for works with heavy asymmetric loads (see Working Force Distribution on the side page).

The cam units are fitted with gas springs to provide the return force and ensure the return of the body. All models has an easy access to the return spring (see Gas Spring extraction below).

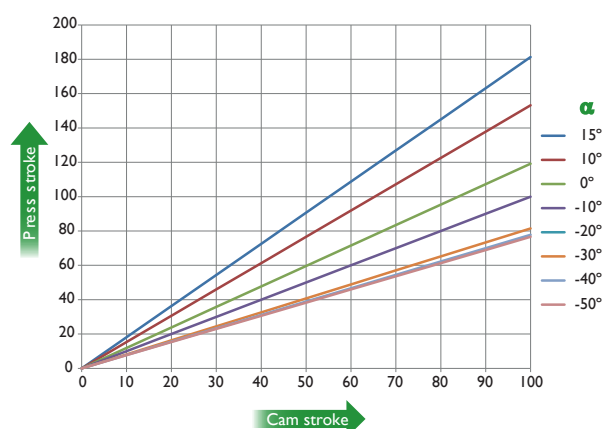
NITROGAS offers engineering support refering to cam applications for die designers and builders.

CAD files of Roller Cams can be downloaded FREE from our website: www.nitrogas.com

Cam Diagram

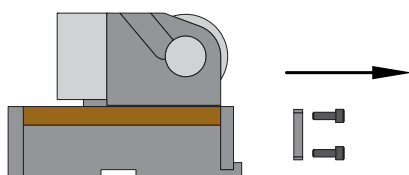


The press stroke depends on the assembly angle (α) of the Roller Cam Unit.

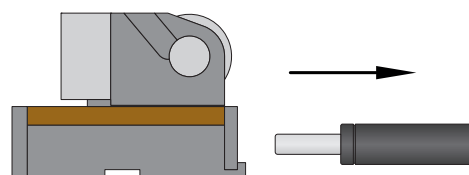


Gas spring extraction

The dismounting of the gas spring allows an easier movement of the cam slide at the adjustment of the Roller Cam Unit.

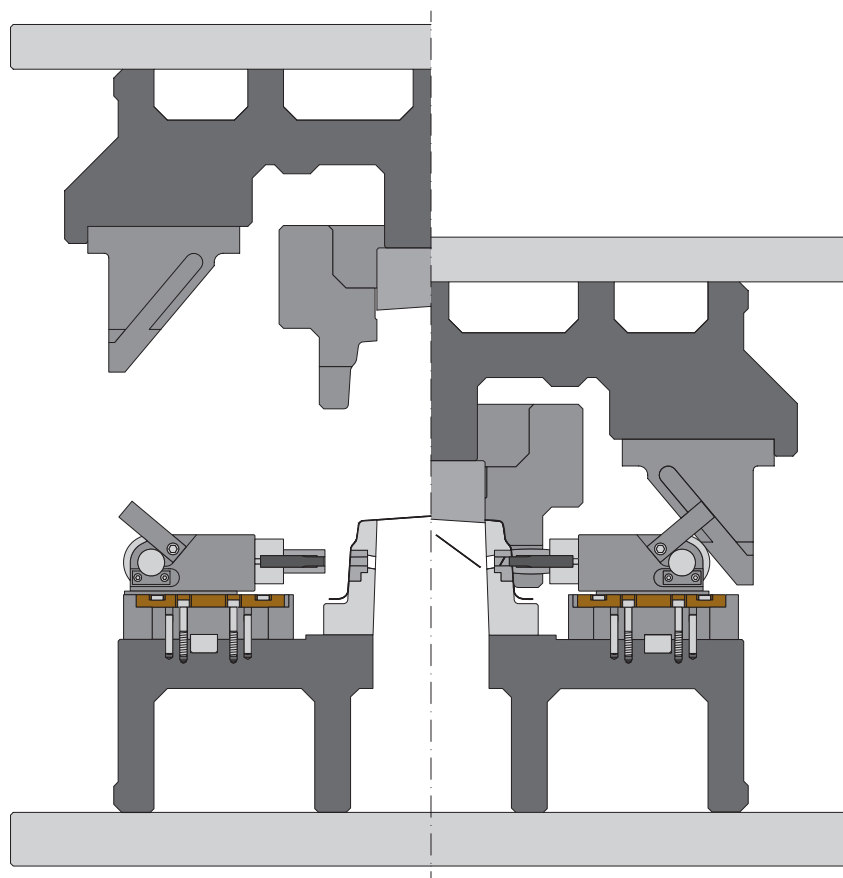


STEP 1
Remove the screws.



STEP 2
Remove the gas spring.

Example of work

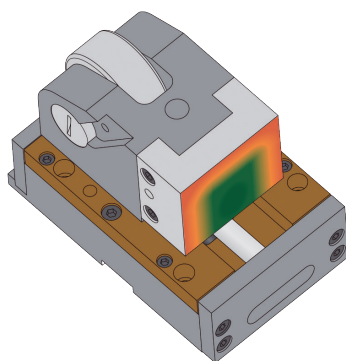


Spare parts available for all the Roller Cams.
It is recommended not to use more than the 90% of the stroke.

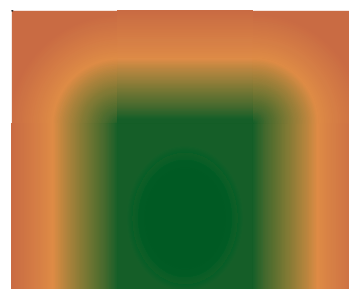


Maximum press speed 1.6 m/s
Maximum cadence (at 20°C) 40 strokes/min

Working force distribution

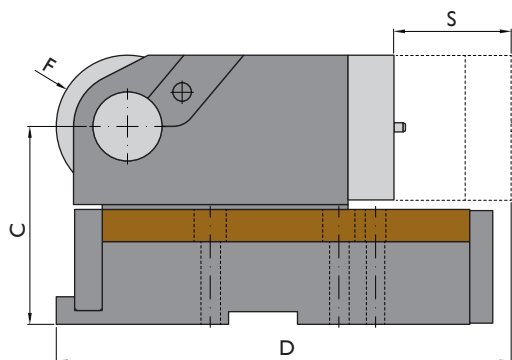
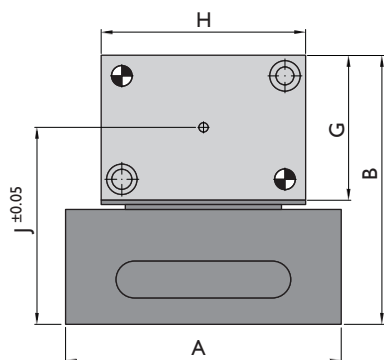


Center the force of the punch as much as possible.

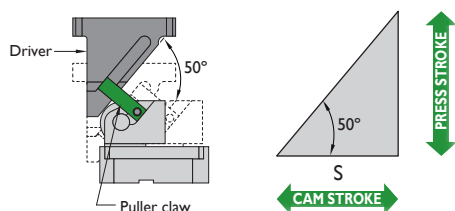


Working Force

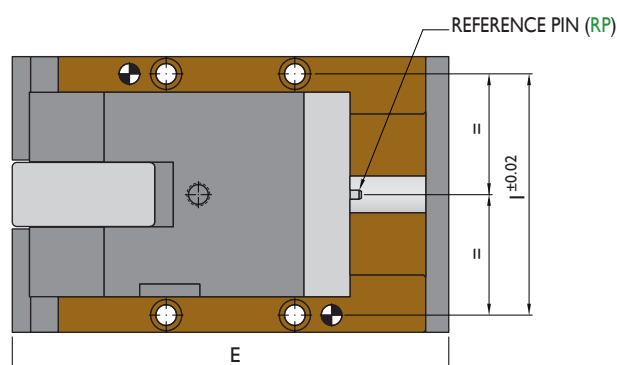




CAM DIAGRAM



If placed in horizontal position:
1 mm. press stroke = 0.85. cam stroke

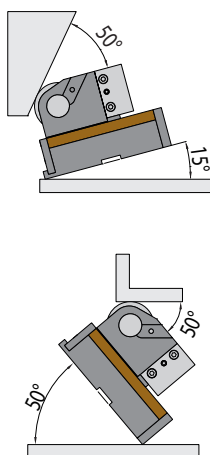


Ordering example: 4 x CRCN-03000-50 - RP (with reference pin)
4 x CRCN-03000-50 (without reference pin)



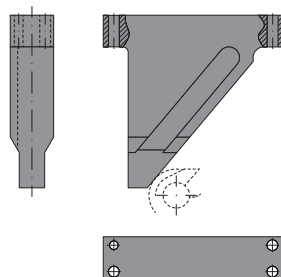
If a reference pin is required, mark it in the order as it is shown in the ordering example.

Maximum inclination angle

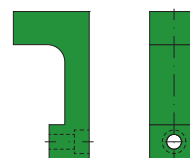


Optional accessories

DRIVER*



PULLER CLAW



Dimensions on www.nitrogas.com

Ordering example: CRCN-03000-51

Ordering example: CRCN-03000-C1

* Driver for installation angle 0°. For any other installation angle, contact with NITROGAS engineering.

Order No.					General Dimensions											Accessories ⁽³⁾	
Model	Working Force daN	S ⁽¹⁾ mm	Reference ⁽²⁾	Return Force Min. daN	Return Force Max. daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Driver	Puller Claw
CRCN	03000	50	G-300-50	300	390	94	117	86	198	190	31	63	63	79	86	CRCN-03000-51	CRCN-03000-C1
CRCN	03000	80	KP-350-80	350	540	94	117	86	228	220	31	63	63	79	86	CRCN-03000-52	CRCN-03000-C2
CRCN	05000	50	G-300-50	300	390	120	140	103	198	190	36	74	90	105	103	CRCN-05000-51	CRCN-05000-C1
CRCN	05000	80	KP-350-80	360	540	120	140	103	228	220	36	74	90	105	103	CRCN-05000-52	CRCN-05000-C2
CRCN	05000	100	KP-350-100	360	540	120	157	120	268	260	36	74	90	105	120	CRCN-05000-53	CRCN-05000-C3
CRCN	15000	50	K-570-50	570	910	170	165	120	198	190	45	90	135	155	120	CRCN-15000-51	CRCN-15000-C1
CRCN	15000	80	KP-500-80	470	710	170	165	120	228	220	45	90	135	155	120	CRCN-15000-52	CRCN-15000-C2
CRCN	15000	100	KP-500-100	470	710	170	165	120	268	260	45	90	135	155	120	CRCN-15000-53	CRCN-15000-C3

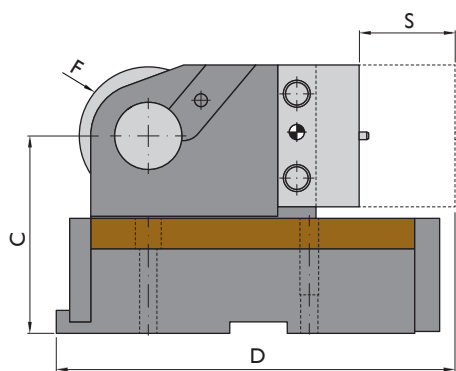
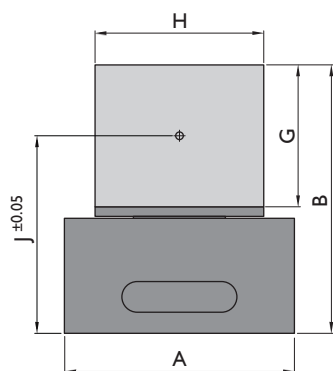
⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ Gas Springs technical information, refer to NITROGAS GAS SPRINGS CATALOGUE or www.nitrogas.com

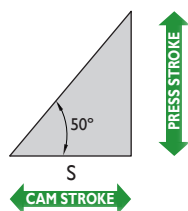
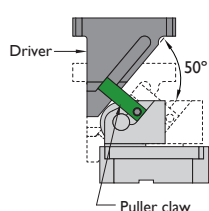
⁽³⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

More details about Roller Cam Units and spare parts on our website:

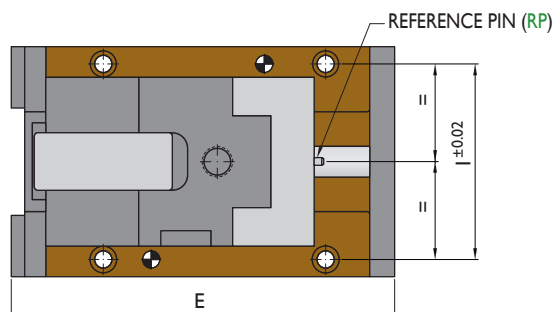
<http://www.nitrogas.com/es/CRCN.aspx>



CAM DIAGRAM



If placed in horizontal position:
1 mm. press stroke = 0.85. cam stroke

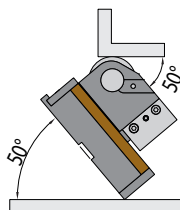
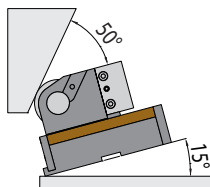


Ordering example: 4 x CRCS-03000-80 - RP (with reference pin)
4 x CRCS-03000-80 (without reference pin)



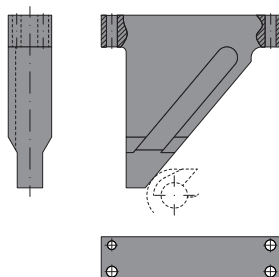
If a reference pin is required, mark it in the order as it is shown in the ordering example.

Maximum inclination angle

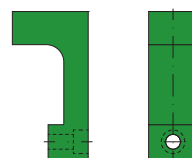


Optional accessories

DRIVER*



PULLER CLAW



Dimensions on www.nitrogas.com

Ordering example: CRCS-03000-52

Ordering example: CRCS-03000-C2

* Driver for installation angle 0°. For any other installation angle, contact with NITROGAS engineering.

Order No.					General Dimensions												Accessories ⁽³⁾	
Model	Working Force daN	S ⁽¹⁾ mm	Reference ⁽²⁾	Return Force Min. daN	Return Force Max. daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Driver	Puller Claw	
CRCS	03000	50	K-300-50	300	450	100	117	86	208	200	31	63	68	82	86	CRCS-03000-51	CRCS-03000-C1	
CRCS	03000	80	K-300-80	300	450	100	117	86	238	230	31	63	68	82	86	CRCS-03000-52	CRCS-03000-C2	
CRCS	03000	100	KP-350-100	360	540	100	117	110	258	260	31	63	68	82	86	CRCS-03000-53	CRCS-03000-C3	
CRCS	05000	50	K-300-50	300	450	120	140	103	208	200	36	74	88	102	103	CRCS-05000-51	CRCS-05000-C1	
CRCS	05000	80	K-300-80	300	450	120	140	103	238	230	36	74	88	102	103	CRCS-05000-52	CRCS-05000-C2	
CRCS	05000	100	KP-350-100	360	540	120	140	103	258	260	36	74	88	102	103	CRCS-05000-53	CRCS-05000-C3	
CRCS	15000	50	K-570-50	570	910	170	165	120	216	220	45	92	132	150	120	CRCS-15000-51	CRCS-15000-C1	
CRCS	15000	80	K-570-80	570	910	170	165	120	246	250	45	92	132	150	120	CRCS-15000-52	CRCS-15000-C2	
CRCS	15000	100	KP-500-100	470	710	170	165	120	266	270	45	92	132	150	120	CRCS-15000-53	CRCS-15000-C3	
CRCS	20000	50	K-750-50	740	1200	240	205	150	258	250	55	110	196	222	150	CRCS-20000-51	CRCS-20000-C1	
CRCS	20000	80	K-750-80	740	1200	240	205	150	288	280	55	110	196	222	150	CRCS-20000-52	CRCS-20000-C2	
CRCS	20000	100	K-750-100	740	1200	240	205	150	308	300	55	110	196	222	150	CRCS-20000-53	CRCS-20000-C3	

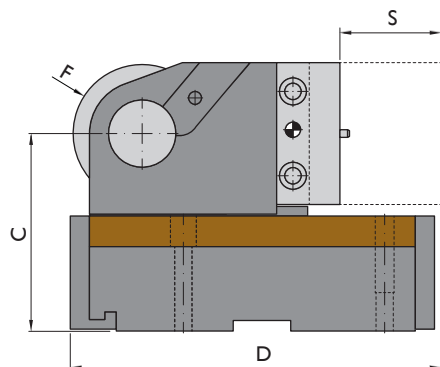
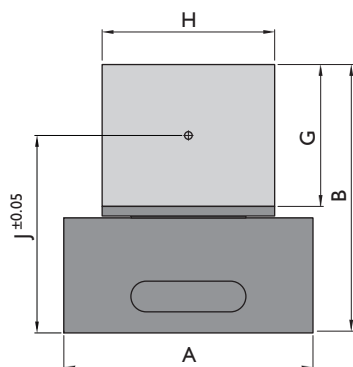
⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ Gas Springs technical information, refer to NITROGAS GAS SPRINGS CATALOGUE or www.nitrogas.com

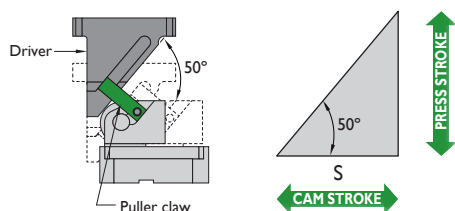
⁽³⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

More details about Roller Cam Units and spare parts on our website:

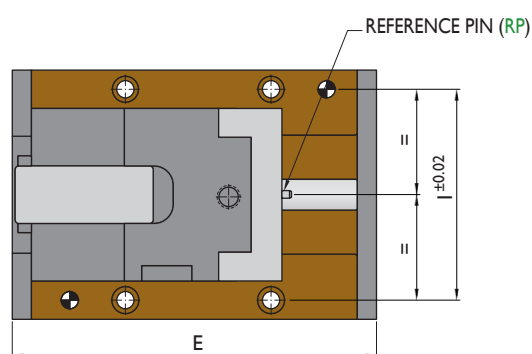
<http://www.nitrogas.com/es/CRCS.aspx>



CAM DIAGRAM



If placed in horizontal position:
1 mm. press stroke = 0.85. cam stroke

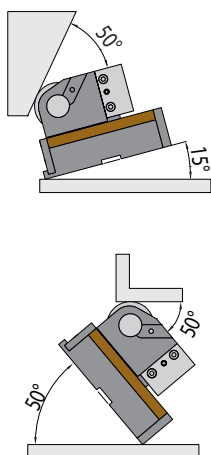


Ordering example: 4 x CRCE-02000-35 - RP (with reference pin)
4 x CRCE-02000-35 (without reference pin)



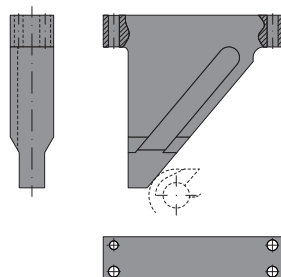
If a reference pin is required, mark it in the order as it is shown in the ordering example.

Maximum inclination angle



Optional accessories

DRIVER*



PULLER CLAW



Dimensions on www.nitrogas.com

Ordering example: CRCE-02000-52

Ordering example: CRCE-02000-C2

* Driver for installation angle 0°. For any other installation angle, contact with NITROGAS engineering.

Order No.					General Dimensions												Accessories ⁽³⁾	
Model	Working Force daN	S ⁽¹⁾ mm	Reference ⁽²⁾	Return Force Min. daN	Return Force Max. daN	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Driver	Puller Claw	
CRCE	02000	22	Z-100-25	100	180	75	85	63	103	115	23	50	50	63	63	CRCE-02000-51	CRCE-02000-C1	
CRCE	02000	35	Z-100-38	100	190	75	85	63	137	136	23	50	50	63	63	CRCE-02000-52	CRCE-02000-C2	
CRCE	03000	50	G-300-50	300	390	100	117	86	167	190	31	63	63	80	86	CRCE-03000-51	CRCE-03000-C1	
CRCE	03000	80	KP-350-80	360	540	100	117	86	227	220	31	63	63	80	86	CRCE-03000-52	CRCE-03000-C2	
CRCE	03000	100	KP-350-100	360	540	100	141	110	287	260	31	87	63	80	110	CRCE-03000-53	CRCE-03000-C3	
CRCE	05000	50	G-300-50	300	390	130	140	103	167	190	36	74	90	110	103	CRCE-05000-51	CRCE-05000-C1	
CRCE	05000	80	KP-350-80	360	540	130	140	103	227	220	36	74	90	110	103	CRCE-05000-52	CRCE-05000-C2	
CRCE	05000	100	KP-350-100	360	540	130	157	120	287	260	36	91	90	110	120	CRCE-05000-53	CRCE-05000-C3	
CRCE	15000	50	K-570-50	570	910	170	165	120	197	190	45	90	135	148	120	CRCE-15000-51	CRCE-15000-C1	
CRCE	15000	80	KP-500-80	470	710	170	165	120	227	220	45	90	135	148	120	CRCE-15000-52	CRCE-15000-C2	
CRCE	15000	100	KP-500-100	470	710	170	165	120	287	260	45	90	135	148	120	CRCE-15000-53	CRCE-15000-C3	
CRCE	20000	50	KP-750-50	740	1100	240	190	135	222	215	55	110	200	218	135	CRCE-20000-51	CRCE-20000-C1	
CRCE	20000	80	KP-750-80	740	1100	240	190	135	252	245	55	110	200	218	135	CRCE-20000-52	CRCE-20000-C2	
CRCE	20000	100	KP-750-100	740	1100	240	190	135	292	265	55	110	200	218	135	CRCE-20000-53	CRCE-20000-C3	

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

⁽²⁾ Gas Springs technical information, refer to NITROGAS GAS SPRINGS CATALOGUE or www.nitrogas.com

⁽³⁾ For more information about accessories contact with NITROGAS engineering at engineering@nitrogas.com

More details about Roller Cam Units and spare parts on our website:

<http://www.nitrogas.com/es/CRCE.aspx>

The structural parts of NITROGAS Die Mounted Cams are assembled with high quality cast iron GGG60. Designed for a long service life, since the wear surfaces are mounted with CuZn25Al5Mn4Fe3-C bronze plates with embedded solid lubricants against heat treated sliding faces.

The design for easy assembly promotes and prioritizes spare parts interchangeability, ensuring the longest service life of the cam.

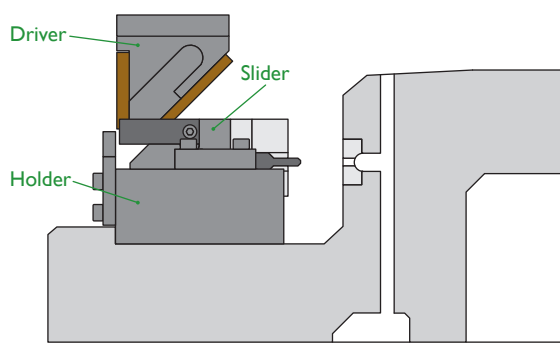
Die Mounted Cam Units are mounted with automatic positive return, to ensure a secure return. The integrated gas spring provide the return force and ensure the return of the slider.

As the movement of the press is transformed by a wedge, die mounted cam units are applicable for long strokes (<80 mm) and large loads (<45 Tn).

Installation

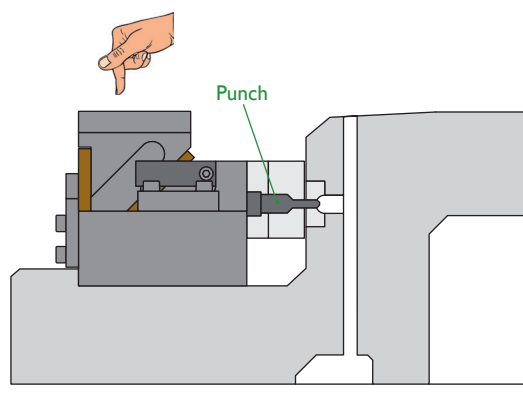
STEP 1

- 1 Remove the gas spring from the cam unit.
- 2 Place and fix the punch retainer on the slider.
- 3 Place the cam unit and drill the required holes in the die to fix the cam holder and the driver.

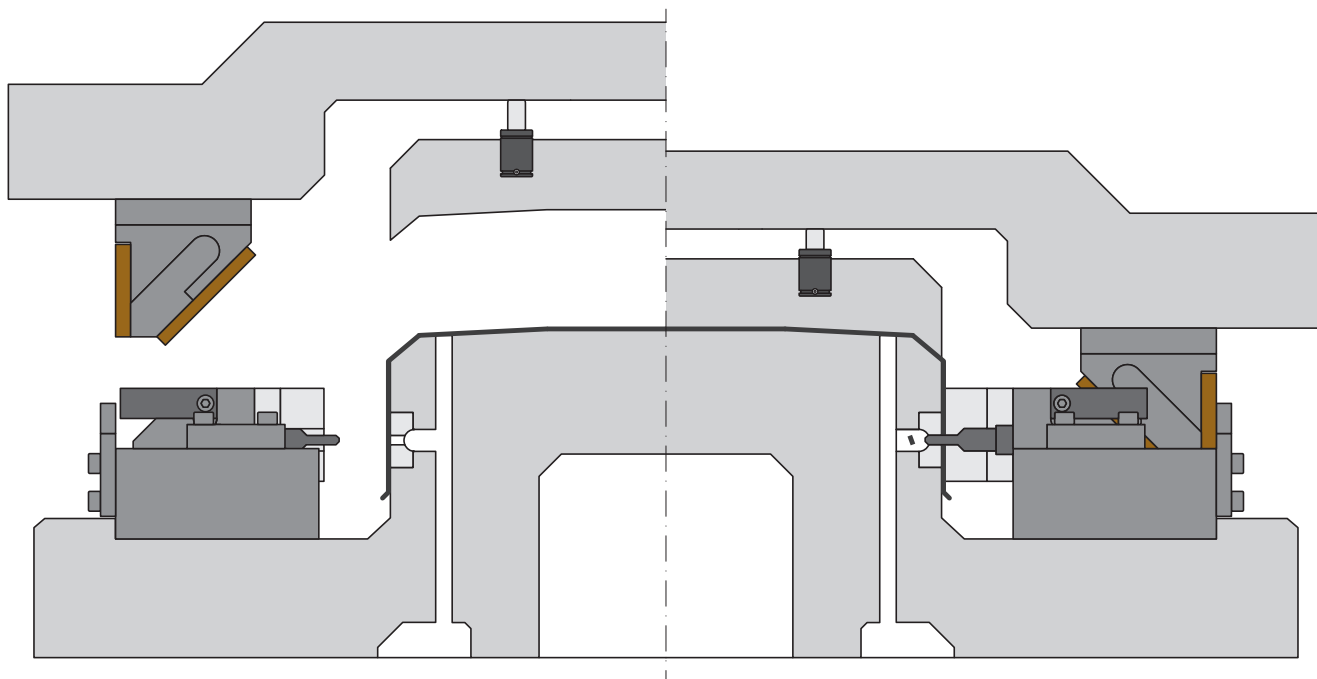


STEP 2

- 4 Move the slider to locate the punch retainer.
- 5 Fix the cam driver.
- 6 Assemble the gas spring in cam unit.



Example of work



Maximum press speed 1.6 m/s
Maximum cadence (at 20°C) 40 strokes/min

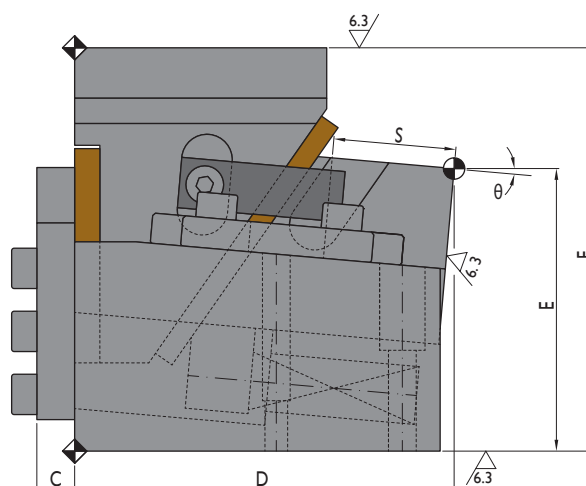
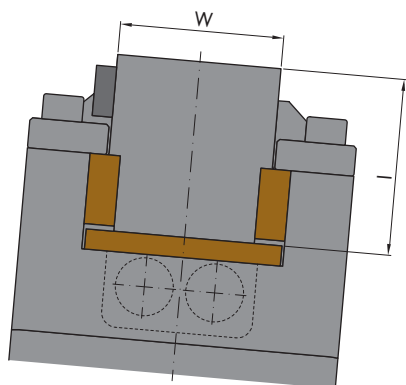
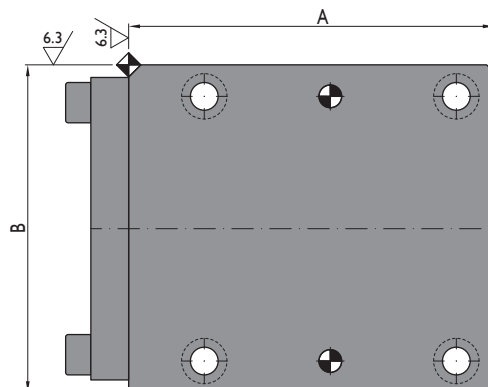


Spare parts available for all Die Mounted Cam Units.
 Center as much as possible the force of the punch.
 It is recommended not to use more than the 90% of the stroke.

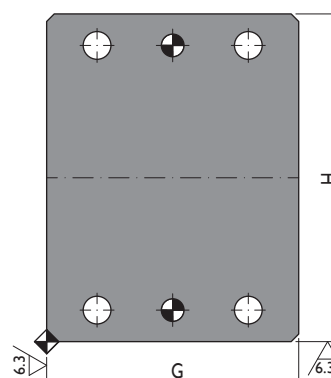
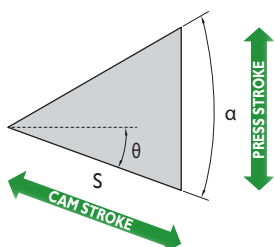
NITROGAS offers engineering support referring to cam applications for die designers and builders.

CAD files of Die Mounted Cam Units can be downloaded FREE from our website:

www.nitrogas.com



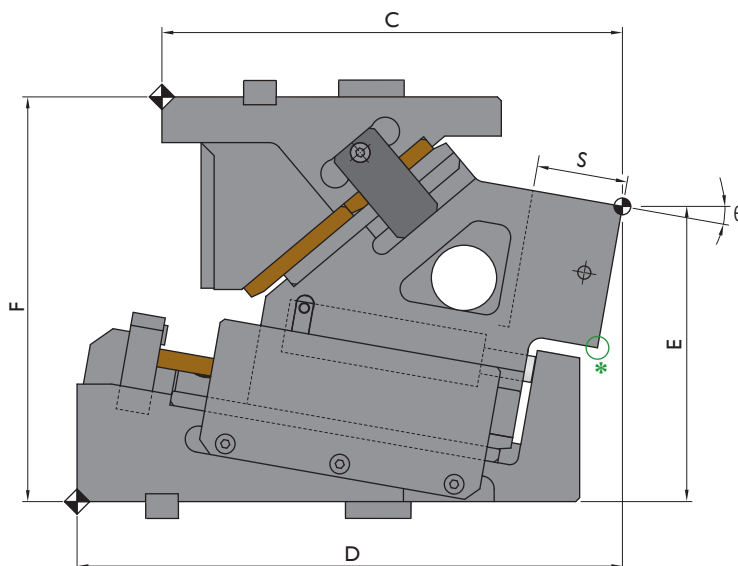
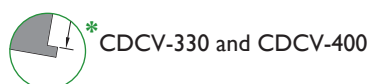
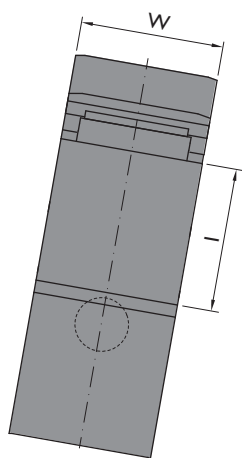
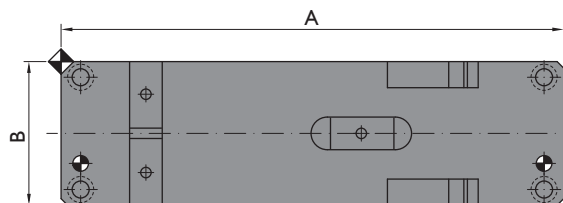
CAM DIAGRAM



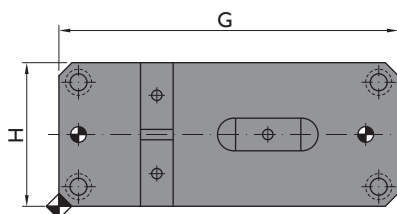
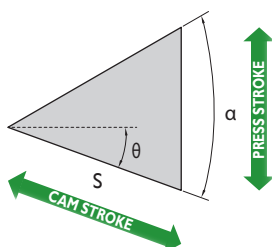
Ordering example: CDCA-W-θ-S
CDCA-I50-00-40

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.				Main Features			General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force T _n	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	α °	
CDCA	52	00	25	3	8	280	120	98	10	120	100	140	80	98	65	45	
CDCA	52	00	40	3	8	280	135	98	10	135	100	140	90	98	65	45	
CDCA	52	00	60	3	14	280	180	98	10	180	100	140	110	98	65	45	
CDCA	65	00	40	4	20	280	145	130	15	140	115	160	100	130	70	45	
CDCA	65	00	60	4	21	280	180	130	15	190	115	160	110	130	70	45	
CDCA	65	05	45	4	19	280	145	130	15	150.55	112.1	160	100	130	70	60	
CDCA	65	05	70	4	22.2	280	180	130	15	195.38	123.17	170	100	130	70	60	
CDCA	65	10	45	4	19.6	280	145	130	15	154.95	108.76	160	100	130	70	60	
CDCA	65	10	70	4	20.5	280	180	130	15	199.27	110.94	170	100	130	70	60	
CDCA	65	15	45	4	22.3	280	145	130	15	158.18	105.09	170	100	130	70	60	
CDCA	65	15	70	4	22.3	280	180	130	15	201.64	103.44	170	110	130	70	60	
CDCA	65	20	45	4	22.3	280	145	130	15	160.2	101.19	170	100	130	70	60	
CDCA	65	20	70	4	21.3	280	180	130	15	202.48	95.79	170	110	130	70	60	
CDCA	100	00	40	6	37	560	190	175	15	190	150	200	120	165	100	45	
CDCA	100	00	60	6	38	560	190	175	15	210	150	200	140	165	100	45	
CDCA	100	00	80	6	44	560	220	175	15	250	150	200	150	165	100	45	
CDCA	100	05	45	8	33	560	160	175	15	172.22	145.28	200	100	165	90	60	
CDCA	100	05	70	8	38	560	190	175	15	207.08	147.23	200	120	165	90	60	
CDCA	100	10	45	8	33	560	160	175	15	178.12	134.98	200	100	165	90	60	
CDCA	100	10	70	8	38	560	190	175	15	212.59	133.9	200	120	165	90	60	
CDCA	100	15	45	8	33	560	160	175	15	182.67	129.23	200	110	165	90	60	
CDCA	100	15	70	8	38	560	190	175	15	216.48	130.17	200	130	165	90	60	
CDCA	100	20	45	8	32	560	160	175	15	185.83	118.14	200	110	165	90	60	
CDCA	100	20	70	8	39	560	190	175	15	218.72	121.17	200	130	165	90	60	
CDCA	150	00	40	9	63	1120	190	260	20	190	170	220	120	230	100	45	
CDCA	150	00	60	9	69	1120	200	260	20	210	170	220	140	230	100	45	
CDCA	150	05	45	10	62	1120	190	260	20	193.01	158.5	220	110	230	100	60	
CDCA	150	05	70	10	73	1120	200	260	20	217.92	166.32	220	130	230	100	60	
CDCA	150	10	45	10	63	1120	190	260	20	199.55	151.36	220	110	230	100	60	
CDCA	150	10	70	10	73	1120	200	260	20	224.17	152.02	220	130	230	100	60	
CDCA	150	15	45	10	65	1120	190	260	20	204.58	143.71	220	120	230	100	60	
CDCA	150	15	70	10	77	1120	200	260	20	228.73	152.24	230	140	230	100	60	
CDCA	150	20	45	10	66	1120	190	260	20	208.05	135.7	220	120	230	100	60	
CDCA	150	20	70	10	75	1120	200	260	20	231.54	137.15	230	140	230	100	60	
CDCA	200	00	40	12	82	1680	200	310	20	200	180	240	130	280	100	45	
CDCA	200	00	60	12	84	1680	210	310	20	220	180	240	150	280	100	45	
CDCA	250	00	40	15	106	1680	200	360	20	210	210	270	140	330	130	45	
CDCA	250	00	60	15	127	1680	220	360	20	230	210	270	160	330	130	45	
CDCA	300	00	40	18	106	1680	200	410	20	210	210	270	140	380	130	45	
CDCA	300	00	60	18	128	1680	220	410	20	230	210	270	160	380	130	45	
CDCA	400	00	60	21	203	2240	300	525	20	320	195	250	140	360	150	45	



CAM DIAGRAM



Ordering example: CDCV-W-θ-S
CDCV-I50-05-70

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.				Main Features			General Dimensions									
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	α °
CDCV	50	00	55	3	19	560	300	50	260	300	191	250	190	50	75	50
CDCV	50	05	55	3	19	560	300	50	260.76	310.76	180.73	250	190	50	75	50
CDCV	50	10	55	3	19	560	300	50	263.12	318.12	169.8	250	190	50	75	50
CDCV	50	15	55	3	20	560	300	50	260.02	325.02	162.25	250	190	50	75	50
CDCV	50	20	55	3	20	560	300	50	261.41	331.41	155.12	250	190	50	75	50
CDCV	85	00	70	6	45	710	340	85	325	340	235	290	235	80	85	50
CDCV	85	05	70	6	45	710	340	85	324.32	354.32	225.4	290	235	80	85	50
CDCV	85	10	70	6	45	710	340	85	318.2	363.2	215.01	290	235	80	85	50
CDCV	85	15	70	6	46	710	340	85	316.68	371.68	204.86	290	235	80	85	50
CDCV	85	20	70	6	47	710	340	85	309.39	379.39	195.01	290	235	80	85	50
CDCV	110	00	70	12	70	1100	385	110	360	385	250	310	260	110	110	50
CDCV	110	05	70	12	70	1100	385	110	361.59	401.49	235.56	310	260	110	110	50
CDCV	110	10	70	12	71	1100	385	110	352.76	417.76	226.13	310	260	110	110	50
CDCV	110	15	70	12	73	1100	385	110	353.41	428.41	215.75	310	260	110	110	50
CDCV	110	20	70	12	75	1100	385	110	348.46	438.46	204.47	310	260	110	110	50
CDCV	150	00	70	17	99	1400	390	150	355	390	250	310	260	150	110	50
CDCV	150	05	70	17	100	1400	390	150	362.59	407.59	237.48	310	260	150	110	50
CDCV	150	10	70	17	101	1400	390	150	358.74	423.74	224.96	310	260	150	110	50
CDCV	150	15	70	17	103	1400	390	150	364.37	434.37	212.49	310	260	150	110	50
CDCV	150	20	70	17	106	1400	390	150	364.4	444.4	200.13	310	260	150	110	50
CDCV	220	00	70	25	139	2200	390	220	355	390	247	310	260	220	110	50
CDCV	220	05	70	25	140	2200	390	220	356.59	406.59	234.56	310	260	220	110	50
CDCV	220	10	70	25	141	2200	390	220	347.76	422.76	223.13	310	260	220	110	50
CDCV	220	15	70	25	145	2200	390	220	348.41	433.41	211.75	310	260	220	110	50
CDCV	220	20	70	25	150	2200	390	220	346.46	443.46	200.47	310	260	220	110	50
CDCV	330	00	80	35	251	2800	400	330	335	400	326	380	260	330	180	50
CDCV	330	05	80	35	251	2800	400	330	334.2	424.2	316.67	380	260	330	180	50
CDCV	330	10	80	35	253	2800	400	330	337.94	442.94	305.68	380	260	330	180	50
CDCV	330	15	80	35	253	2800	400	330	336.09	461.09	292.08	380	260	330	180	50
CDCV	330	20	80	35	262	2800	400	330	333.52	478.52	282.93	380	260	330	180	50
CDCV	400	00	80	44	345	2800	445	400	395	445	341	400	300	400	180	50
CDCV	400	05	80	44	341	2800	445	400	394.2	469.2	325.67	400	300	400	180	50
CDCV	400	10	80	44	348	2800	445	400	392.94	487.94	314.68	400	300	400	180	50
CDCV	400	15	80	44	355	2800	445	400	391.09	501.09	302.08	400	300	400	180	50
CDCV	400	20	80	44	366	2800	445	400	393.52	518.52	282.93	400	300	400	180	50

The structural parts of NITROGAS Aerial Cams are assembled with high quality cast iron GGG60. Designed for a long service life, since the wear surfaces are mounted with CuZn25Al5Mn4Fe3-C bronze plates with embedded solid lubricants against heat treated sliding faces.

The design for easy assembly promotes and prioritizes spare parts interchangeability, ensuring the longest service life of the cam.

Aerial Cam Units are mounted with automatic positive return, to ensure a secure return. The integrated gas or coil spring, provide the return force and ensure the return of the slider.

Aerial Cams are recommended when there is not enough space available in the lower die and when using high working angles ($>20^\circ$). As the movement of the press is transformed by a wedge, aerial cam units are applicable for long strokes (<120 mm) and large loads (<100 Tn).

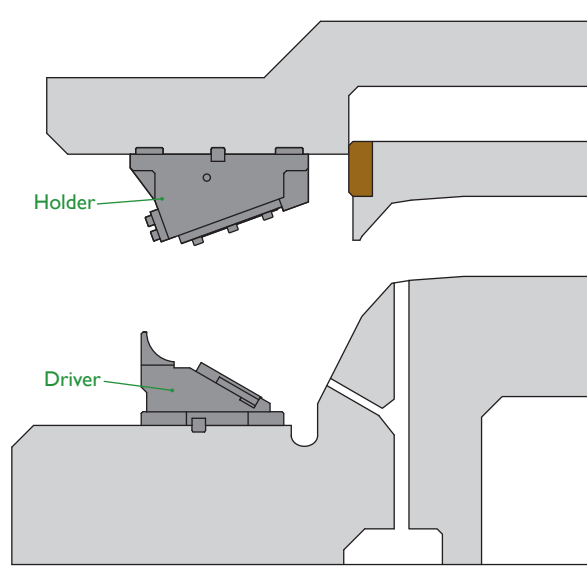
NITROGAS offers engineering support referring to cam applications for die designers and builders.

CAD files of Aerial Cam Units can be downloaded FREE from our website: www.nitrogas.com

Installation

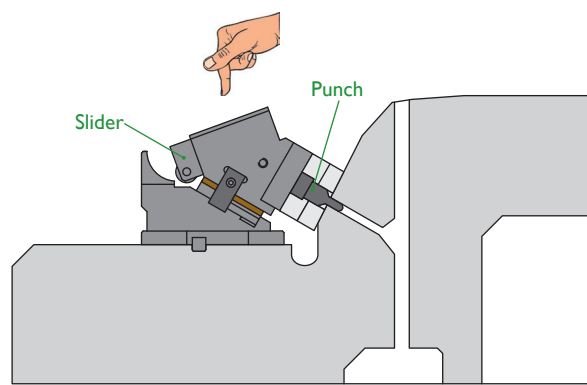
STEP 1

- 1 Drill the required holes in the die for the cam holder and the driver.
- 2 Fix the cam holder and cam driver in the die.
- 3 Remove the cam slider from the cam holder.

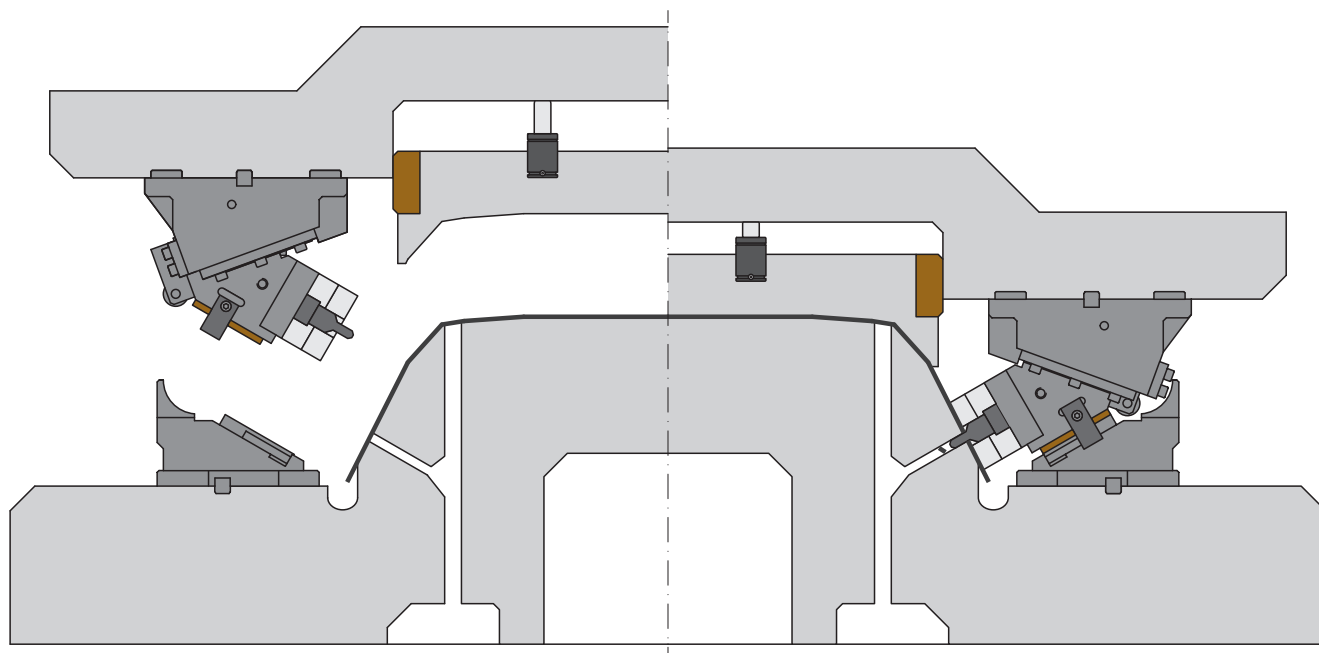


STEP 2

- 4 Locate the punch in the cam slider and set in the fixed driver.
- 5 Move the slider with the punch along the driver and fix the punch to the slider.
- 6 Mount the slider on the cam holder.



Example of work



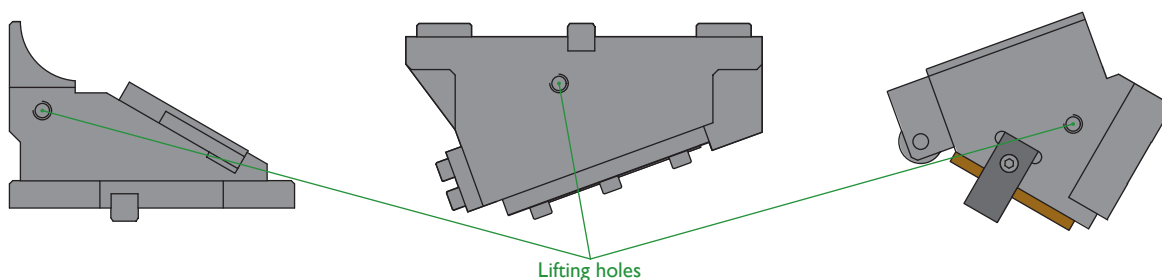
Spare parts available for all Aerial Cam Units.
Center as much as possible the force of the punch.
It is recommended not to use more than the 90% of the stroke.

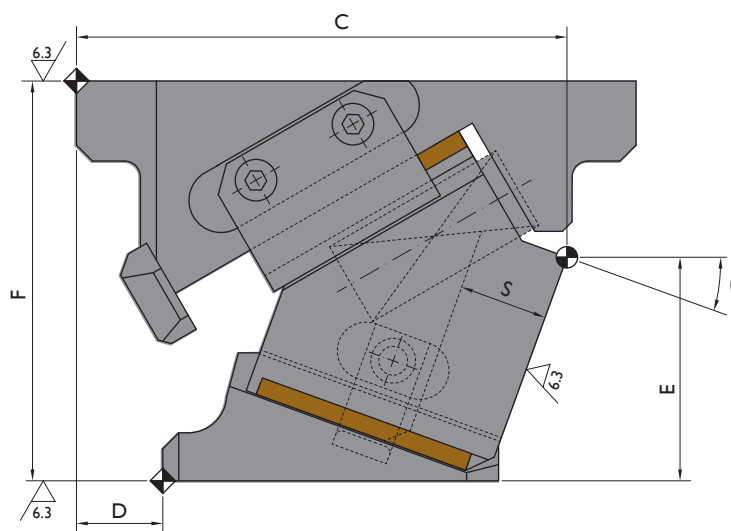
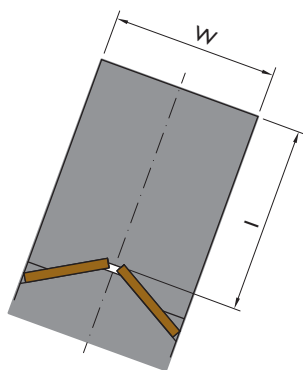
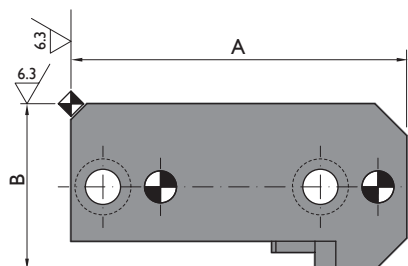


Maximum press speed 1.6 m/s
Maximum cadence (at 20°C) 40 strokes/min

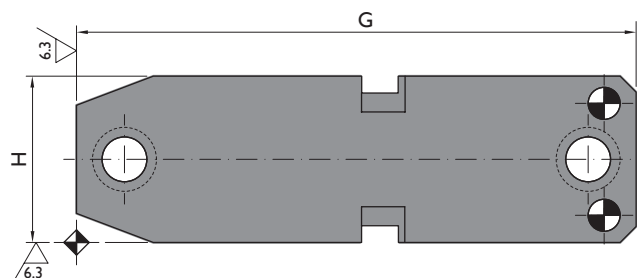
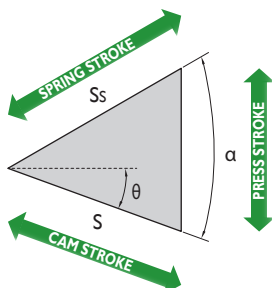
Handling

NITROGAS Aerial Cams include lifting holes that facilitate the handling.





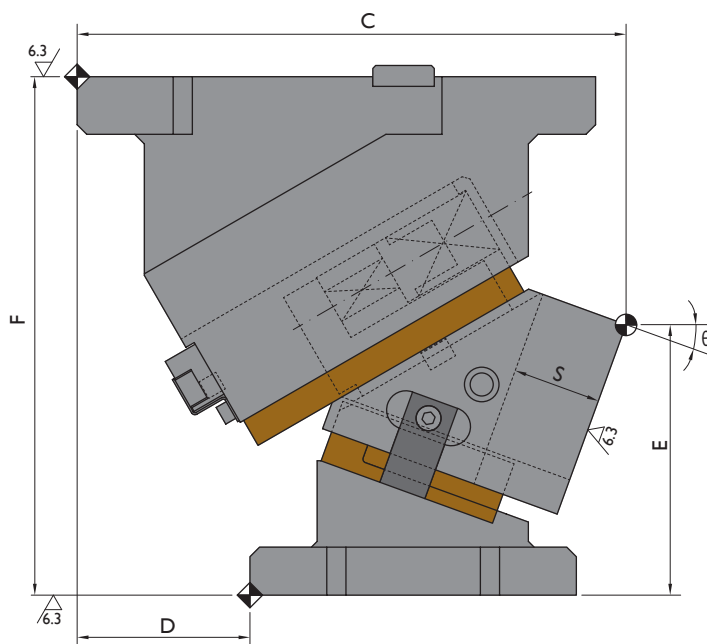
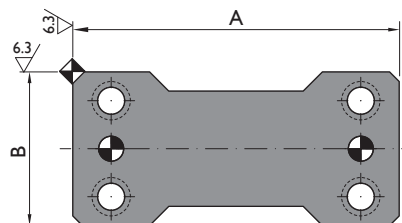
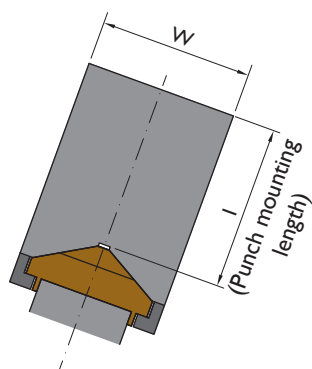
CAM DIAGRAM



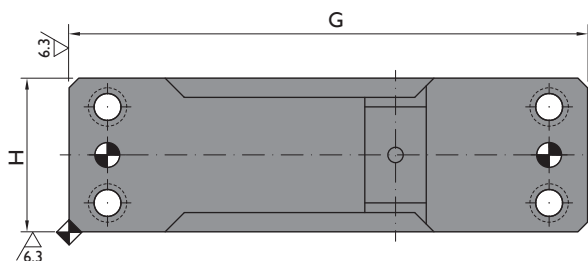
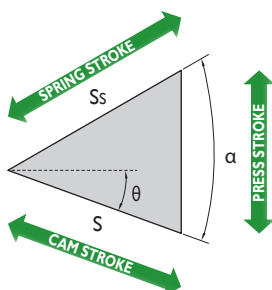
Ordering example: CACS-W- θ
CACS-52-05

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACS	52	00	19.3	3	5.3	64	105	52	150	45	82	125	175	52	60	30	50
CACS	52	05	21.3	3	5.2	64	105	52	153.1	42	79.79	125	175	52	60	30	50
CACS	52	10	23.3	3	5.1	64	105	52	153.55	37	77.17	125	175	52	60	30	50
CACS	52	15	25.4	3	5	64	105	52	153.32	32	74.18	125	175	52	60	30	50
CACS	52	20	27.6	3	5	64	105	52	153.38	27	69.9	125	175	52	60	30	50
CACS	52	25	30	3	5	64	105	52	154.71	20	66.38	125	175	52	60	30	50
CACS	52	30	32.6	3	5	64	105	52	153.28	17	61.69	125	175	52	60	30	50
CACS	52	35	35.4	3	4.9	64	105	52	152.09	10	57.9	125	175	52	60	30	50
CACS	52	40	38.6	3	5	64	105	52	149.14	4	53.07	125	175	52	60	30	50
CACS	52	45	42.3	3	5	64	105	52	145.41	-4	49.27	125	175	52	60	30	50
CACS	52	50	46.7	3	5	64	105	52	143.92	-9	45.57	125	175	52	60	30	50
CACS	52	55	52.3	3	5	57	105	52	144.67	-10	42.03	125	175	52	60	30	55
CACS	52	60	60	3	5.2	50	105	52	150.69	-9	34.72	125	175	52	60	30	60
CACS	52	65	47.3	3	5.9	42	105	52	130.16	-45	25.46	125	175	52	60	20	65
CACS	52	70	58.5	3	5.9	34	105	52	133.62	-40	18.03	125	175	52	60	20	70
CACS	52	75	46.3	3	7.8	26	111	52	148.74	-30	25.41	150	175	52	70	12	75
CACS	52	80	57.5	3	7.7	17	110	52	148.74	-30	25.41	150	175	52	70	10	80



CAM DIAGRAM



Ordering example: CACC-W- θ
CACC-80-20

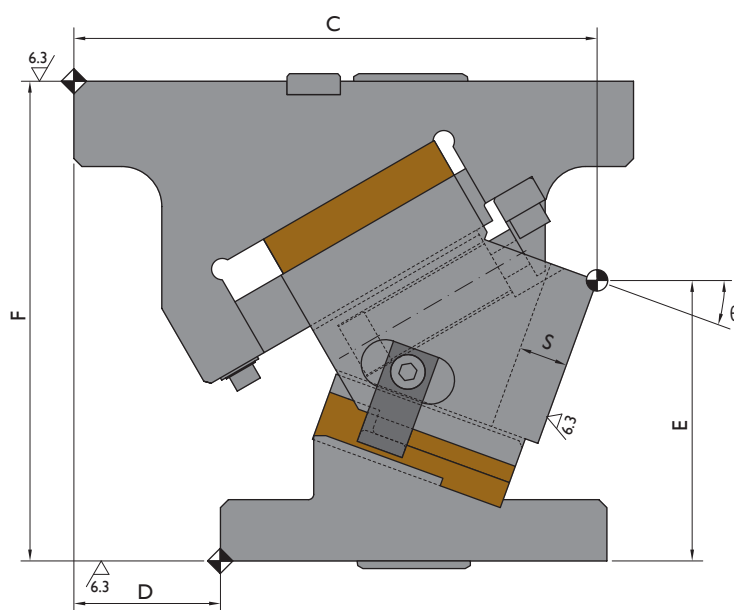
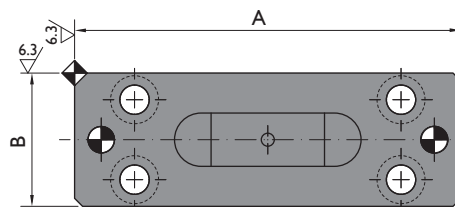
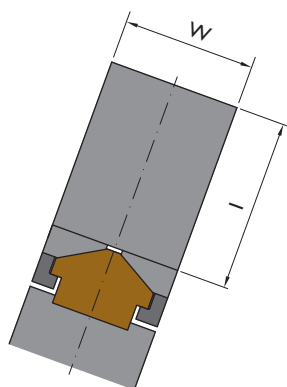
⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg		A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACC	50	00	30.2	3	12.7	64	150	50	225	107	122.5	200	240	50	75	47	50
CACC	50	05	30.5	3	12.3	64	150	50	226.91	100	121.67	200	240	50	75	43	50
CACC	50	10	30.3	3	11.8	64	150	50	223.72	90	120.07	200	240	50	75	39	50
CACC	50	15	30.5	3	11.8	64	150	50	224.36	85	117.71	200	240	50	75	36	50
CACC	50	20	30.4	3	11.5	64	150	50	220.76	70	114.61	200	240	50	75	33	50
CACC	50	25	30	3	11.3	64	150	50	215.85	58	110.78	200	240	50	75	30	50
CACC	50	30	32.6	3	11.1	64	150	50	213.58	55	105.27	200	240	50	75	30	50
CACC	50	35	35.4	3	10.9	64	150	50	204.89	35	103.1	200	240	50	75	30	50
CACC	50	40	38.6	3	10.9	64	150	50	206.72	30	97.31	200	240	50	75	30	50
CACC	50	45	42.3	3	10.6	64	150	50	202.01	20	96.94	200	240	50	75	30	50
CACC	50	50	46.7	3	10.6	64	150	50	195.73	10	94.06	200	240	50	75	30	50
CACC	50	55	52.1	3	10.8	64	150	50	189.83	0	83.7	200	240	50	65	30	50
CACC	50	60	59.1	3	11.2	64	150	50	179.27	-15	74.92	200	240	50	65	30	50
CACC	50	65	58.3	3	11.6	57	150	50	176.6	-32	73.13	200	240	50	75	25	55
CACC	50	70	57.6	3	12	50	150	50	177	-38	64.17	200	240	50	75	20	60
CACC	65	00	15	4	9.5	86	130	65	170	60	127	180	170	65	65	21.2	45
CACC	65	05	15.1	4	9.3	86	130	65	171.41	55	119.73	180	170	65	65	19.6	45
CACC	65	10	15.2	4	9	88	130	65	177.16	55	116.94	180	170	65	65	18.3	45
CACC	65	15	15.5	4	8.8	88	130	65	177.2	50	113.67	180	170	65	65	17.3	45
CACC	65	20	16.5	4	8.6	88	130	65	176.51	40	109.99	180	170	65	65	17.1	45
CACC	65	25	17.1	4	8.5	80	130	65	172.94	35	104.36	180	170	65	65	17.1	50
CACC	65	30	18.5	4	8.3	88	130	65	177.78	30	101.68	180	170	65	65	16.6	45
CACC	65	35	19.6	4	8.3	80	130	65	173.29	20	96.75	180	170	65	65	16.6	50
CACC	65	40	21.5	4	8.1	88	130	65	170.78	10	97.56	180	170	65	65	16.5	45
CACC	65	45	23.3	4	8.1	80	130	65	165.5	2.5	93.49	180	170	65	65	16.5	50
CACC	65	50	26.5	4	8.4	88	130	65	165.41	-5	93.21	190	170	65	65	17.1	45
CACC	65	55	29.7	4	8.4	80	130	65	159.51	-10	90.11	190	170	65	65	17.1	50
CACC	65	60	35	4	9.3	88	130	65	156.68	-20	89.22	210	170	65	65	18.1	45
CACC	65	65	41.4	4	9.3	80	130	65	150.33	-25	87.2	210	170	65	65	18.1	50
CACC	65	70	51.1	4	9.5	72	130	65	146.45	-32	78.32	210	170	65	65	18.1	55
CACC	80	00	32.1	8	25.9	213	165	80	260	100	171	270	270	80	86	50	50
CACC	80	05	38.4	8	26.3	235	165	80	272.93	100	160.61	270	270	80	86	50	45
CACC	80	10	38.9	8	26.6	213	165	80	279.92	100	149.57	270	270	80	86	50	50
CACC	80	15	39.7	8	25.1	190	165	80	285.93	100	137.96	270	270	80	86	50	55
CACC	80	20	46.1	8	25.3	213	165	80	285.9	90	140.88	270	270	80	86	50	50
CACC	80	25	47.8	8	25.3	190	165	80	289.8	90	128.4	270	270	80	86	50	55
CACC	80	30	54.3	8	23.2	213	165	80	282.59	75	135.64	270	270	80	86	50	50
CACC	80	35	57.4	8	23.4	190	165	80	284.27	75	122.68	270	270	80	86	50	55
CACC	80	40	64.3	8	22.4	213	165	80	274.8	60	129.62	270	270	80	86	50	50
CACC	80	45	69.6	8	22.4	190	165	80	274.2	60	116.56	270	270	80	86	50	55
CACC	80	50	77.8	8	21.6	213	165	80	262.46	35	118.61	270	270	80	86	50	50
CACC	80	55	87.2	8	21.7	190	165	80	259.6	35	105.86	270	270	80	86	50	55
CACC	80	60	98.5	8	23.2	213	165	80	240.64	0	93.41	270	270	80	86	50	50
CACC	80	65	81.6	8	23.7	190	165	80	235.61	-5	81.35	270	270	80	86	35	55
CACC	80	70	86.4	8	23.9	166	165	80	227.83	-10	74.47	270	270	80	86	30	60

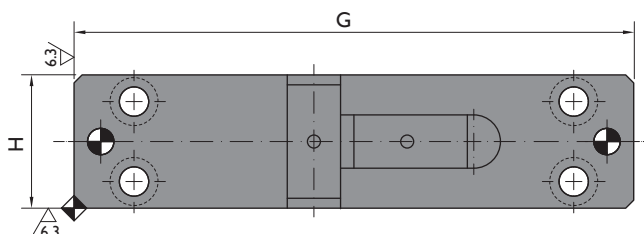
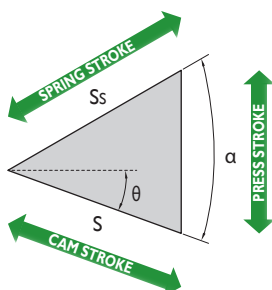
Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACC	150	00	32.1	14	45.4	625	150	150	280	120	185	270	280	150	85	50	50
CACC	150	05	32.3	14	45.9	558	150	150	288.26	115	174.16	270	280	150	85	50	55
CACC	150	10	38.9	14	44.4	625	150	150	285.54	105	167.64	270	280	150	85	50	50
CACC	150	15	39.7	14	44.9	558	150	150	291.79	105	155.53	270	280	150	85	50	55
CACC	150	20	46.1	14	43.2	625	150	150	286.97	90	147.93	270	280	150	85	50	50
CACC	150	25	47.8	14	43.7	558	150	150	291.02	90	134.92	270	280	150	85	50	55
CACC	150	30	54.3	14	42.2	625	150	150	283.92	70	131.6	270	280	150	85	50	50
CACC	150	35	57.4	14	42.7	558	150	150	285.66	70	118.09	270	280	150	85	50	55
CACC	150	40	64.3	14	41	625	150	150	276.2	45	114.47	270	280	150	85	50	50
CACC	150	45	69.6	14	41.4	558	150	150	275.56	45	100.86	270	280	150	85	50	55
CACC	150	50	77.8	14	40.5	625	150	150	263.74	25	102.35	270	280	150	85	50	50
CACC	150	55	87.2	14	40.9	558	150	150	260.74	25	89.06	270	280	150	85	50	55
CACC	150	60	98.5	14	41.5	625	150	150	246.6	0	76.08	270	280	150	85	50	50
CACC	150	65	93.2	14	42.2	558	150	150	241.35	0	63.51	270	280	150	85	40	55
CACC	150	70	86.4	14	43.5	487	150	150	240.01	-5	51.44	270	280	150	85	30	60



Structure for cams width 50 - 80 mm



CAM DIAGRAM



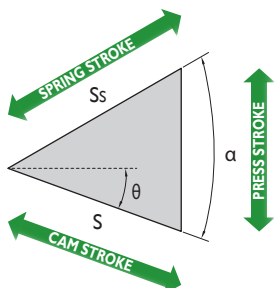
Ordering example: CACG-W- θ
CACG-50-20

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Structure for cams width 150 - 300 mm



CAM DIAGRAM



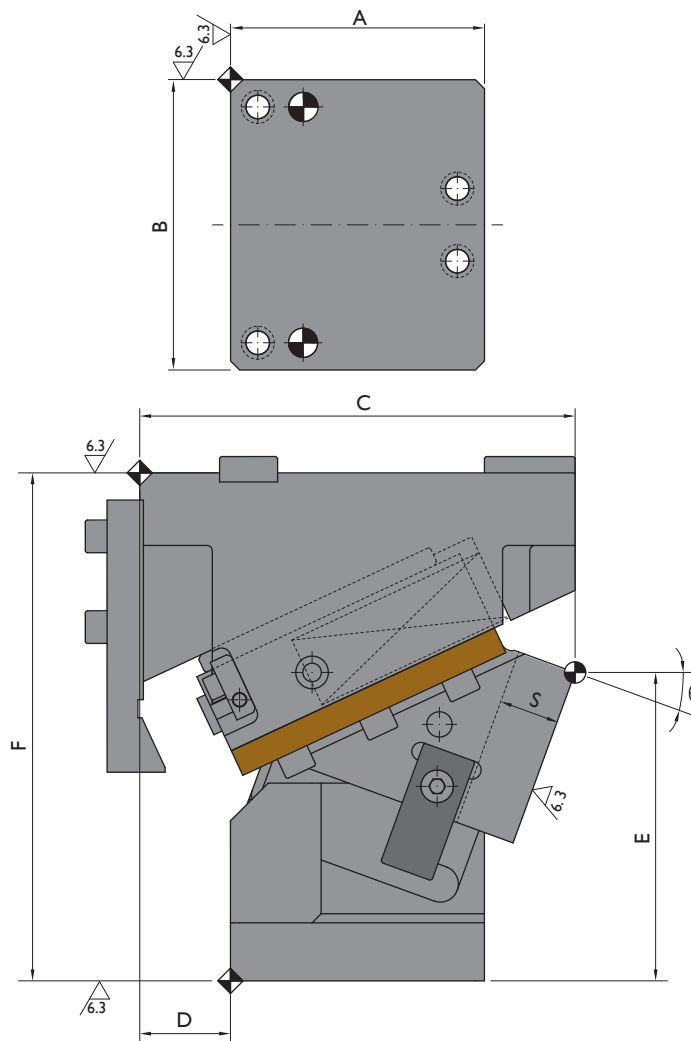
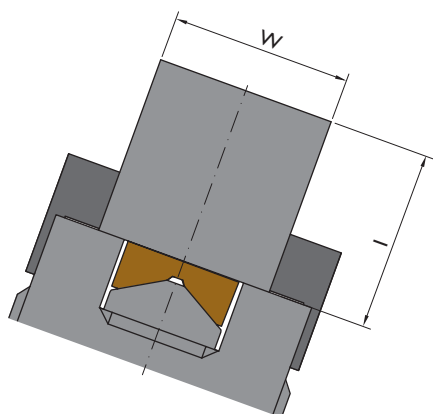
Ordering example: CACG-W- θ
CACG-200-20

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

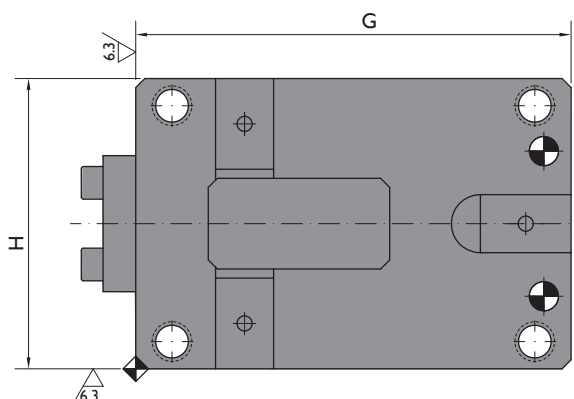
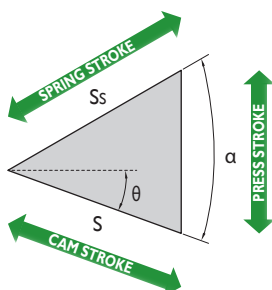
Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force ⁽²⁾ kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACG	50	00	15	4	10.6	72	145	50	195	80	112.5	180	210	50	65	23.3	50
CACG	50	05	15.6	4	10.3	76	145	50	198.04	75	111.71	180	210	50	65	22	50
CACG	50	10	15.6	4	9.9	76	145	50	195.99	65	110.23	180	210	50	65	20	50
CACG	50	15	17	4	9.7	76	145	50	198.77	65	108.05	180	210	50	65	20	50
CACG	50	20	18.4	4	9.4	76	145	50	196.34	55	105.21	180	210	50	65	20	50
CACG	50	25	18	4	9.4	76	145	50	191.62	41	99.72	180	210	50	65	18	50
CACG	50	30	17.4	4	9.2	73	145	50	190.58	40	94.61	180	210	50	65	16	50
CACG	50	35	18.9	4	9.2	73	145	50	187.15	25	89.9	180	210	50	65	16	50
CACG	50	40	20.6	4	9.1	73	145	50	183.29	22.5	84.65	180	210	50	55	16	50
CACG	50	45	22.5	4	9.1	73	145	50	179.94	10	81.87	180	210	50	55	16	50
CACG	50	50	23.3	4	9	73	145	50	174.07	5	80.63	180	210	50	55	15	50
CACG	50	55	26.1	4	9.5	73	145	50	168.64	-15	68.96	180	210	50	55	15	50
CACG	50	60	31.5	4	9.7	73	145	50	162.61	-25	61.92	180	210	50	55	16	50
CACG	50	65	36.6	4	10	73	145	50	155.95	-35	54.56	180	210	50	55	16	50
CACG	65	00	15	6	10.7	55	120	65	170	70	115	175	170	65	56	23.3	50
CACG	65	05	15.6	6	10.4	55	120	65	170.36	65	107.78	175	170	65	56	22	50
CACG	65	10	15.6	6	10.2	55	120	65	175.07	62.5	105.12	175	170	65	56	20	50
CACG	65	15	17	6	9.9	55	120	65	174.09	55	102.08	175	170	65	56	20	50
CACG	65	20	18.4	6	9.9	55	120	65	172.4	45	98.72	175	170	65	56	20	50
CACG	65	30	19.5	6	9.6	53	120	65	171.78	35	91.29	175	170	65	56	18	50
CACG	65	40	23.1	6	9.5	53	120	65	163.07	20	83.37	175	170	65	56	18	50
CACG	65	50	24.9	6	9.9	53	120	65	156.22	5	70.5	175	170	65	56	16	50
CACG	65	60	32	6	11.1	42	120	65	146.29	-15	58.22	175	170	65	56	16	60
CACG	80	00	30.2	10	34	347	170	80	277	135	160	270	270	80	90	47	50
CACG	80	05	30.5	10	32	347	170	80	278.32	125	154.33	270	270	80	90	43	50
CACG	80	10	31.1	10	32	347	170	80	274.54	110	152.68	270	270	80	90	40	50
CACG	80	15	33.9	10	32	347	170	80	277.58	105	150.05	270	270	80	90	40	50
CACG	80	20	32.3	10	32	347	170	80	273.34	95	146.48	270	270	80	90	35	50
CACG	80	25	35	10	30	347	170	80	268.75	80	141.97	270	270	80	90	35	50
CACG	80	30	34.7	10	30	347	170	80	261.73	65	136.58	270	270	80	90	32	50
CACG	80	35	37.7	10	30	347	170	80	258.2	55	130.34	270	270	80	90	32	50
CACG	80	40	39.9	10	29	347	170	80	245.09	35	123.3	270	270	80	90	31	50
CACG	80	45	43.7	10	29	347	170	80	245.34	30	115.51	270	270	80	90	31	50
CACG	80	50	46.7	10	30	347	170	80	225.87	5	107.03	270	270	80	90	30	50
CACG	80	55	53.8	10	30	347	170	80	229.64	0	97.93	270	270	80	90	31	50
CACG	80	60	61.1	10	31	347	170	80	208.58	-20	88.27	270	270	80	90	31	50
CACG	80	65	70.9	10	32	347	170	80	203.67	-30	78.13	270	270	80	90	31	50

⁽²⁾ Cam units CACG-50 and CACG-65 fitted with coil spring.

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACG	150	00	28.6	26	117.6	803	230	150	325	80	225	355	325	240	120	50	55
CACG	150	05	32.2	26	114	803	230	150	319.7	60	221.74	355	325	240	120	50	55
CACG	150	10	35.9	26	113.4	803	230	150	319.06	45	217.21	355	325	240	120	50	55
CACG	150	15	39.6	26	111.9	803	230	150	322.98	35	211.44	355	325	240	120	50	55
CACG	150	20	43.5	26	111.3	803	230	150	326.33	25	204.49	355	325	240	120	50	55
CACG	150	25	47.7	26	111.2	803	230	150	329.03	15	196.39	355	325	240	120	50	55
CACG	150	30	52.3	26	110.2	803	230	150	325.98	0	187.22	355	325	240	120	50	55
CACG	150	35	57.3	26	113.1	803	230	150	322.08	-15	162.05	355	325	240	120	50	55
CACG	150	40	63	26	114.7	803	230	150	312.26	-35	150.94	355	325	240	120	50	55
CACG	150	45	69.6	26	115.8	803	230	150	306.42	-50	138.99	355	325	240	120	50	55
CACG	150	50	77.4	26	117.5	803	230	150	294.51	-70	126.29	355	325	240	120	50	55
CACG	150	55	87.1	26	117.5	803	230	150	281.46	-90	112.93	355	325	240	120	50	55
CACG	150	60	99.6	26	122	803	230	150	272.22	-105	99.02	355	325	240	120	50	55
CACG	150	65	116.5	26	126	803	230	150	261.75	-120	84.66	355	325	240	120	50	55
CACG	200	00	28.6	30	129.7	803	230	150	325	80	225	355	325	270	120	50	55
CACG	200	05	32.2	30	126.6	803	230	150	319.7	60	221.74	355	325	270	120	50	55
CACG	200	10	35.9	30	124.8	803	230	150	319.06	45	217.21	355	325	270	120	50	55
CACG	200	15	39.6	30	127.4	803	230	150	322.98	35	211.44	355	325	270	120	50	55
CACG	200	20	43.5	30	123.2	803	230	150	326.33	25	204.49	355	325	270	120	50	55
CACG	200	25	47.7	30	123	803	230	150	329.03	15	196.39	355	325	270	120	50	55
CACG	200	30	52.3	30	121.7	803	230	150	325.98	0	187.22	355	325	270	120	50	55
CACG	200	35	57.3	30	125.3	803	230	150	322.08	-15	162.05	355	325	270	120	50	55
CACG	200	40	63	30	126.8	803	230	150	312.26	-35	150.94	355	325	270	120	50	55
CACG	200	45	69.6	30	127.9	803	230	150	306.42	-50	138.99	355	325	270	120	50	55
CACG	200	50	77.4	30	129.8	803	230	150	294.51	-70	126.29	355	325	270	120	50	55
CACG	200	55	87.1	30	132.6	803	230	150	281.46	-90	112.93	355	325	270	120	50	55
CACG	200	60	99.6	30	135.1	803	230	150	272.22	-105	99.02	355	325	270	120	50	55
CACG	200	65	116.5	30	138.9	803	230	150	261.75	-120	84.66	355	325	270	120	50	55
CACG	300	00	28.6	60	184.5	1606	230	250	325	80	265	355	325	340	160	50	55
CACG	300	05	32.2	60	181	1606	230	250	323.19	60	261.59	355	325	340	160	50	55
CACG	300	10	35.9	60	178.7	1606	230	250	326.01	45	256.6	355	325	340	160	50	55
CACG	300	15	39.6	60	177.3	1606	230	250	333.33	35	250.08	355	325	340	160	50	55
CACG	300	20	43.5	60	176	1606	230	250	340.02	25	242.07	355	325	340	160	50	55
CACG	300	25	47.7	60	174.9	1606	230	250	345.94	15	232.65	355	325	340	160	50	55
CACG	300	30	52.3	60	173.8	1606	230	250	345.98	0	221.87	355	325	340	160	50	55
CACG	300	35	57.3	60	178.7	1606	230	250	345.03	-15	194.81	355	325	340	160	50	55
CACG	300	40	63	60	181.6	1606	230	250	337.97	-35	181.59	355	325	340	160	50	55
CACG	300	45	69.6	60	184.5	1606	230	250	334.71	-50	167.28	355	325	340	160	50	55
CACG	300	50	77.4	60	188.1	1606	230	250	325.15	-70	152	355	325	340	160	50	55
CACG	300	55	87.1	60	193.4	1606	230	250	314.23	-90	135.88	355	325	340	160	50	55
CACG	300	60	99.6	60	197.6	1606	230	250	306.87	-105	119.02	355	325	340	160	50	55
CACG	300	65	116.5	60	202.9	1606	230	250	298	-120	101.56	355	325	340	160	50	55



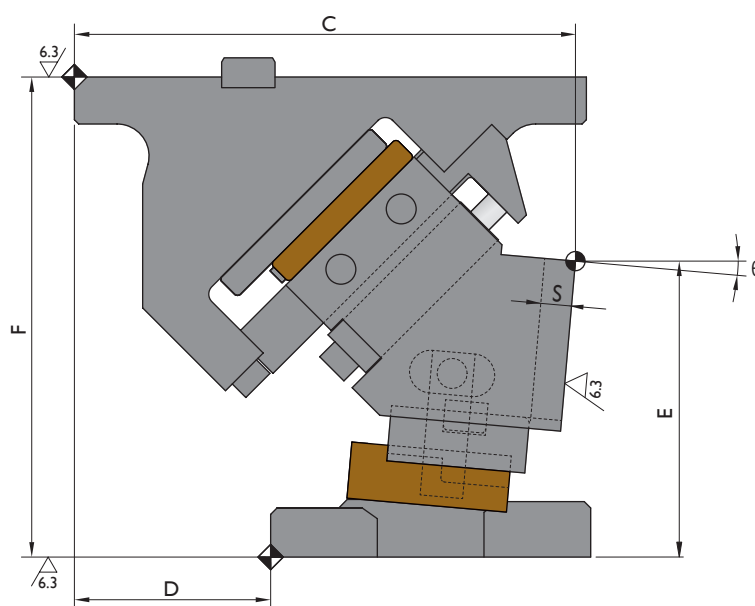
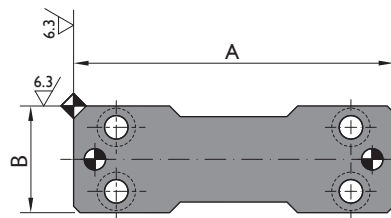
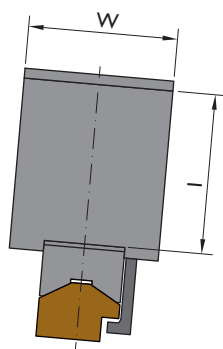
CAM DIAGRAM



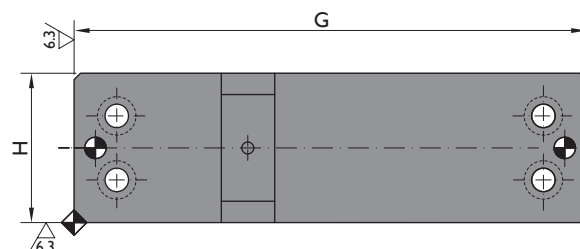
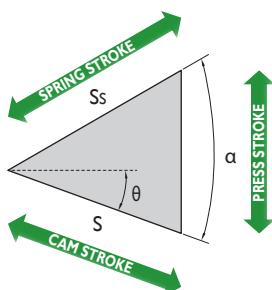
Ordering example: CACK-W- θ
CACK-65-70

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CAACK	65	00	26.9	4	20.5	77	80	115	185.94	75	153.43	210	180	115	80	38	45
CAACK	65	05	27	4	20.8	75	80	115	193.01	70	153.43	210	180	115	90	38	50
CAACK	65	10	31.6	4	20.3	82	80	115	196.8	70	142.42	210	180	115	80	38	45
CAACK	65	15	32.2	4	20.6	75	80	115	203.77	67	141.19	210	180	115	90	38	50
CAACK	65	20	33.8	4	19.1	82	80	115	198.1	60	135.69	210	180	115	80	35	45
CAACK	65	25	35	4	19.4	75	80	115	204.75	55	133.27	210	180	115	90	35	50
CAACK	65	30	33.5	4	18.7	82	80	115	193.63	50	120.48	210	180	115	80	30	45
CAACK	65	35	35.4	4	19	75	80	115	199.76	45	116.94	210	180	115	90	30	50
CAACK	65	40	42.9	4	17.9	82	80	115	188.72	40	110.38	210	180	115	80	33	45
CAACK	65	45	46.5	4	18.1	75	80	115	194.13	34	105.84	210	180	115	90	33	50
CAACK	65	50	54.5	4	17.8	75	80	115	190	30	100	210	180	115	90	35	50
CAACK	65	55	43.6	4	18.8	61	80	115	190	20	95	210	180	115	100	25	55
CAACK	65	60	50	4	18.3	53	80	115	190	20	95	210	180	115	100	25	60
CAACK	65	65	47.3	4	19.5	38	80	115	190	0	80	210	180	115	110	20	65
CAACK	65	70	58.5	4	19.4	31	80	115	190	0	80	210	180	115	110	20	70
CAACK	100	00	28.3	9	49.4	203	140	160	240	80	195	280	240	160	100	40	45
CAACK	100	05	28.4	9	50.2	184	140	160	236.89	60	206.18	280	240	160	140	40	50
CAACK	100	10	33.3	9	47.3	203	140	160	240	60	190	280	240	160	100	40	45
CAACK	100	15	33.9	9	49.5	184	140	160	254.35	60	198.49	280	240	160	140	40	50
CAACK	100	20	30.9	9	47.2	185	140	160	240	50	170	280	240	160	100	32	45
CAACK	100	25	32	9	48.9	168	140	160	253.26	50	177.4	280	240	160	140	32	50
CAACK	100	30	33.5	9	46.5	203	130	160	240	30	170	280	240	160	120	30	45
CAACK	100	35	35.4	9	47.8	184	130	160	252.34	30	170.31	280	240	160	140	30	50
CAACK	100	40	39	9	47.8	203	120	160	240	30	165	280	240	160	120	30	45
CAACK	100	45	42.3	9	44.1	184	120	160	247.41	30	165.32	280	240	160	140	30	50
CAACK	100	50	46.7	9	43.6	184	120	160	240	10	160	280	240	160	140	30	50
CAACK	100	55	52.3	9	46.4	165	120	160	240	0	135	280	240	160	140	30	55
CAACK	100	60	60	9	44.9	144	110	160	240	0	135	280	240	160	140	30	60
CAACK	100	65	47.3	9	45.4	118	110	160	240	0	135	280	240	160	140	20	65
CAACK	100	70	58.5	9	44.2	96	110	160	240	0	135	280	240	160	140	20	70
CAACK	200	00	28.3	19	82.9	407	110	260	240	80	195	280	240	260	100	40	45
CAACK	200	05	28.4	19	83.7	370	110	260	236.82	60	201.16	280	240	260	130	40	50
CAACK	200	10	33.3	19	77.1	407	110	260	240	60	190	280	240	260	100	40	45
CAACK	200	15	33.9	19	81.9	370	110	260	254.35	60	198.49	280	240	260	130	40	50
CAACK	200	20	30.9	19	77.5	370	110	260	240	50	170	280	240	260	100	32	45
CAACK	200	25	32	19	81.5	336	110	260	253.27	50	177.4	280	240	260	130	32	50
CAACK	200	30	33.5	19	78.4	405	110	260	240	30	170	280	240	260	120	30	45
CAACK	200	35	35.4	19	82.3	368	110	260	252.34	30	170.31	280	240	260	140	30	50
CAACK	200	40	39	19	72.8	405	110	260	240	30	165	280	240	260	120	30	45
CAACK	200	45	42.3	19	76.1	368	110	260	247.41	30	165.32	280	240	260	140	30	50
CAACK	200	50	46.7	19	73	368	110	260	240	10	160	280	240	260	140	30	50
CAACK	200	55	52.3	19	80	329	110	260	240	0	135	280	240	260	140	30	55
CAACK	200	60	60	19	75.3	287	110	260	240	0	135	280	240	260	140	30	60
CAACK	200	65	47.3	19	78.6	236	110	260	240	0	135	280	240	260	140	20	65
CAACK	200	70	58.5	19	73.6	191	110	260	240	0	135	280	240	260	140	20	70

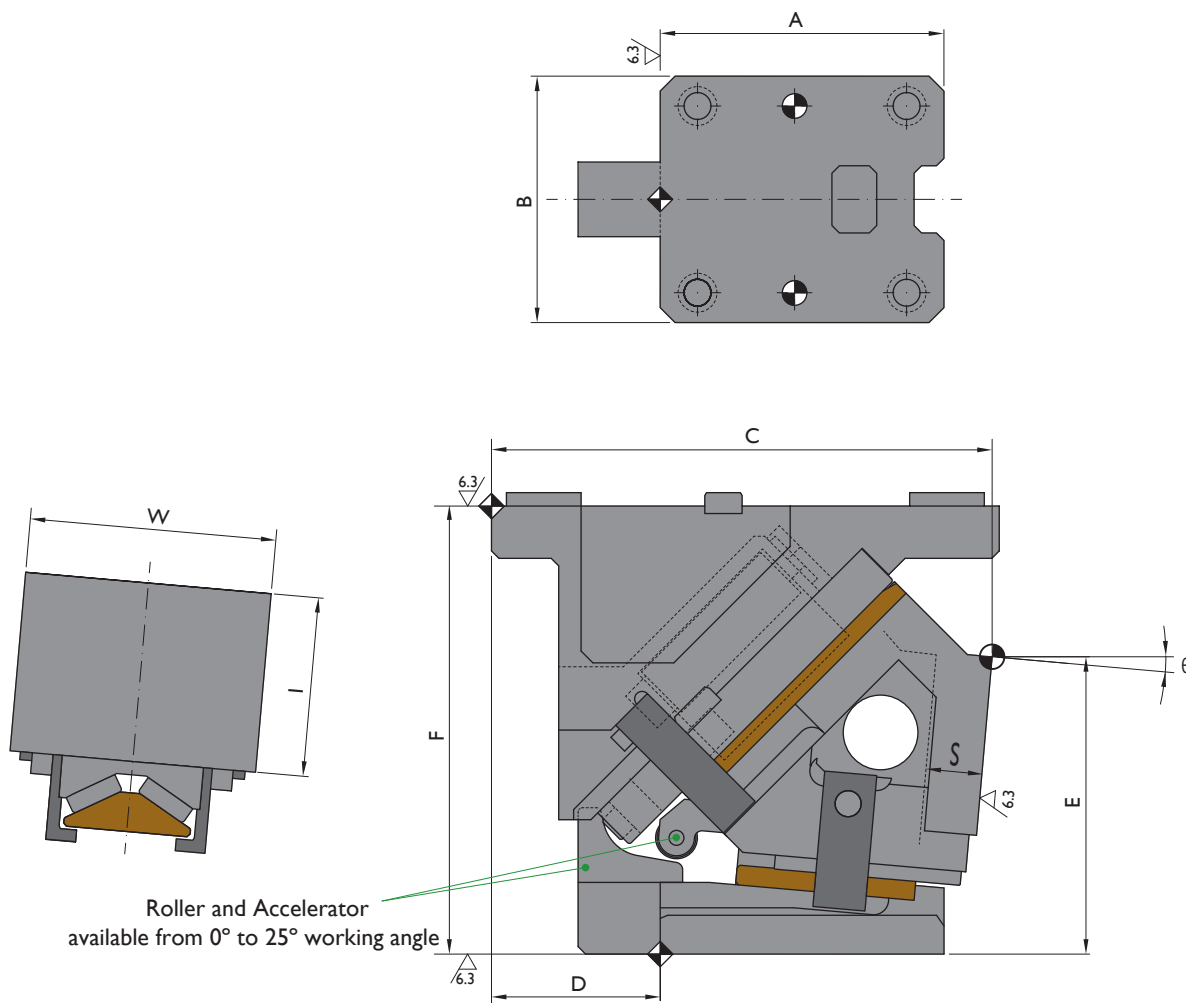


CAM DIAGRAM

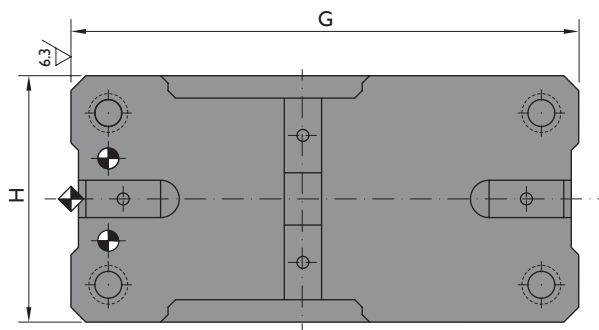
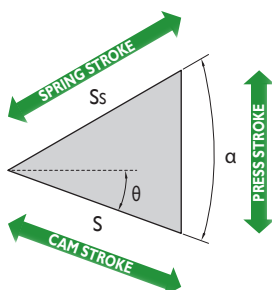


Ordering example: CACN-W-θ
CACN-80-60

(1) It is recommended not to use more than the 90% of the stroke



CAM DIAGRAM

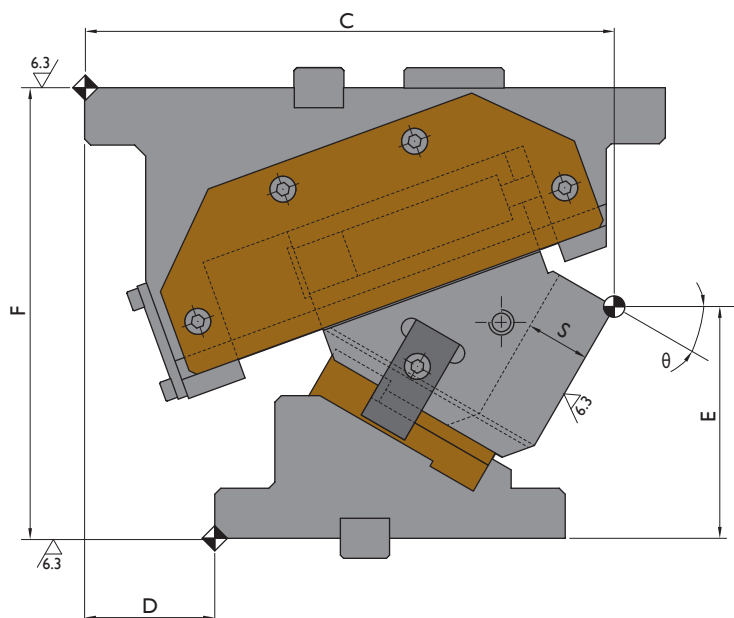
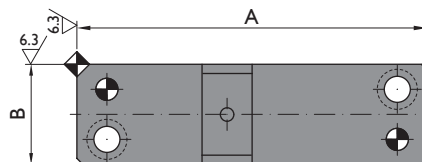
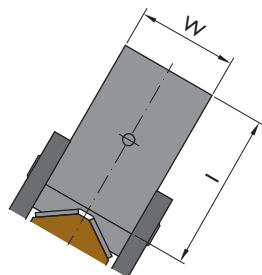


Ordering example: CACN-W-θ
CACN-200-00

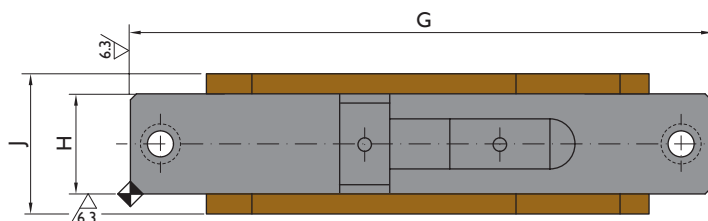
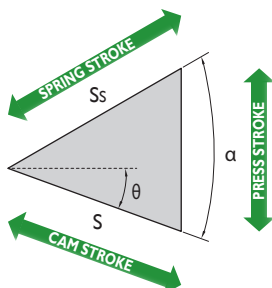
(1) It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACN	70	00	19.3	10	16.1	180	150	50	237.37	102	140	225	240	70	75	30	50
CACN	70	05	21.3	10	15.4	180	150	50	234.87	92	138.72	225	240	70	75	30	50
CACN	70	10	23.3	10	14.8	180	150	50	232.82	81	136.24	225	240	70	75	30	50
CACN	70	15	25.4	10	14.1	180	150	50	217.54	57	128.41	225	240	70	75	30	50
CACN	70	20	27.6	10	14.1	180	150	50	224.52	52	125.33	225	240	70	75	30	50
CACN	70	25	30	10	14	180	150	50	223.46	42	119.55	225	240	70	75	30	50
CACN	70	30	32.6	10	13.8	180	150	50	211.54	30	112.01	225	240	70	75	30	50
CACN	70	35	35.4	10	13.7	180	150	50	210.68	17	107.8	225	240	70	75	30	50
CACN	70	40	38.6	10	13.8	180	150	50	204.84	4	99.93	225	240	70	75	30	50
CACN	70	45	42.3	10	13.8	180	150	50	198.15	-2	93.72	225	240	70	75	30	50
CACN	70	50	46.7	10	13.9	180	150	50	190.95	-21	89.85	225	240	70	75	30	50
CACN	70	55	43.6	10	14.1	161	150	50	190.51	-23	79	225	240	70	75	25	55
CACN	70	60	50	10	14.5	140	150	50	185.81	-35	69.14	225	240	70	75	25	60
CACN	80	00	32.1	17	27.9	180	170	80	280	135	165	275	270	80	75	50	50
CACN	80	05	35.5	17	27.5	180	170	80	281.31	125	159.07	275	270	80	75	50	50
CACN	80	10	38.9	17	26.9	180	170	80	277.5	110	157.16	275	270	80	75	50	50
CACN	80	15	42.4	17	26.5	180	170	80	280.48	105	154.28	275	270	80	75	50	50
CACN	80	20	46.1	17	26	180	170	80	276.16	95	150.45	275	270	80	75	50	50
CACN	80	25	50	17	25.9	180	170	80	271.47	80	145.71	275	270	80	75	50	50
CACN	80	30	54.3	17	25.3	180	170	80	264.33	65	140.08	275	270	80	75	50	50
CACN	80	35	59	17	25	180	170	80	260.66	55	133.62	275	270	80	75	50	50
CACN	80	40	64.3	17	24.7	180	170	80	252.32	35	127.24	275	270	80	75	50	50
CACN	80	45	70.4	17	24.7	180	170	80	247.46	30	118.39	275	270	80	75	50	50
CACN	80	50	77.8	17	24.9	180	170	80	237.8	15	109.73	275	270	80	75	50	50
CACN	80	55	78.5	17	25.8	161	170	80	231.36	0	100.47	275	270	80	75	45	55
CACN	80	60	80	17	26.2	140	170	80	233.95	0	89.11	275	270	80	75	40	60
CACN	165	00	32.1	30	76.1	347	190	165	335.84	128	203.02	300	340	165	120	50	50
CACN	165	05	35.5	30	74.2	347	190	165	335.25	113	199.09	300	340	165	120	50	50
CACN	165	10	38.9	30	73.8	347	190	165	337.27	101	188.91	300	340	165	120	50	50
CACN	165	15	42.4	30	73.1	347	190	165	329.78	80	177.54	300	340	165	120	50	50
CACN	165	20	46.1	30	72.3	347	190	165	332.68	70	170.01	300	340	165	120	50	50
CACN	165	25	50	30	72.1	347	190	165	332.88	58	161.38	300	340	165	120	50	50
CACN	165	30	54.3	30	71.9	347	190	165	334.28	48	151.72	300	340	165	120	50	50
CACN	165	35	59	30	72.2	347	190	165	329.8	33	141.11	300	340	165	120	50	50
CACN	165	40	64.3	30	72.4	347	190	165	321.35	15	129.62	300	340	165	120	50	50
CACN	165	45	70.4	30	65.5	347	190	165	314.86	0	117.34	300	340	165	120	50	50
CACN	165	50	77.8	30	64.3	347	190	165	307.27	-15	104.37	300	340	165	120	50	50
CACN	165	55	87.2	30	65.2	310	190	165	296.59	-32	89.7	300	340	165	125	50	55
CACN	165	60	100	30	66.6	270	190	165	288.56	-45	77.74	300	340	165	125	50	60

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACN	200	00	32.1	36	90.3	456	190	200	335.84	128	203.02	300	340	200	120	50	50
CACN	200	05	35.5	36	88	456	190	200	335.25	113	199.09	300	340	200	120	50	50
CACN	200	10	38.9	36	87.5	456	190	200	337.27	101	188.91	300	340	200	120	50	50
CACN	200	15	42.4	36	87	456	190	200	329.78	80	177.54	300	340	200	120	50	50
CACN	200	20	46.1	36	85.8	456	190	200	332.68	70	170.01	300	340	200	120	50	50
CACN	200	25	50	36	86.2	456	190	200	332.88	58	161.38	300	340	200	120	50	50
CACN	200	30	54.3	36	85.6	456	190	200	334.28	48	151.72	300	340	200	120	50	50
CACN	200	35	59	36	86.2	456	190	200	329.8	33	141.11	300	340	200	120	50	50
CACN	200	40	64.3	36	86.6	456	190	200	321.35	15	129.62	300	340	200	120	50	50
CACN	200	45	70.4	36	88	456	190	200	314.86	0	117.34	300	340	200	120	50	50
CACN	200	50	77.8	36	78.2	456	190	200	307.27	-15	104.37	300	340	200	120	50	50
CACN	200	55	87.2	36	80.5	407	190	200	296.59	-32	89.7	300	340	200	120	50	55
CACN	200	60	100	36	82.4	355	190	200	288.56	-45	77.74	300	340	200	120	50	60
CACN	300	00	38.6	46	153.2	913	190	250	313	138	277	375	320	300	160	60	50
CACN	300	05	42.6	46	152.5	913	190	250	317.15	125	270.82	375	320	300	160	60	50
CACN	300	10	46.7	46	151.4	913	190	250	324.13	115	263.14	375	320	300	160	60	50
CACN	300	15	50.9	46	154.1	913	190	250	325.82	100	253.99	375	320	300	160	60	50
CACN	300	20	55.3	46	148.2	913	190	250	327.08	85	243.41	375	320	300	160	60	50
CACN	300	25	60	46	150.2	913	190	250	334.71	75	236.35	375	320	300	160	60	50
CACN	300	30	65.1	46	147.3	913	190	250	327.83	55	228.11	375	320	300	160	60	50
CACN	300	35	70.8	46	148	913	190	250	334.51	45	215.83	375	320	300	160	60	50
CACN	300	40	77.1	46	146.2	913	190	250	325.46	25	207.7	375	320	300	160	60	50
CACN	300	45	84.5	46	148.6	913	190	250	324.84	7	195.77	375	320	300	160	60	50
CACN	300	50	79.3	46	122.5	913	190	250	306.63	-35	178.16	375	320	300	160	51	50
CACN	300	55	88.9	46	130.9	814	190	250	277.93	-85	145.71	375	320	300	160	51	55
CACN	300	60	102	46	135.3	710	190	250	286.45	-85	129.36	375	320	300	160	51	60
CACN	400	00	38.6	46	160.2	913	190	250	313	138	277	375	320	300	160	60	50
CACN	400	05	42.6	46	159.5	913	190	250	317.15	125	270.82	375	320	300	160	60	50
CACN	400	10	46.7	46	158.4	913	190	250	324.13	115	263.14	375	320	300	160	60	50
CACN	400	15	50.9	46	161.1	913	190	250	325.82	100	253.99	375	320	300	160	60	50
CACN	400	20	55.3	46	155.2	913	190	250	327.08	85	243.41	375	320	300	160	60	50
CACN	400	25	60	46	157.3	913	190	250	334.71	75	236.35	375	320	300	160	60	50
CACN	400	30	65.1	46	154.3	913	190	250	327.83	55	228.11	375	320	300	160	60	50
CACN	400	35	70.8	46	155	913	190	250	334.51	45	215.83	375	320	300	160	60	50
CACN	400	40	77.1	46	153.3	913	190	250	325.46	25	207.7	375	320	300	160	60	50
CACN	400	45	84.5	46	155.6	913	190	250	324.84	7	195.77	375	320	300	160	60	50
CACN	400	50	79.3	46	127.7	913	190	250	306.63	-35	178.16	375	320	300	160	51	50
CACN	400	55	88.9	46	135.9	814	190	250	277.93	-85	145.71	375	320	300	160	51	55
CACN	400	60	102	46	140.4	710	190	250	286.45	-85	129.36	375	320	300	160	51	60

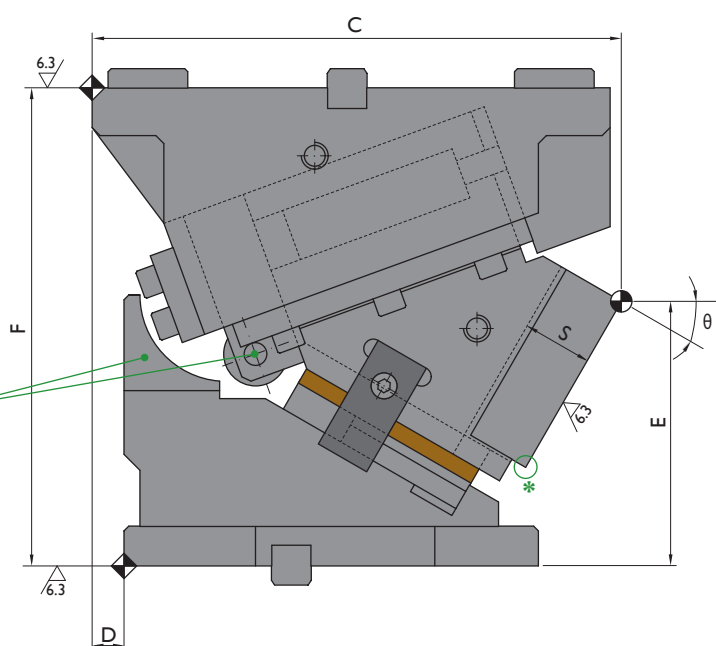
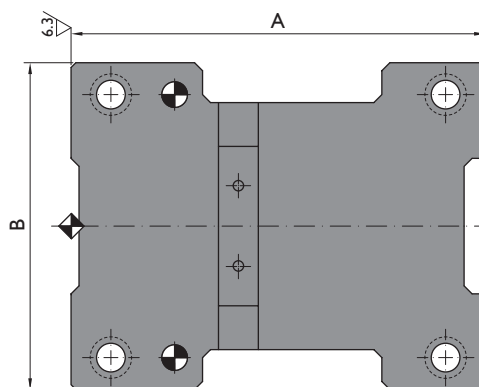
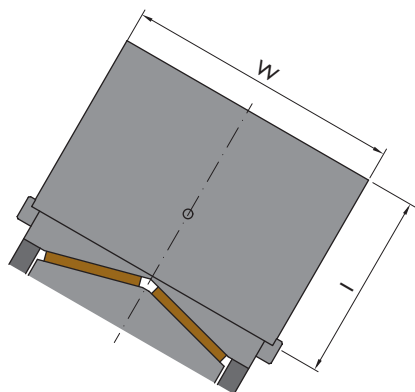


CAM DIAGRAM



Ordering example: CACN-F-W-θ
CACN-F-75-25

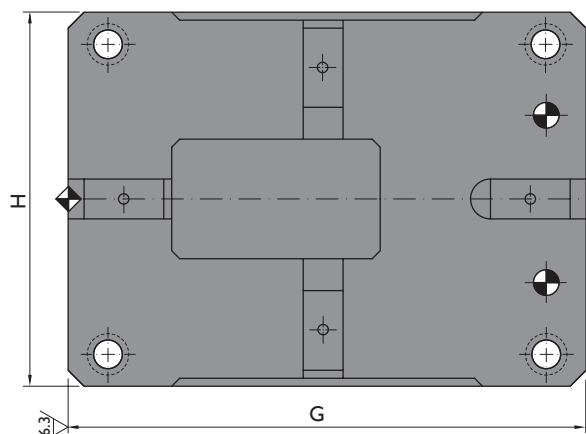
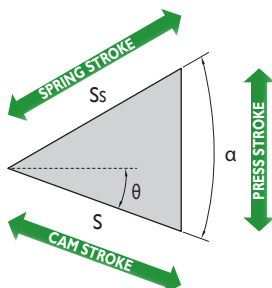
(1) It is recommended not to use more than the 90% of the stroke



Roller and Accelerator
available from 0° to 45° working angle



CAM DIAGRAM

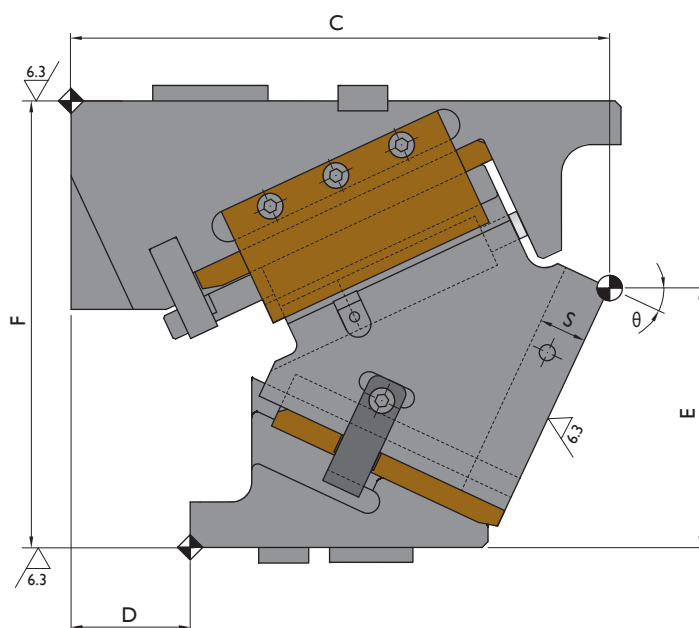
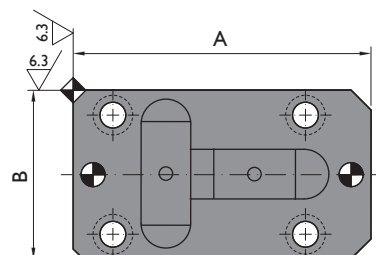
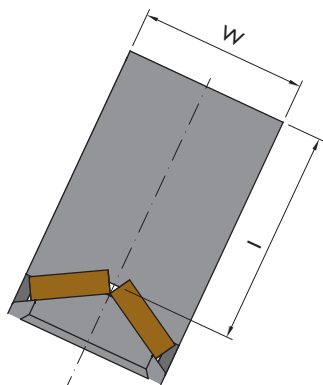


Ordering example: CACN-F-W-θ
CACN-F-150-60

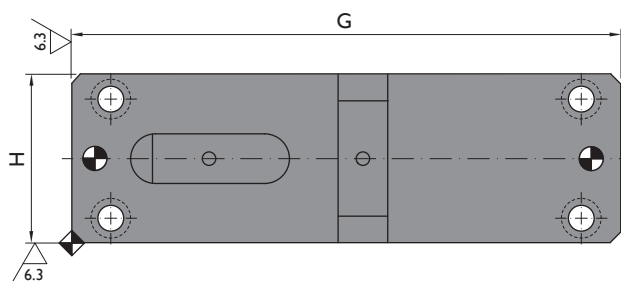
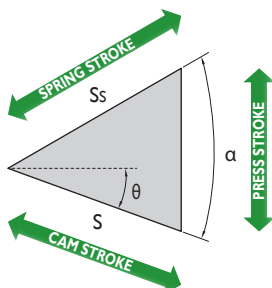
(1) It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions											
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Ss mm	α °
CACN-F	50	00	26	9	19	180	175	50	252	110	155	225	290	50	80	70	40	50
CACN-F	50	05	28	9	19	180	175	50	256.4	105	150.86	225	290	50	80	70	40	50
CACN-F	50	10	31	9	18.5	180	175	50	261	95	141.4	225	290	50	80	70	40	50
CACN-F	50	15	34	9	18.5	180	175	50	268.06	89	136.57	225	290	50	80	70	40	50
CACN-F	50	20	37	9	18	180	175	50	267.11	80	131.39	225	290	50	80	70	40	50
CACN-F	50	25	40	9	17.5	180	175	50	266.03	70	121.32	225	290	50	80	70	40	50
CACN-F	50	30	43	9	17.5	180	175	50	264.61	65	115.64	225	290	50	80	70	40	50
CACN-F	50	35	47	9	17	180	175	50	260.11	52	109.65	225	290	50	80	70	40	50
CACN-F	50	40	51	9	17	180	175	50	256.52	45	103.36	225	290	50	80	70	40	50
CACN-F	50	45	56	9	17.5	180	175	50	254.8	40	96.77	225	290	50	80	70	40	50
CACN-F	50	50	62	9	17.5	180	175	50	247.93	20	89.9	225	290	50	80	70	40	50
CACN-F	50	55	70	9	18	161	175	50	245.07	5	88.51	225	290	50	80	70	40	55
CACN-F	50	60	60	9	18	140	175	50	237.97	-5	77.89	225	290	50	80	70	30	60
CACN-F	75	00	32	15	37.5	186	200	75	314	156	185	275	320	75	100	97	50	50
CACN-F	75	05	35	15	37	186	200	75	314.28	141	175.82	275	320	75	100	97	50	50
CACN-F	75	10	39	15	36	186	200	75	314.6	131	171.17	275	320	75	100	97	50	50
CACN-F	75	15	42	15	35.8	186	200	75	305.94	109	166.06	275	320	75	100	97	50	50
CACN-F	75	20	46	15	35.3	186	200	75	309.24	100	160.49	275	320	75	100	97	50	50
CACN-F	75	25	50	15	34.5	186	200	75	304.48	85	154.45	275	320	75	100	97	50	50
CACN-F	75	30	54	15	34	186	200	75	304.61	80	147.96	275	320	75	100	97	50	50
CACN-F	75	35	59	15	34	186	200	75	301.58	67	141.03	275	320	75	100	97	50	50
CACN-F	75	40	64	15	34.5	186	200	75	299.37	55	133.68	275	320	75	100	97	50	50
CACN-F	75	45	70	15	34.5	186	200	75	293.94	40	125.91	275	320	75	100	97	50	50
CACN-F	75	50	78	15	35	186	200	75	286.25	23	117.76	275	320	75	100	97	50	50
CACN-F	75	55	70	15	35	161	200	75	275.27	0	109.24	275	320	75	100	97	40	55
CACN-F	75	60	80	15	35	140	200	75	267.97	-14	92.89	275	320	75	100	97	40	60
CACN-F	150	00	32	18	78	360	260	165	341	95	205	300	325	165	120	-	50	50
CACN-F	150	05	35	18	77.5	360	260	165	330.08	60.5	200.76	300	325	165	120	-	50	50
CACN-F	150	10	39	18	76	360	260	165	329.2	45.5	195.94	300	325	165	120	-	50	50
CACN-F	150	15	42	18	74.5	360	260	165	334.82	37	190.55	300	325	165	120	-	50	50
CACN-F	150	20	46	18	73.5	360	260	165	333.88	27	184.58	300	325	165	120	-	50	50
CACN-F	150	25	50	18	71.7	360	260	165	331.32	17	178.04	300	325	165	120	-	50	50
CACN-F	150	30	54	18	72.3	360	260	165	332.11	20	165.95	300	325	165	120	-	50	50
CACN-F	150	35	59	18	72	360	260	165	330.69	10	153.32	300	325	165	120	-	50	50
CACN-F	150	40	64	18	72	360	260	165	329.02	0	140.17	300	325	165	120	-	50	50
CACN-F	150	45	70	18	71.5	360	260	165	328.55	-31	126.52	300	325	165	120	-	50	50
CACN-F	150	50	78	18	71	360	210	165	327.74	8	112.4	300	325	165	120	-	50	50
CACN-F	150	55	87	18	70	321	210	165	327.05	-2	97.85	300	325	165	120	-	50	55
CACN-F	150	60	100	18	70	280	210	165	319.45	-17	82.89	300	325	165	120	-	50	60

Order No.			Main Features				General Dimensions											
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Ss mm	α °
CACN-F 200 00	200	00	32	27	105.5	720	260	205	341	95	205	300	325	235	120	-	50	50
CACN-F 200 05	200	05	35	27	104.8	720	260	205	330.08	60.5	200.76	300	325	235	120	-	50	50
CACN-F 200 10	200	10	39	27	108.8	720	260	205	329.2	45.5	195.94	300	325	235	120	-	50	50
CACN-F 200 15	200	15	42	27	101	720	260	205	334.82	37	190.55	300	325	235	120	-	50	50
CACN-F 200 20	200	20	46	27	99.5	720	260	205	333.88	27	184.58	300	325	235	120	-	50	50
CACN-F 200 25	200	25	50	27	97	720	260	205	331.32	17	178.04	300	325	235	120	-	50	50
CACN-F 200 30	200	30	54	27	97.8	720	260	205	332.11	20	165.95	300	325	235	120	-	50	50
CACN-F 200 35	200	35	59	27	97.5	720	260	205	330.69	10	153.32	300	325	235	120	-	50	50
CACN-F 200 40	200	40	64	27	97.5	720	260	205	329.02	0	140.17	300	325	235	120	-	50	50
CACN-F 200 45	200	45	70	27	97	720	260	205	328.55	-31	126.52	300	325	235	120	-	50	50
CACN-F 200 50	200	50	78	27	96.8	720	210	205	327.74	8	112.4	300	325	235	120	-	50	50
CACN-F 200 55	200	55	87	27	95	642	210	205	327.05	-2	97.85	300	325	235	120	-	50	55
CACN-F 200 60	200	60	100	27	94.8	560	210	205	319.45	-17	82.89	300	325	235	120	-	50	60
CACN-F 300 00	300	00	38	40	195	1080	280	270	396	133	285	375	360	330	155	-	60	50
CACN-F 300 05	300	05	42	40	195.6	1080	280	270	393.39	112.5	280.7	375	360	330	155	-	60	50
CACN-F 300 10	300	10	46	40	193	1080	280	270	390.81	92	275.72	375	360	330	155	-	60	50
CACN-F 300 15	300	15	51	40	191.5	1080	280	270	388.2	71.5	270.04	375	360	330	155	-	60	50
CACN-F 300 20	300	20	55	40	183.7	1080	280	270	385.51	51	263.68	375	360	330	155	-	60	50
CACN-F 300 25	300	25	50	40	176	1080	280	270	372.66	30.5	256.64	375	360	330	155	-	50	50
CACN-F 300 30	300	30	54	40	173	1080	280	270	369.61	30	243.94	375	360	330	155	-	50	50
CACN-F 300 35	300	35	59	40	173	1080	280	270	367.79	16	230.61	375	360	330	155	-	50	50
CACN-F 300 40	300	40	64	40	172	1080	280	270	365.66	12	216.66	375	360	330	155	-	50	50
CACN-F 300 45	300	45	70	40	172	1080	280	270	363.15	3	202.12	375	360	330	155	-	50	50
CACN-F 300 50	300	50	78	40	170	1080	230	270	355.23	-26	177.04	375	360	330	155	-	50	50
CACN-F 300 55	300	55	87	40	169	964	230	270	353.34	-53.5	151.45	375	360	330	155	-	50	55
CACN-F 300 60	300	60	100	40	168	840	230	270	350.94	-61	130.39	375	360	330	155	-	50	60

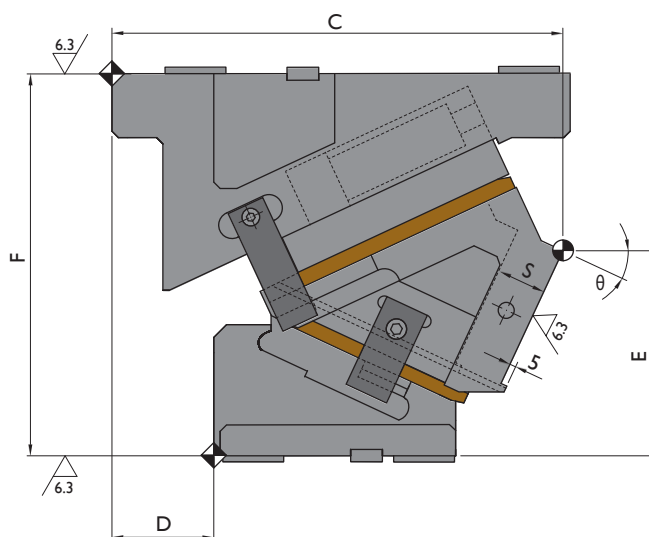
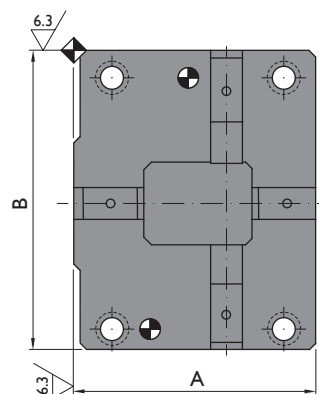
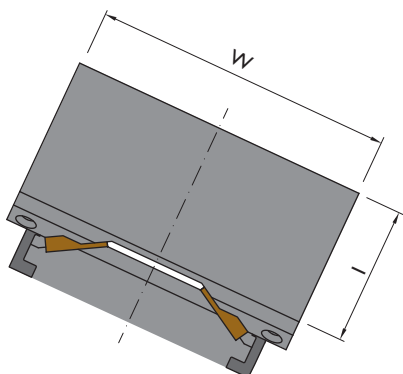


CAM DIAGRAM

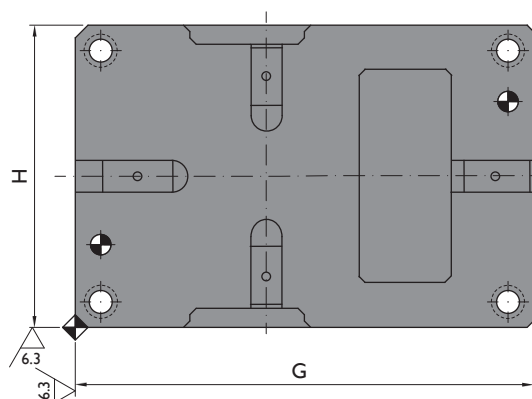
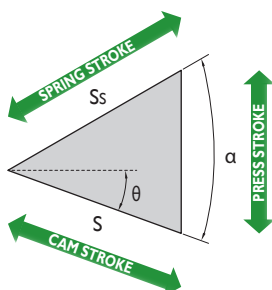


Ordering example: CACV-W-θ
CACV-85-60

⁽¹⁾ It is recommended not to use more than the 90% of the stroke



CAM DIAGRAM



Ordering example: CACV-W- θ
CACV-400-65

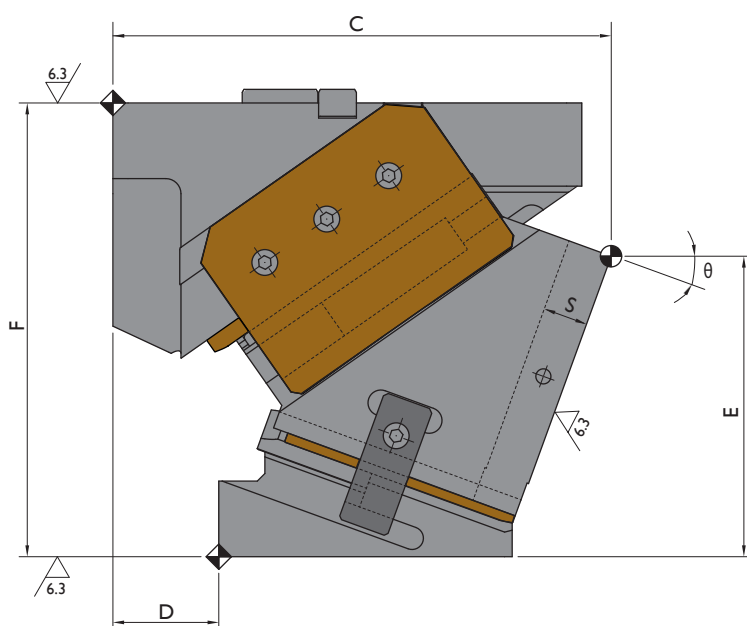
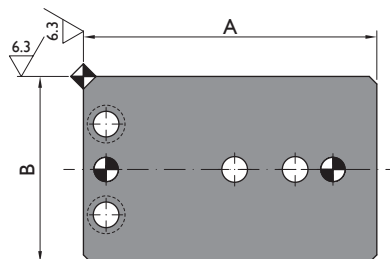
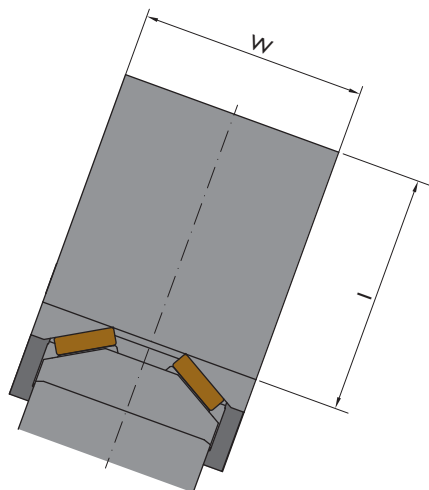
⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force T _n	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	S _s mm	α °
CACV	60	00	19.3	7	20.8	180	165	60	267	100	156	225	277	60	100	30	50
CACV	60	05	21.3	7	20.5	180	165	60	274.45	95	151.92	225	277	60	100	30	50
CACV	60	10	23.3	7	19.7	180	165	60	272.04	86	147.44	225	277	60	100	30	50
CACV	60	15	25.4	7	19.3	180	165	60	273.74	77	142.56	225	277	60	100	30	50
CACV	60	20	27.6	7	18.9	180	165	60	273.5	69	136.27	225	277	60	100	30	50
CACV	60	25	30	7	18.8	180	165	60	271.28	56	131.47	225	277	60	100	30	50
CACV	60	30	32.6	7	18.4	180	165	60	270.02	48	126.43	225	277	60	100	30	50
CACV	60	35	35.4	7	17.7	180	145	60	266.76	49	119.85	225	277	60	100	30	50
CACV	60	40	38.6	7	17.5	180	145	60	262.47	39	112.9	225	277	60	100	30	50
CACV	60	45	42.3	7	17.6	180	145	60	256.13	31	98.5	225	277	60	100	30	50
CACV	60	50	46.7	7	17.5	180	130	60	249.8	23	90.22	225	277	60	100	30	50
CACV	60	55	52.3	7	17.6	161	130	60	247.39	16	83.06	225	277	60	100	30	55
CACV	60	60	60	7	17.9	140	130	60	237.95	5	75.64	225	277	60	100	30	60
CACV	60	65	71	7	18.6	118	130	60	235	-5	61.32	225	277	60	100	30	65
CACV	60	70	58.5	7	18.8	96	130	60	230	-15	47.05	225	277	60	100	20	70
CACV	60	75	77.3	7	19.7	72	130	60	222	-25	37.27	225	277	60	100	20	75
CACV	85	00	19.3	10	28.2	354	150	85	267	115	162	225	277	85	110	30	50
CACV	85	05	21.3	10	27.5	354	150	85	272.39	110	157.84	225	277	85	110	30	50
CACV	85	10	23.3	10	26.6	354	150	85	275.07	101	153.23	225	277	85	110	30	50
CACV	85	15	25.4	10	26.3	354	150	85	277.99	92	145.28	225	277	85	110	30	50
CACV	85	20	27.6	10	26.1	354	150	85	273.08	69	136.57	225	277	85	110	30	50
CACV	85	25	30	10	26.1	354	150	85	271.3	60	130.85	225	277	85	110	30	50
CACV	85	30	32.6	10	25.3	354	150	85	269.61	52	124.74	225	277	85	110	30	50
CACV	85	35	35.4	10	24.4	354	150	85	265.99	47	121.54	225	277	85	110	30	50
CACV	85	40	38.6	10	24	354	140	85	262.39	37	114.47	225	277	85	110	30	50
CACV	85	45	42.3	10	24.7	354	140	85	256.82	23	107.03	225	277	85	110	30	50
CACV	85	50	46.7	10	24.7	354	130	85	249.24	20	91.52	225	277	85	110	30	50
CACV	85	55	52.3	10	24.6	315	130	85	250.67	19	84.21	225	277	85	110	30	55
CACV	85	60	60	10	25.4	275	130	85	240.1	4	75.65	225	277	85	110	30	60
CACV	85	65	71	10	25.7	232	130	85	235	-5	65.95	225	277	85	110	30	65
CACV	85	70	58.5	10	26.2	188	130	85	230	-15	56.12	225	277	85	110	20	70
CACV	85	75	77.3	10	28.3	145	130	85	228	-25	38.01	225	277	85	110	20	75
CACV	110	00	32.1	15	51.5	360	165	85	318	138	205	275	330	110	145	50	50
CACV	110	05	35.5	15	50.4	360	165	85	324.46	130	195.74	275	330	110	145	50	50
CACV	110	10	38.9	15	50.2	360	165	85	330.22	121	190.87	275	360	110	145	50	50
CACV	110	15	42.4	15	51.3	360	165	85	336.2	114	180.55	275	360	110	145	50	50
CACV	110	20	46.1	15	49.7	360	165	85	339.32	105	174.58	275	360	110	145	50	50
CACV	110	25	50	15	49	360	165	85	340.51	94	165.33	275	360	110	145	50	50
CACV	110	30	54.3	15	49.5	360	180	85	348.36	70	154.46	275	360	110	145	50	50
CACV	110	35	59	15	48.6	360	180	85	343.52	54	147.18	275	360	110	145	50	50
CACV	110	40	64.3	15	46.3	360	150	85	332.59	64	135.59	275	360	110	145	50	50
CACV	110	45	70.4	15	46.6	360	150	85	322.52	45	125.56	275	360	110	145	50	50
CACV	110	50	77.8	15	45.4	360	150	85	309.47	25	118.83	275	345	110	140	50	50
CACV	110	55	87.2	15	46.5	321	150	85	311.07	18	105.21	275	345	110	140	50	55
CACV	110	60	100	15	47.9	280	150	85	327.93	7	106.15	275	345	110	140	50	60
CACV	110	65	94.6	15	48.9	237	150	85	317.17	-10	90	275	345	110	140	40	65
CACV	110	70	81.9	15	50.8	188	150	85	313.12	-20	70	275	345	110	140	28	70
CACV	110	75	108.2	15	52.6	142	150	85	306.76	-30	50	275	345	110	140	28	75

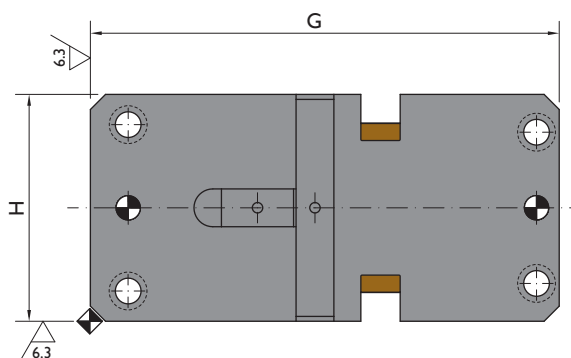
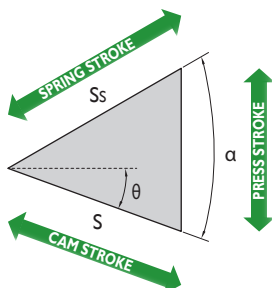
Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force T _n	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	S _s mm	α °
CACV	165	00	32.1	17	75.1	456	190	165	360	150	205	300	360	165	115	50	50
CACV	165	05	35.5	17	72.9	456	190	165	356.25	134	199.09	300	360	165	115	50	50
CACV	165	10	38.9	17	72.1	456	190	165	359.27	118	188.91	300	360	165	115	50	50
CACV	165	15	42.4	17	71.6	456	190	165	355.78	111	177.53	300	360	165	115	50	50
CACV	165	20	46.1	17	70.3	456	190	165	355.68	93	170	300	360	165	115	50	50
CACV	165	25	50	17	69.8	456	190	165	354.25	80	161.08	300	360	165	115	50	50
CACV	165	30	54.3	17	69	456	190	165	357.28	70	151.72	300	360	165	115	50	50
CACV	165	35	59	17	69.4	456	190	165	345.8	64	141.11	300	360	165	115	50	50
CACV	165	40	64.3	17	69.3	456	190	165	344.27	58	129.62	300	360	165	115	50	50
CACV	165	45	70.4	17	70.3	456	190	165	344.86	40	117.34	300	360	165	115	50	50
CACV	165	50	77.8	17	69.1	456	190	165	327.27	10	104.37	300	360	165	115	50	50
CACV	165	55	61	17	68.1	407	190	165	324.39	0	89.8	300	360	165	115	35	55
CACV	165	60	40	17	68.3	355	190	165	317.59	-7	84.37	300	360	165	115	20	60
CACV	165	65	47.3	17	70	300	190	165	314.23	-15	68.6	300	360	165	115	20	65
CACV	165	70	58.5	17	71.7	243	190	165	308.07	-25	54.33	300	360	165	115	20	70
CACV	165	75	58	17	73.5	184	190	165	301.08	-35	39.76	300	360	165	115	15	75
CACV	200	00	32.1	22	91.6	456	190	200	360	150	205	300	360	200	115	50	50
CACV	200	05	35.5	22	88.9	456	190	200	356.25	134	199.09	300	360	200	115	50	50
CACV	200	10	38.9	22	88	456	190	200	359.27	118	188.91	300	360	200	115	50	50
CACV	200	15	42.4	22	87	456	190	200	355.78	111	177.53	300	360	200	115	50	50
CACV	200	20	46.1	22	85.5	456	190	200	355.68	93	170	300	360	200	115	50	50
CACV	200	25	50	22	85.9	456	190	200	354.88	80	161.38	300	360	200	115	50	50
CACV	200	30	54.3	22	85	456	190	200	357.28	70	151.72	300	360	200	115	50	50
CACV	200	35	59	22	84.8	456	190	200	345.8	64	141.11	300	360	200	115	50	50
CACV	200	40	64.3	22	85.8	456	190	200	344.27	58	129.62	300	360	200	115	50	50
CACV	200	45	70.4	22	85.7	456	190	200	344.86	40	117.34	300	360	200	115	50	50
CACV	200	50	77.8	22	84.7	456	190	200	327.27	10	104.37	300	360	200	115	50	50
CACV	200	55	52.3	22	85.7	407	190	200	324.39	0	89.8	300	360	200	115	30	55
CACV	200	60	60	22	84.2	355	190	200	317.59	-7	84.37	300	360	200	115	30	60
CACV	200	65	71	22	86.7	300	190	200	319.23	-15	68.6	300	360	200	115	30	65
CACV	200	70	58.5	22	88.8	243	190	200	313.07	-25	54.33	300	360	200	115	20	70
CACV	200	75	77.3	22	91.1	184	190	200	306.08	-35	39.76	300	360	200	115	20	75
CACV	250	00	32.1	29	113	913	190	250	360	150	205	300	360	250	115	50	50
CACV	250	05	35.5	29	110.5	913	190	250	356.43	134	201.08	300	360	250	115	50	50
CACV	250	10	38.9	29	109.6	913	190	250	359.62	118	190.88	300	360	250	115	50	50
CACV	250	15	42.4	29	108.4	913	190	250	356.3	111	179.47	300	360	250	115	50	50
CACV	250	20	46.1	29	107.1	913	190	250	356.37	93	171.88	300	360	250	115	50	50
CACV	250	25	50	29	106	913	190	250	355.73	80	163.19	300	360	250	115	50	50
CACV	250	30	54.3	29	105.8	913	190	250	358.28	70	153.45	300	360	250	115	50	50
CACV	250	35	59	29	107	913	190	250	346.94	64	142.75	300	360	250	115	50	50
CACV	250	40	64.3	29	108.2	913	190	250	345.56	58	131.15	300	360	250	115	50	50
CACV	250	45	70.4	29	108.5	913	190	250	346.27	40	118.76	300	360	250	115	50	50
CACV	250	50	77.8	29	107.4	913	190	250	328.8	10	105.66	300	360	250	115	50	50
CACV	250	55	52.3	29	106.3	814	190	250	326.84	0	91.52	300	360	250	115	30	55
CACV	250	60	60	29	106.4	710	190	250	320.19	-7	85.87	300	360	250	115	30	60
CACV	250	65	71	29	109.4	600	190	250	319.23	-15	68.6	300	360	250	115	30	65
CACV	250	70	58.5	29	112.5	486	190	250	313.07	-25	54.33	300	360	250	115	20	70
CACV	250	75	77.3	29	115.5	368	190	250	306.08	-35	39.76	300	360	250	115	20	75

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force T _n	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	S _s mm	α °
CACV	300	00	38.6	37	167.1	1414	230	250	395	163	277	375	390	300	155	60	50
CACV	300	05	42.6	37	163.8	1414	230	250	387.15	155	270.81	375	390	300	155	60	50
CACV	300	10	46.7	37	161.9	1414	230	250	394.13	145	263.14	375	390	300	155	60	50
CACV	300	15	50.9	37	160.1	1414	230	250	395.82	135	253.99	375	390	300	155	60	50
CACV	300	20	55.3	37	157.9	1414	230	250	397.08	120	243.41	375	390	300	155	60	50
CACV	300	25	60	37	158.6	1414	230	250	404.71	110	236.35	375	400	300	155	60	50
CACV	300	30	65.1	37	157.1	1414	230	250	408.22	85	228.11	375	400	300	155	60	50
CACV	300	35	70.8	37	158.5	1414	230	250	404.52	70	215.83	375	400	300	155	60	50
CACV	300	40	77.1	37	159.4	1414	230	250	400.46	55	207.7	375	400	300	155	60	50
CACV	300	45	84.5	37	159	1414	230	250	394.84	40	195.76	375	400	300	155	60	50
CACV	300	50	93.3	37	157.7	1414	230	250	393.35	17	178.96	375	410	300	155	60	50
CACV	300	55	104.6	37	162.3	1262	230	250	393.35	0	152.25	375	410	300	155	60	55
CACV	300	60	120	37	166.9	1100	230	250	393.35	-10	125.39	375	410	300	155	60	60
CACV	300	65	94.6	37	171.7	930	230	250	387.48	-28	108.51	375	410	300	155	40	65
CACV	300	70	73.1	37	176.8	752	230	250	378.65	-45	93.01	375	410	300	155	25	70
CACV	300	75	96.6	37	182.2	569	230	250	364.72	-65	78.12	375	410	300	155	25	75
CACV	350	00	38.6	41	212.4	1800	230	350	395	160	290	375	390	350	155	60	50
CACV	350	05	42.6	41	214.7	1800	230	350	409.62	155	279.98	375	390	350	155	60	50
CACV	350	10	46.7	41	207	1800	230	350	414.52	140	270.33	375	390	350	155	60	50
CACV	350	15	50.9	41	204.5	1800	230	350	408.6	115	261.24	375	390	350	155	60	50
CACV	350	20	55.3	41	205.3	1800	230	350	422.92	110	252.79	375	410	350	155	60	50
CACV	350	25	60	41	203.9	1800	230	350	421.53	90	245.04	375	410	350	155	60	50
CACV	350	30	65.1	41	203.5	1800	230	350	418.5	70	238.06	375	410	350	155	60	50
CACV	350	35	70.8	41	204.6	1800	230	350	415.89	50	221.88	375	410	350	155	60	50
CACV	350	40	77.1	41	207.1	1800	230	350	410.78	30	206.57	375	410	350	155	60	50
CACV	350	45	84.5	41	209.7	1800	230	350	405.25	10	192.16	375	410	350	155	60	50
CACV	350	50	93.3	41	210.9	1800	230	350	397.37	-10	173.68	375	410	350	155	60	50
CACV	350	55	87.2	41	208.7	1606	230	350	398.61	-20	160.31	375	410	350	155	50	55
CACV	350	60	90	41	214.1	1400	230	350	392.76	-35	139.33	375	410	350	155	45	60
CACV	350	65	94.6	41	218.5	1183	230	350	398.83	-40	119.69	375	410	350	155	40	65
CACV	350	70	87.7	41	225.5	958	230	350	394.78	-50	100.47	375	410	350	155	30	70
CACV	350	75	96.6	41	230.9	725	230	350	394.55	-55	79.79	375	410	350	155	25	75
CACV	400	00	38.6	45	224.6	2121	230	350	395	158	287	375	390	400	155	60	50
CACV	400	05	42.6	45	221.3	2121	230	350	387.15	155	280.81	375	390	400	155	60	50
CACV	400	10	46.7	45	218.7	2121	230	350	394.13	145	268.14	375	390	400	155	60	50
CACV	400	15	50.9	45	215.7	2121	230	350	395.82	135	256.99	375	390	400	155	60	50
CACV	400	20	55.3	45	212.8	2121	230	350	397.08	100	243.41	375	390	400	155	60	50
CACV	400	25	60	45	214	2121	230	350	404.71	85	236.35	375	400	400	155	60	50
CACV	400	30	65.1	45	212.7	2121	230	350	408.22	65	228.11	375	400	400	155	60	50
CACV	400	35	70.8	45	215	2121	230	350	404.52	50	215.83	375	400	400	155	60	50
CACV	400	40	77.1	45	216.2	2121	230	350	400.46	40	207.7	375	400	400	155	60	50
CACV	400	45	84.5	45	217.3	2121	230	350	394.84	20	195.76	375	400	400	155	60	50
CACV	400	50	93.3	45	216.6	2121	230	350	393.35	2	178.96	375	410	400	155	60	50
CACV	400	55	104.6	45	224	1893	230	350	392.76	-13	153.17	375	410	400	155	60	55
CACV	400	60	120	45	232.2	1650	230	350	393.35	-30	125.39	375	410	400	155	60	60
CACV	400	65	94.6	45	239.3	1395	230	350	387.48	-48	108.51	375	410	400	155	40	65
CACV	400	70	73.1	45	247.6	1129	230	350	378.65	-65	93.01	375	410	400	155	25	70
CACV	400	75	96.6	45	252.9	854	230	350	364.72	-85	78.12	375	410	400	155	25	75





CAM DIAGRAM



Ordering example: CACV-F-W-θ
CACV-F-85-75

⁽¹⁾ It is recommended not to use more than the 90% of the stroke

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force T _n	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	S _s mm	α °
CACV-F	60	00	19.3	14	13	180	155	60	175	25	155	210	205	60	100	30	50
CACV-F	60	05	21.3	14	13	180	150	60	179.26	25	152.63	210	205	60	100	30	50
CACV-F	60	10	21.5	14	13	161	145	60	183.3	25	149.9	210	205	60	100	30	55
CACV-F	60	15	23.8	14	13	161	140	60	189.68	25	146.49	210	205	60	100	30	55
CACV-F	60	20	24.5	14	13	140	140	60	190.59	25	133.43	210	205	60	100	30	60
CACV-F	60	25	27.1	14	13	140	125	60	193.79	25	129.75	210	205	60	100	30	60
CACV-F	60	30	30	14	13	140	125	60	196.65	25	125.8	210	205	60	100	30	60
CACV-F	60	35	31.7	14	13	118	115	60	199.16	25	121.62	210	205	60	100	30	65
CACV-F	60	40	35.5	14	13	118	110	60	198.08	10	113.4	210	220	60	100	30	65
CACV-F	60	45	38.5	14	14	96	105	60	225.96	40	105.61	210	235	60	100	30	70
CACV-F	60	50	43.9	14	14	96	105	60	211.71	10	96.56	210	220	60	100	30	70
CACV-F	60	55	49.2	14	14	72	105	60	212.11	10	92.46	210	220	60	100	30	75
CACV-F	60	60	58	14	14	72	92	60	203.48	10	83.35	210	220	60	100	30	75
CACV-F	60	65	68.6	14	15	49	85	60	202.75	10	80.02	210	220	60	100	30	80
CACV-F	60	70	70.6	14	14	24	85	60	205.54	10	63.61	210	220	60	100	25	85
CACV-F	60	75	76.1	14	15	24	80	60	204.77	10	58.79	210	235	60	100	25	85
CACV-F	85	00	30.9	29	27	360	175	60	238	55	165	225	255	85	120	48	50
CACV-F	85	05	34.1	29	26	360	170	60	243.28	55	160.82	225	255	85	120	48	50
CACV-F	85	10	34.5	29	26	321	160	60	247.73	55	151.25	225	255	85	120	48	55
CACV-F	85	15	38.1	29	25	321	155	60	252.64	55	146.23	225	255	85	120	48	55
CACV-F	85	20	41.8	29	25	321	155	60	259.24	55	145.49	225	255	85	120	48	55
CACV-F	85	25	43.4	29	27	280	155	60	262.37	40	134.92	225	285	85	120	48	60
CACV-F	85	30	48	29	26	280	155	60	272.11	40	137.29	225	285	85	120	48	60
CACV-F	85	35	50.8	29	25	237	155	60	277.45	40	130.13	225	285	85	120	48	65
CACV-F	85	40	56.8	29	25	237	155	60	282.59	40	122.51	225	285	85	120	48	65
CACV-F	85	45	42.3	29	25	192	150	60	245.41	0	107.38	225	265	85	120	33	70
CACV-F	85	50	48.2	29	24	192	135	60	247.12	0	97.62	225	265	85	120	33	70
CACV-F	85	55	54.1	29	25	145	135	60	263	0	98.26	225	265	85	120	33	75
CACV-F	85	60	63.8	29	24	145	135	60	267.02	0	88.89	225	265	85	120	33	75
CACV-F	85	65	75.4	29	25	97	126	60	257.06	0	77.85	225	265	85	120	33	80
CACV-F	85	70	95	29	26	97	109	60	248.86	5	64.19	225	275	85	120	33	80
CACV-F	85	75	95.1	29	26	49	109	60	251.61	5	43.93	225	275	85	120	25	85
CACV-F	110	00	30.9	41	49	360	210	87	278	60	205	275	290	110	160	48	50
CACV-F	110	05	34.1	41	49	360	205	87	285.45	60	200.72	275	290	110	160	48	50
CACV-F	110	10	34.5	41	48	321	195	87	292.94	60	195.79	275	290	110	160	48	55
CACV-F	110	15	38.1	41	48	321	190	87	300.41	60	190.21	275	290	110	160	48	55
CACV-F	110	20	41.8	41	47	321	185	87	307.8	60	183.98	275	290	110	160	48	55
CACV-F	110	25	43.4	41	45	280	178	87	302.93	50	172.58	275	300	110	160	48	60
CACV-F	110	30	48	41	47	280	172	87	309.61	50	165.28	275	300	110	160	48	60
CACV-F	110	35	50.8	41	47	237	167	87	316.06	50	157.42	275	300	110	160	48	65
CACV-F	110	40	56.8	41	45	237	163	87	322.23	50	149	275	300	110	160	48	65
CACV-F	110	45	61.5	41	45	192	183	87	311.62	10	143.59	275	295	110	160	48	70
CACV-F	110	50	48.2	41	46	192	172	87	309.74	10	127.4	275	295	110	160	33	70
CACV-F	110	55	54.1	41	45	145	157	87	302.27	10	109.24	275	295	110	160	33	75
CACV-F	110	60	63.8	41	46	145	155	87	305.96	10	100.39	275	295	110	160	33	75
CACV-F	110	65	75.4	41	45	97	137	87	285.71	0	79.89	275	295	110	160	33	80
CACV-F	110	70	95	41	47	97	135	87	288.18	0	66.67	275	295	110	160	33	80
CACV-F	110	75	95.1	41	45	49	134	87	290.36	0	63.24	275	310	110	160	25	85

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force Tn	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ss mm	α °
CACV-F 150 00	150	00	32.1	59	65	456	220	123	298	70	235	300	310	150	160	50	50
CACV-F 150 05	150	05	35.5	59	63	456	210	123	307.2	70	230.65	300	310	150	160	50	50
CACV-F 150 10	150	10	35.9	59	65	407	200	123	313.81	70	210.72	300	310	150	160	50	55
CACV-F 150 15	150	15	39.7	59	64	407	195	123	321.7	70	205.04	300	310	150	160	50	55
CACV-F 150 20	150	20	43.6	59	63	407	194	123	329.51	70	198.68	300	310	150	160	50	55
CACV-F 150 25	150	25	45.2	59	67	355	202	123	342.93	60	182.58	300	350	150	160	50	60
CACV-F 150 30	150	30	50	59	68	355	199	123	352.11	60	174.61	300	350	150	160	50	60
CACV-F 150 35	150	35	52.9	59	68	300	201	123	364.66	60	169.7	300	350	150	160	50	65
CACV-F 150 40	150	40	59.2	59	67	300	197	123	371.87	60	155.49	300	350	150	160	50	65
CACV-F 150 45	150	45	64.1	59	64	243	182	123	325.76	20	147.73	300	340	150	160	50	70
CACV-F 150 50	150	50	73.1	59	65	243	179	123	332.72	20	131.69	300	340	150	160	50	70
CACV-F 150 55	150	55	81.9	59	65	184	186	123	347.32	20	120.79	300	340	150	160	50	75
CACV-F 150 60	150	60	96.6	59	67	184	183	123	353.59	20	102.89	300	340	150	160	50	75
CACV-F 150 65	150	65	91.4	59	70	123	183	123	359.15	20	94.48	300	340	150	160	40	80
CACV-F 150 70	150	70	84.7	59	68	62	168	123	334.26	0	73.9	300	340	150	160	30	85
CACV-F 150 75	150	75	76.1	59	68	62	167	123	338.15	0	65.06	300	340	150	160	20	85
CACV-F 180 00	180	00	32.1	61	78	456	220	153	298	70	235	300	310	180	160	50	50
CACV-F 180 05	180	05	35.5	61	77	456	210	153	307.2	70	230.65	300	310	180	160	50	50
CACV-F 180 10	180	10	35.9	61	77	407	200	153	313.81	70	210.72	300	310	180	160	50	55
CACV-F 180 15	180	15	39.7	61	77	407	195	153	321.7	70	205.04	300	310	180	160	50	55
CACV-F 180 20	180	20	43.6	61	78	407	191	153	329.51	70	198.68	300	310	180	160	50	55
CACV-F 180 25	180	25	45.2	61	80	355	199	153	342.93	60	182.58	300	350	180	160	50	60
CACV-F 180 30	180	30	50	61	80	355	199	153	352.11	60	174.61	300	350	180	160	50	60
CACV-F 180 35	180	35	52.9	61	83	300	201	153	364.66	60	169.7	300	350	180	160	50	65
CACV-F 180 40	180	40	59.2	61	83	300	197	153	371.87	60	155.49	300	350	180	160	50	65
CACV-F 180 45	180	45	64.1	61	78	243	182	153	325.76	20	147.73	300	340	180	160	50	70
CACV-F 180 50	180	50	73.1	61	80	243	179	153	332.72	20	131.69	300	340	180	160	50	70
CACV-F 180 55	180	55	81.9	61	78	184	186	153	347.32	20	120.79	300	340	180	160	50	75
CACV-F 180 60	180	60	96.6	61	81	184	182	153	353.59	20	102.89	300	340	180	160	50	75
CACV-F 180 65	180	65	91.4	61	83	123	181	153	359.15	20	94.48	300	340	180	160	40	80
CACV-F 180 70	180	70	84.7	61	85	62	168	153	334.26	0	73.9	300	340	180	160	30	85
CACV-F 180 75	180	75	76.1	61	85	62	172	153	338.15	0	65.06	300	340	180	160	20	85
CACV-F 220 00	220	00	32.1	74	94	707	215	188	308	80	240	300	320	220	160	50	50
CACV-F 220 05	220	05	35.5	74	94	707	210	188	317.63	80	235.63	300	320	220	160	50	50
CACV-F 220 10	220	10	35.9	74	94	631	200	188	323.81	80	210.72	300	320	220	160	50	55
CACV-F 220 15	220	15	39.7	74	94	631	190	188	331.7	80	205.04	300	320	220	160	50	55
CACV-F 220 20	220	20	43.6	74	94	631	185	188	337.8	80	193.98	300	320	220	160	50	55
CACV-F 220 25	220	25	45.2	74	95	550	195	188	345.05	60	187.11	300	360	220	160	50	60
CACV-F 220 30	220	30	50	74	98	550	190	188	357.11	60	183.27	300	360	220	160	50	60
CACV-F 220 35	220	35	52.9	74	99	465	185	188	362.94	60	167.24	300	360	220	160	50	65
CACV-F 220 40	220	40	59.2	74	99	465	180	188	373.16	60	157.02	300	360	220	160	50	65
CACV-F 220 45	220	45	64.1	74	99	376	160	188	348.64	45	145.61	300	365	220	160	50	70
CACV-F 220 50	220	50	73.1	74	98	376	160	188	355.42	45	129.76	300	365	220	160	50	70
CACV-F 220 55	220	55	81.9	74	99	285	161	188	361.67	45	113.33	300	365	220	160	50	75
CACV-F 220 60	220	60	96.6	74	99	285	159	188	371.66	45	98.89	300	365	220	160	50	75
CACV-F 220 65	220	65	91.4	74	99	191	161	188	367.84	45	86.87	300	365	220	160	40	80
CACV-F 220 70	220	70	100.8	74	99	191	163	188	372.05	45	79.45	300	365	220	160	35	80
CACV-F 220 75	220	75	95.1	74	100	96	145	188	352.07	35	53.07	300	365	220	160	25	85

Order No.			Main Features				General Dimensions										
Model	W mm	θ °	S ⁽¹⁾ mm	Working Force T _n	Weight kg	Return Force kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	S _s mm	α °
CACV-F	260	00	32.1	78	110	1543	215	226	308	80	240	300	320	260	160	50	50
CACV-F	260	05	35.5	78	111	1543	210	226	317.63	80	235.63	300	320	260	160	50	50
CACV-F	260	10	35.9	78	112	1377	200	226	323.81	80	210.72	300	320	260	160	50	55
CACV-F	260	15	39.7	78	112	1377	190	226	331.7	80	205.04	300	320	260	160	50	55
CACV-F	260	20	43.6	78	112	1377	185	226	337.8	80	193.98	300	320	260	160	50	55
CACV-F	260	25	45.2	78	114	1200	195	226	345.05	60	187.11	300	360	260	160	50	60
CACV-F	260	30	50	78	115	1200	190	226	357.11	60	183.27	300	360	260	160	50	60
CACV-F	260	35	52.9	78	116	1014	185	226	362.94	60	167.24	300	360	260	160	50	65
CACV-F	260	40	59.2	78	115	1014	180	226	373.16	60	157.02	300	360	260	160	50	65
CACV-F	260	45	64.1	78	115	821	160	226	348.64	45	145.61	300	365	260	160	50	70
CACV-F	260	50	73.1	78	115	821	160	226	355.42	45	129.76	300	365	260	160	50	70
CACV-F	260	55	81.9	78	117	621	170	226	361.67	45	113.33	300	365	260	160	50	75
CACV-F	260	60	96.6	78	117	621	160	226	371.66	45	98.89	300	365	260	160	50	75
CACV-F	260	65	91.4	78	118	417	166	226	367.84	45	86.87	300	365	260	160	40	80
CACV-F	260	70	100.8	78	119	417	165	226	372.05	45	79.45	300	365	260	160	35	80
CACV-F	260	75	95.1	78	119	209	150	226	352.07	35	53.07	300	365	260	160	25	85
CACV-F	330	00	37.3	104	224	2571	280	285	403	130	300	375	415	330	180	58	50
CACV-F	330	05	41.2	104	216	2571	268	285	410.89	130	280.7	375	415	330	180	58	50
CACV-F	330	10	41.6	104	214	2294	254	285	418.81	130	275.72	375	415	330	180	58	55
CACV-F	330	15	46	104	214	2294	255	285	426.7	130	270.04	375	415	330	180	58	55
CACV-F	330	20	50.6	104	209	2294	245	285	409.51	105	263.68	375	415	330	180	58	55
CACV-F	330	25	52.4	104	205	2000	259	285	417.16	80	256.64	375	415	330	180	58	60
CACV-F	330	30	58	104	204	2000	250	285	424.61	80	243.94	375	415	330	180	58	60
CACV-F	330	35	61.3	104	203	1690	237	285	427.78	80	224.87	375	415	330	180	58	65
CACV-F	330	40	68.6	104	203	1690	232	285	438.66	80	216.66	375	415	330	180	58	65
CACV-F	330	45	74.3	104	201	1368	225	285	395.15	30	202.12	375	450	330	180	58	70
CACV-F	330	50	84.8	104	201	1368	222	285	412.72	30	186.69	375	450	330	180	58	70
CACV-F	330	55	95	104	208	1009	226	285	423.22	30	162.92	375	450	330	180	58	75
CACV-F	330	60	112.1	104	211	1009	228	285	433.59	30	142.89	375	450	330	180	58	75
CACV-F	330	65	102.9	104	224	660	242	330	434.62	0	132.36	375	450	330	180	45	80
CACV-F	330	70	127.1	104	228	331	232	330	429.87	0	120.48	375	450	330	180	45	85
CACV-F	330	75	114.2	104	223	331	221	330	418.49	0	112.47	375	450	330	180	30	85
CACV-F	400	00	37.3	107	269	2571	280	338	403	130	300	375	415	400	180	58	50
CACV-F	400	05	41.2	107	263	2571	280	338	410.89	130	280.7	375	415	400	180	58	50
CACV-F	400	10	41.6	107	263	2294	255	338	418.81	130	275.72	375	415	400	180	58	55
CACV-F	400	15	46	107	262	2294	255	338	426.7	130	270.04	375	415	400	180	58	55
CACV-F	400	20	50.6	107	254	2294	245	338	409.51	105	263.68	375	415	400	180	58	55
CACV-F	400	25	52.4	107	248	2000	260	338	417.16	80	256.64	375	415	400	180	58	60
CACV-F	400	30	58	107	249	2000	250	338	424.61	80	243.94	375	415	400	180	58	60
CACV-F	400	35	61.3	107	248	1690	237	338	427.78	80	224.87	375	415	400	180	58	65
CACV-F	400	40	68.6	107	250	1648	230	338	438.66	80	216.66	375	415	400	180	58	65
CACV-F	400	45	74.3	107	244	1368	225	338	395.15	30	202.12	375	450	400	180	58	70
CACV-F	400	50	84.8	107	252	1368	215	338	412.72	30	186.69	375	450	400	180	58	70
CACV-F	400	55	95	107	250	1009	226	338	423.22	30	162.92	375	450	400	180	58	75
CACV-F	400	60	112.1	107	256	1009	230	338	433.59	30	142.89	375	450	400	180	58	75
CACV-F	400	65	102.9	107	274	677	242	400	434.62	0	132.36	375	450	400	180	45	80
CACV-F	400	70	127.1	107	273	331	226	400	429.87	0	120.48	375	450	400	180	45	85
CACV-F	400	75	114.2	107	268	331	214	400	418.49	0	112.47	375	450	400	180	30	85

Gas Springs



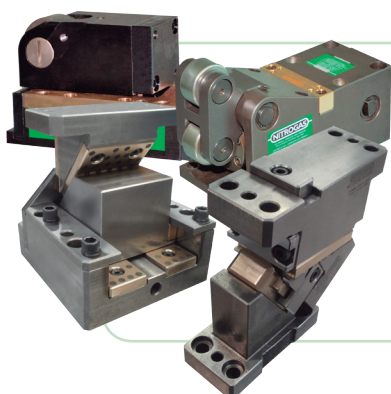
A wide range of high quality gas springs and accessories to use in press dies or injection moulds.



Controllable gas springs (CPC)

CPC gas spring allows a controlled stop at the end of rod stroke. This stop is highly reliable, always performing at the same position and with a 100% guarantee.

Cam units



Designed to use the power of the press to punch, blend or form in different directions from the direction of the press tool.



Solutions for the storage tools

Designed to replace conventional distance blocks.

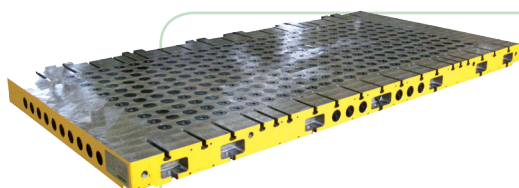
CS gas springs: Die storage cylinder

- Do not work during the production

SG gas springs: Stocking cylinder

- Work as a standard gas spring
- ISO standard dimensions but longer life than standard gas springs

Manifold plates



Designed to replace the hosing connection of gas springs by threading the gas springs directly on the plate. The system allows a more flexible distribution of the gas springs, reduces the leaking points and guarantees that all the gas springs have the same pressure.

Guide rail lifters



Designed to replace and simplify the guide pillar, gas spring and retainer screw structure when raising the sheet or the workpiece.



CAD files of the product can be downloaded FREE from our website:
<http://www.nitrogas.com/es/Downloads.aspx>



Commercial

✉ comercial@nitrogas.com



Training

✉ training@nitrogas.com



Engineering

✉ engineering@nitrogas.com



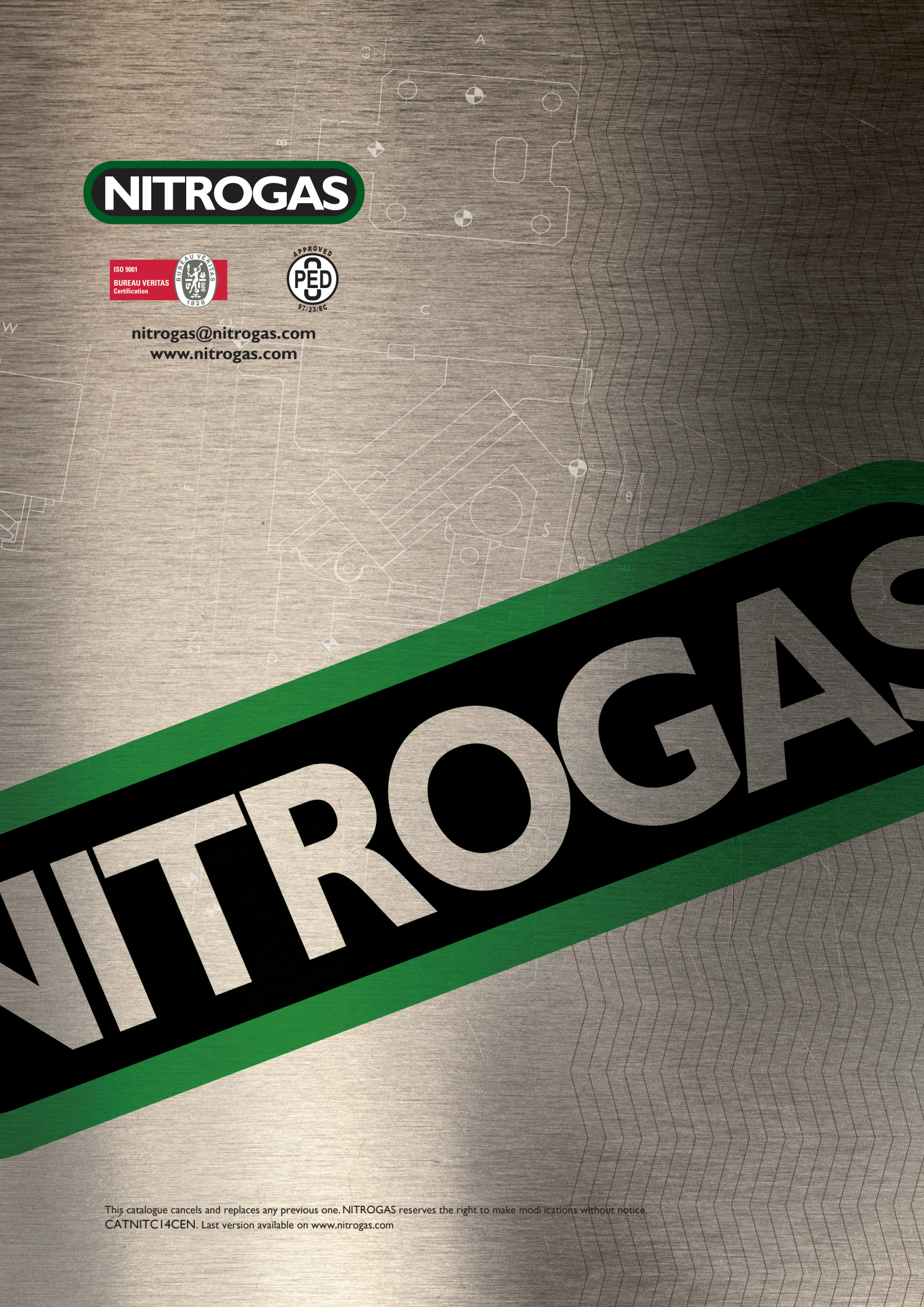
Maintenance

✉ maintenance@nitrogas.com



Contact hours

NITROGAS offers 24 hs contact service.



NITROGAS

ISO 9001
BUREAU VERITAS
Certification



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